1

Renewed energy sources and power supplies of radio-electronic devices

Smerdov, A; Bondarenko, V and Polyakov, M
International Conference on Modern Problems of Radio Engineering, Telecommunications and Computer Science (TCSET 2004)
2004 | MODERN PROBLEMS OF RADIO ENGINEERING, TELECOMMUNICATIONS AND COMPUTER SCIENCE, PROCEEDINGS , pp.493-493
In this paper there are several renewable sources, which are described and included to the engineers training program.

2

Clinical and morphological justification of the treatment of purulonecrotic lesion in deep structures of limb distal segment in pig: case report

Kyrychko, B; Zvenihorodska, T; (...); Semirenko, V
Nov-dec 2020 | ARQUIVO BRASILEIRO DE MEDICINA VETERINARIA E ZOOTECNIA 72 (6) , pp.2239-2244
Surgical pathology of the musculoskeletal system, and in particular the diseases of the limb distal segment in pigs are quite common. Their significant spread leads to economic losses due to culling, compulsory slaughter, short-received pig production and pig crop. The purpose of this work was to reveal clinical and morphological features of limb distal segment diseases in pigs and to study the possibility of preserving their health and productivity. The conservative treatment of purulonecrotic lesions in the deep structures of the limb distal segment in pigs is not promising. It is shown that the best way to treat a given pathology is amputation of a sick limb. The technique of carrying out exarticulation of talus shin consists in separation of soft tissues, capsule and ligaments, ligation of vessels, formation of stump. The postoperative recovery period of the animal body is 25 days.

3

THE PROBLEM OF LABOUR MIGRATION OF UKRAINIAN PEASANTS AND BURGHERS IN THE INTERNAL POLICY OF RUSSIAN EMPIRE IN THE SECOND HALF OF THE NINETEENTH - EARLY TWENTIETH CENTURIES

Yakymenko, M; Sharavara, T; (...); Nikolaienko, Y
Nov-dec 2019 | UKRAINSKYI ISTORYCHNYI ZHURNAL (6) , pp.142-154
The purpose of this research is to highlight the results of Russian policy for Ukrainian labour migrants, which is both of theoretical and practical importance, since it enables modern Ukrainian leaders to take into account positive and negative experience of unprivileged classes labour migration in the late 19th and in the early 20th centuries. The research methods are based on the main principles of historicist tradition, scientific objectivity, comprehensive approach and data classification. In order to achieve the purpose the authors use a number of general scientific methods (analysis, synthesis, classification) as well as specific historical methods, such as problematic and chronological, comparative, retrospective and method of periodization. As the result of the research, the authors have made a conclusion about quite high activity of the

inhabitants of Dnipro Ukraine in migration movements during the second half of the 19th century and the early of the 20th century due to the lack of land. The economic reasons were predominant for most migrants, as they were unable to satisfy their primary needs within their region. These are general observations. To be more precise, we can determine a certain range of social and economic factors which made direct and indirect impact on stepping up of migration movements on Ukrainian lands of the Russian empire within the period of 1861-1917. These factors include: 1) the lack of land for most small agrarian producers due to the implementation of legislation acts concerning former serf (in 1861), udilni (in 1863) and state peasants (in 1866); 2) small labour market in the late 19th and early 20th century that resulted in agrarian overpopulation of Ukrainian villages (from 7 to 12 million by various estimates); 3) the availability of the special social unprivileged class of kozaks who inhabited Left-Bank Ukraine (with the highest level of migration) and always had a possibility to sell their land and receive some money to move out; 4) the prevailing government ideas concerning Ukrainian people as the best colonization element that is proved by a large number of legislations acts related to so-called "malorosiyski kozaky". Because of fiscal interests, the central power restricted the intention of some part of its citizens to find better resources in other regions of the country for a long period. However, the need for economic growth of remote eastern and south-eastern regions of the empire and necessity for the defence of these territories from aggressive neighbours, e.g. Japan, forced the government to provide more possibilities for labour migrants to move from the densely populated central parts of the country to its borderlands.

4

POLYTHERMIA OF NACL-LACL3-H2O SYSTEM SOLUBILITY

STOROZHENKO, DA; SHIRAI, YV and LAZORENKO, NM
Jun 1986 | ZHURNAL NEORGANICHESKOI KHIMII 31 (6) , pp.1610-1612

5

SOCIAL-STRUCTURE OF RUSSIAN MIGRANT PEASANTS FROM THE 1880S TO THE EARLY 20TH-CENTURY

YAKIMENKO, NA
Jan-feb 1993 | OTECHESTVENNAYA ISTORIYA (1) , pp.174-182

6

INCREASING POPULATION OF WILD BEES WHICH POLLINATE ALFALFA IN UKRAINIAN FOREST-STEPPE

ZHARINOV, VI
1977 | SOVIET JOURNAL OF ECOLOGY 8 (5) , pp.456-458

7

Elasticity Theory Solution of the Problem on Plane Bending of a Narrow Layered Cantilever Beam by Loads at Its Free End

Goryk, AV and Koval'chuk, SB
May 2018 | MECHANICS OF COMPOSITE MATERIALS 54 (2) , pp.179-190

An exact elasticity theory solution for the problem on plane bending of a narrow layered composite cantilever beam by tangential and normal loads distributed on its free end is presented. Components of the stress-strain state are found for the whole layers package by directly integrating differential equations of the plane elasticity theory problem by using an analytic representation of piecewise constant functions of the mechanical characteristics of layer materials. The continuous solution obtained is realized for a four-layer beam with account of kinematic boundary conditions simulating the rigid fixation of its one end. The solution obtained allows one to predict the strength and stiffness of composite cantilever beams and to construct applied analytical solutions for various problems on the elastic bending of layered beams.

8

GENERAL SECRETARIAT (MINISTRY) FOR POLISH AFFAIRS OF UKRAINIAN PEOPLE'S REPUBLIC AT THE TIME OF THE CENTRAL RADA: FORMATION STAGES AND STRUCTURE DEVELOPMENT

Lozynska, T and Shchetinina, T
2020 | SKHIDNOIEVROPEISKYI ISTORYCHNYI VISNYK-EAST EUROPEAN HISTORICAL BULLETIN (14) , pp.86-98
The Purpose of the Research. However, there is still no separate article that would comprehensively cover the process of structural formation of the Polish minority office as a central executive body. Therefore, the purpose of the article is to study the structure formation and development process of the General Secretariat (Ministry) for Polish affairs of the UPR. The research methodology is based on the principles of scientific knowledge, objectivity, historicism and general scientific (analysis, synthesis, comparison) and special-historical methods (comparative-historical, historical-systemic). The Research Novelty. For the first time, the process of structural formation of the Polish minority office as the central executive body was systematized, and the stages of this process were determined. The Conclusions. The General Secretariat (Ministry) for Polish affairs of the Ukrainian People's Republic (the UPR) went from a structural unit within the General Secretariat of Interethnic (Foreign) Affairs to a separate central body of an executive power. The establishment formation was closely interrelated with the development process of Ukrainian statehood on the path to independence. This made it possible to single out two periods in the establishment formation, to determine their chronological framework, and also to identify two stages of this institution organizational development during the second period. The structure of the general secretariat (ministry) for Polish affairs of the Ukrainian People's Republic reflected the activities that were most relevant to the ethnic Poles, who lived in Ukraine. The most successful was the work of the establishment in support of Polish school education. At the same time, some tasks, such as the creation of the national unions for the implementation of the national personal autonomy principles, could not be implemented. The general secretariat (ministry) for Polish affairs of the UPR was able to act effectively thanks largely to its leader, M. Mickiewicz, and the well-chosen staff.

9

Conceptual framework for ensuring resource and environmental safety in the region

Pysarenko, PV; Samojlik, MS; (...); Kolesnikova, LA
2019 | THEORETICAL AND APPLIED ECOLOGY (2) , pp.137-142
A problem of providing the resource-ecological safety, increase of efficiency of the naturally-economic potential use of territory is one of priority for every region of Ukraine. At the same

time, formation of an efficient market economy in the regions requires solution of the problems between the goals of the social and economic system development and negative effects of its impact on the environment with considering the influence of destabilizing factors. In this aspect, forming new comprehensive approaches to ensuring resource and environmental safety in the region and creating strategies for improving primary and secondary resources management based on economic models and mechanisms are becoming a priority in regional development.

Therefore in the article there are worked out and scientifically justified the methodological principles of estimation of resource-ecological safety in the region. They consist in the calculation of three-component index that takes into account ecological safety of regional economy, level of ecological risk on the basis of a priori choice of model of relations "man-environment", and level of resources proceeding in the region. These approaches are based on developing an innovative methodology for regional social and economic system development, that ensures prevention of ecosystems and human health deterioration while improving social and economic conditions of a given system through a mechanism of more efficient use of natural and economic potential of the area.

The methodological basis of the study were the results of basic and applied research in the field of physical economy, ecological economics, of the concept of sustainable development. Methodological-theoretical basis of organizing resource-ecological safety of the region is based on integration of ecologic, economic, technological and social imperatives. Economic-mathematic model of resource-ecological safety management and approaches of optimal management strategies determination and their implementation mechanisms are proposed. The results of research allowed to form conceptual principles of providing the resource-ecological safety in the regions of Ukraine, oriented to the increase of efficiency of territory naturally-economic potential use on the basis of solid wastes capitalization and minimization of their negative influence. The methodical base of risks diagnostics of regional resource-ecological safety management system and evaluation of its efficiency are worked out. Practical importance of work consists in optimization of strategy of providing the resource-ecological safety in a region, realization of that will allow: to improve competitiveness of region; to get an additional profit from secondary resources; to save primary resources and improve their quality; to turn contaminated lands in economic turnover of region; to decrease a risk to the health of population from negative influence of wastes; to ensure the preservation and resumption of the natural environment of the region.

10

Ecologization of Land Use and Agricultural Leading Enterprises

Syomych, M; Markina, I and Kobchenko, M
2nd Prague-Institute-for-Qualification-Enhancement (PRIZK) International Conference on Sustainable Leadership for Entrepreneurs and Academics (ESAL)
2019 | SUSTAINABLE LEADERSHIP FOR ENTREPRENEURS AND ACADEMICS, ESAL2018 , pp.443-453
Our paper develops an approach for the comprehensive analysis of types of agricultural land use by the leading Ukrainian enterprises of the respective regions which position themselves as industry leaders. Such an approach is necessary in order to evaluate the prospects for ecologization of the practices and business activities of these enterprises on the basis of a cluster analysis based on the territorial principle. The stages of preparation and evaluation of data and interpretation of the obtained results are determined by the authors. Our proposed model allows identifying typical characteristics of land usewhich determine the efficiency of activities and

compliance with current trends in the development of the agricultural industrial complex of Ukraine and its leading enterprises.

11

Features of exogenous development of Trichuris globulosa (Nematoda, Trichuridae)

Yevstafieva, VO; Melnychuk, VV; (...); Filonenko, SV
2020 | BIOSYSTEMS DIVERSITY 28 (4) , pp.337-342
Parasitic nematodes of the genus Trichuris Roderer, 1761 are hematophagous helminths, capable of parasitizing many different hosts including humans. The domestic and wild ruminants are hosts of several Trichuris species, with Trichuris globulosa (Linstow, 1901) one of the most prevalent parasites found in cattle. The exogenous stages of the helminth's life cycle develop in the outer environment, and their activity and survival depend on the abiotic factors. Thus the aim of the work was to determine the influence of temperature on the rate and success of development of infectious eggs of T. globulosa in laboratory culture considering their morphological and metric changes. The results of experimental studies showed that the embryogenesis of T. globulosa eggs, cultured in laboratory conditions and obtained from gonads of female nematodes, occurs in six stages regardless of the temperature regime. At the same time, the rate of transition from one stage to another, the term for the formation of infectious eggs and their viability directly depends on the temperature of the external environment. At the optimal temperature for the development of T. globulosa eggs, 25 degrees C, 76.3% of eggs reached the mobile larva stage. A decrease in temperature to 20 degrees C and an increase to 30 degrees C led to an increase in the egg mortality of up to 26% and 32%, respectively, and the viability of eggs decreased. Under such temperature conditions, 74% and 68% of eggs of Trichuris reached the mobile larva stage. With an increase in the culture temperature, the time of embryogenesis decreased and amounted to 56 days at 20 degrees C, 48 days at 25 degrees C, and 32 days at 30 degrees C. Depending on the temperature regime, the zygote stage lasted from the release of eggs from the gonads of female nematodes to 12 days, the stage of blastomere formation from 4 to 12 days, the stage of the bean-shaped embryo from 8 to 24 days, the stage of the tadpole embryo from 16 to 36 days, the stage of larval formation lasted from 16 to 48 days, the stage of mobile larva from days 20 to 56. The formation of the infectious T. globulosa egg from a noninfectious one is shown in an experiment to include the metric changes confirmed by metric indicators. Mature eggs with a mobile larva are shorter and wider, with shorter and narrower plugs and a thinner shell than eggs at the zygote stage. The obtained research results on the influence of temperature on the exogenous development of Trichuris globulosa will make it possible to predict the epizootic situation of trichurosis in animal husbandry, as well as take timely measures to arrest the embryonic stages of nematode development in the external environment.

12

Justification of Construction Parameters of the Screen in the Small-Sized Household Biomass Chopper

Liashenko, S; Sakalo, V; (...); Kalinichenko, A
IEEE International Conference on Modern Electrical and Energy Systems (MEES)
2019 | PROCEEDINGS OF THE 2019 IEEE INTERNATIONAL CONFERENCE ON MODERN ELECTRICAL AND ENERGY SYSTEMS (MEES'2019) , pp.206-209

The mechanism of influence of screen design parameters on the technological process and the particle size distribution of the chopped biomass were determined in this research. The presented engineering solutions make it possible to design the screen for chopping the given biomass material. The modernized construction expands the scope of application of small-sized chopper, especially when used in private farm households. Size control of the chopped material allows to use material as fuel, material for mulching of berry plantations and gardens, material for production of constructional and insulating wood concrete.

13

DIGITAL COMPETENCE DEVELOPMENT AS A CONDITION FOR ENSURING FUTURE ECONOMISTS' COMPETITIVENESS

Pryidak, TB; Yaloveha, LV; (...); Zoria, SP
2019 | INFORMATION TECHNOLOGIES AND LEARNING TOOLS 73 (5) , pp.28-47
The article considers the concept of digital competence of future economists in aspect of their competitiveness. It is emphasized that the development of this competence is an indispensable characteristic of the modern specialist, in particular in the economic branch, which is confirmed in the foreign and national studies. The analysis of different approaches to the definition of the concept of competitiveness of the future economists is analyzed, common features in these approaches are singled out.

Two main directions are determined on which it is expedient to use information and communication technologies in future economists training . as a tools of supporting the educational process (at all its stages); as an object of study (within the informatics and profile disciplines). Different kinds of software application on general and professional purposes are investigated, generalization and grouping according to the possibility of their usage by future economists in professional activity and development of their necessary professional abilities.

The state and peculiarities of development of future economists' digital competence by the example of Poltava State Agrarian Academy (PSAA) are analyzed. The system of measures carried out in the PDAA is provided to insure an adequate level of informational and educational support of future economists' training, development of digital competence of the subjects of the educational process. Based on the analysis of the educational-professional program of the specialty 071 "Accounting and taxation" (the first (bachelor) level of higher education), the educational disciplines, within which the digital competence of PSAA students is formed are defined, their volumes (in credits) are compared with the volumes defined in the other establishments of Ukraine, which carry out training in a similar specialty. The results of the pilot survey of students (31 persons) are presented, which are aimed at finding out the main problems, advantages and needs identified by them in the process of developing their digital competence. Due to the research carried out the organizational and pedagogical conditions of development of future economists' digital competence are determined, perspective directions of the following scientific investigations are outlined.

14

STRATEGIC MANAGEMENT OF LABOR RESOURCES OF AGRICULTURAL ENTERPRISES ON THE BASIS OF MARKETING

Kalyuzhna, J; Pisarenko, D and Nesterenko, S

2018 | AGRICULTURAL AND RESOURCE ECONOMICS-INTERNATIONAL SCIENTIFIC E-JOURNAL 4 (2) , pp.55-68

Purpose. The goal of this paper is to characterize the theoretical aspects of strategic management of labor resources with the marketing principles in agrarian enterprises; to identify individual factors of influence on labor resources and to form a scheme effective strategic management of labor resources in conjunction with marketing activities of the enterprise.

Methodology / approach. In the process of writing the article, were used such methods as: logical generalization - for the theoretical substantiation of the marketing activity's and labor resources' essence; statistical analysis - for the estimation of such factors, as migration movement of labor resources from rural areas, which influence on the functioning of agrarian enterprises; system analysis - for research and substantiation of effective strategic management of labor resources with the marketing principles as the main element of the enterprise 's activity.

Results. Today in Ukraine one of the main problems of effective management of is the attraction and use of labor resources. Since labor is the main productive force in solving the issues of competitiveness, economic growth and ensuring the effective operation of the enterprise. The labor resources management is a complex process and has its own specific properties and regularities and should have systemic character and completeness based on the development of strategic management. Application of strategic management of labor resources with the marketing principles at agrarian enterprises will allow using economic, organizational and technical possibilities of production effectively.

Originality / scientific novelty. An attempt to investigate the influence of interstate migration growth (decrease) in the rural population as a negative factor of the labor resources reduction in agrarian enterprises, and the forecast for the prospective period was made.

Practical value / implications. The forecasting level of labor migration from the rural areas is determined. The scheme of interconnections between marketing elements and labor resources is developed, which will increase the profitability of enterprises. An updated scheme of strategic management of marketing activity of the enterprise with the use of labor resources as the basic element is proposed.

15

PROBLEMS OF AGRARIAN HISTORY OF THE CARPATHIAN REGION AT THE END OF THE XVIII - THE MIDDLE OF THE XIX CENTURY IN CONTEMPORARY UKRAINIAN HISTORIOGRAPHY

Sharavara, T and Makarets, S

2019 | SKHIDNOIEVROPEISKYI ISTORYCHNYI VISNYK-EAST EUROPEAN HISTORICAL BULLETIN (10) , pp.18-26

The purpose of the research is to analyze and generalize the views of modem Ukrainian scientists on the problems of agrarian relationsdevelopment of the Carpathian regionpopulation at the end of the XVIII - the first half of the XIX century. The methodology of the research is based on the principles of consistency, reliability, historicism, logic. General scientific (analysis, synthesis, generalization) and specifically historical (historically genetic, historically typological, historically system) methods are used in the article. Scientific novelty. For the first time it was made an analysis of the latest scientific research devoted to the problems of agrarian history of the Carpathian region of the late XVIII - the first half of the XIX century, presented not only by historians, but also by specialists from other branches of science: economists, geographers, and

lawyers. Conclusions. Having analyzed the works of contemporary Ukrainian historiography representatives, which cover issues of the evolution and transformation of agrarian relations in the Carpathian region at the end of the XVIII- the first half of the XIX century, it can be argued that the issues of the Rusyn sagrarian history of the reforms period of Maria Theresaand Joseph II and themes of the serfdom abolition in 1848 remain extremely relevant among the researchers. Modern Ukrainian historians, while outlining the region of research, mostly use the term "Transcarpathia", and only some of them go beyond the terminology developed by Soviet historiography. At the same time, Ukrainian scientists operate statistical data extremely full, publishing figures highlighting land ownership issues, categories of lands and peasants in a defined period. In the vast majority of works, the colonial status of the region is emphasized, and the brake factor for the development of the Carpathian region is called feudal land tenure, which prevented the wealth growth of the bulk of the Rusyns. This approach reflects the contribution of Soviet historiography to this topicin some way, but growing interest in the history of wealthy Rusyn peasants suggests finding new foundations for research and re-evaluating scientific knowledge.

16

Effect of cultivation technology on switchgrass (Panicum virgatum L.) productivity in marginal lands in Ukraine

Taranenko, A; Kulyk, M; (...); Taranenko, S
2019 | ACTA AGROBOTANICA 72 (3)
Growing plants for biofuel production on marginal lands is of major importance in many developing countries. As a biomass source, switchgrass (Panicum virgatum L.) is a most adaptable plastic crop, forming extensive ground cover and vegetative biomass, providing a very high productivity over a short period of time. This study investigated the effects of cultivation (type of growing conditions and N fertilization rates) on biomass yields and changes in the structure of the switchgrass phytocenosis in different types of cropping systems. The biomass yields in stripe and mixed crops were higher than in single crops in the third year of cultivation. Switchgrass plants in intercrops were characterized by a greater height and number of shoots per unit area compared to mixed crops and monocultures. Biomass yields increased with each year of this research. The maximum biomass yields were attained with 30 kg ha(-1) of N fertilization and the minimum yields where there was no fertilization.

17

THE FEATURES OF ANALYSIS OF EFFICIENCY OF IMPLEMENTATION TECHNOLOGICAL INNOVATIONS IN AGRICULTURE

Dorohan-Pysarenko, L; Yehorova, O and Panchenko, I
2020 | SCIENCE AND INNOVATION 16 (3) , pp.25-35
Introduction. The innovation activity in the agrarian sector has its specific features, insofar as implementation of some innovations may cause the negative consequences in the economic, social, and environment spheres, therefore, they shall be assessed by a degree of danger.

Problem Statement. It is difficult to predict and to measure the possible consequences of innovation, since there is no standard (procedure) for assessing innovation risks in agriculture. Therefore, the improvement of methodology for assessing the effectiveness of implementing innovations in the agrarian sectors remains important. In addition, methods for analysis of

efficiency of innovation implementation, which summarize the positive and negative consequences in different aspects of agricultural activity, need to be further improved.

Purpose. To develop a concept of the comprehensive assessment of the effectiveness of implementation of technological innovation in the agricultural sector.

Materials and Methods. Abstract, logical, comparative analysis, monographic method, expert assessments. To analyze the effectiveness of innovations, the system of indicators has been proposed. It has been formed using the methods of decomposition, analysis and synthesis. While selecting indicators, a content-analysis of scholarly research literature has been applied.

Results. A concept for the comprehensive assessment of expediency of implementation of technological innovations based on integral indicator of efficiency of innovations has been proposed. It takes into account possible influence of innovation on the technologic, economic, and environment characteristics of different agricultural sectors. Its application enables making decision on expediency of implementation of a certain kind of innovation.

Conclusions. This approach provides comprehensive assessment, simplicity of calculations, saving of time, and minimization of subjectivity of expert evaluation.

18

Cybercrime as a leading threat to information security in the countries with transitional economy

Syomych, M; Markina, I and Diachkov, D
2nd International Conference on Social, Economic and Academic Leadership (ICSEAL) 2018 | PROCEEDINGS OF THE 2ND INTERNATIONAL CONFERENCE ON SOCIAL, ECONOMIC AND ACADEMIC LEADERSHIP (ICSEAL 2018) 217 , pp.342-350
The peculiarity of the modern economy is related to its informational character which affects the sharp increase of cyber incidents in the field of information security that are widespread and becoming threatening and are relevant to a broad range of private, corporate, as well as state interests. The problem of forming an effective information security system is exacerbated by the spread of cybercrime as a leading threat to information security, both in Ukraine and throughout the world. Thus, World Economic Crime Survey shows that almost every third organization faces economic offenses, of which about a third are the cybercrimes.
The paper analyzes the data of two main indicators of the country's cybersecurity: Global Cybersecurity Index and the National Cybersecurity Index. According to the first one, some indicators of the Index in contemporary Ukraine became problematic. These are as follows: the absence of sectoral cybersecurity centers, the lack or low standards of cybersecurity of organizations and professional standards in this field, Internet safety for children, and the practical implementation of activities. The results of the analysis of the main indicators of the National Cybersecurity Index make it possible to state that the leading shortcomings in the field of cyber defense for Ukraine are: the lack of protection of digital services, the lack of crisis management in the field of cyber crisis management, the lack of effective military cyber operations. Summarizing the foregoing, the most acute problems of ensuring the proper level of cyber security of Ukraine are identified, which are as follows: the lack of appropriate specialists in the field of cybersecurity, the lack of unification of the categorical apparatus in the legislation of the country in the field of cybercrime, the lack of standards of cybersecurity in organizations and professional standards in this field, the absence of sectoral cybersecurity centers, the lack of recognized national comparative analysis and reference for measuring cybersecurity, and finally,

the severity of identification, investigation and disclosure of cybercrime. In order to overcome certain shortcomings, the conceptual ways of solving the problem of ensuring cybersecurity have been proposed and characterized, which mainly consist in improving the legal and organizational support for the information and cyber security of Ukraine.

19

Dynamics of soil organic matter in Panicum virgatum sole crops and intercrops

Taranenko, A; Kulyk, M; (...); Rozhko, I
2021 | ZEMDIRBYSTE-AGRICULTURE 108 (3) , pp.255-262
Soil organic matter (SOM) is one of the primary indicators of soil quality, which plays an important role in enhancing a range of soil physical, chemical and biological functions in the agricultural ecosystem. Switchgrass cultivation for bioenergy has the potential to improve and stabilize soil properties on marginal land over the years. The research was aimed to evaluate the dynamics of SOM in different types of switchgrass cropping systems and the influence of SOM on switchgrass productivity. The experiment was performed on a marginal land in the central part of the forest-steppe zone of Ukraine. The switchgrass (Panicum virgatum L.) cultivar 'Cave-in-Rock' was used. The experiment included two factors. Factor A - type of cropping: 1) sole crops of switchgrass (Sw) - control; 2) strip intercropping of switchgrass and lupine (Sw + strip); 3) mixed intercropping of switchgrass and lupine (Sw + mix). Factor B - years of switchgrass cultivation (2010-2016). It was demonstrated that perennial switchgrass cultivation has the potential to increase SOM content. SOM content in Sw + strip crops increased by 0.12%, in Sw + mix - by 0.09% and in Sw - by 0.07%. The highest switchgrass productivity was formed in Sw + strip (from 1.11 to 1.53 kg m(-2)) and in Sw + mix (from 1.12 to 1.45 kg m(-2)) crops, the lowest - in Sw (from 0.85 to 1.34 kg m(-2)) crop. The maximum switchgrass productivity was observed for 5-7 years of cultivation. The highest height of plants and number of shoots of switchgrass were in Sw + strip crops, and significantly less in the other treatments. The results of the experiment showed a great increase of switchgrass productivity and SOM content in switchgrass crops and confirmed that switchgrass can be a sustainable energy crop.

20

CYTOEMBRYOLOGICAL PECULIARITIES OF MEDICAGO-SATIVA

PESTOVA, TM
1982 | TSITOLOGIYA I GENETIKA 16 (3) , pp.26-30

21

TYPES OF INDUCED MACRO-MUTATIONS IN LATHYRUS-SATIVUSL .2. MUTANTS OF LATHYRUS-SATIVUS WITH ALTERED MORPHOLOGICAL CHARACTERS

CHEKALIN, NM
1977 | GENETIKA 13 (12) , pp.2116-2122

22

Analytical Solution to the Plane Bending Task of the Multilayer Beam with a Circular Axis under Normal Uniform Loading

Koval'chuk, SB
Sep 2020 | STRENGTH OF MATERIALS 52 (5) , pp.762-778
Enriched Cited References
Circular bars are widespread elements in building and mechanical engineering. They allow one to enhance the strength of the multilayer composite materials along with their weight reduction. However, their analytical modeling is developed rather poorly, which creates additional obstacles in their efficient design. The paper presents the results of the exact analytical solution to the plane bending task of elasticity theory for the multilayer beam with a circular axis under normal uniform loading on its longitudinal surfaces considering the cylindrical orthotropy of its layers' materials. The problem has been solved using the methods of linear elasticity theory based on the continual approach where the circular bar is considered as a solid with the elastic characteristics varying in the radial direction. The solution for the shear stresses is assumed using the known distribution in the cross section. Therefore, the solution to the problem is reduced to the determination of two unknown functions of stress distribution throughout the section height. The system of linear differential equations has been obtained for the determination of the sought functions and unknown functions of integration in the process of the solution to the equations of plane theory considering the variable elastic characteristics. General analytical solutions for uniform and discontinuous-nonuniform layers from cylindrically orthotropic and isotropic materials have been developed. The influence of transverse shear deformation and compression on the characteristics of the stress-strain state of a cantilever three-layer beam with a semicircular axis is theoretically investigated. The obtained relations allow us to predict the stress-strain state of circular multilayer beams, as well as to build applied methods for solving problems of strength, rigidity, and optimal design of such structural elements.

23

Marketing information for holding leading positions in the market segment of the grain processing enterprises

Markina, I; Voronina, V and Aksiuk, Y
2nd International Conference on Social, Economic and Academic Leadership (ICSEAL) 2018 | PROCEEDINGS OF THE 2ND INTERNATIONAL CONFERENCE ON SOCIAL, ECONOMIC AND ACADEMIC LEADERSHIP (ICSEAL 2018) 217 , pp.193-201
This paper focuses on the marketing information for holding leading positions in the market segment of the grain processing enterprises. We develop and test the contemporary approach to the analysis of the raw material market for marketing needs of the leading grain processing enterprises.
Our results and findings are based on cluster analysis built according to the territorial principle. The stages of preparation and assessment of data are determined. The interpretation of results and comparison with traditional practices are also presented within the scope of the paper. The constructed model allows to find the hidden patterns in the development of priority qualities of potential counterparts taking into account their spatial dispersion. Our results might be of some interests to stakeholders in agricultural policy and regional development as well as to the policy-makers of various sorts.

24

Agronomic Meetings as a Means of Modernization of Agriculture in Ukraine in the Early Twentieth Century (as Exemplified in Poltava Region)

Aranchii, V; Yakymenko, M and Sharavara, T
2020 | UKRAINSKYI ISTORYCHNYI ZHURNAL (6) , pp.69-79
The aim of the research is to determine the reasons, form, content and consequences of such a social phenomenon as agronomic meetings (the practice of which was quite common in the southwestern regions of the Russian Empire in the early 20th century, in particular in Poltava region) for the socio-economic development of the country. The research methodology is based on the principles of scientificity, historicism, authors' objectivity, regionalism, as well as the use of general scientific methods such as analysis and synthesis, induction and deduction and specific historical ones, namely, historical-genetic, historical-comparative and historical-systemic methods. The scientific novelty of the research is characterized by the fact that on the basis of the analysis of little-known historical sources, the authors for the first time in national historiography have analyzed the publications of Poltava provincial zemstvo, as well as publications of local agricultural societies, including magazines "Khutorianyn" and "Bulletin of South Russian Animal Husbandry" in terms of the content and consequences of agronomic meetings set up by local public activists aimed at the modernization of agricultural production, which was particularly topical during the implementation of Stolypin's agrarian reform. The importance of the mentioned meetings was: to involve a wide range of people relating to the agrarian sector in the discussion, among them were not only practitioners, but also well-known theorists from university professors; to disseminate the ideas formulated during the relevant meetings in media, in the process of consultations provided by local agronomists, lectures and conversations with the illiterate population. Along with the analysis of the content of agronomic meetings, the authors paid attention to their socioeconomic reasons and consequences, which, above all, enables to understand this process in a holistic way, taking into account all the circumstances that directly or indirectly affected the meetings held by the local agricultural society and Poltava provincial zemstvo. Conclusions. As a result of the research, it was concluded that such a method of the modernization of crop production and animal husbandry as agronomic meetings with participation of not only public figures from among local agricultural societies and zemstvo figures, but also representatives of central authorities of Poltava province.

25

LI2SO4-COSO4-CO(NH2)2-H2O SYSTEM AT 25-DEGREES-C

SHKROBOT, GP and SHEVCHUK, VG
1978 | ZHURNAL NEORGANICHESKOI KHIMII 23 (5) , pp.1424-1426

26

DESIGNING A FRAMEWORK FOR FUTURE ECONOMISTS' DIGITAL COMPETENCE

Plaksiienko, VY; Dorogan-Pisarenko, LA; (...); Krasota, EH
2020 | INFORMATION TECHNOLOGIES AND LEARNING TOOLS 80 (6) , pp.140-160
The article discusses the concept of future economists' digital competence. It is noted that the development of this competence is an integral characteristic of a modern specialist, including the economic industry, that is confirmed by the foreign and national studies. The development of digital competence is a continuous process, which does not end after a specific training course,

but continues throughout life. This raises the question of measuring and assessing the level of its development among future economists.

Since digital competence is a complex integrated concept, to measure the level of its development it is advisable to apply more general approaches that focus on the main aspects, taking into account further adaptation depending on a specific target group, needs, tasks, etc. This approach is offered by a framework of (digital) competence. The analysis of modern approaches (DigComp, DigCompEdu, DigCompOrg, OpenEdu, DigCompConsumers, EntreComp, etc.) showed that the framework contributes to unification for understanding the main categories, a common vision of the model results; based on the framework, more narrowly oriented indicators can be developed; the framework can be used as a tool for comparing skills and competences in national and international contexts, etc.

Taking into account international approaches to determining the levels of digital competence development, the authors have developed a framework for future economists' digital competence. The framework presents the skills, the competence's components (working with data, communication, content development, security, problem solving), indicators and levels of development (low, basic, sufficient and high). After the expert assessment, it was found out that the majority of experts (93.4%) evaluate the proposed framework positively. The presented framework for future economists' digital competence can be the basis for the development of narrower frameworks for specific economic or related specialties.

27

Weed Control and Winter Wheat Crop Yield With the Application of Herbicides, Nitrogen Fertilizers, and Their Mixtures With Humic Growth Regulators

Korotkova, I; Marenych, M; (...); Liashenko, V
Jul 9 2021 | ACTA AGROBOTANICA 74
The aim of the present study was to determine the efficacy of the application of mixtures containing various combinations of humic substances, with herbicides and nitrogen fertilizers, in weed control and optimizing the plant nutrition system. We also aimed to evaluate the influence of these substances on winter wheat productivity. Five Ukrainian winter wheat cultivars ('Kryzhynka,' 'Smuhlyanka,' 'Slavna,' 'Kubus,' and 'Mulan') were sown in a randomized complete block design, with three replications, in the years 2014-2019. The analysis of the effect of the compositions containing herbicides, with various physiologically active substances, in a mixture with humic preparations (Humifield, 4R Foliar concentrate) was performed by counting weeds per square meter in each experimental plot. The best performance in weed control, including perennial species, was obtained from using a mixture of Grodil Maxi herbicide with the humic preparation, Humifield. The crop treatment of this mixture resulted in a 23.6% reduction in weeds, compared to the treatment with the Grodil Maxi herbicide only. At the same time, the complex application of a number of herbicides in a mixture with the humic preparation, 4R Foliar concentrate led to the opposite effect. Various applications of mixtures of humates (4R Foliar concentrate, 5R SoilBoost) with nitrogen fertilizers (ammonium nitrate; carbamide-ammonium mixture) to optimize the winter wheat nutritional system and yield increases have been studied. The highest yield increase of 20%-22% was harvested in the plots treated with 5R SoilBoost and 4R Foliar concentrate plus ammonium nitrate. In addition, the efficacy of wheat crop foliar feeding with mixtures of humates, plus a carbamide-ammonia mixture, in different phases of vegetation has been established. A yield increase of 10.0%-21.4% resulting from the use of such compositions was obtained.

28

Differential characters of fleas of the genus Ctenocephalides (Siphonaptera, Pulicidae) obtained from dogs

Yevstafieva, V; Horb, K; (...); Gorb, O
2021 | REGULATORY MECHANISMS IN BIOSYSTEMS 12 (1) , pp.65-70
Fleas are the common name of the order Siphonaptera, obligate provisional nidiculous parasites of mammals and, to a lesser extent, birds, which can also feed on humans. Fleas can cause ctenocephalidosis of dogs and are carriers of many dangerous infectious and invasive diseases. Their ability to use humans as an alternative host determines the importance of these parasites in health care. Therefore, the aim of the work was to establish morphological and metric characters of adult male and female fleas of the species Ctenocephalides felis Bouche, 1835 and C. canis Curtis, 1826, isolated from domestic dogs for species identification. Morphological studies of fleas have shown that the differential features of C. felis and C. canis include the shape of the head and anterior-dorsal cuticular notch on the head. Notably, male fleas of both species have a more rounded forehead than female fleas. The metric parameters of adult fleas can be used as additional identification features, which will increase the efficiency of differential diagnosis of parasitic insects. We found differences in male fleas by 23 parameters, of which the value of 17 parameters were smaller in C. canis specimens. Males of C. felis were 9.1-21.1% larger in total body length, lengths of head and thorax, as well as lengths of mesothorax and metathorax. Differential features included size of the teeth of the main ctenidium and pronotal ctenidium: in C. felis males all eight teeth of the main ctenidium, located on the left side, were longer by 12.7-41.7%, and the first, seventh, eighth teeth were wider by 25.4-43.0% than in C. canis. In female fleas, differences were found for 24 metric parameters, of which the values of 20 parameters were also smaller in C. canis specimens. Females of C. felis were 12.1-22.2% larger in terms of total body length, head, breast, prothorax, mesothorax, and metathorax. All their teeth of the main ctenidium were longer by 5.6-40.6%, and the first, second, third, and eighth teeth were 18.1-48.9% wider than in females of C. canis. The obtained results add to the already existing data on morphometric features of adult fleas of C. felis and C. canis species, and will allow timely and accurate diagnosis of ctenocephalidosis in dogs caused by parasites of these species.

29

MODEL OF THE TOTALITARIAN STATE IN THE VIEW OF THE OUN'S ACTIVITIES (1920-ies - 1930-ies) AND CLASSICAL WESTERN CONCEPTS OF TOTALITARISM: COMPARATIVE ASPECT

Sharavara, T and Prykhodko, S
2019 | SKHIDNOIEVROPEISKYI ISTORYCHNYI VISNYK-EAST EUROPEAN HISTORICAL BULLETIN (13) , pp.136-146
The purpose of the article is to identify the features of the totalitarian model of the state power organization created by the representatives of the Organization of the Ukrainian Nationalists in the 1920-ies - 1930-ies, as well as to do a comparative analysis of the classical Western concepts of totalitarianism with the theoretical heritage of the Ukrainian nationalists. The methodology of the research is based on the principles of systematic, dialectic, authenticity, concrete-historical approach, logic. The general scientific (analysis, dialectical, synthesis, structural functional, generalization) and special (content-analysis, comparative, system-historical) methods are used. The scientific novelty. The political conception of the Ukrainian nationalists of the 1920-ies - 1930-ies was first characterized in terms of(Wining the model of a totalitarian state. A comparative analysis of this model with classical theories of totalitarianism, formed by Western

political scientists after World War II. The Conclusions. Based on the analysis of the political concepts of the Ukrainian nationalists of the 1920-ies - 1930-ies, it has been found out that they completed the basic features of a totalitarian state. The creation of a model of a totalitarian state during this period is conditioned by objective prerequisites. The OUN s activities took place in the context of a discriminatory policy towards the Ukrainian population between Poland. That is why the ideas of hard resistance to the Polish authorities were popularized among the Ukrainians. It was in a totalitarian state that the Ukrainian nationalists saw a mechanism that would allow them to withstand external threats. In addition, in the countries of Central and Eastern Europe in the 1920-ies 1930-ies, the ideas about a totalitarian organization of the state power were also very popular: The theories of totalitarianism by Western scholars emerged after World War II. It can be argued that there is an indirect influence of these concepts of the OUN figures on classical theories.

30

GENETICS OF HARD-SEEDNESS IN TANGER PEA (LATHYRUS-TINGITANUS L)

CHEKALIN, NM
1976 | GENETIKA 12 (6) , pp.43-50

31

STIMULATION OF FRUIT FORMATION AND PARTHENOCARPY IN PEARS BY PROLINE AND GIBBERELLIN TREATMENT OF FLOWERS INJURED BY FROSTS

SAMORODOV, VN and GOLUBINSKY, IN
1985 | DOPOVIDI AKADEMII NAUK UKRAINSKOI RSR SERIYA B-GEOLOGICHNI KHIMICHNI TA BIOLOGICHNI NAUKI (12) , pp.55-58

32

Prevalence of gastrointestinal helminths in ruminants in Ukraine: a 5-year meta-analysis

Kruchynenko, OV; Mykhailiutenko, SM; (...); Kuzmenko, LM
2021 | BIOSYSTEMS DIVERSITY 29 (3) , pp.251-257
The production of environmentally friendly livestock products is currently receiving much attention, especially in the European Union. The problem of monitoring the quality and safety of meat and milk in modern conditions is relevant not only for Ukraine but also for the world community. The scientific substantiation of the methods of research on meat for sale subject to invasive diseases is especially important, as the product may pose risks to the consumer. One of the criteria for assessing the welfare of a herd is the prevalence of helminthiases in cattle. Ruminant parasitoses in Ukraine have always been and remain a separate, often significant, problem for veterinary specialists. Helminths have evolved to use a wide range of ecological niches. In this study, we tried to quantify the prevalence of helminthiases among ruminants (cattle, sheep and goats) in Ukraine. The relevant studies were searched for in the online databases. The meta-analysis included 15 publications from January 2015 to December 2020 which reported the spread of parasites in Ukraine. The research results show that the infestation of ruminants with gastrointestinal helminths on the territory of Ukraine is 56.7%. Egger's regression test revealed no significant publication bias. During the period of pastured farming,

stable parasitocenoses are formed in the body of ruminants. The parasitoses are caused by helminths (gastrointestinal strongyles, liver flukes, paramphistomas, dicrocelia). They are recorded in monoinvasions or mixed invasions. Ruminants, according to helminthological examination in different climatic zones, are constantly infested with trematodes. In Ukraine, the presence of three species of flukes has been confirmed in ruminants: Fasciola hepatica, Dicrocoelium dendriticum and Paramphistomum cervi. Parasitization by those species negatively affects the profitability of dairy farming. Trematodes cause significant economic losses: reduced milk productivity of cows, reduced live weight gain of young animals, negative impact on reproduction. At the same time, fascioliasis is socially significant and dangerous to humans. According to the analyzed literature sources, two types of cestodes have been registered in Ukraine: Moniezia benedeni and M. expansa. The epizootic situation regarding nematodes is just as fraught. That is the most numerous group of helminths, their fauna is represented by the following species: Strongyloides papillosus, Nematodirus spathiger, Bunostomum spp., Oesophagostomum radiatum, Haemonchus contortus, Toxocara vitulorum, Trichuris skrjabini, T. ovis and T. globulosa. It is proven that in cattle parasitocenoses are recorded more often than monoinvasions. The highest rates of prevalence of infection were observed when polyinvasion included gastrointestinal strongyles, namely from the order Strongylida. Strongyloides papillosus is the most common taxonomic representative, while Fasciola hepatica has the lowest prevalence of infection, especially in sheep. Updated data on helminthiasis will expand the screening strategy to maintain the health of farm ruminants and reduce economic losses.

33

Prerequisites and peculiarities of conservation and restoration of ecosystem stability of the concept of sustainable development

Yasnolob, IO; Chayka, TO; (...); Mokiienko, TV
2018 | UKRAINIAN JOURNAL OF ECOLOGY 8 (3) , pp.164-169
The article deals with defining of the term 'ecosystem' through the study of its essence and on the basis of the existing definitions. The state and ecological problems of Ukraine's ecosystems from the point of view of the concept of sustainable development are considered. The principles of rational and careful attitude to ecosystems, which ensure their stability in a long-term perspective are identified. The functions of the regional policy on rational and careful attitude to national ecosystems are found out taking into account measures aimed at preventing losses in ecosystems. The directions of rational and careful attitude to national ecosystems which require implementation in all spheres of life are suggested. The measures that are supposed to allow to preserve, restore and use natural resources effectively as well as to ensure ecosystem stability and future development of Ukraine are structured.

34

TYPES OF INDUCED MACRO-MUTATIONS IN GRASS PEA (LATHYRUS-SATIVUS L) .1. TYPES OF CHLOROPHYLL MUTATIONS IN GRASS PEA (LATHYRUS-SATIVUS L)

CHEKALIN, NM
1977 | GENETIKA 13 (1) , pp.23-31

35

Solving the Problem of Elastic Bending of a Layered Cantilever Under a Normal Load Linearly Distributed over Longitudinal Faces

Gorik, AV and Koval'chuk, SB
Jan 2020 | Apr 2020 (Early Access) | INTERNATIONAL APPLIED MECHANICS 56 (1) , pp.65-80
We present the exact solution to the problem of elastic plane bending of a layered composite beam of small width under normal loads linearly distributed over the longitudinal faces. The constitutive equations for the strain-stress state are obtained by directly solving a plane problem of elasticity taking into account the orthotropy of the elastic properties of layer materials and their piecewise-constant variation along the cross-sectional height. The obtained analytical solution describes the distribution of stresses and displacements over the whole layered bar and allows performing strength and rigidity analyses as well as finding the solutions to different applied problems on plane bending of composite beams.

36

CUCL2-MNCL2-CO(NH2)2-H2O SYSTEM AT 20-DEGREES-C

SHKROBOT, GP and SHEVCHUK, VG
1977 | ZHURNAL NEORGANICHESKOI KHIMII 22 (11) , pp.3176-3178

37

The effect of soil tillage on symbiotic activity of soybean crops

Hanhur, V; Marenych, M; (...); Korotkova, I
Apr 2020 | BULGARIAN JOURNAL OF AGRICULTURAL SCIENCE 26 (2) , pp.365-374
This study is devoted to consideration of the practical aspect of atmospheric nitrogen biological fixation by soybean plants. This fixation is considered in terms of physiological-biochemical processes taking place at binding the inert nitrogen molecule in nitrogenous compounds accessible to plants. Searching the ways of intensifying the process of nitrogen fixation to obtain maximal yields of high-quality protein products appears to be an important practical task. It has been demonstrated that the role of soil tillage practices connected with the possibilities of soybean symbiotic nitrogen fixation being among many factors capable of affecting this process, has not been sufficiently studied. To study effect of soil tillage and seed inoculation on soybean productivity field trials during the period from 2016 to 2018 were conducted. The following main soil treatment techniques were used: deep tillage (20-22 cm), shallow tillage of two types: up to 14-16 cm and to 12-14 cm depth. Various types of cultivators forming different degree of soil dispersity by its crumbling, fluffing, partial mixing, and also flattening the field surface were used for soil shallow tillage. It was established that inoculated soybean plants are able to uptake the maximal quantity of fixed nitrogen181.2 kg/ha under shallow tillage (12-14 cm), flattened and moderately compacted soil surface. Obtaining the highest soybean yield of 2.42 t/ha as compared with other soil tillage practices as shallow tillage (14-16 cm) and deep tillage under which the yields were 2.24 and 2.01 t/ha, respectively, was the result of such farm practices.

38

EXPERIENCE IN IMPLEMENTING RESOURCE-BASED LEARNING IN AGRARIAN COLLEGE OF MANAGEMENT AND LAW POLTAVA STATE AGRARIAN ACADEMY

Kononets, N
Apr 2015 | TURKISH ONLINE JOURNAL OF DISTANCE EDUCATION 16 (2) , pp.151-163
The introduction of resource-based learning disciplines of computer cycles in Agrarian College. The article focused on the issue of implementation of resource-based learning courses in the agricultural cycle computer college. Tested approach to creating e-learning resources through free hosting and their further use in the classroom. Noted that the use of Internet technology makes it possible to create educational environment Agrarian College is through the development and deployment of electronic educational resources on the Web, because the Internet is constantly expanding its capabilities, services, hosted with them information that is relevant in terms of education.
The author proposes to consider e-learning resource "Information+": http://informatika-resurs.jimdo.com which combines the characteristics and principles of creation of electronic media for educational purposes and is a modern didactic resource for the study of the disciplines of computer cycle. Demonstrates Cloud resources from the disciplines of computer cycle, e-learning content "IT-education", developed with the help of Google services for online learning. Cloud resource is a collection of electronic teaching systems such disciplines of "Computer Science and Computer Engineering", "E-commerce", "Data Protection", "Computer technologies in legal activity". The study is focused on free hosting for the development of electronic learning resources (Jimdo, uCoz), which enable the creation of a site (does not require special skills and knowledge of programming languages), fast and, most importantly, free of charge, which is particularly important given the current financial support of agricultural colleges.

39

DIFFERENTIATED APPROACH IN TEACHING THE BASICS OF MATHEMATICAL MODELING WITH MS EXCEL FOR STUDENTS OF AGRICULTURAL UNIVERSITIES

Flehantov, LO and Ovsiienko, YI
2016 | INFORMATION TECHNOLOGIES AND LEARNING TOOLS 54 (4) , pp.165-182
The differentiated approach in teaching the students of engineering training areas of Agricultural Universities for the basics of mathematical modelling by information technology on the example of a mathematical model of the mechanical movement of the body in dense environments is proposed. We considered the phased construction, improvement and research of mathematical model of the three levels of difficulty: without the environment resistance, given the environment resistance, taking into account the effects arising from the forward-rotational motion of the body in dense medium. This approach provides successful mastering by students the basic concepts, methods and procedures of mathematical modeling at the basic level, the formation of representations about the application of mathematical models and basic skills for research activities.

40

STUDY OF THE MGSO4-COSO4-CO(NH2)2-H2O SYSTEM AT 20-DEGREES-C AND 25-DEGREES-C

SHKROBOT, GP and SHEVCHUK, VG
1981 | ZHURNAL NEORGANICHESKOI KHIMII 26 (4) , pp.1115-1117

41

PRODUCTIVITY OF INDIVIDUAL LAYERS OF THE HUMUS HORIZON OF A FLOODPLAIN MEADOW-CHERNOZEM SOIL

BILENKO, PY and LOGVINENKO, OA
1978 | SOVIET SOIL SCIENCE 10 (3) , pp.278-283

42

ELASTICITY THEORY SOLUTION OF THE PROBLEM ON BENDING OF A NARROW MULTILAYER CANTILEVER WITH A CIRCULAR AXIS BY LOADS AT ITS END

Koval'chuk, SB and Goryk, AV
Nov 2018 | MECHANICS OF COMPOSITE MATERIALS 54 (5) , pp.605-620
An exact solution of the problem on plane bending of a narrow multilayer cantilever bar with a curved circular axis by tangential and normal loads distributed on its free end face is presented. The natural (for a bar structure) cylindrical circular coordinate system is used to describe the structure and geometry of the bar. The solution is obtained by directly integrating the equations of a plane elasticity theory problem using an analytical description of the mechanical characteristics of the discrete-inhomogeneous multilayer bar. Physical relations that take into account the cylindrical orthotropy of the material of bar layers and the conditions of absolutely rigid contact of layers are used in constructing the solution. The theoretical relations are realized for the test problem on determining the strain-stress state of a four-layer cantilever with a semiring axis. The solution obtained allows one to predict the strength and rigidity, to develop optimum design techniques, and to construct analytical solutions of different problems on bending of multilayer curved bars.

43

Energy spectrum of impact casual quasimixed type signals

Smerdov, A; Brykun, A and Polyakov, I
International Conference on Modern Problems of Radio Engineering, Telecommunication and Computer Science
2006 | TCSET 2006: MODERN PROBLEMS OF RADIO ENGINEERING, TELECOMMUNICATIONS AND COMPUTER SCIENCE, PROCEEDINGS , pp.105-105
showed, that multiplication of impact periodical and aperiodical random process put to formation of new quasimixed type of impact casual signal that may be used for description of signals in systems of informational transfer to statistic averaging-out.

44

SYNTHESIS OF 2,5-DIMETHYL-3-HEXYNE-2,5-DIOL FROM CALCIUM CARBIDE AND ACETONE IN BENZENE

LABUNSKII, IP
1977 | ZHURNAL OBSHCHEI KHIMII 47 (3) , pp.728-728

45

KEY ISSUES OF AGRICULTURAL ENTERPRISE VALUATION

Sivitska, Y
2019 | AGRICULTURAL AND RESOURCE ECONOMICS-INTERNATIONAL SCIENTIFIC E-JOURNAL 5 (1) , pp.137-153
Purpose. The purpose of this article is to determine the range of problems that an appraiser faces during the process of the agricultural business valuation and outline ways of their further solution.

Methodology / approach. To achieve the purpose, the following methods were used: scientific abstraction, method of analysis and synthesis, method of analogy and comparisons.

Results. The valuation of agricultural property is important for strategic planning of the enterprise activity and helps in making key decisions. Properly performed business valuation procedure can increase the enterprise's value, its investment attractiveness. Agricultural enterprises have a number of peculiarities that do not allow full application of the whole range of methodological approaches and methods used for the evaluation of other business types. The study of economic land valuation methods (on the basis of which a monetary expert valuation is carried out) have shown that in modern market conditions, they need to be improved. Since there are no National Standards for Agricultural Property Valuation in Ukraine, there is a discrepancy between European and Ukrainian terminology of agricultural property valuation when applying to foreign experience. The notions of "agrarian property" and "agricultural property" differ significantly. The main problems of evaluation of agricultural property in the form of an integral property complex are caused by the peculiarities of agricultural business: fluctuations in prices for agricultural products and raw materials, imbalances between supply and demand, the difficulty in substantiating the discount rate and a long-term forecast of cash flows, the absence of a stock market of agricultural enterprises in Ukraine.

Originality / scientific novelty. In this article, the classification of problems that arise during the procedure of agricultural property valuation: in the material form and in the form of an integral property complex is proposed for the first time. The justification for the inadmissibility of using generally accepted methodological approaches for the valuation of agricultural real estate and business was further developed.

Practical value / implications. The practical value of this article is that the theoretical generalizations obtained by the author will contribute to the formation of a system for assessing the value of agricultural enterprises as one of the elements of the investment market, as well as, could be used in practice, in assessing the value of these enterprises for investing purposes.

46

IN HOMAGE TO A COLLEAGUE: TO THE CENTENNIAL A TRANSCARPATHIAN EDUCATOR AND SCIENTIST ANDREY IGNAT

Sharavara, TA
Dec 2017 | RUSIN 50 (4) , pp.207-215
The thesis that Sovietisation of the regions that became part of the USSR in the postwar period had an extremely negative impact on their development has been dominant in history for long. Though nobody challenges it, it is necessary to draw attention to the enormous efforts in the sphere of formation and organisation of the education system. Transcarpathia, which for a long time had been under the rule of different states, was no exception. The problems of the formation of the education system, its active financing in the difficult period of the post-war collapse, the formation of a network of educational institutions, the active struggle against illiteracy of the

population must be voiced in the lense of the role of an individual. The role of Andrey Mikhailovich Ignat, an extraordinary personality, scholar, Latinist, scientist, teacher, Dean of the Historical and Philological Faculty of Uzhgorod State University and a public figure has not been sufficiently analysed. It is necessary to give proper respect to this person, who had to revive and rebuild the regional education system in the post-war period. A.M. Ignat is also remembered as a scientist, the author of dissertations The Russian Wars of Stefan Batoriy (Debrecen, 1942), Essays on the History of the Development of Public Education in Transcarpathian Region (1945-1955) (USSR, 1956). He prepared a doctoral thesis but never got a chance to defend it. As a translator and expert in Latin, he translated the third volume of Mikhail Luchkay's The History of Carpathian Rusins, but he did not last until the publication in a modern printed form.

47

Conceptual foundations of the organisation of innovative activities at agro-industrial enterprise based on outsourcing and The Business Process Model and Notation program

Aranchiy, V; Makhmudov, H; (...); Radionova, Y
Oct 11 2017 | ECONOMIC ANNALS-XXI 165 (5-6) , pp.84-89
In changing market environment, success of agro-industrial enterprise directly depends on innovations and business processes improvement. This research is aimed to define the way to regulate innovative activities at agro-industrial enterprise. It has been investigated that the effective distribution of functions and tasks, their positioning to performers, information exchange, budgeting, and resource distribution are the main stages of effective innovative activities at agro-industrial enterprise.
The implementation of innovations at agro-industrial enterprise is often supported by outsourcing. The software Business Process Model and Notation (BPMN) is presented as a method of control over the process of organizing innovations at agroindustrial enterprise. It is meant to address extensive use of outsourcing, allowing to process large amounts of information during a short period of time, work out conclusions, and develop clear recommendations for optimization of innovations management. The software has been tested at the private enterprise of Ukraine "Granit-Agro" which is oriented at exporting of organic agriproduction to EU and Canada. In 2015-2016, administrative expenditures and spendings on managerial grown significantly. That is why, considering the current state of the enterprise and challenges it is facing, we proposed to use BPMN software to improve effectiveness of its activities and management. According to our estimates, the automated management system introducing will reduce time spent on management by 1.7%. The economic effectiveness of the proposed approach in 2017-2020 has been proved.

48

Solution of a Transverse Plane Bending Problem of a Laminated Cantilever Beam Under the Action of a Normal Uniform Load

Gorik, AV and Koval'chuk, SB
May 2018 | STRENGTH OF MATERIALS 50 (3) , pp.406-418
The paper presents an exact direct solution of a transverse plane bending problem of a laminated cantilever beam of small width under the action of a uniformly distributed load under the absolutely hard contact between the layers. The solution has been constructed with the aid of linear elasticity theory equations: to take into account the heterogeneous structure of the laminated beam, piecewise constant functions of elastic characteristics, which have been

described analytically by means of shifted Heaviside functions, have been introduced into the Hooke's law relationships. During the solution of problem, the normal stresses were expressed from static equations in terms of an unknown function of tangential stress distribution over the cross-section height. The use of the obtained expressions in the Hooke's law relationships and Cauchy equations for linear strains made it possible to establish relationships between displacements and tangential stresses. The Cauchy equation that remained for angle strains gave a defining integro-differential equation, from which differential equations for the unknown tangential stress function and for all unknown integration functions have been derived. The solution of the derived equations is possible for the entire packet of layers without considering an individual layer, the final relations for stresses, strains and displacements describing the stress-strain state of the entire packet of composite beam layers. The constructed solution satisfies the boundary conditions and the conditions of the absolutely hard contact of the layers and is exact if the load distribution corresponds to the determined stress distribution. Using this solution, we have carried out a theoretical study of the stress-strain state of a three-layer beam. The obtained relation allow one to predict the strength and stiffness of multilayer structural composite elements and to construct application solutions for other elastic bending problems of laminated beams.

49

A PATH-ANALYSIS OF TRAITS DETERMINING SETTING OF PARTHENOCARPIC FRUITS IN PEAR-TREES IN NATURAL CROSS-POLLINATION

SAMORODOV, VN; POSPELOV, SV and POMOGAIBO, VM
Jul-aug 1989 | TSITOLOGIYA I GENETIKA 23 (4) , pp.55-58

50

AGRARIAN MIGRATION IN RUSSIA (1861-1917)

YAKIMENKO, NA
1983 | VOPROSY ISTORII (3) , pp.17-31

51

Exact Solution of the Problem on Elastic Bending of the Segment of a Narrow Multilayer Beam by an Arbitrary Normal Load

Koval'chuk, SB
Mar 2020 | Mar 2020 (Early Access) | MECHANICS OF COMPOSITE MATERIALS 56 (1) , pp.55-74

An exact analytical solution of the problem on plane elastic bending of the segment of a narrow multilayer beam under the action of arbitrary normal loads distributed over its longitudinal faces is presented. It is assumed that the beam deforms elastically, its layers are made of orthotropic materials homogeneous or continuously heterogeneous across the thickness of layers, which are rigidly connected together, and the load is given as the sum of a trigonometric series. This allowed us to reduce the solution of the given problem on bending to the solution of the auxiliary problem on bending of a multilayer cantilever beam under the action of a sinusoidal load with an arbitrary number of half-waves. Its solution is obtained solving the equations of plane elasticity by using an analytical description for the variables of mechanical characteristics of the multilayer

structure. The solution of the original problem is found as the sum of general solutions of the problems for the multilayer cantilever with a load at its free end and with sinusoidal loads on the longitudinal faces. The theoretical relations obtained are checked by solving the test problem on bending of a five-layer hinged beam with a linear discontinuous load. To reduce the Gibbs effect in the vicinity of jump discontinuities of load on its approximation by the partial sum of a trigonometric series, the Lancos method was used. The results obtained are confirmed by the results of a finite-element modeling. The solution constructed enables one to take into account an arbitrary distribution of normal load on longitudinal beam faces, including local loads and loads on a surface section, and can be used for predicting the strength and stiffness of multilayer beams and, with small changes - for solving contact problems for such structural elements.

52

Main Aspects of the Creation of Managing Information System at the Implementation of Precision Farming

Kopishynska, O; Utkin, Y; (...); Sliusar, I
IEEE 11th International Conference on Dependable Systems, Services and Technologies (DESSERT) - IoT, Big Data and AI for a Safe & Secure World and Industry 4.0
2020 | 2020 IEEE 11TH INTERNATIONAL CONFERENCE ON DEPENDABLE SYSTEMS, SERVICES AND TECHNOLOGIES (DESSERT): IOT, BIG DATA AND AI FOR A SAFE & SECURE WORLD AND INDUSTRY 4.0 , pp.404-410
The paper presents the results of the research of the leading role of integrative information systems of management and accounting of agricultural production in the re-engineering of precision farming systems in agrarian enterprises. The authors determined the necessity, consistency, complexity and content of the main stages of the implementation of precision farming systems, analyzed the main problems and limitations of the implementation process, as well as the expediency of using a single software platform. The practical value of the work is to define the integration role of the management information system in the processing of data of various origins and generation of solution options for the effective management of the agrarian enterprise.

53

Using resource and energy-saving technologies in agricultural production as a direction of raising energy efficiency of rural territories

Yasnolob, IO; Chayka, TO; (...); Shvedenko, PY
2019 | UKRAINIAN JOURNAL OF ECOLOGY 9 (1) , pp.244-250
The expediency of introducing resource and energy-saving technologies in rural territories, specializing in agricultural production, was substantiated in the article. A number of factors, which stipulate the choice of farming system, were given, taking into account economic, ecological, technological-energy, and social factors, which form the efficiency of farming. The peculiarities of different farming systems (intensive, organic, no-till, strip-till, precision, bio-enzyme, biogenic) were considered, which enabled to evaluate their energy and resource-efficiency in rural territories. The estimation of each farming system as to resource and energy-saving was conducted with the aim of their practical using, which will lead to the economy in spending resources and various kinds of energy, increase the productivity of farm machinery and used resources, decrease ecological loading on the environment, ensure energy efficiency of the rural territories and their long-term development.

54

EFFICIENCY OF INTRAVASCULAR LASER BLOOD IRRADIATION IN CATTLE WITH INFLAMMATORY SURGICAL PATHOLOGY

Kulynych, SM; Bublyk, OO; (...); Lockes-Krupka, TP
2019 | WORLD OF MEDICINE AND BIOLOGY 67 (1) , pp.216-221
The laboratory studies results of intravascular laser blood irradiation (ILBI) influence on the bodies of bulls, subjected to jugular veins resection and castration, and cows with papillomatous dermatitis in the area of fingers are presented. After ILBI application similar changes in blood serum of experimental animals were established for different pathological processes. The tendency of ASAT, AP activity and C-reactive protein amount reducing to the norm was revealed, indices growth of non-specific immunological reactivity: serum BSBA and BSLA and opsono-phagocytic activity of blood neutrophils was determined. In the experimental group bulls, one or two days earlier the wound healing and the absence of tissue edema around the affected areas were observed.

55

Ecologization of tillage methods with the aim of soil fertility improvement

Yasnolob, IO; Pysarenko, VM; (...); Pomaz, OM
2018 | UKRAINIAN JOURNAL OF ECOLOGY 8 (2) , pp.280-286
The reasonability of the necessity of soil fertility improvement in Ukraine by introduction of tillage systems is grounded in the article. The peculiarities of the main tillage methods (ploughing, minimum and zero) are considered, taking into account the national and world's experience. The advantages and disadvantages of each tillage method, which enable to evaluate their significance for agricultural producers, are identified. The criteria of the evaluation of tillage systems on the basis of sustainable development according to agronomical, economic, social and ecological directions are suggested. The necessity of introduction of tillage methods is proved, as their use allows to increase the productivity of agricultural machinery and the resources involved, to reduce the incurred costs and ecological impact on the environment as well as will provide a long-term development of agricultural production.

56

Functional noise immunity of frequency selective model of neuron excitation

Smerdov, A and Romanyshyn, Y
International Conference on Modern Problems of Radio Engineering, Telecommunications and Computer Science (TCSET 2004)
2004 | MODERN PROBLEMS OF RADIO ENGINEERING, TELECOMMUNICATIONS AND COMPUTER SCIENCE, PROCEEDINGS , pp.235-236
The analysis of functional noise immunity of frequency selective model of neuron excitation under the influence of white noise and comparison of it with the noise immunity of optimum filter for a videoimpulse are carried out.

57

STUDY OF SELECTIVE FERTILIZATION IN GRASS PEA

CHEKALIN, NM
1973 | GENETIKA 9 (12) , pp.18-26
58

MECL-LACL3-H2O(ME-NA,K,CS) SYSTEMS AT 25-DEGREES-C

SHIRAI, YV
Apr 1986 | ZHURNAL NEORGANICHESKOI KHIMII 31 (4) , pp.1049-1052
59

PATH-ANALYSIS OF PRODUCTIVITY COMPONENTS IN ALFALFA

POMOGAIBO, VM
1981 | GENETIKA 17 (8) , pp.1473-1478
60

Analysis of the treatment regimen efficacy for columnaris disease in Pterophyllum scalare

Lavrinenko, IV; Shulga, LV; (...); Zhernosik, IA
2020 | REGULATORY MECHANISMS IN BIOSYSTEMS 11 (2) , pp.226-231
The article presents the results of studies on the treatment scheme efficacy for columnaris in Pterophyllum scalare, common under private aquarium husbandry conditions. To establish the diagnosis, the clinical features of the diseased fish, pathological and anatomical changes and the results of microscopic and microbiological studies were taken into account. Separate chemical and microbiological parameters of aquarium water were also studied. It was established that fish disease developed against the background of adverse changes in the chemical composition and microbiocenosis of aquarium water. High alkalinity and excess of phosphates compared to the norm provoked accumulation of opportunistic microbiota, resulting in a balance disorder in the parasite-host system and development of clinical manifestation of the fish disease. During the disease outbreak, bacteriological indices of water indicated a high level of organic contamination and a low intensity of water self-purification processes. Clinically, the disease was manifested in P. scalare by decrease in appetite and motor activity, onset of ulcerative lesions of various shapes and sizes on the surface of the body and on the gill covers. Selected pure cultures of Flavobacterium columnare showed sensitivity to enrofloxacin (growth retardation zone 31.3 +/- 1.0 mm); moderate resistance was found to tylosin. The microorganisms were resistant to amoxicillin, doxycycline, benzylpenicillin and tetracycline. Microscopic studies of intestinal specimens of dead P. scalare revealed numerous motile flagellates. It has been shown that an effective treatment regimen that provides recovery for 70% of diseased P. scalare is the use of enroxil 10% solution for five days, metionidazole three times a day, and "API MelaFix" for seven days. It is proved that the following measures are effective to restore the dismpted hydro-balance: periodic water replacement in the amount of 20% of the total volume, providing the aquarium with active aeration systems, planting slow-growing plants and reducing the amount of fish food provided. The measures developed were efficient, they led to elimination of the outbreak of columnaris in the P. scalare and to restoration of biological equilibrium in a closed aquatic ecosystem.

61

DIAGNOSIS AND ACTIONS FOR LIQUIDATION OF DOGS STREPTOCOCCOSIS IN PRIVATE NURSERY

Peredera, RV; Lavrinenko, IV; (...); Zhernosik, IA
2019 | WORLD OF MEDICINE AND BIOLOGY 67 (1) , pp.222-226
The article presents epizootic data, clinical signs, pathoanatomical changes and results of laboratory tests for acute and extraordinary manifestation of dogs' streptococcosis. Diagnosis of streptococcosis was established based on an analysis of epizootological data, clinical signs of the disease, pathological and anatomical changes, and confirmed by data from bacteriological studies. To most of the antibacterial agents studied, the isolated pathogen of streptococcus was not sensitive. The causative agent showed high sensitivity to enrofloxacin, where the growth retardation zone was 22-25 mm and tylosin (the growth retardation zone was 20-24 mm). When choosing antibacterial substances, the sensitivity to them of the pathogen of streptococcus was taken into account. "Tilozin-20" drug was applied. The drug was injected intramuscularly once a day for a dog's daily dose of 0.5 ml per 10 kg body weight. To disinfect the premises where the puppies were kept, the "Brovades plus" disinfectant was used. The 1.0% Brudavez-Plus solution (100 ml per 10 liters of water) was used. The disinfection of the premises was carried out daily during the elimination of the outbreak.

62

Neural networks application for cluster analysis of the healthcare system crisis

Markina, I and Alshrafi, MAY
Feb 28 2017 | ECONOMIC ANNALS-XXI 162 (11-12) , pp.56-61
Introduction. Assessment of the status and trends of the healthcare system is a prerequisite for its effective management, control over the activities of institutions in healthcare, as well as development of effective measures to preserve and strengthen health of the population. Purpose of the study. To develop an approach for the healthcare system assessment on the basis of indicators that will help to determine its efficiency in modern conditions. Methods: logical, monographic, cluster and comparative analysis using Kohonen self-organising maps within Deductor Studio Academic software. Results. In the article, the approach to the analysis of the healthcare system by regions of Ukraine on the basis of Kohonen self-organising maps has been worked out. The algorithm of self-organising maps formation and stages of assessment, as well as interpretation of the results have been presented. The model formed is able to adapt quickly to new data inputs and does not require the involvement of experts to identify hidden patterns, and graphically present the results in user-friendly form. As the result of undertaken analysis, the clusters characterising the state of the Ukrainian healthcare system were worked out. It has been found that Kyiv, Volyn, Kirovograd and Chernihiv regions of Ukraine belong to the best cluster, whereas Chernivtsi and Khmelnytskyi regions -to the worst one. Conclusion and discussion. The study author proposed and applied the approach of the healthcare system assessment based on neural networks. In the long term, it may be possible to calculate the average value of each indicator to assess the crisis situation at the best and the worst cluster to develop recommendations on anti-crisis management activities to improve the situation. Further implementation of the proposed approach to the assessment of the healthcare system will help to select priorities for reform in the regions of Ukraine and carry out continuous monitoring of the healthcare system in the region.

63

Ovocidal action of glutaraldehyde and benzalkonium chloride mixture on Aonchotheca bovis (Nematoda, Capillariidae) embryogenesis

Melnychuk, VV; Yuskiv, ID and Pishchalenko, MA
2020 | REGULATORY MECHANISMS IN BIOSYSTEMS 11 (2) , pp.175-179
Deinvasion, aimed at elimination of environmental exogenic stages of invasion agents and avoidance of their invasion to host organism, occupies an important place in the complex of sanitary and prophylactic activities against animal helminthosis diseases. Application of glutaraldehyde and benzalkonium chloride at vital activity and embryogenesis of Aonchotheca bovis (Schnyder, 1906) obtained from nematode female gonads was investigated with different concentration and exposures. Two test-cultures were used in the experiment. The first culture contained non-invasive eggs of A. bovis, the second contained invasive ones, obtained by the laboratory culturing of gonadic eggs until mobile larva maturing. It was established that glutaraldehyde and benzalkonium chloride mixture has a deinvasive capacity against A. bovis eggs, parasitizing on sheep. Ovocidal efficiency indexes appeared higher with use of the test culture against the non-invasive capillaria eggs' test-culture. So, the high level of ovocidal efficiency of glutaraldehyde and benzalkonium chloride mixture against non-invasive A. bovis eggs culture was established at the concentration of 0.5% and exposure of 10-60 min (93.6-100.0%), and against the invasive A. bovis egg culture - at the concentration of 0.5% and exposure of 30 and 60 min (90.3-94.6%) and 1.0% at all exposures (100.0%). Ovocidal activity of the examined mixture was accompanied by specific morphological changes of nematode eggs structure. Destruction of the egg envelope, embryo loosening and decay and its dissolution were observed. Such changes are proved by metric indexes of width and length of capillaria eggs, envelope thickness and cap length, indicating the violation of embryogenesis of A. bows. Thus, glutaraldehyde and benzalkonium chloride mixture of 1.0% concentration is a promising deinvasive agent suitable for effective fight against and prophylaxis of sheep-breeding nematodosis.

64

Content of chemical elements in the liver of cattle with fasciolosis and dicrocoeliosis

Kruchynenko, OV; Prus, MP; (...); Kuzmenko, LM
2018 | REGULATORY MECHANISMS IN BIOSYSTEMS 9 (1) , pp.15-22
The concentration of chemical ements (Pb, Cd, Cu, As, Zn, Hg, Fe, Co, Mn) in the liver of healthy cattle and those affected by Fasciola hepatica and Dicrocoelium lanceatum in Poltava region (central part of Ukraine) was determined. The research was carried out by the method of atomic and absorption spectrometry carried out at the Regional State Laboratory of Veterinary Medicine in Poltava region. The liver samples (n = 30) from healthy cattle black-and-white breed and those affected by F. hepatica and D. lanceatum were taken at the meat processing plant. The ages of the cattle ranged from 6 to 8 years. The samples were immediately cooled, transported to the laboratory and stored at -20 degrees C for further analysis. The results of the research determined the average indicators of concentration of some toxic elements in the livers of healthy cattle and those infected by the trematodes. The content of chemical elements in the liver of healthy animals and those affected by fasciola can be represented in the form of a decreasing rank number: Zn > Fe > Cu, and for dicrocoeliosis, respectively, Fe > Zn > Cu. It has been established that Cu and Zn are involved in the metabolic processes of the body of trematodes, which is confirmed by our research. The presence of F. hepatica and D. lanceatum in the body of cattle significantly reduces the level of copper and zinc, with a high inverse correlation dependence on the intensity of infection, thus indicating the possibility of their accumulation by

helminths. Concentration of Cu and Zn in the liver of cattle with fasciolosis was 6.82 +/- 0.29 and 35.77 +/- 1.93 mg/kg, while for animals with dicrocoeliosis it was 3.90 +/- 0.25 and 41.91 +/- 2.22 mg/kg. The content of cobalt and manganese in the liver of healthy animals was, respectively, 0.05 +/- 0.01 and 1.95 +/- 0.06 mg/kg. In the case of Fasciola parasitising in the liver tissue, the level of cobalt (0.10 +/- 0.02) and manganese (2.55 +/- 0.16) significantly increased, positively correlating with the intensity of the infection, indicating no effect on the exchange and bioaccumulation of these elements by helminths.

65

Differential species traits of Trichostrongylus tenuis (Nematoda, Trichostrongylidae)

Yevstafieva, VO; Starodub, YS; (...); Nikiforova, OV
2020 | REGULATORY MECHANISMS IN BIOSYSTEMS 11 (3) , pp.449-454
Trichostrongylus tenuis Mehlin, 1846 is a helminth species that parasitizes in the gastrointestinal tract of birds and causes trichostrongylosis. Research on the differential features of the pathogen at various stages of development facilitates timely finding of the foci of infection and providing recommendations for prevention and control. hi the present study, the differential species traits of male and female Trichostrongylus nematodes parasitizing in the domestic goose were examined. The nematodes were obtained in helminthological dissection of the intestine of birds kept at farms and private households in Poltava region, Ukraine. It was revealed that the morphological features of T. tenuis females that should be considered in species identification include the structural specifics of the reproductive system and the tail end. 22 metric parameters were suggested for species identification, including the female body measurements for different parts, specifics of vulva and anus location, sizes of the ovijector, sphincter, ejector and vulval area. Differences were found in the metric parameters of the lateral crests of the cuticle in female nematodes in relation to the position of crests on the parasite's bodies. The cuticular crests were absent at 0.1 mm from the head and tail ends, and the length of crests was 9.3 mm in total. The longest and widest crests were observed in the middle of the body, the shortest were found in the anus area, and the narrowest crests were from the anterior part of esophagus to its middle. The distance between crests varied 02-3.0 mu m, the longest at the transition of esophagus into the intestine and the shortest in area between the vulva and the anus. The metric parameters of T. tenuis eggs obtained from bird feces and in the nematode uterus differed significantly by 5 characters. The collected data on the morphological and metric parameters of females and eggs of T. tenuis can be used in species identification and understanding of the taxonomic position of that species.

66

LOW SODIC SOLONETZICITY OF SOILS

MUKHA, VD; VASILYEVA, LI; (...); MUSSA, KF
1984 | SOVIET SOIL SCIENCE 16 (1) , pp.54-59

67

Biological specifics of exogenous development of Oxyuris equi nematodes (Nematoda, Oxyuridae)

Yevstafieva, VO; Prykhodko, YO; (...); Kone, MS

2020 | BIOSYSTEMS DIVERSITY 28 (2) , pp.125-130
Helminths of the species Oxyuris equi Schrank, 1788 are pathogens of domestic and wild odd-toed ungulates. They parasitize in the large intestine of horses, causing colitis and dermatitis at the tail root area. The wide distribution and overall persistence of this species is significally promoted by the specifics of its development and reproduction. Here we studied the specifics of the exogenous development of O. equi nematodes parasitizing Equidae in respect to the factor of temperature and the morphometric changes in oxyuris eggs at different stages of embryogenesis. hi laboratory culture of O. equi eggs obtained from female gonads, the embryogenesis occurs in four stages: momla, formation of bean-like embryo, formation of non-invasive larva and formation of infectious larva. The stages of development differ by the morphological parameters. It is established that the development of 0. equi eggs is directly related to temperature. The optimal temperature for embryogenesis is 25 degrees C, at which the highest survival rate of infectious eggs, 81.3%, was observed. At 20 degrees C and 15 degrees C the survival of eggs decreased during culturing and the ratios of infectious eggs were 75.7% and 67.3%, respectively. Accordingly, 24.3% and 32.7% of eggs died during development. The temperature also affects the duration of development of O. equi eggs. At 25 degrees C, the development of Oxyuris eggs was the fastest and occurred in two days. With temperature falling to 20 and 15 degrees C, the duration of egg development slowed to three and five days, respectively. The process of embryogenesis in Oxyuris is associated with changes in metrical parameters. The length, width and area of egg surface increased. Length and width of egg plug, and shell width of mature Oxyuris eggs decreased. The obtained data on the duration and specifics of exogenous development of parasitic O. equi nematodes will allow effective control measures for horse oxyurosis to be developed.

68

Solution to the Task of Elastic Axial Compression-Tension of the Composite Multilayered Cylindrical Beam

Koval'chuk, SB; Gorik, AV; (...); Antonets, AV
Mar 2019 | STRENGTH OF MATERIALS 51 (2) , pp.240-251
The authors present an accurate solution to the task of elastic axial compression (tension) of the multilayered cylindrical beam with axial orthotropic layers surrounding a central core. The description of the geometry and structural framework of the beam requires the employment of the circular cylindrical system of coordinates where the mechanical characteristics of its inhomogeneous materials serve as the functions of the only variable. The task is solved via direct integration of the entire system of equations of the theory of elasticity within the selected system of coordinates upon the condition of rigid contact at the interfaces of the layers. The analytical relations for all the components of the features of the stress-strain state are obtained, their application is illustrated by the results of the solution to the test task of compression of the four-layered beam with the isotropic core.

69

Pathomorphological changes in the large intestine of rabbits parasitised by Passalurus ambiguus (Nematoda, Oxyuridae)

Mykhailiutenko, SM; Kruchynenko, OV; (...); Tkachenko, VV
2019 | REGULATORY MECHANISMS IN BIOSYSTEMS 10 (1) , pp.69-74
Passaluriasis is a common infestation of lagomorphs, which clinically manifests in intense itching around the anus, various disorders of digestion and loss of weight. We performed a study

of infested rabbits of the seryi veleten breed, which were kept in individual farms in Poltava Oblast (Ukraine). During the autopsy, in the cavity of the large intestine, there were found small, spindle-like helminths of white colour. Out of 10 rabbits, 846 nematodes were extracted (369 males and 477 females, identified as Passalurus ambiguus (Rudolphi, 1819) Dujardin, 1845. It was determined that the extensity of infestation in female rabbits reached 56.4%, male rabbits - 43.6%. The results of metric parameters of the nematodes are as follows: mean body length of males equaled 4.6 +/- 0.4, females -9.7 +/- 1.21 mm, and maximum width -257.4 +/- 17.8 and 546.2 +/- 37.1 mu m respectively. A common feature of mature nematodes of this species is the presence of a rounded extension (bulbus) at the end of the esophagus. During chronic course of passaluriasis in rabbits, pathomorphological changes developed in the large intestine. The upper epithelium of the large intestine was damaged in some places, certain epithelian cells were found in the lumen of the intestine. The intestinal glands are widened, filled with slimy content of mostly dark blue-violet colour, especially in the upper sections of the glands. In the deep sections of the glands, slime was almost transparent. In deep sections of the glands the slime was almost transparent. In the epithelium cells of the glands, slimy granules were also of basophilic colour. The muscularis mucosae of the mucous membrane, especially between the intestinal glands was swollen, had practically no colour, the collagen fibers were stretched, thinned-out. Edemas were also recorded in the tela submucosa. In some preparations, the muscularis mucosae was notably infiltrated by lymphoid cells and histiocytes. On large extensions, we found some signs of hypersecretion of slime in goblet cells of the intestinal glands as accumulations of granules of slime in the cytoplasm, which had poorly developed colouration. On the side of the muscular and serous membranes, no pathological changes were found. The information presented here indicates the relevance of passaluriasis infestation as an etiological factor of occurrence of chronic catarrhal colitis with lymphohistiocytosis.

70

Microscopic changes in the digestive organs of domestic canaries poisoned with canthaxanthin

Serdioucov, JK; Zabudskyi, SM; (...); Mykhailiutenko, SM
2019 | REGULATORY MECHANISMS IN BIOSYSTEMS 10 (4) , pp.394-399
Intoxication of canaries with canthaxanthin has been recorded more and more often since the late 1990s. This problem is related to active use of this substance for changing or increasing the colouration of this species of bird. For determining morphological changes during canthaxanthin toxicosis, we formed one control and three experimental groups of domestic canaries, which were given canthaxanthin in different doses. The material for microscopic surveys was isolated from the digestive organs of the examined birds; from this material, histological sections were prepared and stained with hematoxylin and eosin. According to the results of microscopic analysis, we determined that the intoxication of the organism of canaries with canthaxanthin causes a certain complex of changes at the tissue level. We found that canthaxanthin intoxication leads to chronic pathological processes in the digestive organs, both the digestive canal and digestive glands (pancreas, liver). In the organs of the digestive tract (glandular stomach or proventriculus, muscular stomach or gizzard, and the intestine) we found chronic catarrhal inflammation, and also proliferative processes - cellular infiltration of the stroma, overgrowth of the connective tissue. In some cases we also found distrophic processes such as keratinization of the epithelium of the mucous membrane of the glandular stomach. In the pancreas, except for edema of the stroma, no pathological processes were observed. In the liver, we found different types of dystrophy - protein (granular, hydropic) and fatty (ifiltrational). With introduction of the highest doses of canthaxanthin used in the experiment, we determined a tendency towards exacerbation of pathological processes, because, apart from the already mentioned changes, we recorded manifestations of alteration (necrotic processes, disorders in blood circulation).

Therefore, we proved that irrational use of canthaxanthin in canary-keeping is a factor that can negatively influence the health of these animals. Using the data we obtained, use of canthaxanthin in the diet of canaries can be correlated with their diet, thus avoiding risk of bird diseases. There is scope for further studies on the impact of canthaxanthin on other organs and the systems of the organs at microscopic level, as well as conducting biochemical and morphological analyses of blood, which would allow the creation of a new complete clinical-anatomical description of this pathology.

71

THE SPIRITUAL DEVELOPMENT OF UNIVERSITY STUDENTS A FUNDAMENTAL ROLE OF THE HUMANITIES AND SOCIAL SCIENCES

Antonets, M; Silchuk, O and Bozhko, K
Oct 2019 | EUROPEAN JOURNAL OF SCIENCE AND THEOLOGY 15 (5) , pp.27-37
Modern society is marked by crisis of spiritual values among young people. However, young people can create happy families and a developed state on the basis of renewed mind. The problem can be solved by including spiritual component into the training process of university. Biblical values can be integrated into courses of the Humanities and Social sciences. The authors have conducted the research in four universities in Ukraine. In order to estimate the level of the development of spiritual values among university students, it has been used the method E. Pomytkin. The result of the study demonstrates that students give preference to family values. The challenge is that university students do not have enough spiritual knowledge to create good families. Therefore, it becomes necessary to develop and introduce a program for the spiritual development in the training process of higher education in Ukraine. Thus, the topics 'The Bible as the Word of God', 'Good and Evil', 'Contemporary Anthropological Problems', 'The meaning of life in the context of political understanding', 'Gender problems and the Modern Family' and the trainings 'Appreciate life', 'My words' and 'Lifelong Marriage' are included in the course of 'Philosophical Problems of Biology', 'Psychology', 'Ethics and Aesthetics'.

72

BIOCHEMICAL PROPERTIES OF MICROSCOPIC FUNGI CULTURES ISOLATED FROM INJURED KEROID FORMATIONS OF SKIN

Kulynych, SM; Kabluchka, AP; (...); Kanivets, NS
2018 | WORLD OF MEDICINE AND BIOLOGY 64 (2) , pp.204-208
From 2007 to 2016, 3694 animals were studied in nine farms of the Poltava and Kirovograd regions, including 3307 cows, 300 sheep and 87 horses. The total of 112 samples of the injured hoof horn taken from 83 animals were subject to mycological examination: 63 cows aged 3-5 years, 10 horses aged 5-9, and 10 sheep 4-7 years old. The sick animals were divided into groups according to their species affiliation. According to research results, 20 fungi species of 14 genera were allocated. From the microscopic fungi isolated from the destroyed keratinized horny capsule structures the highest keratinase, hemolytic phospholipase and lecithinase activity was found in S. brevicaulis fungus species ($p < 0.001$). The above convincingly proves the need for further in-depth studies aimed at identifying the factors that cause keratinized structures destruction by microscopic fungi.

73

COMPUTER MODELLING OF PROCESS OF THE MECHANICAL MOTION OF BODY WITH THE HELP OF MS EXCEL MEANS

Horda, IM and Flehantov, LO
2015 | INFORMATION TECHNOLOGIES AND LEARNING TOOLS 47 (3) , pp.99-109
The mathematical model of body motion is analyzed, thrown at the angle to the horizon in a gravitational field and its computer realization with the help of MS Excel means. The recommended technique allows during laboratory work analyze mechanical body motion, carry out calculable experiments, changing the outgoing model parameters such as initial posture, location purposes, geometric dimensions of ball and basket, initial velocity and angle, and also acceleration of gravity; explore the mechanical motion in hypothetical conditions that are difficult to implement in practice. Using this technique promotes logical thinking development of students, motivation to learn the subject, interest, better learning of basic theoretical positions, skills forming of research activity.

74

Mycorrhiza as a biotic factor, influencing the ecosystem stability

Yasnolob, I; Chayka, T; (...); Dugar, T
2018 | UKRAINIAN JOURNAL OF ECOLOGY 8 (1) , pp.363-370
The essence of mycorrhiza as an example of partnership between fungus and plant was considered in the article. The main characteristics of mycorrhiza from the viewpoint of fungus and plant were investigated, which demonstrate mutual benefits for all the participants. The characteristics of mycorrhizal associations through the classification of their types were given. The peculiarities of the associations were determined. The results of field survey as to the location of mycorrhizal associations in natural ecosystems were analyzed. The results confirm the important role of mycorrhizal associations. Modern directions of using mycorrhiza in the economic activities were presented. The advantages of mycorrhiza for plants and fungi were defined and worked out in detail, which enabled to formulate the results of using mycorrhiza in the ecological, social, and economic space.

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Comparative morphology and biology of nematodes of genus Heterakis (Nematoda, Heterakidae), parasites of the domestic goose (Anser anser) in Ukraine

Yevstafyeva, VA; Melnychuk, VV; (...); Korchan, NI
2018 | REGULATORY MECHANISMS IN BIOSYSTEMS 9 (2) , pp.229-236
The genus Heterakis Dujardin, 1845 is one of the most widely distributed genera of nematode parasites of domestic and wild birds. Geographically and ecologically predominant species include Heterakis gallinarum Schrank, 1788 and Heterakis dispar Schrank, 1790. Prevalence and occurrence of these nematodes in the domestic goose (Anser anser dom.) depend on their biological and morphological specifics which ensure the highest viability, fast growth and maximum fertility in the host. This study presents the abundance and species composition of nematodes of the genus Heterakis in the domestic goose in Ukraine. Comparative study of morphological and metrical characteristics of H. gallinarum and H. dispar adult females and males is presented. Additional morphometric characteristics are proposed for easier identification of the two species. Stages and periods of embryonic development of H. gallinarum and H. dispar

nematodes obtained from domestic geese are established according to morphological and metrical characters. Of the two species, H. dispar is prevalent in domestic geese from Poltava, Kharkiv and Kyiv regions. Abundance index of this species is 9.8 specimens, and intensity of infection index is up to 62 specimens. H. gallinarum is rarer, its abundance index is 1.2 specimens and maximum intensity of infection is 30 specimens. Species-specific morphological differences are more distinct in male nematodes in the size and structure of the spicules, lateral wing-like protrusions of pseudobursas, numbers and position of tail papillae. Additional metrical characteristics differ between H gallinarum and H dispar nematodes, allowing us to identify not only adult specimens but also eggs. Embryonic development of both species occurs in four morphologically distinct stages: protoplast, blastomere cleavage, formation of first and second stage larvae. Eggs of H. gallinarum nematodes become infectious in eight days at 27 degrees C, eggs of H. dispar in four days, their viability in laboratory culture is 84.3 +/- 0.58 and 91.3 +/- 1.53% respectively.

76

CYTOGENETIC CHARACTERISTICS OF GRASS-PEA MUTANTS (LATHYRUS-SATIVUS L) WITH MALE STERILITY

CHEKALIN, NM; ZELENSKA.LA and PESTOVA, TM
1973 | GENETIKA 9 (10) , pp.51-58

77

GEOMORPHOLOGICAL ECOGEOGRAPHICAL VARIABLES DEFINIG FEATURES OF ECOLOGICAL NICHE OF COMMON MILKWEED (ASCLEPIAS SYRIACA L.)

Kunah, OM and Papka, OS
2016 | BIOLOGICAL BULLETIN OF BOGDAN CHMELNITSKIY MELITOPOL STATE PEDAGOGICAL UNIVERSITY 6 (1) , pp.243-275
The role of geomorphological ecogeographical variables have been shown, which are received by means of the digital elevation model created on the basis of remote sensing data as markers of an ecological niche of weeds on an example common milkweed (Asclepias syriaca L.). The research range chooses territory which is in settlement Vovnjanka district (the Poltava region). The range has the linear sizes of 26 kilometres in a direction from the east on the west and 15 kilometres in a direction from the north on the south, the range total area makes 390 KM2. As geomorphological variables the topographical wetness index, topographic position index, mass balance index, erosion LS-factor, direct and disseminated insolation, altitude above channel network, multiresolution valley bottom flatness, multiresolution ridge top flatness index, vector ruggedness measure have been considered. It is established, that on set of the geomorphological indicators received by means of digital model of a relief, it is possible to assert, that within a separate agricultural field a wide variety of microconditions which is caused by relief features is formed. Possibly, the variation of thermal and water modes, moisture redistribution, and also productivity mechanical processings of soil and efforts under the control of number of weeds make a background in which limits there is possible a moving of weed plants, including common milkweed.

78

MANAGEMENT AND ORGANIZATIONAL AND ECONOMIC CONDITIONS OF STRENGTHENING THE MARKETING ACTIVITY OF THE ENTERPRISE AND MAINTAINING EFFICIENT AGRO BUSINESS

Lomovskykh, L; Ponomarova, M; (...); Lisova, O
2021 | FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE 2 (37) , pp.263-270
The analysis of the activity of agricultural enterprises indicated its inherent high degree of risk. Unlike other industries, a significant share of integrated risk for agriculture is weather risk. It is this risk that necessitates the diversification of agricultural marketing into three forms: with a deficit of the main commodity product of the agricultural enterprise in the market; with the balance of sales and supply and with the market surplus of marketable products. It is pointed out that in order to reduce the risk, a significant number of medium-sized producers rely on multi-product production and management has to simultaneously make use of all the intended forms of marketing. It has been established that the marketing activities of agricultural enterprises for a number of reasons: established tradition, lack of financial resources, etc. are often sporadic, fragmented, not a systematic, purposeful activity with defined goals, well considered tools, adequate funding and resources. Therefore, a number of specific steps have been proposed for the implementation of effective agribusiness: changing the traditional way of thinking; formation of a holistic systematic approach to marketing policy as a single coordinated complex of management and marketing; thorough study of the market of products manufactured by the agricultural enterprise, and the formation of the forecast for the next season. To strengthen marketing activities and conduct effective agribusiness, algorithms have been developed to gain a competitive advantage. It is shown that agricultural marketing today is becoming a broader field of activity than providing pure production and marketing using the main levers - price, product, sales and communication. It must best meet the needs and requirements of consumers, in particular, by shifting the main emphasis from price and sales aspects to communication. This is one of the main ways to ensure the function of agribusiness efficiency. It is proposed to use the experience of developed countries and more widely employ modern information technologies of management and marketing, in particular, decision support systems and analysis of risks and forecasts for the next period. The following ways are proposed for the use of modern decision support systems, risk analysis and forecasts in Ukrainian agricultural management and marketing: cooperation, use of these information systems on the basis of lease or, less relevant, expert risk assessment. A mathematical method of taking into account the degree of risk in the business processes of agricultural enterprises is proposed.

79

Stimulating the increasing of natural soil fertility: economic and environmental aspects

Yasnolob, IO; Chayka, TO; (...); Lotych, II
2019 | UKRAINIAN JOURNAL OF ECOLOGY 9 (3) , pp.267-271
The necessity to increase soil fertility by identifying their critical condition, which is associated with developing erosion processes, increasing acidity and decreasing humus, has been proven in the article. The requirement of introducing crop rotations and their legal regulation in Ukraine has been determined. The practice connected with the questions of supporting soil quality and crop rotations in different countries, members of the EU has been presented. The assessment of modern farming systems (intensive, organic, no-till, strip-till, precise, bio-enzyme, biogenic) taking into account economic, ecological, technological-energy, and social factors aimed at determining their impact on the natural soil fertility has been conducted. The expediency of

improving soil quality in terms of its evaluation has been revealed. The necessity of introducing economic incentives or penalties to landowners or land users for agro-ecological condition of farmlands basing on the methods of land money value has been substantiated.

80

Calculation of statically indeterminate composite beam elements by using refined boundary conditions and with account of their state diagrams

Goryk, OV; Pavlikov, AM and Kyrychenko, VA
Jan 2009 | MECHANICS OF COMPOSITE MATERIALS 45 (1) , pp.53-58
The effect of compliance of support units on the calculation of strength of composite beams with account of the nonlinear deformation diagram of the composite is examined. The basic equilibrium equations of the mechanics of deformable solid bodies are used to solve the problems of strength, rigidity, and displacements, with introduction into them extreme criteria for the parameters to be calculated. The procedure developed al lows one to find the final solutions by using iterative processes.

81

Cognitive Modeling of the Consumer Market: Sensitivity and Scenario Analysis

Makarenko, P; Makarenko, Y; (...); Ponochovna, O
IEEE 11th International Conference on Dependable Systems, Services and Technologies (DESSERT) - IoT, Big Data and AI for a Safe & Secure World and Industry 4.0
2020 | 2020 IEEE 11TH INTERNATIONAL CONFERENCE ON DEPENDABLE SYSTEMS, SERVICES AND TECHNOLOGIES (DESSERT): IOT, BIG DATA AND AI FOR A SAFE & SECURE WORLD AND INDUSTRY 4.0 , pp.230-235
The article is dedicated to the use of digital methods in assessing the sensitivity of the consumer market and its scenario analysis based on the results of cognitive modeling. In particular, a cognitive map of the consumer market (on the example of gardening products) has been built using the Matlab function. The influence of twelve factors of internal and external environment on the consumer market has been revealed. The ranking of the factors was based on their acceleration and deceleration matrices. The scenarios of inserting the integer pulses into the active vertices of the cognitive map to determine changes in their values at the corresponding simulation cycles have been constructed. It is determined that the main factors of influence on changes in the system of the consumer market of horticultural products are X8 - quality of production and varietal composition of production (early, middle and late varieties of fruits and berries), X11 - scientific and technological progress.

82

Software Fault Insertion Testing for SIL Certification of Safety PLC-Based System

Odarushchenko, O; Striuk, O; (...); Odarushchenko, E
IEEE 11th International Conference on Dependable Systems, Services and Technologies (DESSERT) - IoT, Big Data and AI for a Safe & Secure World and Industry 4.0

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The problems of the safety PLC market are analyzed. A tendency of the PLCs transition for industrial applications (for example NPP I&C) in new technologies has been identified. The advantages of FPGA technology for developing safety-based PLCs in comparison with microprocessor technology are formulated. The fault insertion testing (FIT) is considered as one of the mandatory techniques applied in the process of the certification against requirements of IEC 61508 according to safety integrity level (SIL). The concept of the HW FIT-ability is generalized for SW components of FPGA PLC-based safety-critical I&C systems (FPICS) (SW FIT-ability). Procedures, techniques and tools taking into account existing set of insertion variants for SW faults are proposed.

 83

STRUCTURAL AND FUNCTIONAL MODEL OF THE METHODOLOGY FOR PREPARING FUTURE CHEMISTRY TEACHERS FOR THE USE OF CLOUD TECHNOLOGIES IN PROFESSIONAL ACTIVITIES

Shyian, NI; Kryvoruchko, AV; (...); Antonets, OA

Mar 2020 | PERIODICO TCHE QUIMICA 17 (34) , pp.856-866

The relevance of the study is due to the specifics of perception and assimilation of information by schoolchildren (the young generation's penchant for clip thinking) and the insufficient number of studies that reveal the theoretical and substantive-procedural features of the formation of preparedness of future chemistry teachers for the use of cloud technologies in professional activities. The purpose of the article is to develop a structural-functional model of the methodology for preparing future chemistry teachers for the use of cloud technologies in professional activities and its testing. The leading method for studying this problem is the modeling method, which allows to consider the problem under study as a focused, organized process of improving the professional competence of future chemistry teachers and the formation of ICT competency, reflecting the ability and willingness of a future chemistry teacher to use cloud technologies in professional activities. The developed model allows not only to form students' knowledge about the functions of cloud technologies but also aims to prepare future chemistry teachers for new conditions of professional activity. Analysis of the results of the study showed the effectiveness of the proposed model of the methodology for preparing future chemistry teachers for the use of cloud technologies in professional activities, which were confirmed by the positive dynamics of the levels of readiness formation among students of the experimental group. Article materials may be useful for teachers and students of higher educational institutions, teachers of institutions of general secondary education, specialists in the field of education.

 84

THE METHOD OF BUILDING PLANS OF MULTIFACTORIAL EXPERIMENTS WITH MINIMAL NUMBER OF FACTOR LEVELS MEASUREMENTS AND OPTIMAL BY COST (TIME) EXPENSES

Koshevoy, ND; Dergachov, VA; (...); Kostenko, EM

2020 | RADIO ELECTRONICS COMPUTER SCIENCE CONTROL (4) , pp.55-64

Context. Relevant task of developing the method of plans building for multifactorial experiments was solved with minimal number of factor levels measurements and optimal by cost (time) expenses.

Objective. To develop method and means of synthesis the plans of multifactorial experiment with minimal number of factor levels measurements and optimal by cost (time) expenses. Methods.

Methods of experiment planning gives possibility to reduce cost (time) expenses when researching different technological processes, devices and systems. Quantity of factor levels measurements minimization during the process of building the plans of multifactorial experiments also leads to cost (time) reduction on their implementation. Suggested earlier method of building the plans of multifactorial experiments, based on Grey code application, provides a possibility to minimize number of factor levels measurements. But such plans are not always optimal in relation to cost (time) expenses.

That's why the task appears to develop a method and means of synthesis the plans of multifactorial experiment with minimal number of factor levels measurements and optimal by cost (time) expenses.

Essence of a suggested method consists of: generation of permutations with minimal number of transpositions for neighbor elements; number of factor level variations is determined for each obtained plan by calculating the distance after Hamming for neighbor pairs of binary words; recording the plan with minimal number of factor levels measurements into set D; analysis of binary codes that enter set D, among which codes, received form Grey code by E, H and (E, H) transformations are present; searching among modified Grey codes G(E, H) such codes, that are optimal by cost (time) expenses.

Results. Software which performs the suggested method of building the plans with minimal number of factor levels measurements and optimal by cost (time) expenses was developed. Software allows to synthesize optimal plans of experiment with k = 3,..., 4 number of factors.

Conclusions. Computer experiments, that were carried out to build optimal plans to research such an objects as production of pieces by hot press forming technological process and a tracking system proved workability and effectiveness both of the developed method and software for its performance.

Scientific novelty is represented by method, that allows to synthesize plans of multifactorial experiments with minimal number of factor levels measurements and optimal by cost (time) expenses.

Practical importance of the results is that developed software can find wide application for technological processes, devices and systems researching, if it is possible to implement active experiment.


85

Ecogeographical determinants of the ecological niche of the common milkweed (Asclepias syriaca) on the basis of indices of remote sensing of land images

Kunah, OM and Papka, OS

2016 | VISNYK OF DNIPROPETROVSK UNIVERSITY-BIOLOGY ECOLOGY 24 (1) , pp.78-86

The patterns of variation in vegetative indices received by means of data of remote land sensing are described as being dependant on geomorphological predictors and the sizes of agricultural fields in an experimental polygon within Poltava region. The possibilities of application of vegetative indices have been explored through ecogeographical determinants of the ecological niche of the common milkweed (Asclepias syriaca L.) and other weeds. On the basis of images of the land surface taken on 23 March and 27 August 2015 by the sensor control Operational Land Imager (OLI), installed on the satellite Landsat 8, vegetative indices have been calculated (AC-Index - aerosol/coastal index, Hydrothermal Composite, NDTI - Normalized Difference Tillage Index, NDVI - Normalized Difference Vegetation Index, VI - Vegetation Index, MNDW - Modified Normalized Difference Water Index, LSWI - Land Surface Water Index, NBR Normalized Burn Ratio, M15). The data obtained have been subjected to principal component analysis and the revealed principal components have been interpreted with the help of regression analysis, in which geomorphological variables have been applied as predictors. It was possible to explain the trends of variability of the vegetative cover, formalized in the form of the principal component, by means of indices which quantitatively characterise features of relief. The various aspects of variation of vegetative cover have been shown to be characterised by the specificity of the influence of relief factors. A prominent aspect of the variation of the vegetative cover of agroecosystems is variability within a field. The degree of a variation of conditions is proportional to the size of a field. Large fields occupy level plain positions. In turn, within small fields sources of variation are changes in ecological conditions which arise owing to unevenness of relief, which increases in proximity to gullies and ravines. We have identified the aspects of the variation of vegetative cover which by their nature can be considered as contributers to the growth of weeds in agroceonoses. Satellite imaging by Landsat does not allow direct identification of concentrations of weeds, but it can reveal complex changes in the landscape cover, which act as markers of the processes connected with development of weed vegetation. The procedure of further decoding of satellite images for the purpose of identification of weeds requires greater attention in this field of research.


86

Operational analysis of the demodulator of derivative bioimpedance meter

Smerdov, A; Smerdova, T and Ruzhkova, T

International Conference on Modern Problems of Radio Engineering, Telecommunication and Computer Science

2006 | TCSET 2006: MODERN PROBLEMS OF RADIO ENGINEERING, TELECOMMUNICATIONS AND COMPUTER SCIENCE, PROCEEDINGS , pp.640-+

The operational analysis of derivative bioimpedance meter is conducted, the relative error of measurement of values R and C is determined and the relation between a measuring error and dynamic range is established.


87

Thermal stress state near edge cracks in a plane with elliptical holes

Kaminskii, AA and Flegantov, LA

Nov 1995 | INTERNATIONAL APPLIED MECHANICS 31 (11) , pp.949-955


88

Adaptability and breeding value of soybean varieties of Poltava breeding

Biliavska, L; Biliavskiy, Y; (...); Mazur, O
Apr 2021 | BULGARIAN JOURNAL OF AGRICULTURAL SCIENCE 27 (2) , pp.312-322
There were identified soybean varieties that combine high genotype potential and stable yields being the best ones under a set of adverse conditions as well as a positive response to the improvement of growing conditions. The varieties were differentiated by the level of ecological potential in accordance with their response to the growing conditions in different soil and climatic conditions of research. Evaluation and differentiation by the plasticity and stability allowed us to identify environmentally adapted genotypes by the yield, length of the growing season, seed quality. Varieties Adamos, Alexandrite and Aquamarine appeared to have high plasticity by the yield, weight of 1000 seeds, growing season and high quality of seeds. They responded well to the improvement of growing conditions and, by the yield and quality of seeds, provided high stability of the manifestation of traits in various hydrothermal and edaphic conditions of Ukraine. Varieties Almaz, Anthracite and Avanturine appeared to be more conservative in their response to environmental changes having high stability.
Soybean varieties of Poltava breeding are highly adaptive and they can confidently provide efficient soybean production in different soil and climatic conditions of Ukraine.

89

EXTRACTION OF BIOLOGICALLY ACTIVE SUBSTANCES FROM ONION PEEL WITH THE SUBCRITICAL WATER IN A STATIC MODE

Sukmanov, VA and Suprun, AV
2021 | JOURNAL OF CHEMISTRY AND TECHNOLOGIES 29 (2) , pp.265-278
This work is devoted to the study of the use of the subcritical water as an extractant for the extraction of biologically active substances from the yellow onion peel (Allium cepa). The aim of the study is to determine the optimal conditions for the extraction of biologically active substances from the yellow onion peel with the subcritical water in static mode. Optimal conditions were determined by changing the parameters of the factors: temperature 145-185 degrees C, extraction time 10-20 minutes, the ratio of the raw materials mass to the extraction (hydromodule) mass) 1 : 30 - 1 : 60. Other parameters of the factors remained unchanged for each experiment, namely the given pressure of 8 MPa and the degree of raw materials grinding.0.5 mm. To obtain the samples of onion peel extracts, an experimental setup based on a high-pressure reactor "PBA-2-500" was used., The content of dry substances, the total content of polyphenols, the total content of flavonoids, and antioxidant activity were determined in the obtained samples of extracts. As a result, the highest average value of these indicators was found in the extracts obtained at a temperature of 164 degrees C, the extraction duration of 20 minutes, and the hydromodule 1 : 32. The static processing of experimental data was performed using the software package STATISTICA 10. In order to optimize the response function, regression equations were obtained. According to the obtained equation, it was concluded that the interaction between the factors was absent. The values of the determination and correlation coefficients were close to unity, which led to the conclusion that the equations were adequate. Subcritical water extraction was compared in efficiency with two other methods. It was found out that the indicators of the extracts obtained by subcritical water extraction were 1.36 and 1.96 times higher than the dry matter content of extracts, 1.66 and 1.28 times higher than the total content of polyphenols, 1.72 and 1.31 times higher than the total content of flavonoids obtained by 70 % ethanol and hot water extraction methods, respectively. Therefore, the extraction of biologically active substances from the yellow onion peel with the subcritical water in a static mode is a good alternative to other extraction methods.

90

Research and optimization of the eddy current transducer of dielectric coatings' thickness on metal surfaces of products

Koshevoy, M; Zabolotnyi, O; (...); Kostenko, O
2020 | UKRAINIAN METROLOGICAL JOURNAL (2) , pp.33-39
Main purpose of the research is to increase the technical and economic performance of eddy current transducers of the thickness of dielectric coatings.

Eddy current method of dielectric coatings' thickness measurement on metallic surfaces was improved and appropriate measuring instrument was developed. Basic task of eddy current method and eddy current measuring instrument improvement was the accuracy increase of dielectric coatings' thickness measurement on metallic surfaces and reduction of the influence of external magnetic fields. For this reason, during the process of research relative error of dielectric coatings' thickness measurement delta was chosen as an optimization criterion. List of pre-potent factors that make significant influence on the accuracy of dielectric coatings' thickness measurement includes sensor's oxide core diameter X-1, mm; oxide core's height X-2, mm; number of turns in the energizing coil X-3, frequency of energizing coil supply voltage X-4, Hz.

Mathematical methods of experiment planning theory were used to research eddy current transducers measuring dielectric coatings' thickness following the task of increasing their technical end economic performance. Among them the cost-optimal planning of the experiment, based on the use of Gray code, and the differential method of determining the primary information parameter.

The analysis of different experiment plans showed that the plan built in a traditional way has 26 transitions of different factor levels during the process of its realization, and a plan using Grey code has only 15 transitions. It makes possible to say that the new plan of experiment, built on using Grey code, has optimal number of transitions for mentioned list of factors. It makes this plan optimal taking into account cost and time expenses.

Besides, to carry out the traditional plan of experiment, it was necessary to use eight prototype products of eddy current transducers. To perform eight experiments using plan based on Grey code we need only four prototype products of eddy current transducers.

Applying full factor experiment, built on using Grey code, mathematical model for eddy current measuring transducers was received with transformed variables.

Fulfilled experimental researches allowed to develop a prototype product of eddy current transducer of dielectric coatings' thickness that provides good accuracy (relative error of thickness is not more than 0.3%) with simple design.

91

Role of landscape diversity in dynamics of abundance of sugar beet pests population in Poltava region

Zhukov, OV; Pisarenko, PV; (...); Dichenko, OJ

2015 | VISNYK OF DNIPROPETROVSK UNIVERSITY-BIOLOGY ECOLOGY 23 (1) , pp.21-27

Indicators of landscape-ecological diversity of territory of the Poltava region according to remote sensing of the Earth have been established, and its role in determination of dynamics of abundance of sugar beet pests has been found. The greatest landscape-ecological diversity has been calculated to be characteristic for the east and central areas of the Poltava region. The greatest landscape diversity has been revealed for Reshetilovsky (by the average Shannon index it is equal to 1,07 bit/pixel) and Velikobagachansky (1,06 bit/pixel) districts which are in the center of the Poltava region. The least landscape diversity is characteristic for Chemuhinsky, Semenovsky, Globinsky and Kobeljansky districts. General level of the landscape-ecological diversity and its dynamics has its effect on the condition and dynamics of sugar beet pests' abundance within the Poltava region. Landscape diversity defines the conditions where sharp growth of abundance of sugar beet pests may occur with the highest probability. Low level of landscape diversity displays ecological conditions at which risks of high infestations of sugar beet pest insects are the greatest Level of landscape diversity in the conditions of the Poltava region, first of all, is defined by the relation of agroecosystems to the landscape complexes of other types. Large unvaried territories which are occupied by agricultural lands create the conditions for high infestations of sugar beet pest insects.

Show more

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Genetic diversity in camelina germplasm as revealed by seed quality characteristics and RAPD polymorphism

Vollmann, J; Grausgruber, H; (...); Lelley, T

Oct 2005 | PLANT BREEDING 124 (5) , pp.446-453

Camelina is an alternative oilseed crop species with limited information about the origin and diversity of available germplasm. Therefore, a set of 130 camelina accessions from a world collection was evaluated for oil content, protein content and 1000-seed weight in field experiments grown in three macro-environments in Austria. Based on phenotypic data, accessions were categorized into four groups with different seed characteristics using k-means cluster analysis or principal component extraction. Subsequently, a representative set of 41 accessions was subjected to random amplified polymorphic DNA (RAPD) analysis. Of 24 primers, 15 were polymorphic producing a total of 30 marker loci. Genetic distance estimates between the 41 accessions were calculated, based both on RAPD polymorphism and on seed quality characteristics, and dendrograms were generated for comparison. Similarities were found between the two different clustering approaches, and grouping was partly in agreement with pedigree information or geographic origin. However, as the two estimates of diversity sampled different segments of the genome, i.e. regions coding for seed characteristics or phenotypically neutral genomic regions highlighted by discrete markers, the correlation between the two distance matrices was low.

93

Linear Regression Model for Substantiation of Sustainable State Policy in a Digital Economy

Dorofyeyev, O; Lozinska, T; (...); Vlasenko, T

IEEE 11th International Conference on Dependable Systems, Services and Technologies (DESSERT) - IoT, Big Data and AI for a Safe & Secure World and Industry 4.0

2020 | 2020 IEEE 11TH INTERNATIONAL CONFERENCE ON DEPENDABLE SYSTEMS, SERVICES AND TECHNOLOGIES (DESSERT): IOT, BIG DATA AND AI FOR A SAFE & SECURE WORLD AND INDUSTRY 4.0 , pp.399-403

The article discusses the use of digital mathematical models in justifying public policy for sustainable economic development. The wider expediency uses of statistical analysis methods to substantiate public administration decisions in the digital economy is explained. The technique of forming and preparation of experimental data for the construction of a mathematical regression model is described. The hypothesis of normal distribution of the input data was tested according to the statistical criteria of Kolmogorov-Smirnov and Lilliefors and Shapiro-Wilk. Box-Cox transformation was used to normalize the data. The linear multiple regression coefficients are determined by the least squares method. The quality of the resulting model was evaluated using the Student's and Fisher's criteria. The results of the forecast of financial stability of agricultural enterprises for 2020-2022 and the factor indicators indicate the negative dynamics of the effective indicator of their financial condition. The proposed model can be used to continuously monitor the financial condition of agricultural enterprises by linking it to the State Statistics Service of Ukraine.

94

New Technological Solutions in Logistics on the Example of Logistics Operators in Poland and Ukraine

Dyczkowska, J and Reshetnikova, O

2019 | SMART SUPPLY NETWORK , pp.47-69

The use of modern technologies in logistics was described in this publication. The logistics services of the e-commerce market necessitated an adaptation of the infrastructure to the requirements of customers as regards shipment and collection. The purpose of the study is a presentation of new technologies offered on the territories of Poland and Ukraine as well as their comparison. A literature analysis and a comparative analysis method of the services offered by the largest logistics operator and national mailing services for e-commerce were used in the article. A historical outline and the current development of the e-commerce market in both countries were presented. The sustainable development of the market has resulted in tendencies connected with information technology, ecology and changes in supply chains. The comparative analysis presents the similarity and differences in the logistics services offered by DHL to Polish and Ukrainian customers as well as in the logistics offer of national mailing companies. The direction of changes on the market of logistics services, such as automation of processes, reduction of costs and eco-logistics was indicated in the conclusions, changes to smart supply channel (SSC). The dynamics of the e-commerce market contributed to increased awareness on the part of all the participants of the supply chain and an implementation of changes to improve logistics services provided at each stage of the execution of the order, the results are smart supply network. Nevertheless, there occur differences within the same logistics operator that operates on the Polish and Ukrainian markets. Greater differences in the use of modern technologies can be observed with national mail operators.

95

Leadership Excellence in Management of Sustainable Development of Meat-Processing Enterprises

Markina, I; Zhylinska, O and Bolshakova, Y

2nd Prague-Institute-for-Qualification-Enhancement (PRIZK) International Conference on Sustainable Leadership for Entrepreneurs and Academics (ESAL)
2019 | SUSTAINABLE LEADERSHIP FOR ENTREPRENEURS AND ACADEMICS, ESAL2018 , pp.433-442
Characteristic features of the functioning of domestic meat-processing enterprises are discussed in this article in the context of socioeconomic and political instability. Prospects for achieving sustainable development have been substantiated in detail by authors. In addition, a sustainable development strategy was developed. In this regard, the structure and mechanism for implementing strategic planning, the ultimate goal of which is the achievement of leadership excellence of the enterprise in all the angles of this concept, is analyzed in this paper. The mechanism for developing a sustainable development strategy for a meat-processing enterprises consists of the following steps: monitoring of the implementation of plans; the development of an effective methodology for the economic evaluation of the enterprise; processing and systematization of the received data with the subsequent formation of the analytical and statistical database; ensuring the prompt collection, processing and transmission of information with the mandatory use of innovative information technologies; the use of effective motivational techniques.

96

The research of ammonium 2-((4-amino-5-(morpholinomethyl)-4H-1,2,4-triazole-3-yl)thio)acetate (PKR-177) influence on biochemical indices in rats blood under hepatitis initiated by tetrachloride methane

Shcherbyna, RO; Samura, TO; (...); Hyrenko, IV
Nov-dec 2017 | ZAPOROZHYE MEDICAL JOURNAL (6) , pp.819-822
Hepatitis is a disease which causes liver inflammation. The most widespread hepatitis pathogens are hepatitis viruses but it can also be caused by other infections such as some toxic substances and auto-immune diseases.

The aim of research. The research of the influence of ammonium 2-((4-amino-5-(morpholinomethyl)-4H-1,2,4-triazole-yl-3)thio) acetate (PKR-177) on biochemical indices of rats blood under hepatitis caused by tetrachloride methane.

The materials and methods of research. 1% aqueous solution of PKR-177 substance was used as the material of this research. The studying was held according to methodological recommendations of "Preclinical research of medical substances". Experimental animals were clinically observed. Evaluation of biochemical and functional indices of their organisms (incl. liver) was carried out 24 hours after the last injection of tetrachloride methane.

Results and their discussion. Clinical analysis demonstrated that hypodermic injection of oil solution of tetrachloride methane resulted in abrupt deterioration of the overall health condition of experimental animals. They were not keen to move, gathered together in groups, partially refused to eat. Entire refusal from food was observed after repeated injection of tetrachloride methane. Animals injected with PKR-177 and Thioprotectin intensively consumed water, ate food in small portions. After 24 hours blood tests of all animals under research were made for profound biochemical studying. As a result of the reproduction of acute toxic lesions (in comparison with intact animals) a violation of the functional capacity of the liver was noted. In the serum this was manifested by a sharp decline in activity of transaminases (ALT and AST). This occurred on a background of increased activity of lactate dehydrogenase and gamma glutamyl transpeptidase. The injection of carbon tetrachloride produced tendency to decrease the

content of albumin, total protein, albumin/globulin ratio, glucose level, cholesterol, triacylglycerides, total bilirubin and alpha-amylase activity.

Conclusions. The influence of ammonium 2-((4-amino-5-(morfolinomethyl)-4H-1,2,4-triazole-3-yl)thio) acetate (PKR-177) on blood biochemical parameters in rats with hepatitis caused by tetrachlormethan was studied. 27 biochemical and functional parameters of the blood of experimental animals were investigated. In the result of experiment it was found that the activity of ALT, AST enzymes was higher in animals injected by the PKR-177 solution compared to rats from the first and fourth experimental groups.

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THE IMPACT OF DIGITALIZATION ON EMPLOYMENT TRANSFORMATION IN COUNTRIES WITH DIFFERENT INCOME LEVELS

Pedchenko, N; Tul, S; (...); Flehantova, A
2021 | FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE 4 (39) , pp.216-227
It has been substantiated that digitalization is a driver of the transformation of employment in different countries. The degree of formation of the digitalized labor market by groups of countries with different levels of per capita income has been studied. It is proved that the use of digital technologies by the vast majority of companies and the economically active population simplifies the procedure of job creation, giving the opportunity to work via the Internet within the so-called "on-demand economy". With the high degree of implementation of digital, information and communication technologies, the share of employees in the service sector is growing in the majority of countries. It is stated that the degree of digitalization of the labor market is uneven in the world. The introduction of modern technologies in high-income countries allows the population to fully realize the intellectual and creative potential, finding a job in the most efficient sector of the economy - the high-tech and knowledge-intensive services. Despite the rapid spread of digital technologies and the rapid growth of employment in the service sector in the upper-middle-income countries, the level of digital transformation of the labor market is much lower than in the high-income countries. Nowadays, there is a digital divide between these groups of countries, although, with the effective policies of governments in the upper-middle-income countries, there is a high probability of achievement of indicators of countries that are digital leaders. The trend of gradual digitalization of the services sector is also observed in the lower-middle-income countries. It is noted that the low prevalence of information and communication technologies in low-income countries makes it impossible for the population of these countries to join the global digitalized labor market. A set of measures has been systematized to harmonize the policies of governments of different countries in the field of labor relations, which are being transformed under the influence of global digitalization.

98

Sustainable Energy Supply Based on Sunflower Seed Husk for Oil mills

Havrysh, V; Hruban, V; (...); Taikhrib, K
IEEE International Conference on Modern Electrical and Energy Systems (MEES)
2019 | PROCEEDINGS OF THE 2019 IEEE INTERNATIONAL CONFERENCE ON MODERN ELECTRICAL AND ENERGY SYSTEMS (MEES'2019) , pp.246-249

The use of biomass, including sunflower husk, for in-situ energy generation has undergone a development in Ukraine last decades. Within this work, four combined heat and power technologies based on oil utilization, husk combustion, gasification, and methanization have been investigated. Their electricity and heat potential has been determined. Criteria for techno-economical assessment of CHP technologies have been suggested. Husk biogas and gasification technologies are not mature. CHP plants based on husk combustion are competitive. Steam turbine generators with a nominal electric capacity higher 1.5 MW may be profitable too.

99

COMPARATIVE ANALYSIS OF OPTIMIZATION METHODS IN THE INVESTIGATION OF A WEIGH-MEASURING SYSTEM AND THERMOREGULATOR

Koshevoy, ND; Kostenko, EM and Beliaieva, AA
2018 | RADIO ELECTRONICS COMPUTER SCIENCE CONTROL (4) , pp.179-187
Context. For the first time, the use of taboo-search methods, random search, a swarm of particles for the construction of cost-effective experiment plans for the study of a weighing system and a temperature regulator was proposed.

Objective - to carry out a comparative analysis of the developed optimization methods, such as taboo search, random search, particle swarm when searching for the optimal plans for the experiment during the study of the weighing system and thermostat.

Method. Methods for constructing the experimentally optimal implementation matrix for the experiment using algorithms of a swarm of particles, taboo search and random search are proposed. In the beginning, the number of factors and cost of transitions for each level of factors is introduced. Then, taking into account the input data, the initial experimental design matrix is formed. When using the taboo search algorithm at each iteration step, the best solution in the neighborhood of the current solution is chosen as the new current solution and the check is made whether it is in the taboo list. Thus, calculations occur until the algorithm reaches the specified number of iterations. The list of taboos is formed from decisions that have a minimum cost. The random search method is based on permuting the columns of the planning matrix. The number of iterations of the algorithm is specified by the user. The method of the particle swarm is based on modeling the behavior of the particle population. At each point where the particle visited, the value of the experiment is calculated. In this case, each particle remembers which (and where) the best value of the cost of the experiment, she personally found and where the point is located, which is the best among all the points that explored the particles. At each iteration, the particles correct their velocity (modulus and direction). After a certain number of iterations, the particles are collected near the best point. Then, among all the new points, we check whether we have found a new globally better point, and if found, remember its coordinates and the value of the cost of conducting the experiment in it. Then the gain is calculated in comparison with the initial cost of the experiment.

Results. The software that implements the proposed methods was developed, which was used to conduct computational experiments to study the properties of these methods in the study of a weighing system and a temperature regulator. Optimized for the cost of implementation of the experiment plans were synthesized, as well as the gains in optimization results as compared to the initial and maximum costs of the experiment.

Conclusions. The conducted experiments confirmed the efficiency of the proposed methods and the software that implements them, and also allow them to be recommended for application in practice when constructing optimal experimental design matrices.

100

POLYTHERM OF SOLUBILITY OF THE LICL-LACL3-H2O SYSTEM

STOROZHENKO, DA; SHIRAI, YV and ESKOVA, NF
Sep 1988 | ZHURNAL NEORGANICHESKOI KHIMII 33 (9) , pp.2438-2439

101

Differential species characters of Baruscapillaria anseris and B. obsignata nematodes obtained from the domestic goose

Yevstafieva, VA; Yeresko, VI; (...); Nagorna, LV
2018 | REGULATORY MECHANISMS IN BIOSYSTEMS 9 (4) , pp.578-583
The study presents species composition and abundance of nematodes of the family Capillariidae (Nematoda, Trichocephalida), parasitizing the domestic goose (Anser censer dom. Linnaeus, 1758) in Poltava region, Ukraine. Morphological specifics of adult specimens of collected helminths are examined and new data is obtained for species identification of Capillariidae considering their metric parameters. The pathogens of capillariasis in geese are represented by two species, Baruscapillaria anseris (Madsen, 1945) Moravec, 1982 and B. obsignata (Madsen, 1945) Moravec, 1982 with the former predominant. Prevalence of infection by B. anseris in domestic fowl was up to 46.8%, the abundance index reached 17.9 specimens. The proportion of geese infected with B. obsignata was 23.9%, and the abundance index was 3.8 specimens. Morphological study of the collected mature male and female nematodes revealed the significant similarity of both species in the general body structure and in identification characters: vulva and vagina structure in females, tail end, spicule and spicule sheath in males. Statistically significant differences were determined in the metric parameters of male and female B. anseris and B. obsignata nematodes. Those differences can be used to improve species identification. Males of B. anseris were larger than males of B. obsignata by 16 metric parameters including the length and width of body, spicule and spicule sheath, width of pseudobursa, and distance between the rays of pseudobursa. Females of B. anseris and B. obsignata were significantly different by seven metric parameters. By five parameters (length and width of various body regions) the B. anseris females were larger than B. obsignata. Metric parameters of the studied species are also of interest for taxonomic identification: the eggs of B. obsignata are longer and narrower than those of B. anseris.

102

FRee electron model for heteroatomic conjugate molecules

Litinskii, GB and Krikunova, VE
Dec 2009 | JOURNAL OF STRUCTURAL CHEMISTRY 50 (6) , pp.1029-1034
A simple generalization of the free electron model is suggested for describing the heteroatomic conjugate molecules and obtaining analytical equations for the energy levels of these systems. The delta-like potential is used as a potential of a heteroatom in this model, and the energy levels are obtained as corrections for first order perturbation theory.

103

Method and tool for support of software requirements profile quality assessment

Gordieiev, O; Gordieieva, D; (...); Odarushchenko, E
IEEE 11th International Conference on Dependable Systems, Services and Technologies (DESSERT) - IoT, Big Data and AI for a Safe & Secure World and Industry 4.0
2020 | 2020 IEEE 11TH INTERNATIONAL CONFERENCE ON DEPENDABLE SYSTEMS, SERVICES AND TECHNOLOGIES (DESSERT): IOT, BIG DATA AND AI FOR A SAFE & SECURE WORLD AND INDUSTRY 4.0 , pp.72-79
method for support of software requirements profile quality assessment was reviewed. External and internal quality of software requirements profile in the method was reviewed separately. Metrics and indexes as general taxonomy was used in the method for assessment. Radial-metrics diagrams was used For visualization of received results. Method in full volume was supported by developed tool. An example use of tool for assessment draft of new standard "Requirements to computer security of NPP Instrumentation and Control Systems (NPP I&C)" developed by Ukrainian state regulatory body was represented.

104

Morphological features of development of Strongyloides westeri (Nematoda, Rhabditida) in vitro

Gugosyan, YA; Yevstafyeva, VA; (...); Pishchalenko, MA
2018 | REGULATORY MECHANISMS IN BIOSYSTEMS 9 (1) , pp.75-79
Strongyloides westeri (Ihle, 1917), a parasitic horse nematode, has an unusual lifecycle, which allows it to exist for a long time in the environment. Morphometric features of eggs, larvae and free-living S. westeri were studied in vitro under different temperature regimes. The optimal temperature for their embryonic development is 25 degrees C , under which 90% of the first stage rhabditiform larvae are formed and released within 7 hours of cultivation. The temperatures of 20 and 30 degrees C are less favorable for their development. Embryonic development of Strongyloides has four stages that differ in morphology and size. The eggs of a parthenogenetic female are 3.7% longer and 19.6% wider than eggs isolated from free-living females of S. westeri. In embryogenesis, the eggs shorten by 4.4 mu m (6.5%) and widen by 5.35 mu m (8.3%). New data were obtained on postembryonic development of S. westeri. The differential morphometric features of stage 1 and 2 rhabditiform larvae which grow both in length and width (33.7% and 30.4% respectively) are established. The development of filariform larvae is associated with loss of bulbous thickening and formation of cylindrical oesophagus. Simultaneously, the body elongates, and the gut becomes shorter. Differential morphometric features of free-living males and females of S. westeri are the length and width of body, length of oesophagus, gut, tail end, and size of spicules. Postembryonic development of the free-living and parasitic generations from rhabditiform larvae is temperature-dependent. Most of the free-living generations of Strongyloides (54.0%) are formed at 20 degrees C, and filariform larvae mostly (70.0%) develop at 30 degrees C. The obtained results of morphological studies improve differential diagnostics of the nematode at various stages of development and further advance the study of its intraspecific variability.

105

APPLICATION OF THE FISH SEARCH METHOD FOR OPTIMIZATION PLANS OF THE FULL FACTOR EXPERIMENT

Koshevoy, ND; Kostenko, EM and Muratov, VV
2020 | RADIO ELECTRONICS COMPUTER SCIENCE CONTROL (2) , pp.44-50
Context. An application of the method of searching for schools of fish to construct optimal experiment plans for cost (time) in the study of technological processes and systems that allow the implementation of an active experiment on them is proposed.

Object of study. Optimization methods for cost (time) costs of experimental designs, based on the application of a school of fish search algorithm.

Objective. To obtain optimization results by optimizing the search for schools of fish for the cost (time) costs of plans for a full factorial experiment.

Method. A method is proposed for constructing a cost-effective (time) implementation of an experiment planning matrix using algorithms for searching for schools of fish. At the beginning, the number of factors and the cost of transitions for each factor level are entered. Then, taking into account the entered data, the initial experiment planning matrix is formed. The school of fish search method is based on the rearrangement of the columns of the experiment planning matrix, based on the sum of the costs (times) of transitions between levels for each of the factors. Fish schools are formed according to the following principle: fewer schools of fish where the sum of the costs (times) of transitions between levels of factors is greater. Then, rearrangements of schools of fish located nearby in the experiment planning matrix are performed. Then the gain is calculated in comparison with the initial cost (time) of the experiment.

Results. Software has been developed that implements the proposed method, which was used to conduct computational experiments to study the properties of these methods in the study of technological processes and systems that allow the implementation of an active experiment on them. The experimental designs that are optimal in terms of cost (time) are obtained, and the winnings in the optimization results are compared with the initial cost of the experiment. A comparative analysis of optimization methods for the cost (time) costs of plans for a full factorial experiment is carried out.

Conclusions. The conducted experiments confirmed the operability of the proposed method and the software that implements it, and also allows us to recommend it for practical use in constructing optimal experiment planning matrices.

106

Psycholinguistic Analysis of the Structure of the Association Area of the Stimulus Competence

Sharavara, T; Kotsur, A; (...); Tahiltseva, Y
2018 | PSYCHOLINGUISTICS 24 (2) , pp.340-358
The article deals with the analysis of the association area structure of the notion of competence based on the results of the free association experiment. It was found out that respondents verbalize both key components of the lexicographical and terminological meaning of the notion (awareness, experience, skills, knowledge, mind) and its axiological component (politeness, correctness, professionalism, responsibility, respect). Some reactions testify to the process of identifying competence with the professional sphere of activity (profession, job).

As a result of processing of associative reactions, it has been established that the associative gestalt of the word-stimulus forms 10 zones - the notional components, the subject, the subject's activity, the field of the subject's activity, leading features of the subject's activity, the moral and ethical face of the subject of activity, characteristic features of the subject's activity, evaluative reactions, individual reactions, emotions. Each zone of the associative gestalt in accordance with the quantitative indicators is assigned a rank from 1 to 9 (in two zones the number of reactions coincides). The core of the associative gestalt (ranks 1-2) includes frequency responses that correspond to the zones "Notional components" and "Leading features of the subject's activity", the remaining zones (ranks 3-9) form the periphery. Core reactions indicate a sufficiently high level of respondents' mastering of key components of the notion as well as realization of the demand for a new generation of specialists by native speakers that can effectively apply the acquired knowledge and skills in a certain field of activity.

The article also deals with the analysis of associative reactions in accordance with the model of the epistemological structure of consciousness of native speakers. It was found out that in the linguistic consciousness of respondents a certain balance is maintained between subjective (the value and motivational sphere) and objective (the logical and notional sphere) images; dominant in the cognitive activity of informers is the mental level of consciousness images, since in the emotional and affective sphere there are no frequency responses, and the body-perceptual sphere is not represented verbally.

107

AvTA Based Assessment of Dependability Considering Recovery After Failures and Attacks on Vulnerabilities

Kharchenkol, V; Ponochovniy, Y; (...); Shulga, I
10th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing Systems - Technology and Applications (IDAACS)
2019 | PROCEEDINGS OF THE 2019 10TH IEEE INTERNATIONAL CONFERENCE ON INTELLIGENT DATA ACQUISITION AND ADVANCED COMPUTING SYSTEMS - TECHNOLOGY AND APPLICATIONS (IDAACS), VOL. 2 , pp.1036-1040
The paper describes modification of the ATA (Attack Tree Analysis) technique for assessment of instrumentation and control systems (ICS) dependability (reliability, availability and cyber security) called AvTA (Availability Tree Analysis). The techniques FMEA, FMECA and IMECA applied to carry out preliminary semi-formal and criticality oriented analysis before AvTA based assessment are described. AvTA models combine reliability and cyber security subtrees considering probabilities of ICS recovery in case of hardware (physical) and software (design) failures and attacks on components casing failures. Successful recovery events (SREs) avoid corresponding failures in tree using OR gates if probabilities of SRE for assumed time are more than required. Case for dependability AvTA based assessment (model, availability function and technology of decision-making for choice of component and system parameters) for smart building ICS (Building Automation Systems, BAS) is discussed.

108

Spatial-temporal dynamics of sunflower yield - the ecological and agricultural approach

Zhukov, OV and Ponomarenko, SV
2017 | UKRAINIAN JOURNAL OF ECOLOGY 7 (3) , pp.186-207

Dynamics of sunflower yield in agricultural enterprises in the administrative districts of the Poltava region for the period 19952016 have been explored. Agroecological zoning of the Poltava region that is based on dynamic productivity features sunflower have been performed. We founded that sunflower yield fluctuated in the farms of Poltava region from 13.36 +/- 1.40 to 21.81 +/- 1.89 t/ha within 1995-2016. The lowest level of variation (CV) of sunflower yields during the study period was 28.33% and the highest was 49.03%. The great yield range was caused by spatial variation component. The analysis of sunflower yield revealed clear trends which can be described by the third polynomial order. Specific terms of polynomial curve of the third order can be meaningfully interpreted and applied to describe the dynamics of sunflower yield. The free coefficient of the polynomial reflects the level of sunflower productivity in the starting period. The value of the function at the point of local minimum points to the "bottom" of the dynamics of productivity culture. The maximum productivity reflects a balance between factors of the agroeconomical and agrotechnological nature and also the biological potential of the sunflower. Parameters and special trend point of sunflower yield can be explained by landscape cover diversity indicators, topographic wetness index, erosion factors and their interaction. According to the forecast value of growth rate the study plots were divided into three groups of agriculture environment, namely: with low potential of growth (b <0.044), moderate growth potential (0.044 **0.051). Sunflower yield variability which is outside the polynomial trend can be described by four multidimensional factors that explained up to 84.9% of variability. These factors were characterized by definite spatial and temporal variability. The most typical oscillation period is 4.4 years and 2.2 years, whereas the longest period was 11 years. We also determined some periods of 5.5 and 7.3 years. We determined some clusters or agro-ecological zones by factor analysis. The highest yield potential of sunflower was registered for agro-ecological zone with disruptive areas in the east of study region. The area with lowest productive capacity was determined for agro-ecological zones in the northwest. We determined the transitional zones concerning the yields characteristic in the center and eastern part of study region.**

109

UKRAINE'S GLOBAL STATUS AS AN INDICATOR OF ITS CURRENT PROBLEMS AND OPPORTUNITIES

Deyneka, Y; Shkurupii, O; (...); Verhal, K

2021 | FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE 3 (38) , pp.427-436

It was ascertained that the global status of a country is determined by a set of its characteristics as an entity of international relations identifying the place it occupies among other countries over a certain historical period of time. The global status is defined as the relative position of countries in the system of international relations. The main factors that determine the global status of countries are economic development; achievements in science, technology and innovation; development of social spheres (health care, education, social protection); the outcome of distributing and exercising power within the state (domestic policy) as well as between states (foreign policy); the effectiveness of institutions; and governance efficiency in the field of environmental management. It is proved that the global status of countries depends primarily on how effectively each of its spheres functions in terms of the interests of society's development. At the same time, it depends on the synergistic effect - the coordinated action of all components of the socio-natural system (aggregate endogenous factor) and the degree of the country inclusion in the system of modern international relations, which is largely due to globalisation (exogenous factor). It is stated that the country's acquisition of a different global status compared to the previous one reflects the status dynamics. That means a change in the roles played by countries in the system of international relations, i.e. the process of transforming

their behavior on the world stage. These starting points of the study of the place and role of individual countries in the modern globalized world became the basis for the analysis of Ukraine's position (by areas of activity and in general). The global status of Ukraine is defined and interpreted through correlation with the criteria derived from the theory of world-system analysis. Based on these methodological principles, modern problems have been identified and the possibility of further development of Ukraine has been assessed.

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Morphological characteristic of Skrjabinema ovis (Nematoda, Oxyuridae) obtained from domestic sheep

Melnychuk, VV and Reshetylo, OI
2020 | REGULATORY MECHANISMS IN BIOSYSTEMS 11 (3) , pp.378-383
Skrjabinemosis is a widely prevalent helminthiasis of sheep, goats and wild ruminants. It is caused by Skrjabinema ovis Skrjabin, 1915. Parasitization by S. ovis induces inflammatory processes of the large intestine, in skin around the anus and tail base, resulting in reduced productivity and weight loss. The measures of prevention and control of skrjabinemosis on sheep farms depend on the timely and accurate diagnosis, based on the reliable identification of nematodes. We studied the identification morphometric characters of this species The nematodes were obtained from the large intestine of 710 pasture-kept sheep (Ovis aries) on farms of Kyiv, Poltava and Zaporizhzhia regions (Central and South-Eastern Ukraine). In total, 5723 adult S. ovis nematodes were collected, 1981 of which were males and 3742 were females. Sexual dimorphism was found in S. ovis both in metric and morphological parameters. The size dimorphism is characterized by values larger by 43.9-64.6% of 11 parameters in females compared to males. The differential characters of mature S. ovis males and females are morphological specifics of the mouth organ complex and the distribution of cuticular formations on the head end of the parasite. The lips of the female nematodes are anchor-shaped and adorned with tooth-like lamellae, and the lips of the males are oval and lack the tooth-like lamellae. Cuticular nodes on the head ends of the females are considerably longer and wider than in the males. The species-specific morphological characters of the males are the features of morphology and sizes of the pseudobursa, the shape and length of the spicule and gubernaculum, and their width parameters in different areas. In the identification of females, the morphology of the vulva and tail end, and the metric parameters of the location of the vulva, anus, and sizes of eggs in the uterus should be considered. Additional metric and morphological parameters are presented for use in the differentiation of males and females for better identification.

111

Epitheliocystis: Development of PCR assay for the monitoring among the commercially important aquaculture species of Ukraine

Zezekalo, VK; Peredera, SB; (...); Titarenko, EV
2019 | REGULATORY MECHANISMS IN BIOSYSTEMS 10 (2) , pp.215-218
Epitheliocystis is an emerging disease of wild and cultured fish caused by a number of bacterial species, characterized by the presence of cytoplasmic bacterial inclusions in the epithelial cells of the gills, which contribute to the merging of the gill plates, and in some cases also spread to the skin of fish. This disease may manifest as hypertrophy and inflammation of the gills, white nodular lesions of epithelial tissue in the gills or skin, gasping on the surface of the water, lethargy, poor swimming and stunted growth. Among the commercially important aquaculture species of Ukraine, such as Atlantic salmon (Salmo salar), brown trout (S. trutta), grass carp

(Ctenopharyngodon idella), common carp (Cyprinus carpio) and gibel carp (Carassius auratus), Candidatus Clavochlamydia salmonicola and Candidatus Piscichlamydia salmonis are associated with epitheliocystis. There are currently no tools at the disposal of ichthyologists and veterinary laboratories in Ukraine to identify Ca. C. salmonicola and Ca. Piscichlamydia salmonis. Our basic concern was to develop a PCR assay of epitheliocystis diagnosis. We suggest the use of general primers for simultaneous detection of Ca. C. salmonicola and Ca. Piscichlamydia salmonis. The developed PCR assay for identification of Ca. C. salmonicola and Ca. Piscichlamydia salmonis has shown its suitability for amplifying control DNA. Confirmation of the amplification products identity was performed using selective recognition of the sequence by the TasI restriction endonuclease (Thermo Fisher Scientific, US). Analytical specificity verification of the PCR assay performed by amplifying the control DNA of 10 species of the Chlamydiales order showed the absence of PCR products, but observed in one. The designed PCR assay, after approbation on clinical material, can be used by researchers for extensive monitoring of epitheliocystis, doctors of veterinary medicine for diagnosis clarification, in addition to introduction into the practice of veterinary medicine laboratories and implementation in fish farm improvement programmes. The amplicon size of 197 base pairs theoretically permits application of this oligonucleotide primers pair for real-time PCR.


112

LUCERNE IN ARABLE CROPPING SYSTEMS: POTENTIAL OF DIFFERENT VARIETIES ON BIOMASS PRODUCTION AND NITROGEN BALANCE

Gollner, G; Fedoseyenko, D; (...); Freyer, B
2016 | ROMANIAN AGRICULTURAL RESEARCH 33 , pp.45-51
Lucerne improves yields and quality of subsequent crops by fixing nitrogen and increasing soil organic matter. In the Ukrainian region of Poltava weather conditions have become more difficult for producing legumes over the past decades. While the biomass productivity of modern lucerne varieties is well known, data on the nitrogen fixation capacity are still missing. Therefore biomass and nitrogen fixation capacity of 4 Ukrainian varieties (Lidiya, Poltavchanka, Vira, Zaykevicha) were evaluated in two field trials in two subsequent years. The seasonal average forage yield of lucerne was 10.5-11.4 t ha(-1) with no significant differences between the varieties, but with a better performance at 1st and 2nd harvest in the second year because of a successful field emergence and water supply. An analysis of the genotype-by-year interaction on two experimental sites indicated that the old varieties Poltavchanka and Zaykevicha were well adapted to the experimental site environment. These varieties gave consistently stable shoot dry matter yields in both vegetation periods. Biological nitrogen fixation (average of 155 kg N ha(-1))and N-balance (average of -159 kg N ha(-1)) did not differ between the four varieties, therefore the benefit for subsequent crops should be the same or similar.


113

An Interactive Adaptable Learning Interface for E-Learning Sessions

Odarushchenko, E; Butenko, V; (...); Kharchenko, V
2020 | INTERNATIONAL JOURNAL OF EDUCATION AND INFORMATION TECHNOLOGIES 14 , pp.115-120
Introduction of augmented reality into the E-learning systems brings a new era in personal remote education. While E-learning brings a lot of benefits for both instructor and student it also has various difficulties, such as absence of vital personal interaction that can influence on student

motivation and inspiration. To decrease this gap we have started the development of an Interactive Adaptable Learning Interface (IALI) that with the help of speech synthesizers, emotions and voice recognition systems tries to adapt the ongoing E-learning session to the student behavior, simulating the way instructor adapt the lesson to the student reactions. As the IALI is initially planned for Ukrainian language students, we have made a deep analysis of nowadays applicable solutions for Ukrainian speech synthesis and recognition. In this paper we present the conducted analysis and application of the most widely applied speech synthesizers, voice and emotions recognition systems that were used to develop first version of IALI.

114

Spatial and temporal yield dynamics of corn for grain within the Volyn region

Matviichuk, BV; Pysarenko, PV and Matviichuk, NH
2021 | UKRAINIAN JOURNAL OF ECOLOGY 11 (2) , pp.169-176
Aim. To establish the spatial and temporal variability in yield of corn for grain in the Volyn region in 1965-2017. Methods. Agricultural research, multivariate statistics, cluster analysis, geographic information technology. Results. From 1965 to 2015, the highest yield of corn for grain in the Volyn region was observed in the southern regions, and the lowest yield level was established for the northern regions. According to the peculiarities of the temporal dynamics of corn yields, the administrative regions are classified as allocating spatially homogeneous complexes consistent with the Forest-steppe, Polissia, and the Transitional Zone. The indicators of the dynamics of corn yields in all regions are characterized by a positive asymmetry coefficient, indicating an asymmetric distribution with a shift to the left. The presence of asymmetry indicates the heterogeneity of conditions and the cultivation of corn for grain during the study period and the possibility of identifying qualitatively homogeneous time intervals, that is, for the periodization of the investigated hour interval following the yield indicators of corn for grain. The geography of homogeneous clusters identified based on indicators of the dynamics of grain corn, which to a certain extent corresponds to the physical and geographical zoning of the region, is evidence of the ecological conditionality of corn yield by modes that correlate with factors of physical and geographic heterogeneity of the region. Of the ecological and geographic factors, climatic conditions were the most variable over the corresponding period. From 1965 to 2015, the nature of the dynamics of grain corn yields underwent qualitative transformations, which are the basis for appropriate periodization. Essential markers of the respective periods are the general yield level and the yield trend's general direction. Conclusions. The highest yield of corn for grain in the Volyn region was observed for the administrative districts located in the forest-steppe zone, and the lowest was characteristic for the districts within Polissia. The level of grain corn yields in the region may differ by almost 2.9 times, resulting from the soil's heterogeneity and climatic conditions. The dynamics of the production process in the forest steppe zone and Polissia are in antiphase: favorable conditions for increasing yields in one geographic zone are accompanied by opposite conditions for the adjacent zone and vice versa. Grain corn yield in 1965-2015 showed cyclical dynamics, during which periods with two local maximums were observed: in the ninth decade of the 20th century and the second half of the first decade of the 21st century.

115

THE EFFECTS OF SEEDING RATE AND ROW SPACING ON THE PHOTOSYNTHETIC ACTIVITY OF SOYBEAN (GLYCINE MAX (L.) MERR.)

Mikheeva, O; Klymenko, I; (...); Nahorna, S
2021 | APPLIED ECOLOGY AND ENVIRONMENTAL RESEARCH 19 (5) , pp.4169-4184
With an advent of early-maturing soybean varieties that have weaker ability to branch, there is a need to study the increase in seeding rates with different combinations of row spacing, in order to determine the effects of narrowing the area of plant nutrition on photosynthetic plant activity. This is the purpose of our research. The multifactorial experiment was performed by splitting sites in four replications. The research has demonstrated that the Baika variety sown with a row spacing of 15 cm and a seeding rate of 1.2 million pcs./ha - 40.5 ths. m(2)/ha was close to the optimal leaf surface. The Annushka soybean plants were inferior to variety Baika in this regard, with the difference up to 6.0 ths. m(2)/ha, due to differences in the leaf structure of the soybean varieties. The weather conditions have been found to play the dominant role; namely, a strong direct correlation was found between the amount of precipitation and the photosynthetic productivity of plants. For the Annushka variety, it was in the range of r = 0.714. 0.843, and for the Baika variety, r = 0.899. 0.947. Thus, using different combinations of seed sowing rate and row spacing, it is possible to adjust the photosynthetic productivity of soybean plants and, as a result, to provide better conditions for their development and higher yields.

116

Contemporary Marketing Concept as A Component of Sustainable Development of The Region and Rural Areas of Ukraine

Lyshenko, MO; Mykhailova, LI; (...); Mykhailova, OS
2019 | INTERNATIONAL JOURNAL OF ECOLOGICAL ECONOMICS & STATISTICS 40 (2) , pp.80-91
The article deals with theoretical issues concerning the main provisions of the modern marketing concept for the formation of sustainable development of the region. The characteristic of the main goals of sustainable development of the region and rural territories is considered. The proposed algorithm for improving the sustainable development of the regions is proposed. The article deals with the micro and macro environment of the functioning of domestic business entities. It is proved that the transition to the principles of sustainable development is a non-alternative solution in modem economic conditions for any business entities. This strategic development plan implies the need to adapt the classical theory of marketing to the problems of market ecologization, which in turn can serve as a direction for increasing the competitiveness of the enterprise and its products. It is concluded that the transition to the principles of sustainable marketing contributes to the sustainability of enterprises and entire sectors of the national economy through the attraction and use of socially responsible marketing, support and protection of environmental systems in the external and internal marketing environment.

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CONTRIBUTION OF ACADEMICIAN VAVILOV,N.I. TO THE FORMATION AND DEVELOPMENT OF SOVIET CYTOLOGY AND CYTOGENETICS

SAMORODOV, VN; POMOGAIBO, VM; (...); GOLDA, DM
Sep-oct 1987 | TSITOLOGIYA I GENETIKA 21 (5) , pp.331-334

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NH4CL(KCL)-LACL3-H2O SYSTEMS AT 50-DEGREES-C

STOROZHENKO, DA; SHIRAI, YV and LAZORENKO, NM
Feb 1986 | ZHURNAL NEORGANICHESKOI KHIMII 31 (2) , pp.537-539

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Morphobiological analysis of Trichuris vulpis (Nematoda, Trichuridae), obtained from domestic dogs

Yevstafieva, VA; Kravchenko, SO; (...); Volovyk, LB
2019 | REGULATORY MECHANISMS IN BIOSYSTEMS 10 (2) , pp.165-171
The parasitic nematode Trichuris vulpis Frolich, 1789 is the pathogen of trichuriasis in domestic and wild carnivores, and humans. This helminth species is distributed world-wide in populations of domestic dog (Canis lupus familiaris). The prevalence of T. vulpis in dogs depends to a large degree on the morphofunctional and biological adaptations of the parasite which support its high survivability in various environmental conditions. The present study considers the species-specific peculiarities of morphology, and metric parameters of the mature and embryonic stages of Trichuris nematodes parasitizing in C. lupus familiaris. We studied the periods of stages of development and infectious egg formation, and their survivability under optimal conditions for T. vulpis in laboratory culture. The differential characteristics of both female and male adult T. vulpis nematodes include the metric characteristics of cuticular protrusions at the surface of the anterior body part. The male T. vulpis nematodes can be distinguished from males of other species by the specifics of spicule sheath ornamentation, the shape and size of spicule, and the width of spicule sheath at different sections. In identification of the female nematodes of this species, it is necessary to consider the presence and size of papillary processes in the vulval area and metric parameters of vulva location. Nine metric characters of sexual dimorphism are described for T. vulpis nematodes. In laboratory conditions, five embryonic stages were observed for T. vulpis: protoplast, blastomere cleavage, and formation of bean-like embryo, larva and mobile larva. These stages are characterized by specific morphological features. The egg develops to the infectious stage at 27 degrees C in 18 days of culture, and their survivability is up to 76.6%. The egg development is associated with changes in their metric characters, such as decreasing egg length and width of egg shell, and increasing egg width and egg plug width.

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The adaptability of soft spring wheat (Triticum aestivum L.) varieties

Chuprina, YY; Klymenko, IV; (...); Laslo, OO
2021 | UKRAINIAN JOURNAL OF ECOLOGY 11 (1) , pp.267-272
Soft wheat is one of the leading food crops grown in large areas on all continents. However, with the rapid growth of the world's population, increasing grain production remains the main task of all agricultural producers. Recently in Ukraine, due to the shortage of organic fertilizers, the soil's humus content has dropped sharply to 2.5-1.5%. As a starting material, we used ten samples of Triticum aestivum, obtained from the National Center for Plant Genetic Resources of Ukraine (NCGRRU). These samples had economically valuable features and were introduced from different ecological and geographical areas. We used the method of A.V. Kilchevsky and L.V. Khotylova to determine the environment parameters, phenotypic stability, and adaptive potential. We established the highest general adaptive ability in the samples of Swedish, Russian, and Ukrainian selection: Sunnan, Prokhorovka, and Kharkivska 30. We suggested that the level of combination of assessments of adaptability or stability by different methods should be a reliable indicator of predicting the variety's behavior and help the breeder choose the most appropriate and informative parameters that fit the stability concept.

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Pathohistological changes in the intestine, lungs and liver of sheep with spontaneous strongyloidiasis

Sorokova, S; Yevstafieva, V; (...); Suprunenko, K
2021 | REGULATORY MECHANISMS IN BIOSYSTEMS 12 (2) , pp.341-345
Sheep diseases of invasive and non-invasive etiology are among the restrictive factors for Ukrainian sheep-breeding. The helminthiases are among the most widespread parasitical diseases, and particularly strongyloidiasis causes significant losses for sheep farms in cases of severe course. Young sheep are the most susceptible, showing growth and developmental lag, and death occurs in cases of high invasiveness due to severe pathologies induced by the parasites. Thus the aim of the present work was to study the morphological and histological changes in the intestine, lungs and liver of sheep with strongyloidiasis. Results of pathoanatomy showed that under spontaneous sheep strongyloidiasis with the intensity of the invasion from 50 to 136 specimens of nematodes, the main pathological changes occur at Strongyloides localization sites: intestine and parenchymatous organs (lungs and liver). Particularly, the small intestine showed catarrhal desquamative enteritis. Morphological changes of its mucosa demonstrated necrosis of the apicalpart of the villi, desquamation of epithelium, constriction and decrease of intestinal crypts. At the same time, massive diffusive cell infiltrates were detected in the intestinal mucosa lamina propria with the prevalence of eosinophilic leukocytes, inflammatory thickening of villi cylindrical epithelium and its mucous metamorphosis, pyknosis and lysis of enterocyte nuclei. In the large intestine, necrosis of the mucosa was detected, with edema, effusion of serum-cell exudate in its canal, diffusive infiltration of lymphocytes, eosinophils and plasma cells in the intestinal mucosa lamina propria. Lung tissue demonstrated parasite larvae localized in canals of the bronchi and in alveoli. These sites had diffusive hemorrhages in lung parenchyma, signs of inflammation and thickening of interstitial tissue caused bydamage to vessel walls due to migration of parasite larvae. Histological changes in the liver of sheep with strongyloidiasisshowed the development of granular dystrophy and necrotic changes in hepatocytes.

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Fungistatic Properties of Lectin-Containing Extracts of Medicinal Plants

Pospelov, SV; Pospelova, AD; (...); Semenko, MV
2020 | NATURAL REMEDIES FOR PEST, DISEASE AND WEED CONTROL , pp.91-105

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OPTICAL PIEZOMETER AND PRECISION RESEARCHES OF FOOD PROPERTIES AT PRESSURES FROM 0 TO 1000 MPA

Sukmanov, VA; Radchuk, OV; (...); Budnik, NV
2020 | JOURNAL OF CHEMISTRY AND TECHNOLOGIES 28 (1) , pp.68-87
The purpose of the research is to create an optical piezometer and a working chamber of a high-pressure apparatus for spectral studies of food products (liquid and viscous plastic) in situ; to obtain indicators of compression and spectral (optical) properties of food products (animal and vegetable origin) with precision accuracy at pressures from 0 to 1000 MPa. Methods. The developed optical piezometer is based on the Michelson principle of interferometer. Changes in the volume of the studied food samples under pressure are recorded when the concentrically

located interference rings from the laser module change. The precision accuracy of pressure recording is provided by measuring the change in the position of a more intense R-2, the line of the luminescence spectrum of a ruby located in the working chamber, when the pressure changes. Result. For the first time, the design of the high-pressure working chamber allows obtaining in suti experimental data on changes in the compressive parameters (absolute and relative volume, density, volume modulus of compression, isothermal compression coefficient) of solid, viscous-paid and liquid food products with precision accuracy. The accuracy of measuring the change in the volume of the studied samples is no worse than 0.0003 mm(3). To obtain the spectral characteristics of food products in situ, the windows of the working chamber are composed of NaCl, a ruby crystal, and protective plates made of sapphire crystals. The test sample is in a developed hydrostatic cuvette installed in a high-pressure chamber and consisting of a fluoroplastic glass, sodium chloride plates and a ruby plate 0.5 mm thick Conclusions. The research results allow us to reasonably develop high-pressure food processing technologies and design the appropriate technological equipment.

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VECTOR AND STRUCTURAL CHANGES IN THE MODERN WORLD

Pedchenko, N; Shkurupii, O; (...); Tul, S
2020 | FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE 3 (34) , pp.441-450
The article examines the vector and structural changes in the modern world, caused by exogenous and endogenous factors and identified on the basis of determining the countries status taking into account the processes of changing their positions according to the group affiliation (hegemonic countries, applicant countries, "third world" countries, as well as other countries which gravitate to the world vanguard or rearguard ones). The proposed methodology of research into the countries global status is based on a comprehensive approach to the analysis of socio-natural systems, presented as a combination of economic, political, innovative, social and spiritual spheres, as well as the sphere of functioning of institutions and the sphere of human interaction with nature. The k-means clustering and the fuzzy logic apparatus were used to find out the vector and structural changes taking place in a globalized society. The analysis is based on processing the country data by the following indicators: the KOF Globalization Index, the Legatum Prosperity Index, the Global Competitiveness Index, the Global Innovation Index, the Human Development Index, the Fragile States Index, and the Environmental Performance Index (2009-2018). They were selected as the attributes, the set of which allows to distinguish clusters. The countries were clustered according to the components of their socio-natural systems. According to the Index of Global Status of Countries, the place that belongs to the subjects of international relations was estimated and their status was identified. On this basis, the differences in the development of the countries were detected. Significant differences in the positioning of states in the globalized world were objectified. The conditions of the formation of countries global status and the causes of the status dynamics were revealed. The fact of asymmetry, polarization and inequality progression was proved. It was demonstrated that the study of vector and structural changes occurring in the world economic system and globalized society extends the scientific notion about the present day systemic contradiction of the post-industrial and post-capitalist eras of the globalized world being formed.

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prevalence of gastrointestinal nematodes in sheep (Ovis aries) in the central and south-eastern regions of Ukraine

Melnychuk, V; Yevstafieva, V; (...); Feshchenko, D
2020 | TURKISH JOURNAL OF VETERINARY & ANIMAL SCIENCES 44 (5) , pp.985-993
The article investigates into the species composition of agents causing gastrointestinal tract nematodes in sheep. It determines the forms of nematodes communities. For this purpose, 710 sheep were examined, 79.58% of which were infected. The fauna of nematodes was represented by 15 species of helminths from 12 genera: Bunostomum, Oesophagostomum, Nematodirus, Chabertia, Cooperia, Trichostrongylus, Ostertagia, Haemonchus,.richuris, Aonchotheca, Strongyloides, and Skrjabinema. The indicators of infestation intensity in sheep ranged from 1 to 93 specimens per animal, and the abundance index ranged from 0.01 to 16.96 specimens per animal. The most common nematodes are H. contortus (prevalence, 61.97%), O. circumcincta (59.58%), T. colubriformis (57.35%), T.ovis (55.21%), N. spathiger (49.01%), Oe. venulosum (42.54%), S. ovis (41.13%), Ch. ovina (36.76%), and T. skrjabini (26.34%). Gastrointestinal nematodes in the body of 99.12% of the infected sheep proceeded as parasitic communities. Most frequently, coinvasions were represented by parasitic communities which consisted of five (prevalence, 14.51%), six (19.44%), or seven (15.92%) species. The study revealed 361 varieties of mixed coinvasions. The most frequent comembers were H. contortus, O. circumcincta, T. colubriformis, T.ovis, N. spathiger, S. ovis, and Ch. ovina. The data obtained provide an opportunity to increase the effectiveness of measures to combat and prevent gastrointestinal tract nematodes in sheep farms.

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Analytical Solution of the Problem of Thermoelastic Deformation of a Nonuniformly Rotating Multilayer Disk

Koval'chuk, SB; Goryk, AV and Zinkovskii, AP
Mar 2020 | Sep 2020 (Early Access) | INTERNATIONAL APPLIED MECHANICS 56 (2) , pp.216-230
Explicit analytical solution to the problem of the strain-stress state of a narrow multilayer disk with a radial alternation of layers is presented. The disk rotates with acceleration, in an axisymmetric temperature field, under the action of normal and tangential loads uniformly distributed on its cylindrical surfaces. The relations are obtained by solving the system of equations of the plane problem of elasticity in a polar coordinate system, given a discretely inhomogeneous structure of the disk. The solution obtained gives the distribution of stresses and displacements throughout the disk layers and canbe used to address a wide range of applied problems and methods of optimal design.

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CHLAMYDIAL INFECTION MONITORING WITHIN WILD MAMMALS IN UKRAINE

Ksyonz, IM; Zezekalo, VK; (...); Kanivets, NS
2019 | WORLD OF MEDICINE AND BIOLOGY 67 (1) , pp.227-232
The study was carried out on of rectal epithelial scrap samples from 117 wild mammals of 16 species, namely 39 wild swine (Sus scrofa), 4 roe deer (Capreolus capreolus), 17 red foxes (Vulpes vulpes), 5 wolves (Canis lupus), 2 raccoon dogs (Nyctereutes procyonoides), 1 badger (Meles meles), 1 polecat (Mustela putorius), 2 beavers (Castor fiber), 3 martens (Martes), 2 weasels (Mustela erminea), 2 river otters (Lutra lutra), 3 muskrats (Ondatra zibethicus), 18 hares (Lepus europaeus), 4 bobak marmots (Marmota bobak), 5 squirrels (Sciurus) and 9 mole rats (Talpa europaea) caught or shot during hunting in hunting areas of 14 regions of Ukraine.

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Disinfection of water in swimming pools by combined action of UV-light and ozone

Semenov, A; Sakhno, T; (...); Barashkov, N
Fall National Meeting and Exposition of the American-Chemical-Society (ACS)
Aug 25 2019 | ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY 258

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OPTIMIZATION OF FACTORS OF MANAGING PRODUCTIVE PROCESSES OF WINTER WHEAT IN THE FOREST-STEPPE

Marenych, MM; Kaminsky, VF; (...); Liashenko, VV
2020 | AGRICULTURAL SCIENCE AND PRACTICE 7 (2) , pp.44-54
Aim. To study the impact of complex preparations, containing humic, fulvic and ulmic acids in combination with herbicides and nitrogen fertilizers, on winter wheat yield. Methods. Field, laboratory, statistical methods. Results. The impact of herbicides with different active substances and their mixtures with humic preparations Humifield and Foliar concentrate on weed infestation and productivity of Kryzhynka winter variety was investigated. It was determined that the application of herbicide Prima (400 g/ha) and the mixture of preparations Triger (25 g/ha) + Tomigan (0.5 l/ha) in combination with humic preparation Humifield in the dose of 200 g/ha had practically no impact on the crop productivity. A considerable increase in the yield, for instance, by 15.6-20.3 %, was observed in case of spraying the fields with the same preparation forms of herbicides in the tank mixture with humic stimulator 4R Foliar concentrate in the dose of 2.0 kg/ha. The application of humates in combination with nitrogen fertilizers with the purpose of optimizing the nutrition system for winter wheat via their introduction superficially and by spraying the leaf-stem mass of plants was studied. It was demonstrated that the application of the growth regulator 5R SoilBoost in the amount of 11 kg/ha in the mixture with 200 kg/ha of ammonia nitrate led to the increase of productivity for Smuhlianka and Slavna varieties by 11.2 and 8.5 % respectively, and double foliar application of 4R Foliar concentrate (2+2 kg/ha) in the mixture with ammonia nitrate - by 15.5 %. The maximal increase in productivity by 20-23 % was obtained after combined application of humic stimulators 5R SoilBoost (11 kg/ha) and 4R Foliar concentrate (2+2 kg/ha) on the background of ammonia nitrate (200 kg/ha of physical weight). The efficiency of foliar fertilization for wheat fields of Kubus and Mulan varieties using the mixtures of humates and carbamide-ammonia mixture in different phases of crop development was analyzed. The application of such combinations also promoted the productivity increase by 10.0-21.4 %. Conclusions. The increase in productivity of Kryzhynka winter wheat variety by 0.64-0.84 t/ha was determined after spraying crop fields with the tank mixture of herbicides and humic stimulator 4R Foliar concentrate in the dose of 2.0 kg/ha. The efficiency of optimizing the nutrition system of plants via separate or combined application of humic preparations, in particular, granulated 5R SoilBoost (11 kg/ha), superficially, and 4R Foliar concentrate (2 kg/ha+2 kg/ha) in case of foliar fertilization for fields in different phases of crop development on the background of early spring introduction of ammonia nitrate (200 kg/ha) to frozen-thawed soil was proven. The increase in wheat productivity was observed in all variants of applying these mixtures. However, the maximal increase in the winter wheat yield was obtained due to the fertilization technology, envisaging the use of humates 5R SoilBoost and 4R Foliar concentrate on the background of ammonia nitrate. There was a noted increase in grain productivity of winter wheat varieties Kubus and Mulan by 0.50-0.94 and 0.41-1.08 t/ha respectively in case of superficial introduction of humic preparation 5R SoilBoost (11 kg/ha) and

foliar fertilization of wheat fields with 4R Foliar concentrate (2+2 kg/ha) in combination with carbamide-ammonia mixture (200 + 100 kg/ha).

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TEMPERATURE STRESSES AROUND CRACKS IN AN ELASTIC PLATE WEAKENED BY 2 HOLES

KAMINSKII, AA and FLEGANTOV, LA
Sep 1994 | INTERNATIONAL APPLIED MECHANICS 30 (9) , pp.707-712

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Analysis of Technology Acceptance on the Effectiveness of the Electronic Supply Chain Management and Inventory Systems in Ukrainian Banking Industry

Markina, IA; Bilovska, OA; (...); Shevchenko-Perepyolkina, RI
Dec 2018 | INDUSTRIAL ENGINEERING AND MANAGEMENT SYSTEMS 17 (4) , pp.719-729
A lot of people's access to the Internet all around the world and expansion of electronic communications between people and organizations through virtual world has provided grounds for trade interactions. Although a lot of research has been conducted inventory systems, yet in these research different theoretical frameworks have been utilized But in electronic management, not many research have been conducted in inventory systems especially in private banking area; therefore, this subject has been considered as the main objective of this research. This research aims at investigating technological readiness in Technology Acceptance Model, and the use of E-CRM of Ukrainian bank in northern Kiev. Research method was descriptive applied library search. Data was collected through a standardized questionnaire whose reliability and validity were approved. The sample of this research was all branch managers, their assistants, and the officers working in northern Kiev branches. The number of the subjects, based on Kukran formula was 218 which was determined via random selection. SPSS 22 and Smartpls 3 were used as data analysis software. The result of this research showed that advantage adaptability, observations, experimentation, daily activities, organization, and environment play a pivotal role in accepting E-CRM. At the end of the research some suggestions on research hypotheses were provided.

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A PROSPECTIVE METHOD TO USE WASTE OF WALNUTS

Tiurikova, IS; Prybylskyi, VL; (...); Budnyk, NV
2021 | JOURNAL OF CHEMISTRY AND TECHNOLOGIES 29 (2) , pp.331-341
One of the ways to solve ecological problems is rational use of natural resources and their complex processing. Involving the plant waste as a secondary raw material allows it to be converted into a valuable product with subsequent widespread use. The given scientific work is devoted to the way of processing of organic waste of a walnut, namely pericarp. The results of studies of ripe nuts pericarp in terms of harvesting are presented. It has been proven that pericarp has the highest content of biologically active substances (L-antiscorbutin, pectin substances, polyphenols), when it is not yet separated from its maternal base. It has been proven that pericarp is a biologically valuable raw material that is not used in food production. The method of its processing into an extract has been developed and analyzed. The dynamics of extraction of

extractive substances of pericarp depending on the type of extractant are presented. Therefore, 70 % aqueous-alcoholic and 50 % aqueous-sugar solutions for both fresh raw material and after storage at low temperatures were selected as extractants for biologically valuable substances with high extractive ability and microbiological stability. The technology of aqueous-alcoholic and aqueous-sugar extracts and its description are presented. It has been proven that the developed technology will minimize organic waste, maximize the use of the nut raw materials, improve food technology, while increasing their biological value.

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ENVIRONMENTALLY FRIENDLY FUEL USAGE: ECONOMIC MARGIN OF FEASIBILITY

Kalinichenko, A and Havrysh, V
Jun 2019 | ECOLOGICAL CHEMISTRY AND ENGINEERING S-CHEMIA I INZYNIERIA EKOLOGICZNA S 26 (2) , pp.241-254
In the world there are two main problems concerning energy and ecology. Despite the crude oil price fluctuation, it has tended to increase. Moreover fossil fuel burning emits hazard compounds, including greenhouse gas. To solve them alternative fuels for vehicle have to be used. In due to properties, their usage impacts on the engine efficiency. The alternative fuel usage needs additional investment costs on the vehicle engines adaptation and fuel supply infrastructure. So, decisions must be based on mathematical apparatus. Three submodels were used in the suggested mathematical model: energy and economic indicator for fuels; energy and economic indicator for vehicles; criteria for investment projects. As a criterion of investment projects the profitability index has been grounded. The mathematical model and the algorithm for determining the feasibility of the alternative fuel utilization have been developed. The proposed algorithm includes the following stages: calculation of the fuel energy cost; calculation of the criteria for vehicles; determining the maximum value of investments; making decisions. Biofuels and gaseous fuels for some countries have been studied. The economic attractiveness of the alternative transport fuels has been presented. According to mathematical modeling, gaseous fuels are more economically attractive compared with liquid biofuels. Among gaseous fuels, LPG has a higher economic efficiency. The economic margin of alternative fuel application feasibility has been determined.

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COMPARATIVE ANALYSIS OF OPTIMIZATION METHODS BY COST (TIME) COSTS OF FULL FACTOR EXPERIMENT PLANS

Koshevoy, ND; Kostenko, EM; (...); Morozov, AA
2020 | RADIO ELECTRONICS COMPUTER SCIENCE CONTROL (1) , pp.54-62
Relevance. It is proposed to use methods to search for fish schools, monkey searches. jumping frogs for constructing optimal cost (time) experiment plans in the study of technological processes and systems that allow the implementation of an active experiment on them.

The purpose of the work is a comparative analysis of these optimization methods for the cost (time) costs of plans for a full factorial experiment.

Method. Methods are proposed for constructing the cost-effective (time-consuming) implementation of the experiment planning matrix using fish search, monkey search, jumping frogs algorithms. At the beginning, a number of factors and transition costs are entered for each

level of factors. Then, taking into account the entered data. the initial planning matrix of the experiment is formed. The fish search method is based on rearranging the columns of the experiment planning matrix, based on the sum of the values (times) of transitions between the levels for each of the factors. The schools of fish are formed according to the following principle: there are fewer schools of fish where the sum of the values (times) of transition between the levels of factors is greater. Then permutations of fish schools located side by side in the experiment planning matrix are performed. When using the monkey search method. the columns of the experiment planning matrix are trees. Each tree consists of branches along which a monkey moves. There are more tree branches where there is less sum of costs (times) of transitions between levels of factors. The monkey begins its movement upward along each branch of the tree. During this, a search is performed on the branches on which the monkey is located by the minimum value of the sum of the values (times) of transitions between the levels for each of the factors. In the jumping frog method, a successful frog is determined by the least cost of transitions between levels for each of the factors. After this, permutations of frogs are performed. The frog strives for the most successful and, provided it is nearby, it remains in its current location. Then the gain is calculated compared to the initial cost (time) of the experiment.

Results. Developed software that implements the proposed methods, which was used to conduct computational experiments to study the properties of these methods in the study of technological processes and systems that allow the implementation of an active experiment on them. Optimum cost plans for the implementation of the experiments were obtained, and the gains in the optimization results compared with the initial cost of the experiment were given. A comparative analysis of optimization methods for the cost (time) costs of plans for a full factorial experiment has been carried out.

Conclusions. The experiments have confirmed the performance of the proposed methods and the software implementing them, and also allow us to recommend them for practical use in constructing optimal experiment planning matrices.

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GENETIC MODIFICATION OF WAXY CHARACTER IN BARLEY UNDER ACTION OF EXOGENOUS DNA OF WILD VARIETY

TURBIN, NV; SOYFER, VN; (...); CIEMINIS, KK
1975 | MUTATION RESEARCH 27 (1) , pp.59-68

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ILLEGAL MARRIAGES: VIOLATION OF THE MATRIMONIAL REQUIREMENTS BY THE UKRAINIAN ORTHODOX POPULATION DURING THE XVIIIth - THE FIRST HALF OF THE XIXth CENTURIES

Borodenko, O; Sharavara, T and Walancik-Ryba, K
2020 | SKHIDNOIEVROPEISKYI ISTORYCHNYI VISNYK-EAST EUROPEAN HISTORICAL BULLETIN (16) , pp.16-27
The Purpose. The article deals with the problem of illegal marriages among the Ukrainian Orthodox population of the XVIIIth. the first half of the XIXth centuries. The Scientific Novelty. The study of the common people family life in the context of various directions of a historical anthropology has determined the topicality, the scientific novelty of the issue under analysis and the need to study a significant array of sources of an administrative, procedural and legal direction, especially, the ego-documents from seven state archives. The Methodology of the

Research. The research objectives were solved at the sensory and rational levels of cognition, but with the use of the general scientific (analysis and synthesis, abstraction and concretization, verification, etc.), special historical methods - prosopographic, a critical analysis and sources deconstruction and the principle of objectivity. The Conclusions. The marriages of persons of both sexes were considered invalid: if concluded between one or both mentally disabled brides; not divorced but remarried; divorced, when one representative of the couple did not have a permission for a new marriage and violated this requirement. The factors that caused a disorderly marital mobility and illegal marriages have been determined. the restrictions on divorce rights, an uncontrolled mobility of the population, the lack of an effective institution of a passport control, church ceremony weddings of brides not in their native parishes, a long-term absence of one marital partner, documents falsification, giving false information by witnesses, etc. It has been determined that violation of matrimonial requirements could give rise to a special type of adultery - bigamy (polygamy (polygyny) and polygamy (polyandry)). According to a civil law, an invalid marriage was terminated and the bigamist had to return to his legal spouse. In the case of divorce - the victim had the right to form a new family union, and the bigamist as a violator was doomed to celibacy. Soldiers' wives had a special status: the divorce process had certain restrictions. Since 1812, on condition of an unknown absence of a military man for seven years, his wife could file for divorce. Beginning in 1841, no terms of a military man absence were taken into account by the court, only a documentary evidence of the death of an officer or soldier allowed his wife to remarry.

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Managing Resource-Saving Development of Agri-Food Enterprises in the Context of Food Security and Sustainability: Strategic Aspects

Markina, I; Somych, N; (...); Lopushynska, O
Sep 2021 | CENTRAL EUROPEAN MANAGEMENT JOURNAL 29 (3) , pp.114-135
Purpose: The study's purpose was to examine the management of agri-food enterprises' resource-saving development to minimize potential imperfections in managing material and human resources and improve data quality.

Materials and methods: A combined analysis was used to display the potential relationships between the agri-food sector achievements and basic indicators of natural resources' sustainability and resilience to risks. The analysis covered Ukraine, Romania, and Poland. The analysis allowed for developing a general management scheme, including a management transformation comparative description in the economic growth context.

Results: The study revealed that Ukraine is clearly not on the path to progress in manufacturing enterprises and agriculture, as most of its indicators do not meet global nutrition goals. At the same time, Ukraine remains an export-oriented country. Its agri-food enterprises' activities focus on external markets, corresponding to the priorities of the country's agricultural policy and sustainable development goals of the United Nations organization.

Conclusion: The obtained results provide knowledge about and understanding of processes that occur in the agri-food enterprises' organizational structure in countries with different development levels. The awareness of these processes is crucial for effective enterprise management in the resource conservation context.

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Grain logistics in Ukraine: the main challenges and effective ways to reach sustainability

Nekrasenko, L; Pittman, R; (...); Doroshenko, A
Sep 30 2019 | ECONOMIC ANNALS-XXI 178 (7-8) , pp.70-83
One of the most important sectors of the economy in Ukraine is agriculture. Ukraine today is one of the world's leading grain producers and exporters. The growth of world food needs contributes to the integration of Ukrainian agricultural products into the EU economy. It is a key for the Ukrainian agricultural products to be a part of EU economy. However, this outcome may depend on the constraints on growth. The article summarizes the arguments and counterarguments in the scientific discussion of the identification of the main challenges and ways in the sustainable development of grain logistics in Ukraine, compares the situation in Ukraine, Poland, Romania and the Czech Republic.

The main purpose of the study was to identify the peculiarities of logistics and search for alternative forms and methods of grain products delivery to the storage and sale sites (ports). The research was done on existing transport corridors and the cost per ton. The relevance of the problem lies in the fact that current growth trends in the volume of grain transportation and current situation of transport infrastructure require improvement of the logistic quality and the formation of new logistic routes.

The article presents issues of the development of freight logistics in the following way: determination of the actual situation of freight logistics; identification of the main trends in recent years; determination of freight transportation advantages and efficiency level using various types of transport; formation of proposals and prospects of the development of grain products transportation considering the existing needs as well as prospects for growth of agricultural production in Ukraine. Methods used in the study included empirical research and scientific retrospective analysis.

Ukrainian grain logistics was chosen as the object of research, as the trends in the agro-industrial complex and the growing volumes of grain exports through seaports require finding better ways to improve the efficiency of freight transportation on the basis of cost reduction as well as increase in transportation speed. The article presents the results of an empirical analysis of freight transportation of grain products. The analysis showed that railroad is the main mode of grain transport.

The state of the railway system of Ukraine was featured as the most serious problem reported and a limitation on market participants in the results of our survey. 80% of the respondents consider high railway tariffs a problem; 70% consider the poor quality of the railway network and infrastructure to be a problem; and 60% noted the lack of freight cars.

At the same time, road transport is used for transportation over relatively short distances. However, it has limitations due to the low road capacity. In addition, water transport can be an important reserve for increasing the volume of transportation. Nevertheless, it will be possible only in case of investment growth and infrastructure restoration. The study empirically confirms and theoretically proves that improvement and optimization of Ukraine's transport infrastructure is a prerequisite for ensuring the growth of agricultural exports and overall economic growth. The results of the study can be useful for grain products exporters and authorities.

INFLUENCE OF PRE-KILLING LIVING WEIGHT ON THE QUALITY OF CARCASES OF HYBRID PIGS IN THE CONDITIONS OF INDUSTRIAL PORK PRODUCTION IN UKRAINE

Povod, M; Kravchenko, O; (...); Kodak, T
2020 | SCIENTIFIC PAPERS-SERIES MANAGEMENT ECONOMIC ENGINEERING IN AGRICULTURE AND RURAL DEVELOPMENT 20 (4) , pp.431-436
The optimal pre-slaughter live weight of pigs for fattening in the conditions of an industrial pig complex in Ukraine was determined and its influence on the quality of pig carcasses was investigated. For the study, 80 heads of young pigs were selected, of which 32 were pigs and 48 were boars. Boars were surgically castrated at the age of 2 days. During fattening, all animals had free access to food and water. Pigs were fattened in group pens for 20-25 heads on a completely slotted floor. Feeding was carried out with complete feed of own production in the wet type. When the animals reached the age of 170 days, depending on live weight, they were divided into 3 groups: Group I - 85-95 kg; Group II - 100-110 kg, Group III - 115-120 kg and slaughtered at the meat plant. The results of slaughter were used to determine the main slaughter characteristics of pigs in accordance with generally accepted methods. After measurement, the carcasses were cut into pieces and evaluated for the yield of lean pork by deboning. As a result of the study, it was found that with the increase of ante-mortem live weight, the carcass yield of carcasses also increased. In all weight groups, pigs outnumbered boars in slaughter yield. At the same time, pig carcasses lost more weight during cooling compared to castrates (0.2-0.4%). The carcasses of castrated animals had a thicker fat, measured at different points on the carcass (0.1 to 3.6 mm above the first thoracic vertebra and 0.8 to 3.3 mm above 6-7 thoracic vertebrae). Further analysis of the carcasses showed that the ratio of valuable parts of carcasses does not change significantly with increasing pre-slaughter live weight of animals. The mass fraction of tenderloin, neck, shoulder, loin and ham was higher in pig carcasses, while in castrates only the proportion of brisket was higher. In general, the weight of meat from the four main cuts in pigs was significantly higher than in casfrates (group I - 58.4 against 52.2%; group II - 56.6 against 55.5%; group III - 58.3 against 56.6%). Analysis of the morphological composition of the carcasses showed an increase in meat content with increasing pre-slaughter live weight. In particular, in animals with a live weight of 115-120 kg, the proportion of meat in the carcass was 68.6 +/- 0.34 in castrates and 71.0 +/- 0.59% in pigs.


140

Development of Wearable Solutions for Healthcare: Initial Stages Analysis and Case Study

Odarushchenko, E; Odarushchenko, O; (...); Degtyareva, L
1st International Workshop on Intelligent Information Technologies and Systems of Information Security (IntelITSIS)
2020 | PROCEEDINGS OF THE 1ST INTERNATIONAL WORKSHOP ON INTELLIGENT INFORMATION TECHNOLOGIES & SYSTEMS OF INFORMATION SECURITY (INTELITSIS 2020), VOL 1 2623 , pp.153-163
In the last decade Wearable Health Devices (WHDs) have enabled continuous monitoring of various human vital signs during both everyday routine and emerging situations, such as hospitalization etc. Nowadays most of WHDs are tightly coupled with smartphones, which provide means for gathering, processing, analyzing and saving personal health data for further use. The constant development of new devices and improvement of existing ones enlarge WHDs and mobile applications markets. This pose difficulties for non-technical users to select most fitting solution for their existing problems. In this paper we present an survey of up to date

WHDs as well as vital signs that can be monitored using them. Further, we provide list of basic characteristics that have to be analyzed while selecting the appropriate WHD and state upcoming challenges that emerge in wearable devices industry. Additionally, we present the developed glucose rate management applications. This applications aim to help user in managing personal glucose rate, based on gathered and stored data from various WHDs.

141

RESEARCH OF QUALITY INDICATORS OF WHEAT SEEDS SEPARATED BY PRE-THRESHING DEVICE

Sheychenko, VO; Kuzmych, AY; (...); Belovod, OI
Jan-apr 2019 | INMATEH-AGRICULTURAL ENGINEERING 57 (1) , pp.157-164
The influence on wheat grain quality indices of the preliminary threshing machine parameters of combine harvester header was investigated. The value of the trauma and the germination energy of the grain collected by the combine with the serial and experimental harvester were determined. It was established that as a result of passing the grain through the entire technological chain of the combine, germination energy decreased by 1.13 - 1.15 times. For the proposed options for preliminary threshing of grain, rational throughput values have been established, which correspond to high levels of germination energy. The highest germination energy level of the grain 99% was noted in the header, the drum of which contained four strips, according to the combine throughput 7.5 kg/s. This level was 7% higher than the serial header.

142

INVESTIGATION OF THE TRICYCLE TRACTOR INCLINE INFLUENCE ON ITS STABILITY UNDER THE CONDITIONS OF WORK AT THE OF SLOPE FIELDS

Sheychenko, V; Hailis, G; (...); Fedirko, P
2019 | INDEPENDENT JOURNAL OF MANAGEMENT & PRODUCTION 10 (7) , pp.725-738
The theoretical calculations carried out by the authors made it possible to establish the stability conditions for a tricycle tractor on the slope of the field. The research methodology was based on a theoretical solution of a static problem and the establishment of stability of a tricycle tractor depending on its layout and the angle of the field to the horizon. The layout of the tricycle tractor, which has one steerable wheel in front and two wheels in the rear, is considered. The conditions of the steady state of the tractor for the selected scheme are determined. The stability of the tractor will be ensured when the vertical line lowered down from its center of gravity crosses the surface inside the supporting quadrilateral. The surface of the supporting quadrilateral is formed as a result of connecting the outer points of the wheels. The dependence of the influence of the rim width and the wheel radius on the maximum angle of inclination of the tractor with one front wheel is established. The scientific problems posed in the work are solved in the developed theoretical bases for determining the stability conditions of a tricycle tractor. The theoretical foundations have been developed taking into account the layout of the tractor and the angle of inclination of the field to the horizon. The dependencies of the maximum angle of inclination of the tractor were theoretically determined, which made it possible to establish the conditions for its safe operation. The scientific background for increasing the safe operating conditions of tricycle tractors has been further developed.

143

Effect of growing technology on the energy crops yield in Precarpathian conditions

Tkachuk, NL; Butenko, AO; (...); Poriadynskyi, VP
2021 | UKRAINIAN JOURNAL OF ECOLOGY 11 (1) , pp.126-131
The study showed that the highest yield of energy willow biomass was obtained with a variant with a planting density of 15 thousand units/ha and mineral fertilizers, namely 113.7 t/ha of green mass and 64.4 t/ha of dry mass. In the fifth growing year of energy willow, an annual increase was achieved in the yield of freshly cut wood from 21.2 t/ha per planting step of 40 cm and without fertilizer application to 24.7 t/ha per planting step 50 cm with full fertilizer application.
The highest yield of poplar energy biomass was obtained in the variant of planting density of 6.7 thousand units/ha, namely 149.7 t/ha of green mass and 84.7 t/ha of dry mass. Application of mineral fertilizers increases the yield to 21.9-31.6 t/ha of green mass and 12.5-17.7 t/ha of dry mass in all variants of the experiment. Having analyzed the yield increase by years of vegetation, it should be noted that for the fifth growing year of energy willow, the lowest annual increase in yield of freshly cut wood was achieved from 5.3 t/ha per planting step of 40 cm and without fertilizer up to 14.0 t/ha per step planting 60 cm with full fertilizer application. The largest increase was obtained in the third growing year from 31.5 t/ha to 62.1 t/ha. Having analyzed the yield increase of poplar by vegetation years, it should be noted that for the fifth growing year, an annual increase in yield of freshly cut wood was achieved from 21.2 t/ha per planting step 40 cm and without fertilizer to 24.7 t/ha per planting step 50 cm with the introduction of the full rate of fertilizer. The same trend is observed in previous growing years.

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Morphological variation of Varroa destructor (Parasitiformes, Varroidae) in different seasons

Yevstafieva, VO; Zaloznaya, LM; (...); Sobolta, AG
2020 | BIOSYSTEMS DIVERSITY 28 (1) , pp.18-23
Varroosis is one of the most dangerous and common diseases of honey bees (Apis mellifera Linnaeus, 1758) worldwide, caused by gamasid mites of the species Varroa destructor Anderson and Trueman, 2000. This external parasite is widespread and adapted to the climate conditions of most countries of the world, and it can infect bees at any life stage. It parasites on worker bees, male and queen bees, larvae and pupae, feeding on their hemolymph and fat bodies, causing lower survival rates and lower density of bee colonies, decreasing the bees' life span. Here, we studied the specifics of the seasonal variation of female V. destructor mites, obtained from honey bees, by the morphological characters of mites belonging to the summer and winter generations, and their differences were established. Using the methods of multivariate statistics, we found significant differences between the summer (June-July) and winter (October-November) morphotypes of V. destructor mites. There are differences between the seasonal samples by 12 morphological characters of the parasite, namely the width of dorsal shield, width of dorsoventral shield, number of pores on sternal shield, length of tarsus and macrochaeta IV, and distances between setae of gnathosoma. Processing the seasonal samples of mites with discriminant analysis resulted in differences by 11 morphological characters including the length of dorsal shield, number of lancet setae, length and width of genitoventral shield, width of anal shield, number of setae and pores on sternal shield and distance between setae of gnathosoma. In general, the summer females are smaller and elongated compared to winter females, with larger

genitoventral shield and shorter legs. The mites of summer and winter generations are adapted to different seasons: the summer mites to the reproductive period, the winter generation to overwintering on bees. The ratio of morphotypes in female V. destructor mites is observed to change during the year, from 20.2% winter morphotype in summer generation to 20.7% summer morphotype in winter mites. Studying the influence of acaricides on the distinguished morphotypes is a promising approach to improve pest control measures against varroosis of honey bees.

145

Financial Resources of Agricultural Manufacturers in Ukraine - Historical Experience and Its Modern Role in Enterprise Management

Krasnikova, O; Borysova, I; (...); Brzozowska, A
35th International-Business-Information-Management-Association Conference (IBIMA)
2020 | EDUCATION EXCELLENCE AND INNOVATION MANAGEMENT: A 2025 VISION TO SUSTAIN ECONOMIC DEVELOPMENT DURING GLOBAL CHALLENGES , pp.820-827
The use of historical experience is an important component of the modern economy reforming in Ukraine. The reforms of the second half of the 19th to early 20th century are of particular importance. As their immediate result was the creation of an extensive credit system for agricultural producers, which was very effective at that time. The article describes the main types of financial resources used by agricultural producers in Ukraine at the turn of the 19th and 20th century. The analysis of statistical data confirms the idea of the extraordinary vitality of small family-owned agricultural enterprises. In such places there has always been the possibility of replenishing a modest budget through both economic activity and handicraft industries, as well as loans of different origins. The use of historical experience can be extremely useful for increasing the competitiveness in both domestic and foreign markets.

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CONCEPTUAL MODELING OF AGRI-FOOD MARKET DEVELOPMENT UNDER ECONOMY'S GLOBALIZATION

Bilan, YV; Nitsenko, VS and Samoilyk, IV
2017 | SCIENTIFIC BULLETIN OF POLISSIA (3) , pp.54-61
Urgency of the research. Industry-specific features are the core aspects in the development of economic systems, thus, each segment of the national market must be considered taking into account these specific features.

Target setting. Globalization of the economy brings in new challenges to national economy. New development determinants and mechanisms of the agro-food market arise under the conditions of economy's globalization, thus requiringe additional research.

Actual scientific researches and issues analysis. Development of the agri-food market attracts attention of many scholars. In particular, related questions have been considered by O. Hubar, V. Virchenko, Y. Pryhozhyn, A. Toynbee, O. Spengler, O. Berezin, N. Datsenko, Ye. Kyrylyuk, T. Burns, DeVille, I. Skavronska, M. Soltes and others.

Uninvestigated parts of general matters defining. The main determinants, methods, levers and preconditions for the development and effective integration of the national agri-food market into the international space and global environment.

The research objective. The purposes of the study are:

- to reveal the essence of the agri-food market development;

- to identify the peculiarities of this process under the conditions of economy's globalization;

- to identify the synergies and developments in the functioning of the agri-food market;

- to construct a conceptual model for the development of the agri-food market in the context of economy's globalization.

The statement of basic materials. The article offers the authors' own approach to the category "development" taking into account the globalization approach,

The conceptual model of the agri-food market development under the conditions of economy's globalization has been developed and presented here.

Conclusions. The conceptual model of the agri-food market includes such elements as the vector of development, the preconditions for development, the scope of development, the level of development, the groups of levers and methods, the result of development. An efficient model involves systemic development, which has a stable vector, based on the synergy effect and internal potential of the economic system and it also encompasses the global level.

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COMPETITIVE STRATEGIES OF PERSONNEL MANAGEMENT IN BUSINESS PROCESSES OF AGRICULTURAL ENTERPRISES FOCUSED ON DIGITALIZATION

Mykhailichenko, M; Lozhachevska, O; (...); Hnatenko, I
2021 | MANAGEMENT THEORY AND STUDIES FOR RURAL BUSINESS AND INFRASTRUCTURE DEVELOPMENT 43 (3) , pp.403-414
In the context of globalization of the national economy, the agri-food sector as one of the leading business players faces a significant number of challenges, particularly the problem of ensuring the competitiveness of enterprises on both domestic and foreign markets. Implementation of management strategies aimed at the introduction of new technologies in business processes allows increasing the competitiveness of national agricultural enterprises based on digitalization. However, to succeed, it is necessary to provide an adequate personnel management strategy that meets the imperative of the integrated management strategy of the enterprise. Attention is drawn to personnel management strategies, which play an important role in the implementation of the motivational mechanism to achieve strategic goals through the effective realization of the labor potential of the agricultural enterprise. The key elements of any motivational mechanism are motivators, which are the factors of behavior and efficiency of personnel. Many theories describe the mechanisms of action of various motivators and their classifications, but the issues of using various motivators as key elements of the system of strategic personnel management at agri-food enterprises based on digitalization remain insufficiently studied. The purpose of the study is to conduct an analysis of the features of the application of personnel management strategies of

agricultural enterprises focused on staff motivation, as well as to determine the level of influence of external and internal motivators on efficiency in agri-food enterprises based on digitalization. The research was conducted using a unique questionnaire to accumulate data. The methods of descriptive statistics were used to analyze the received data and to define the peculiarities of using the motivational mechanism in the agri-food industry. Regression analysis using an artificial neural network was performed to determine the impact of various motivators on productivity. The study has shown that national agricultural enterprises apply strategies based on motivational mechanisms that involve various motivators of both internal and external nature. However, the external motivators have been much better implemented, and above all salary as a key element of the motivational mechanism is used. At the same time, internal motivators are also important for the staff of agricultural enterprises. Therefore, the simultaneous use of external motivators and the development of internal motivators in competitive HR strategies are important.

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ECONOMIC AND MARKETING ASPECTS OF THE FUNCTIONING OF SMALL ENTERPRISES

Lyshenko, M; Ustik, T; (...); Koliadenko, D
2020 | FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE 2 (33) , pp.185-193
The purpose of the study is to effectively ensure and improve the marketing management of small businesses and to substantiate a methodical approach to the choice of strategies in the formation of commodity, price and product distribution policies in enterprises. The following general and applied research methods were used in the research process: analysis and synthesis, deduction and induction were used to determine the economic and marketing factors affecting the functioning of small businesses; systematization and generalization to calculate the performance of marketing department at small business enterprises; expert assessments - in determining the factors of influence on the internal and external environment of a small enterprise; monographic methods - for in-depth study of tasks; abstract-logical methods - for theoretical generalization of research results and formulation of conclusions and proposals. The aim of the study is to analyze the situation with the organization of small business and the peculiarities of its doing. In order to improve the economic and marketing mechanisms of functioning of small businesses, a methodology for creating conditions for effective business activities of business entities, overcoming difficulties and solving problems related to lack of knowledge and experience of doing business, providing opportunities to obtain loans and necessary information, contributing to job creation, overcoming disparities in regional economic development, increasing export opportunities for small businesses, increasing production and its restructuring, to facilitate access of small businesses to modern innovative technologies, improvement of marketing and creating marketing department in the company, the definition of the main functions of the functioning of this structure. Certain scientific developments concerning the substantiation of economic and marketing aspects of the functioning of small enterprises can be used for further scientific developments in this area, as well as in the practical activity of enterprises to evaluate their innovative, financial, marketing potential and formulate development strategies.

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Species-specific morphological characteristics of adult and embryonic Capillaria obsignata roundworms (Nematoda, Capillariidae)

Yevstafyeva, VA; Stybel, VV; (...); Bakhur, TI
2017 | BIOSYSTEMS DIVERSITY 25 (4) , pp.354-360
The abundance of Capillaria obsignata Madsen, 1945, the causative agent of chicken capillariasis, was studied in the central region of Ukraine. Differential morphometric characters are determined for adult males and females of C. obsignata. The species-specific variability of its morphological parameters is characterized. New data is received on the meristic characters of C. obsignata eggs extracted from different substrates. The stages of embryonic development are determined in laboratory cultures of these nematodes, taking into account their meristic and morphological changes. Capillaria obsignata parasites are very common at the poultry farms of Poltava and Kyiv regions of Ukraine. Their abundance index is 3.4, and the intensity of infection varies from 3 to 317 specimens. Differential morphometric species-specific characters of adult C. obsignata males are the shape and size of the pseudobursa, spicule, spicule sheath. Adult females of the species can be identified by the shape and size of the vulva, the distance from the esophagus end to the vulva, and the length of the vagina. The meristic characters of nematode eggs, though typical for the species, may change depending on the sampled substrate. The parasite's embryonic development involves five morphologically and meristically different stages. The invasive larvae of this species developed in the eggs before the 12th day of culturing in laboratory conditions at 25 degrees C. The invasive larvae's viability was 90.3 +/- 1.5%.

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The dynamics of the population and peculiarities of the morphometric structure of Melophagus ovinus (Diptera, Hippoboscidae) in Ukraine

Yevstafyeva, VA; Sharavara, TA; (...); Borodai, YO
2017 | BIOSYSTEMS DIVERSITY 25 (3) , pp.243-248
The indices of the Melophagus ovinus (Linnaeus, 1758) population in Ukraine, and also the peculiarities of morphological and metric structure of the insects' body at all the stages of their development within the conditions of the surveyed region were investigated. New data on morphometric differential signs of sexually mature males and females of sheep bloodsuckers were obtained. It was established that M. ovinus are significantly widespread in Poltava and Zaporizhzhia regions, and they parasitize 26.1% of the examined sheep stock with the infection intensity of 92.7 +/- 1.4 specimens and abundance - 24.7 specimens on one animal. The dynamics of M. ovinus population at different stages of development was characterized by the highest abundance of sexually mature males (11.1 specimens) and females (8.9 specimens). The given index concerning pupae and larvae was considerably lower (4.2 and 0.5 specimens on one animal). It was found that post-embryonic and adult development stages of M. ovinus differ in their metric indices. The length and width of the pupae were 17.4% and 13.2% larger than those of the larvae. The sizes of males and females relative to the indices of body length, the length and width of head, thoracic, and abdominal segments, the length of maxillary palpus and the length and width of the proboscis in fact differ in their values. The differential morphological species signs of M. ovinus are the form and location of oculi, antennae, the structure of the head segment of the body, and the mouthparts, and of sexual dimorphism - the distance from the caudal segment of the copulatory apparatus to the rear of the insect's last abdominal segment.

151

Promoting Pro-ecological Behavior with Logistics Operators in Poland and Ukraine

Reshetnikova, O; Dyczkowska, J; (...); Paszkowska, D

2021 | ROCZNIK OCHRONA SRODOWISKA 23 , pp.642-654
Logistics operators are characterized by a high dynamics of an increase of incomes, and hence increased shipping. Owing to a rational policy in the area of the consolidation of production and distribution, they may boast of a better use of the means of transport. The aim of the article is to analyse the promoted behaviours of logistics operators in Poland and in Ukraine. The research methods used in the study include a literature analysis, a comparative analysis and a questionnaire survey of logistics operators' clients in Poland and in Ukraine. Selected items have been evaluated: eco-friendly programs, action for the environment, exhaust emission reports, CSR activities carried out locally, nationally and globally, sustainable development of logistics operators, professional development of employees, innovative technologies implemented by logistics operators and transport safety. The analysis conducted in relation to logistics operators will show similarities and differences in the promoted environmental activities and to what extent this is noticed by customers.

152

Cooperatives as an Innovative and Socially Oriented Model of Providing Medical and Dental Services in the Industry 4.0

Honcharenko, V; Panteleimonenko, A; (...); Klymenko, V
2020 | ESTUDIOS DE ECONOMIA APLICADA 38 (4)
Different social groups' access to high-quality and inexpensive medical, especially dental, services remains quite a topical question in many countries. There are various forms of solution to this problem. Cooperatives are one of them. They are unique socially oriented organizations that make life easier for millions of people around the world. However, in many countries cooperatives in the dental care sector are still unusual, albeit very promising organizations. The article reveals the features of the cooperative as a unique form of self-help for the population, based on solidarity and ethical principles. The types, features and scales of cooperatives' development in separate sectors of different countries' economies are shown. The experience of cooperatives' activity in the sphere of medical and dental services of some countries is summarized; the existing models have been described. The hypothesis about possibility of creating other, more complex and potentially promising models of cooperatives in medical and dental services sector in the Industry 4.0 has been performed. Based on this hypothesis, several innovative theoretical models of cooperatives have been developed. They can be created by both doctors (dentists) and patients (consumers of medical and dental services).

153

Historical Interpretation of the Past: The Way of Mental Enslavement or Liberation?

Mandryk-Melnychuk, M; Kotsur, A and Sharavara, T
2020 | UKRAINSKYI ISTORYCHNYI ZHURNAL (2) , pp.187-197
The purpose of this study is to find out the role of a professional researcher in historical interpretation of the past, to analyze projected threats that deal with speculation of historical facts, events, their arbitrary use, deliberate distortion of them for the formation of historical and social memory. The research methodology. The research is based on the principles of historicism, comprehensiveness, objectivity and systemacity. General scientific methods of analysis, synthesis, generalization, special-historical (retrospective, comparative, problem-chronological), as well as the method of interdisciplinary and polydisciplinary synthesis are used in the presentation of the material. The scientific novelty. The roles that a professional researcher

of the past can play - from the propaganda of hostile ideas, selective interpretation of sources, speculation on a certain topic - to an impartial re-enactor, a competent expert are analyzed. It is proved that suppression or deliberate distortion of particular pages of history, or their excessive ideologization, which was actively practiced in the Soviet science, equates with political violence, the manipulation of the consciousness of entire communities and generations. The use of such approaches has always been destructive in nature for researchers, who fulfilled the functions unusual to them, and for society, which, because of ignorance of its own past, is losing the vision of its future now. Conclusions. Consequently, manipulations with the interpretation of the past - different understanding of the same milestone events, excessive politicization of them, promotion of the enemy's image, deliberate emphasis on human emotions, ideological layers associated with a particular page of people's life - have an irreversible impact on the formation of social memory of Ukrainians. These factors contribute to deepening the processes of disintegration of society and indirectly strike at the foundations of nationhood.

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THE EFFECT OF HIGH PRESSURE ON SOY PROTEIN FUNCTIONAL FEATURES: A REVIEW

Li, YP; Sukmanov, VA and Ma, HJ
2021 | JOURNAL OF CHEMISTRY AND TECHNOLOGIES 29 (1) , pp.77-91
The aim of this work is to research the effect of high pressure on soy protein and its main components: 7S and 11S glycinins; changes of soy protein technological and functional features.

Results: soy protein, 7S and 11S glycins functional features processed by high pressure are analyzed, as well as their emulsion features, ability to retain water, gel features. The impact of pressure, time and temperature of the process on soy protein is researched. Structural changes of 7S and 11S glycinins, conformations, technological and functional features are analyzed. Soy protein isolate processing with high pressure improves its rheological, gel features and moisture content. Due to reasonable parameters soy protein and 7S and 11S glycinins processing with a high pressure increased moisture content; improved gel and emulsion features; influenced on non-covalent and covalent bonds and protein conformation; decreased soy protein's allergenicity in food products, including baby formulas. Despite great efforts, the mechanism of soy protein and 7S and 11S glycinins processing is still insufficiently understood, which makes it difficult to get a clear and unambiguous idea of their behavior.

Conclusions. The use of high pressure and soy protein isolate combination can improve functional and consumptional features of soy protein and food safety.

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Improving the quality of soybean by-products by physical methods during its use in bakery technology. Review

Wang, F; Sukmanov, V; (...); Jiang, JK
2020 | UKRAINIAN FOOD JOURNAL 9 (3) , pp.513-544
Introduction. Secondary raw materials of soybean processing (SMSP) have a high nutritional value, but its use in food is limited by a rough taste and a low content of soluble dietary fiber.

Material and methods. The subject of the study is the properties of SMSP, soluble dietary fiber, trypsin inhibitor, physical methods of raw materials processing, bakery products, and pastries.

Research methods are analysis and synthesis of information of the world's leading scientific publications. Result and discussion. Based on the analysis of research results it was determined that there is an influence of physical factors of SMSP processing on their nutritional value, technological and consumer features of finished products. Therefore, the relevance and perspective of the use of physical factors are proved. High pressure significantly affects soluble dietary fiber and functional features of legumes' wastes. At 400 MPa and 60 degrees C under high pressure, the content of soluble dietary fiber increases by 8 times during SMSP treatment in comparison to the untreated one. Swelling and water (oil) retention features are improved. After ultrafine grinding SMSP has improved technological indicators. Their use in baking leads to improved organoleptic characteristics. Ultrafine grinding improved the physical and chemical indicators of SMSP (viscosity, cation exchange capacity, ability to retain water and oil, solubility, hydration features, fluidity, antioxidant activity), technological indicators (test formability, the stability of its structure), organoleptic parameters. Microwave treatment has a strong penetration power. The electromagnetic wave leads to the increasing of pressure in the cell of material, its expansion, and rupture. It also leads to an increase in soluble dietary fiber content in SMSP. Microwave treatment is an effective way to inactivate the activity of a protease inhibitor in soybean cracks. Only two minutes roasting reduces the activity of the trypsin inhibitor to 13.33% from the initial one.

Conclusion. The use of physical methods combination of SMSP quality improvement is promising. Ultrafine grinding of SMSP has advantages in comparison to other physical methods. It affects significantly on physical, chemical, technological features and the quality of bakery products and pastries.

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Energy Model of Neuron Activation

Romanyshyn, Y; Smerdov, A and Petrytska, S
Feb 2017 | NEURAL COMPUTATION 29 (2) , pp.502-518
On the basis of the neurophysiological strength-duration (amplitude-duration) curve of neuron activation (which relates the threshold amplitude of a rectangular current pulse of neuron activation to the pulse duration), as well as with the use of activation energy constraint (the threshold curve corresponds to the energy threshold of neuron activation by a rectangular current pulse), an energy model of neuron activation by a single current pulse has been constructed. The constructed model of activation, which determines its spectral properties, is a bandpass filter. Under the condition of minimum-phase feature of the neuron activation model, on the basis of Hilbert transform, the possibilities of phase-frequency response calculation from its amplitude-frequency response have been considered. Approximation to the amplitude-frequency response by the response of the Butterworth filter of the first order, as well as obtaining the pulse response corresponding to this approximation, give us the possibility of analyzing the efficiency of activating current pulses of various shapes, including analysis in accordance with the energy constraint.

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RESEARCH OF MULTIPLE PLANS IN MULTI-FACTOR EXPERIMENTS WITH A MINIMUM NUMBER OF TRANSITIONS OF LEVELS OF FACTORS

Koshevoy, ND; Kostenko, EM; (...); Rozhnova, TG

2019 | RADIO ELECTRONICS COMPUTER SCIENCE CONTROL (2) , pp.53-59
Contex. The actual problem of reducing the set of plans for multivariate experiments in searching for the best in price costs has been solved.

Objective is the synthesis and study of a variety of experimental plans with a minimum number of transitions of factor levels.

Methods. The use of experimental design methods allows reducing the price and time costs in the study of various technological processes, devices and systems.

Minimizing the number of transitions of levels of factors in terms of the experiment, in turn, leads to a decrease in the cost (time) of its implementation. One of the methods for reducing the number of transitions of levels of factors is the use of the Gray code when constructing a plan of an experiment.

It is shown that multi-factor experiments plans constructed using the Gray code have a minimum number of transitions of factor levels, but are not always optimal in terms of the cost (time) of the experiment.

For the synthesis of many experimental plans with a minimum number of transitions of levels of factors in searching for the optimal plan for cost (time) costs, a method based on the generation of binary code variants is proposed. Analysis of their characteristics and the choice of sequences that meet specified requirements were conducted. The formation of test plans for an experiment is carried out according to the method based on the generation of variants for constructing plans, determining equivalence classes with respect to a given group P of transformations and forming a set of typical representatives for the selected equivalence classes.

Results. Software that implements the proposed methods, which is used in the construction of a set of experimental plans for the number of factors K = 3 with the minimum number of level transitions was developed.

Conclusions. The experiments, which were carried out, confirmed the efficiency of the proposed methods and the software implementing them makes it possible to reduce the set of experiment plans for finding the optimal one. The scientific originality of the research is presented by the methods which allow to synthesize many plans of multifactor experiments to reduce the search for optimal plans in price (time) cost. The practical significance of the research results is in the developed software which implements the proposed methods. It can be widely used in the study of technological processes, devices and systems, on which the implementation of an active experiment is possible.

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EFFICACY OF THE CLOUD COMPUTING TECHNOLOGY IN THE MANAGEMENT OF COMMUNICATION AND BUSINESS PROCESSES OF THE COMPANIES

Kopishynska, O; Utkin, Y; (...); Jelonek, D
2016 | Polish Journal of Management Studies 14 (2) , pp.104-114
Trends of development and application of different classes of information systems in management according to the types of business processes were investigated in this article. A brief overview of current state of the use of cloud technology in the world and Ukraine was

represented. Advantages of using model of "SaaS - Software as a service" was explained on the example of innovation international project "Bitrix 24", where the main objectives of CRM systems were realized combining with wide opportunities of coordination of communicative and business processes of modern companies. The project was translated into the majority European languages and uses tools of the social Intranet environment.

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Yeast-rich mannan fractions in duck cultivation: prospects of using

Kasjanenko, SM; Kasjanenko, OI; (...); Gurenko, IA
2020 | FOODS AND RAW MATERIALS 8 (2) , pp.337-347
Introduction. Due to the trend of avoiding antibiotics and acquiring eco-friendly products, the use of environmentally safe preparations is becoming increasingly relevant in poultry farming.

Study objects and methods. We used Salmonella enteritidis and Campylobacter jejuni isolated from poultry carcasses. At the first in vitro stage, we studied the ability of mannan oligosaccharides, isolated from the cell walls of Saccharomyces cerevisiae yeast, to adsorb bacterial pathogens. At the second stage, we studied the influence of fraction on the activity, colonization and microflora composition of ducklings' intestines. At the third stage, we determined the antagonistic activity of Bifidobacterium spp. (Bifidobacterium lactis, Bifidobacterium longum, Bifidobacterium bifidum) and Lactobacillus spp. (Lactobacillus fermentun, Lactobacillus salivarius, Lactobacillus acidophilus) against Salmonella enteritidis and Campylobacter jejuni isolates. The experiment was conducted on the ducklings of Star 53 H.Y. cross. Their diet was supplemented with probiotics, prebiotics, and their combination.

Results and discussion. In vitro studies showed the ability of mannan oligosaccharides isolated from the cell walls of Saccharomyces cerevisiae yeast to adsorb Salmonella enteritidis and Campylobacter jejun. In vivo experiment showed the ability of mannan oligosaccharides to prevent colonization of poultry intestines by bacterial pathogens with type I fimbriae.

Conclusion. The reisolation rate of ducks infected with Salmonella enteritidis was 53.6% lower, and those infected with Campylobacter jejuni, 66.2% lower than the control. Mannan oligosaccharides added to the diet did not affect the concentration of lactobacilli, enterococci, and anaerobic bacteria in the ducks' intestines. A combined use of Bifidobacterium spp. and mannan oligosaccharides improved the preservation of poultry stock by 8.7%, which made it an effective way to prevent poultry salmonellosis.

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GENETIC MODIFICATION OF WAXY CHARACTER IN BARLEY AFTER AN INJECTION OF WILD-TYPE EXOGENOUS DNA - ANALYSIS OF 2ND SEED GENERATION

SOYFER, VN; KARTEL, NA; (...); TURBIN, NV
1976 | MUTATION RESEARCH 36 (3) , pp.303-310

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WAYS OF IMPROVING THE ACTIVITIES OF THE DEPOSIT GUARANTEE FUND: ECONOMIC AND LEGAL ASPECT

Demidova, LM; Hayrapetyan, AS; (...); Kalian, OS
2019 | FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE 4 (31) , pp.4-11
The features of the activities of the Deposit Guarantee Fund within the system of guaranteeing deposits of individuals have been studied in the article.

The powers of the Deposit Guarantee Fund have been analyzed. It has been determined that its executive directorate exercises powers in the sphere of providing the Fund's activity, in respect of sources of the formation of the Fund's assets, in the sphere of deposit repayment, in the sphere of regulatory activity, in the field of withdrawing insolvent banks from the market. It has been offered to divide the powers of the administrative council of the Deposit Guarantee Fund into functional, conciliatory and regulatory ones.

The problems of forming the resource base of the Deposit Guarantee Fund have been clarified. It has been emphasized that the expansion of the sources for the formation of the Fund's assets is directly related to the range of participants of the system of individuals' deposits guaranteeing. In order to increase the funds of the Deposit Guarantee Fund, it has been offered to include non-bank financial institutions into the Fund's participants.

Some aspects of control over the activity of the Deposit Guarantee Fund have been studied. It has been emphasized that the Fund's annual report needs to be improved. It has been offered to consolidate the form of the annual report of the Fund in the legislation and to define the following its sections: main indicators of the Fund's activity in the reporting period, internal management of the Fund, legislation and regulatory activity, public information, analysis of the banking sector, regulatory activity of the Fund, financial management, withdrawal of insolvent banks from the market, protection of depositors' interests, the Fund's financial reports.

The directions for improving the Fund's activity have been formulated, namely revision of the Fund's powers in terms of exercising control over troubled banks, expanding the range of subjects and objects of the deposit guaranteeing system, improving control over the Fund's activities, introducing new mechanisms for repayment to depositors of insolvent banks, expanding the list of sources for the formation of the Fund's assets.

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PROOXIDANT-ANTIOXIDANT HOMEOSTASIS IN THE TISSUES OF THE UTERUS OF PIG, DEPENDING ON THE PERIODS OF THE REPRODUCTIVE CYCLE

Kuzmenko, LM; Polishchuk, AA; (...); Bulavenko, RV
2018 | WORLD OF MEDICINE AND BIOLOGY 64 (2) , pp.198-203
The article highlights studying results of disclosure of the peculiarities of formation prooxidant-antioxidant homeostasis in the tissues of the uterus of pig in the different periods of the reproductive cycle and pregnancy. In experiments on the basis of analogies were used 40 clinically healthy pigs of large white breed aged 8 months and weighing 125-130 kg. The pigs were kept in fences, 10-11 animals in each group. Not inseminated and pregnant sows were fed according to the rules taking into account their physiological state. The pigs and pig sows were slaughtered at different periods of the reproductive cycle: luteal phase (10 days after ascertainment of the immobility reflex, estrus (24 hours after the beginning of the estrus), 10, 15, 20, 30, 60 and 90 days of pregnancy. After slaughter, samples of tissues were taken from the sows: the mucous membrane and muscle of the uterus to determine components of prooxidant-

antioxidant homeostasis in them. It has been established that the state the prooxidant-antioxidant homeostasis in tissues of the horns of the pig uterus of are labile and depends on the period of reproductive cycle. It was revealed that in the endometrium and myometrium with the beginning of the period of the estrus - the growth of activity catalase ($p<0,001$), superoxidedismutase and the level of diene conjugates ($p<0,01$), with increased use ascorbic acid and dehydroascorbic acid, reflecting the strengthening of the intensity passing free radical peroxide oxidation in connection with the insemination process. and the second half of pregnancy. These changes are aimed at providing optimal conditions for insemination and starting of embryo development.It has been discovered that there is a significant inter-tissue differentiation in the formation of prooxidant-antioxidant homeostasis in the endometrium in the uterus of the pigs - higher levels of catalase and non-enzyme antioxidants compared to myometrium in almost all of the study periods of the reproductive cycle. The mucous membrane was characterized by a higher degree of variability of the studied parameters, especially non-enzyme antioxidants, it is caused by the intensive use of them both the mother's body for creation of optimal conditions for the normal embryo development, and embryos during their intensive growth. The mucous membrane at various stages serves as a depot of low antioxidants in the uterus.

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Morphological identification of Nematodirus spathiger nematodes (Nematoda, Molineidae) obtained from the small intestine of sheep

Melnychuk, V; Yevstafieva, V; (...); Antipov, A
2021 | REGULATORY MECHANISMS IN BIOSYSTEMS 12 (1) , pp.121-127
Strongyloidiases are caused by nematodes of the suborder Strongylida and are the most widely prevalent group of gastrointestinal helminthiases of sheep in many regions of the world. Among gastrointestinal strongylids, the helminths of the genus Nematodirus are represented by the largest number of species and highest infection rates in sheep. Nematodirosis causes significant economic losses in the sheep industry through decreased sheep productivity, delayed growth and development of young animals, and a reduced resistance to other diseases. Timely and accurate diagnosis of nematodirosis and identification of the pathogen will effectively prevent the disease and help to carry out treatment and prevention measures. Therefore, the aim of the work was to study the definitive morphometric characters of mature males and females of Nematodirus spathiger Railliet, 1896, obtained from the small intestine of domestic sheep. The results of experimental studies showed that nematodes of this species morphologically are characterized by a thin filiform body, a vesicle at the head end and a chitinous tooth in a short oral capsule. The differential morphological features of male nematodes of N. spathiger include specifics of the structure of spicules, their distal end and the shape and location of the rays of the caudal bursa; in females, those are the features of the structure of the vulva and tail end. In identification of male nematodes of N. spathiger, it is proposed to use 40 metric parameters, of which 11 characterize the overall size of the body, esophagus and vesicles, 24 refer to the size of the tail bursa, 5 to the size of the spicules and the enveloping membrane. To help identify the females of N. spathiger, 25 parameters are chosen, of which 14 also characterize the overall size of the body, esophagus and head vesicle, 6 refer to the size of the cuticular formations of the vulva and its location, and 5 to the size of the tail end, the location of the anus and the size of the tail spike.

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ECONOMICS AND RISK MANAGEMENT OF BIOFUEL PRODUCTION IN AGRICULTURE

Perevozova, I; Samoilyk, I; (...); Demydova, M
2021 | FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE 2 (37) , pp.271-279
The development of the biofuel market in the world has a positive dynamic for growth. The substantiation of the directions of further improvement of the methodology of production management of alternative fuels is taking into account the policy of climate change and the possibility of reducing dependence on external suppliers of traditional fuels. Ukraine has favorable natural and climatic conditions for the development of production of non-traditional fuels. The most common crops that can be grown in Ukraine for biofuels are rapeseed and corn. Based on the material and technical base and production conditions, rapeseed is the best crop for cultivation. Therefore, the object that we have chosen for this study is the production of biodiesel, which does not require significant capital expenditures by agricultural enterprises. For the purposes of the study, the risks were grouped according to various classification criteria (operational and production; marketing; financial; legal and infrastructural; weather; environmental) and the weights of their impact on the performance of agricultural enterprises. The structural scheme of the algorithm of the automated estimation of influence of risk factors for development of bases of the analysis and management of risks of production of biodiesel is constructed. The author's method of calculating the impact of the risk complex takes into account the limit values of the intervals of fuzzy quantities. To preserve soil fertility and reduce the corresponding risks, the proportion of rapeseed in growing areas should be at the limit of 17-18% (when also growing sunflower the upper limit is 12%), then all three analyzed farms can not only use their own land for rapeseed crops, but also, if necessary, rent the necessary plot, or, according to the results of the relevant analysis, its part. In some cases, farms even purchase some of the seeds needed to load the equipment. The results of calculations of the cost of production of biofuels showed that the increase in the cost for small and medium producers is not significant compared to large producers.

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Methodology for assessing globalisation development of countries

Zos-Kior, M; Kuksa, I; (...); Storoska, M
Jun 11 2018 | ECONOMIC ANNALS-XXI 168 (11-12) , pp.4-8
Under the conditions of economic globalisation, new trends are being formed in terms of social and economic development. There arises a need for a comprehensive assessment of the level of socio-economic development of countries in order to identify factors and components of effective globalisation development. Leading global institutions use different approaches and indicators to carry out such an assessment. However, they do not cover the entire spectrum of the development factors. Therefore, the issue of conducting researches to substantiate the optimal methodology for assessing countries' socio-economic development is relevant. The authors of this research applied the following methods: logical and comparative analysis, monographic method, deduction and induction. To provide a comprehensive assessment of socioeconomic development of countries in the context of economic globalisation, it is necessary to calculate an integral indicator. The authors of the article have developed a methodology for calculating such an indicator. To calculate the integral index, five indices, each of which is already an integral one, have been selected. Each of these components is calculated by world scientific, social, economic research institutes and covers all countries of the world. The importance of each component has been determined by the expert assessment method. Thus, GDPonPPP(p) has the highest rating of 5, the Index of Economic Freedom - 4, the Index of Global Competitiveness - 3, the Global Index of Innovations - 2, and the Index of Globalisation - 1. Luxembourg has the highest level of globalisation development among the countries under investigation with its integral index of 0.842. At the same time, the growth potential of the index is 15.8%.

It has been concluded that globalisation is a major factor affecting the current level of development in most countries of the world. To identify the level of globalisation achieved by various countries and the main factors that determine it, a methodological approach has been developed, which involves calculation of the Integral Index of Globalisation Development (IIGD), including five components: gross domestic product of the country on purchasing power parity per person, Globalisation Index, Global Competitiveness Index, Global Index of Innovations, Index of Economic Freedom, each of which has different weight, determined on the basis of expert judgment.

The obtained results allow making managerial decisions concerning the formation of development models of countries under the conditions of economic globalisation.

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Modeling of the Investment Program Formation Process of Ecological Management of the Agrarian Cluster

Zos-Kior, M; Shkurupii, O; (...); Rubezhanska, V
2021 | EUROPEAN JOURNAL OF SUSTAINABLE DEVELOPMENT 10 (1) , pp.571-583
The existence of contradictions between the natural environment and economic activity, including the functioning of agricultural clusters, has led to the need to transfer production to a qualitatively new level, associated with adaptation to environmental conditions. In this regard, the objective of this study is to develop algorithms and economic-mathematical models for environmental safety assessment and decision support in the environmental management system of the agricultural cluster. The article formulates criteria for assessing the environmental safety of agricultural enterprises, which are divided by types of environmental performance of the agricultural cluster (impact on the environment, impact on workers of enterprises participating in the cluster, impact on the environment and people through agricultural cluster products). On the basis of the specified criteria the algorithm of ecological management system estimation of the enterprises-participants of an agrarian cluster is constructed. As a result of the study, an economic and mathematical model of the formation of the investment program of the agricultural cluster was developed, aimed at protecting the environment and improving the environmental situation in general.

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Melanin produced by yeast Pseudonadsoniella brunnea as novel therapeutics agents in NAFLD/NASH management

Chyzhanska, Y; Falalyeyeva, T; (...); Ostapchenko, L
May 2017 | EUROPEAN JOURNAL OF CLINICAL INVESTIGATION 47 , pp.90-90

168

Transformation of the agricultural financial system in the age of globalisation

Brzozowska, A; Bubel, D; (...); Nekrasenko, L
2017 | AGRICULTURAL ECONOMICS-ZEMEDELSKA EKONOMIKA 63 (12) , pp.548-558
The paper is an attempt to address the advantages and risks connected with the wave of financial globalisation, with a focus on its impact on financial policy in European agriculture. The aim of the paper is to identify the basic conditions of the functioning and change of the financial system

of agriculture under the conditions of the globalisation of financial markets. Financial globalisation, also referred to as financial integration or openness, is understood as an increase in global ties and interdependences caused by capital flows. Potentially, globalisation can bring a lot of benefits, which are manifested in an acceleration of economic growth and decreased fluctuation in consumption, which should further improve the level of overall prosperity. On the other hand, however, internationalisation of financial flows entails a range of threats, including the possibility of crisis.

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THE POTENTIAL OF SMALL BUSINESS TO IMPROVE THE QUALITATIVE CHARACTERISTICS OF EMPLOYMENT: PROBLEMS OF ESTIMATION AND REALIZATION IN UKRAINE

Marchenko, O; Khitsenko, L; (...); Verkhovod, I
2021 | FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE 1 (36) , pp.430-441
This main objective of this article is defining capacity of small business to act as compensator of negative trends, emerging in sphere of employment in large and medium sized business of Ukrainian economy. Authors are focused not only on the availability of working places created in small business for persons, vacated from large and medium sized enterprises, but on the small business capacity to create economic preconditions for improving qualitative characteristics of employment in this sector and in whole economy.

Authors have built the multiplicative term, which expresses impact, caused by different characteristics of economic activity in small and large and medium sized business on the payroll dynamics as main indicator of economic potential for improvement characteristics of employment in appropriate economy's sector.

The first factor - is the total number of enterprises, as the expression of entrepreneurs' economic activity and their preference to working in the official (registered) sector of the national economy.

Second factor - is the average number of employees in enterprise of certain sector, as the expression of scale of resources, accumulated by average entity for economic activity.

Third, the scale of output, created by unit employee in certain sector, as the expression of productivity level of labor resource, involved in this sector.

Fourth, the volume of payroll is affected by the distribution of total output (which was used for estimation of labor productivity) between different directions of productive consumption, i.e. the share of payroll in the total revenue of small enterprises.

The results obtained by factors analysis didn't prove the thesis about small business capacity to compensate the negative trends, observed concerning employment in sectors of large and middle business of Ukrainian economy. The trends prevailing in creation and distribution of added value in small business does not contribute to improvement of quantitative and qualitative characteristics of employment in small business and whole Ukrainian economy.

This situation indicates that small businesses in the face of negative macroeconomic dynamics have been unable to accumulate resources (at least by concentrating resources on fewer

businesses that will be able to ensure higher efficiency) needed to improve the impact of the small business sector on the reproduction of employment in the economy of Ukraine. In addition, the significant lag in the level of wages in small business from large and medium and from the average level of the economy remains an important element of the mechanism for reproducing the low level of wages in Ukraine.

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SPECIFICS OF PESTICIDES EFFECTS ON THE PHYTOPATHOGENIC BACTERIA

Patyka, V; Buletsa, N; (...); Butsenko, L
Jun 2016 | ECOLOGICAL CHEMISTRY AND ENGINEERING S-CHEMIA I INZYNIERIA EKOLOGICZNA S 23 (2) , pp.311-331
The data concerning the effects of pesticides of different nature on the phytopathogenic bacteria was examined and summarized. Without extensive research on the mechanisms of interaction between pathogenic bacteria and pesticides in the literature review a similar message about microorganisms of soil and phyllosphere are included. The bacteria can be suppressed permanently by pesticides with a mechanism of action that universally affects biological processes in living systems. Long-term storage, ease of use and fast visible effect are the advantages of synthetic pesticides remedies. But chemical pollution, shifts in the balance of ecosystems, unpredictable effects of chemical pesticides on non-target objects are the drawbacks. Stimulation of resistance response in plants is unifying factor for all types of biopesticides. This is realized through localization of the pathogen during infection, blocking its further penetration, distribution and reproduction. The results of the study of effects of plant protection products on the phytopathogenic bacteria of main crops are described. Among all tested pesticides, thiocarbamate fungicides demonstrated significant inhibitory action on phytopathogens, but their effect may be neutralized by other constituents of multicomponent preparations. Triazole fungicides affect the causative agents of bacterioses of crops at a dose of more than 1% of the active substance in the nutrient medium. Insecticides and herbicides have little or no effect on phytopathogenic bacteria; however they can enhance morphological dissociations of some Pseudomonas strains, thereby increasing their ability to survive. The disadvantage of many biopesticides against phytopathogenic microorganisms is the difference between their efficacy in vitro and in vivo that is why the desired result is not achieved in field condition. In addition, biological pesticides often lose their activity causing the problem of constant search for new active antagonists. The fact that the sensitivity of phytopathogenic bacteria to pesticides is strain-dependent should be considered in practice, particularly, assessment of the antibacterial action of various preparations should not be limited to a single bacterial strain.

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Pre-sowing treatment of vetch hairy seeds, vicia villosa using ultraviolet irradiation

Semenov, A; Sakhno, T; (...); Sakhno, Y
Fal 2021 | GLOBAL JOURNAL OF ENVIRONMENTAL SCIENCE AND MANAGEMENT-GJESM 7 (4) , pp.555-564
BACKGROUND AND OBJECTIVES: Aiming to increase crop yield the antimicrobial/bacterial or fungicidal pre-sowing seed treatment received more attention in modern agronomy. Ultraviolet-C irradiation of pre-sowing seeds is an environmentally friendly method that became of great importance in recent years. It is, hereafter, being shown that, along with known

antimicrobial use, there is additional important advantage of Ultraviolet-C irradiation of pre-sowing seeds. It was revealed that Ultraviolet-C radiation on Vetch Hairy seeds stimulates seeds germination and vigour.

METHODS: Various doses of Ultraviolet-C irradiation of seeds were used. The main sowing qualities of seeds were determined: seed vigour and germination, as well as the content of photosynthetic pigments in plant leaves and the main parameters of the kinetic values of hydration-moisture and hydration rate.

FINDINGS: It was found that ultraviolet-C radiation has a positive effect on sowing qualities and content of photosynthetic pigments in plant leaves of Vetch vary. The most effective dose of ultraviolet irradiation applied to vetch hairy seeds; vicia villosa was 1000 J/m2. At this dose the seed vigour increases by 23.6%, germination by 15.1%, the mass of germinated seeds by 17.3%, the content of a- and b-chlorophyll by 12.4%, and 17.5%, respectively, the carotenoid content increased by 13.9%. The parameters of seeds hydration kinetics such as moisture content and hydration rate were determined. It was revealed that the hydration rate of seeds increased significantly in the first 100-minute time range. Later in time the hydration rate progressively decreased, achieving a saturated moisture content after 700 minutes. Additionally, it was found that Ultraviolet-C irradiation decreases the imbibition damage.

CONCLUSION: The results indicated that ultraviolet-C irradiation has a positive effect on sowing qualities of Vetch Hairy seeds, thus, could be proposed as a promising candidate for application in treatment pre-sowing agriculture seeds.


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Output Signal Processing Method For Fiber Bragg Grating Sensing System

Zaitsev, IO; Shpylka, A and Shpylka, N
15th International Conference on Advanced Trends in Radioelectronics, Telecommunications and Computer Engineering (TCSET)
2020 | 15TH INTERNATIONAL CONFERENCE ON ADVANCED TRENDS IN RADIOELECTRONICS, TELECOMMUNICATIONS AND COMPUTER ENGINEERING (TCSET - 2020) , pp.152-155
In paper present mathematical model of information processing information processing on Fiber Bragg Grating Sensors. A method for processing data output optical fibers with Bragg sensors with a lattice is described. The method consists in improving the noise immunity of the standard "center of mass" method through the application of the least squares method and tracking gating transform. Using the method can reduce the influence of random signals to measurement error 2-3 times and automate the measurement parameters received pulse signal from the CCD sensor of optical fiber Bragg grating sensing system.


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Elastoplastic Deformation of the Surface Layer of Machinery Constructions on Shot Blasting

Gorik, AV; Zinkovskii, AP; (...); Brikun, AN
Sep 2016 | STRENGTH OF MATERIALS 48 (5) , pp.650-657
Shot blasting results obtained on metal surfaces to be further treated by applying protective nonmetallic coatings were experimentally investigated under different process conditions. The

procedure of evaluating the elastoplastic deformation behavior of the surface layer using the experimental-analytical coefficient, which considers the elastoplastic properties of the material, is described. Results of comparing experimental and theoretical data are summarized. The grounds for a possible fracture mechanism on shot blasting of the surface layer of metal products are presented.

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Availability Model of Two-Zone Physical Security System considering Cyber Attacks and Software Update

Kharchenko, V; Ponochovnyi, Y; (...); Degtyareva, L
IEEE 11th International Conference on Dependable Systems, Services and Technologies (DESSERT) - IoT, Big Data and AI for a Safe & Secure World and Industry 4.0
2020 | 2020 IEEE 11TH INTERNATIONAL CONFERENCE ON DEPENDABLE SYSTEMS, SERVICES AND TECHNOLOGIES (DESSERT): IOT, BIG DATA AND AI FOR A SAFE & SECURE WORLD AND INDUSTRY 4.0 , pp.122-126
The article analyzes the process of functioning of physical security systems in the conditions of component failures, cyberattacks and software updates. A zonal model of physical security systems, which includes motion detection and access control subsystems, have been built. Updating the software functions of each zone, attacks on the physical component of the motion detection subsystem, and cyber attacks on the access control system have been investigated. To model software updates, a multi-fragment model, including 9 states of each fragment and program update states has been created. To study the behavior of the model while changing the input parameters, Matlab scripts have been developed. Simulation results allow to evaluate the availability function minimum value, availability function value in stationary mode, time interval for the transition of the availability function to the stationary mode.

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DEVELOPMENT OF TECHNOLOGY FOR THE HEMP STALKS PREPARATION

Sheychenko, V; Marynchenko, I; (...); Korchak, M
2019 | INDEPENDENT JOURNAL OF MANAGEMENT & PRODUCTION 10 (7) , pp.687-701
Getting high-quality trusts in modern technology for growing technical hemp is one of the most labor-intensive processes. The main factors that cause loss of quality of hemp are determined by the level of perfection of the harvesting stage of the production process. It is precisely at this stage that the basic processes of product quality management are concentrated, the main physical and technological losses are taking place. The main drawbacks of the known methods of obtaining the trusts of technical hemp include the dependence of the process of forming its qualitative indicators on weather conditions, the unevenness of the separation and strength of the fiber on the entire mass of the sent layer, the length of the technological process, which determines the quantitative loss of production.
The article presents the results of research on the development of resource-saving technology for the production of technical hemp trusts due to the addition of an outlet with improved water drains with reeds and finger-wheels and the direct effect of their constructive parameters on the quality indicators of the trust. The technology is carried out thanks to the developed unit, whose work involves operations: raking the stems with a decrease in the width of the roll by a wheel rake; rolling of the stalks by the modernized corrugated rolls with tearing off from the soil of the

stalks; loosening the tape with finger wheels. It is established that an increase in the number of mechanical effects on the hemp strap tape leads to a corresponding decrease in its mass and height. As a result of three consecutive rolling's, the height of the windrow decreases by 66%, and the weight, respectively, by 37%. Loosening reduces to 2.1 kg per linear meter weight of the roll, which is about 55% of the initial level. Under such conditions, the prerequisites for the use of the roll technology of assembly of hemp trusts have been created, which makes it possible to effectively use balers when harvesting the stems of not only seed (wide-row) crops, but also green grass ones. Techniques for obtaining a hedge trustee make it possible to reduce the time of process implementation at the initial stages of its preparation for primary processing, intensifies the process of purification due to the additional mechanical drive with improved aggregates. The short fiber obtained from the hemp trust for the technology developed meets the existing requirements.

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COMMUNICATION MANAGEMENT IN THE ASPECT OF THE FOOD INDUSTRY

Brzozowska, A; Bubel, D and Kalinichenko, A
2015 | MARKETING AND MANAGEMENT OF INNOVATIONS (4) , pp.175-186
Sectors of the food economy create systems which existence is dependent upon effective communication. Due to a turbulent market environment they need information about customers, competitors or allies in order to create a trust atmosphere that will lead to increased interest in their products or service. Internationalization and globalization of the food economy postulate new communication needs, thereby emphasizing the role of communication in dealing with the environment in which the primary source of profit become the information and methods of their identifying and sharing. The authors undertook a study which, through concentration on communication management, fills a significant gap in literature dedicated to identification of a communication system in the aspect of a supply chain and as an element of strategies of food industry enterprises.

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CONSUMER BEHAVIOR MODELING FOR FITNESS SERVICES EVALUATION

Dorokhova, L; Dorokhov, O; (...); Sirenko, O
Aug 2020 | STUDIES IN BUSINESS AND ECONOMICS 15 (2) , pp.69-84
The subject of the study was fitness services and interaction with consumers of its. It has been identified the main criteria for evaluating the fitness service by customers in process of decisions and selection of the fitness facilities for a visit. Surveys of the youth segment of fitness consumers in Kharkiv were conducted and results were processed. The fitness clubs were studied in terms of communicative components of social media marketing to improve their interaction with customers. The research goal was the development computer model for multi-criteria evaluation of fitness centers and their work from clients point of view. As a modeling methodology, we proposed use fuzzy logic. As the instrument for implementation of the model specialized software FuzzyToolBox was chosen. Originally put forward the hypothesis about the possibility, reliability, simplicity and effectiveness of such an approach to modeling of the consumer evaluation of the fitness service, was confirmed as a result of the numerical calculations for fitness clubs in Kharkiv. The developed model can be applied to thetasks of multicriteria estimation of similar services provided to the population of different categories,

such as: health-improving sports activities, outdoor activities, spa, water procedures, mass physical training, health-improving, rehabilitation gymnastics, amateur sports etc.

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Development of mobile applications of augmented reality for projects with projection drawings

Kanivets, OV; Kanivets, IM; (...); Shmelter, EO
2nd International Workshop on Augmented Reality in Education (AREdu)
2019 | PROCEEDINGS OF THE 2ND INTERNATIONAL WORKSHOP ON AUGMENTED REALITY IN EDUCATION (AREDU 2019) 2547 , pp.262-273
We conducted an analysis of the learning aids used in the study of general technical disciplines. This allowed us to draw an analogy between physical and virtual models and justify the development of a mobile application to perform tasks on a projection drawing. They showed a technique for creating mobile applications for augmented reality. The main stages of the development of an augmented reality application are shown: the development of virtual models, the establishment of the Unity3D game engine, the development of a mobile application, testing and demonstration of work. Particular attention is paid to the use of scripts to rotate and move virtual models. The in-house development of the augmented reality mobile application for accomplishing tasks on a projection drawing is presented. The created mobile application reads, recognizes marker drawings and displays the virtual model of the product on the screen of the mobile device. It has been established that the augmented reality program developed by the team of authors as a mobile pedagogical software can be used to perform tasks both with independent work of students and with the organization of classroom activities in higher education institutions.

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THE DEVELOPMENT OF MOBILE APPLICATIONS FOR AUGMENTED REALITY FOR THREE-DIMENSIONAL MODELS IN ENGINEERING GRAPHICS STUDYING

Kanivets, OV; Kanivets, IM; (...); Gorda, TM
2020 | INFORMATION TECHNOLOGIES AND LEARNING TOOLS 79 (5) , pp.213-228
The article deals with the issue on the implementation of mobile learning within the framework of the introduction of the concept of resource-based learning in higher education. Based on research analysis, it is concluded that mobile learning is interpreted as a form of resource-based learning and is considered as a system of organizational and didactic measures based on the use of mobile information and communication technologies and mobile pedagogical software tools. It is noted that one of the directions of the implementation of the concept of resource-based learning at a higher school is the development of such mobile pedagogical software tools that will increase the quality of professional training of specialists, in particular, technical specialties. The analysis of the teaching methods used during the study of general technical disciplines made it possible to draw an analogy between physical and electronic models and to substantiate the development of software for the development of spatial thinking of students of technical specialties. A methodology for creating mobile applications for augmented reality is provided, the main stages of the development of the application of the augmented reality, from the installation of the game engine to its testing and demonstration of work, are covered. Particular attention is paid to writing and justifying each line of scripts. The Augmented Reality Program mobile app for mobile devices, which implements the augmented reality, is presented. The

created mobile application scans, recognizes the marker and displays the electronic product model on the screen of the mobile device. It was found out that the program of the augmented reality can be used as a mobile pedagogical program to support both students' independent work and their classroom activity in higher education institutions.

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DEVELOPMENT TRENDS OF THE DIGITAL ECONOMY: E-BUSINESS, E-COMMERCE

Volkova, N; Kuzmuk, I; (...); Dankanych, A
Apr 30 2021 | INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND NETWORK SECURITY 21 (4) , pp.186-198
The introduction of digital technologies affects most socioeconomic processes and activities in the economy, from agriculture to public services. Even though the world is currently only in the early stages of digital transformation, the digital economy is growing rapidly, especially in developing countries. Shortly, digital platforms will be able to replace the "invisible hand" of the market and turn it into digital. Some digital platforms have already reached global reach in some sectors of the economy. The growing value of data and artificial intelligence is reflected in the high capitalization of these enterprises. Their growing role has far-reaching consequences for the organization of economic activity and integration into the field of e-business. However, their importance and level of development in different countries differ significantly.
The main purpose of this article is an assessment of the level and trends of the digital economy in the world and the identification of homogeneous groups of states following the main trends in the development of its components from among the EU countries. The methodology of the conducted research is based on the use of general scientific research methods in the analysis of secondary sources and the application of statistical methods of correlation regression and cluster analysis. Macroeconomic indicators and components of DESI (Digital Economy and Society Index) were used for the analysis. Results. Based on the analysis established that most developed countries have a medium level of digitalization of the business environment and a high level of digitalization of socially oriented public services, while countries with lower GDP focus their policies on building digital infrastructure and training qualified personnel. The study summarizes and analyzes current trends in digital technology, analyzes the level and dynamics of integration of digital technologies of the studied EU countries, the level of development of e business and e-commerce. The conceptualization of mechanisms of creation of added value in the digital economy is offered and the possible consequences of digitalization of the economy of developing countries are generalized.

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MATHEMATICAL RISK ASSESSMENT MODEL FOR BIODIESEL PRODUCTION PROJECTS IN UKRAINE AGRICULTURE

Halytskyi, O; Polenkova, M; (...); Hanziuk, S
2021 | FINANCIAL AND CREDIT ACTIVITY-PROBLEMS OF THEORY AND PRACTICE 2 (37) , pp.280-286
One of the trends in the development of the market of alternative motor fuels is the production and use of biofuels, biodiesel in particular. Biodiesel which is used by domestic farmers is mainly self-produced. The current situation is related, first of all, to the lack of a single standard (regulation) for biodiesel production technology and is not enshrined in any legal act in Ukraine. In the conditions of the market functioning, agricultural producers face various risk factors, in

particular, instability of prices for fuels and lubricants, monopolization of certain regions or market segments by traders, low quality of fuel, etc. Conditions of biodiesel production, as well as other economic activities, usually require the creation or involvement of labor, financial and material resources, which also affects the change in the level of risk. These problems can be solved by adapting and improving the existing mathematical apparatus to risk assessment for biodiesel production projects by agricultural enterprises. The main legal act that allows to determine and assess the level of risk is the state standard of Ukraine "Risk Management. Methods of general risk assessment", which served as the methodological foundation of the study. We propose to use three main technological schemes of biodiesel production, namely: cyclic scheme of production with the use of catalysts; non-catalytic cyclic circuit and multi-reactor continuous circuit scheme. In order to analyze each of these schemes, it is proposed to analyze the feasibility of investment in terms of their effectiveness and tie-in to the risks of introducing innovative technologies. The developed methodology provides a substantiation for the choice of technological option for biodiesel production. An algorithm for calculating risks has been proposed for the introduction of biodiesel production, the preparation of business plans and the assessment of criticality of possible losses for the production. The use of methods of vector algebra and fuzzy logic in the formation of the mathematical model makes it possible to estimate the probability indicators of each risk.

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Efficiency of Telematics Systems in Management of Operational Activities in Road Transport Enterprises

Miler, RK; Kisielewski, MJ; (...); Kalinichenko, A
Sep 2020 | ENERGIES 13 (18)
Enriched Cited References
Implemented in road transport enterprises (RTEs) on a large scale, telematics systems are dedicated both to the particular aspects of their operation and to the integrated fields of the total operational functioning of such entities. Hence, a research problem can be defined as the identification of their efficiency levels in the context of operational activities undertaken by RTEs (including more holistic effects, e.g., lowering fuel/energy consumption and negative environmental impacts). Current research studies refer to the efficiency of some particular modules, but there have not been any publications focused on describing the efficiency of telematics systems in a more integrated (holistic) way, due to the lack of a universal tool that could be applied to provide this type of measurement. In this paper, an attempt at filling the identified cognitive gap is presented through empirical research analysing the original matrix developed by the authors that refers to the efficiency rates of organisational activities undertaken by RTEs. The purpose of this paper is to present a tool that has been designed to provide a holistic evaluation of efficiency of telematics systems in RTE operational management. The results are presented in a form of an individual (ontogenetic) matrix of the analysed companies, for which a determinant was calculated with the use of Sarrus' rule. Obtained in such a way, the set of values identified for the determinants of the subsequent ontogenetic matrices came as an arithmetic progression that characterised the scope and the level of the influence exerted by the implemented IT (information technology) systems on the organisational efficiency of operational activities undertaken by the analysed RTEs. We present a hypothesis stating that the originally developed matrix can be viewed as a reliable tool used for comparative analysis in the field of efficiency of telematics systems in RTEs, and this hypothesis was positively verified during the research. The obtained results prove the significant potential for the wide application of the discussed matrix, which can be used as a universal tool for the analysis and comparison of efficiency indicated by the integrated IT systems in the operational activities undertaken by RTEs.

183

Routing an Unmanned Aerial Vehicle During NPP Monitoring in the Presence of an Automatic Battery Replacement Aerial System

Fesenko, H; Kliushnikov, I; (...); Odarushchenko, E
IEEE 11th International Conference on Dependable Systems, Services and Technologies (DESSERT) - IoT, Big Data and AI for a Safe & Secure World and Industry 4.0
2020 | 2020 IEEE 11TH INTERNATIONAL CONFERENCE ON DEPENDABLE SYSTEMS, SERVICES AND TECHNOLOGIES (DESSERT): IOT, BIG DATA AND AI FOR A SAFE & SECURE WORLD AND INDUSTRY 4.0 , pp.34-39
The paper is devoted to routing an unmanned aerial vehicle (UAV) during the Zaporizhzhia nuclear power plant monitoring without returning to the depot due to the deployment of an automatic battery replacement aerial system in specified places. The monitoring includes the overflight of the 11 monitoring stations to collect radiation monitoring data from them in case of damage of wired networks between the monitoring stations and the crisis centre. The shortest possible UAV route that visits every monitoring station (route point) exactly once and returns to the UAV depot is found by solving the Travelling Salesman Problem. An algorithm for determining the places for deployment of the automatic battery replacement aerial system is presented. A flight schedule both for the UAV and the automatic battery replacement aerial system is developed. The DJI Mavic 2 Enterprise Dual quadcopter is considered as a UAV for monitoring missions. The SL-231 Scout helicopter capable to operate in an unmanned mode is considered as a platform for the automatic battery replacement system.

184

Modeling of Options of Providing Entrepreneurship Entities Competitiveness on The Basis of Innovation Clusters Development

Heorhiadi, N; Farat, O; (...); Skrynkovskyy, R
34th International-Business-Information-Management-Association (IBIMA) Conference
2019 | VISION 2025: EDUCATION EXCELLENCE AND MANAGEMENT OF INNOVATIONS THROUGH SUSTAINABLE ECONOMIC COMPETITIVE ADVANTAGE , pp.7319-7323
On the basis of application of mathematical methods modeling of options of providing of innovation cluster development, which is based on decision making between absolutely alternative options of realization of strategy of development of innovation clusters is carried out in the work. The root tree of alternatives implementation at each stage of substantiation of the strategy of innovation clusters development is presented.

185

PERMEABILITY OF CERVIX AND OPTIMAL TIMING OF FERTILIZATION IN PUBERTAL GILT

Usenko, SO; Shostya, AM; (...); Bilash, SM
2018 | WORLD OF MEDICINE AND BIOLOGY 65 (3) , pp.223-226
The article highlights the results of research on the features of cervix permeability and optimal periods of fertilization in pubertal gilt. It has been established that cervical permeability increases with age of gilt and the number of reproductive cycles. The introduction of semen by

intracervical method on the third period of the estrus allows them to be fertilized at a level of 86% and receive 10.2 newborn piglets. Cervix permeability in gilt increases from the beginning of estrus for the next 24 hours. High indexes of their reproductive capacity are established at the introduction of sperm dosage in 24-36 hours after the onset of the estrus. The number of live newborn piglets is maximal when sperm is introduced into cervix pigs through 12; 24 and 30 hours after the start of the estrus. The live weight of newborn piglets is dependent on the period of the introduction of sperm into the pigs, being maximal at the start of the estrus, and in 24 and 30 hours after the introduction of sperm.

186

Role of singlet oxygen in electrochemical disinfection of water contaminated with E. coli

Barashkov, N; Sakhno, T; (...); Irgibaeva, I
Aug 20 2016 | ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY 252

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Hydrogen Dark Fermentation for Degradation of Solid and Liquid Food Waste

Hovorukha, V; Havryliuk, O; (...); Dolhanczuk-srodka, A
Apr 2021 | ENERGIES 14 (7)
Enriched Cited References
The constant increase in the amount of food waste accumulating in landfills and discharged into the water reservoirs causes environment pollution and threatens human health. Solid and liquid food wastes include fruit, vegetable, and meat residues, alcohol bard, and sewage from various food enterprises. These products contain high concentrations of biodegradable organic compounds and represent an inexpensive and renewable substrate for the hydrogen fermentation. The goal of the work was to study the efficiency of hydrogen obtaining and decomposition of solid and liquid food waste via fermentation by granular microbial preparation (GMP). The application of GMP improved the efficiency of the dark fermentation of food waste. Hydrogen yields reached 102 L/kg of solid waste and 2.3 L/L of liquid waste. The fermentation resulted in the 91-fold reduction in the weight of the solid waste, while the concentration of organics in the liquid waste decreased 3-fold. Our results demonstrated the potential of granular microbial preparations in the production of hydrogen via dark fermentation. Further development of this technology may help to clean up the environment and reduce the reliance on fossil fuels by generating green hydrogen via recycling of household and industrial organic wastes.

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Effect of cultivation method of Panicum virgatum and soil organic matter content on the biomass yield

Galytska, M; Kulyk, M; (...); Rozhko, I
2021 | ZEMDIRBYSTE-AGRICULTURE 108 (3) , pp.247-254
The relevance of the research lies in tackling an important problem: mitigating anthropogenic environmental impacts. This is achieved by using the biomass of energy crops. The article investigates the impact of sole, strip and mixed crops of switchgrass (Panicum virgatum L.) with red clover (Trifolium pratense L.) on soil organic matter (SOM) content and biomass yield. This

enables reduction of the anthropogenic load on agrophytocenoses, improves ecological production as well as increases the yield of the main component switchgrass. The objectives of this experiment were to evaluate the dynamics of the SOM content in energy crops of switchgrass and to determine the impact of SOM content on switchgrass yield. The experiment involved field trials with the introduced switchgrass cultivar 'Cave-in-Rock' during the period of 2011-2018. The experiment was aimed at determining the dynamics of SOM content, the yield level of switchgrass biomass depending on the type of sowing under the conditions of the forest-steppe. The studied factors are experimental years (2011-2018) and three switchgrass sowing methods: sole crop, strip switchgrass with red clover (strip crop) and mixed switchgrass with red clover (mixed crop). In the experiment, general and special methods were used: method of scientific research in agronomy; laboratory methods to determine SOM content and dry matter content in biomass; quantitative-weight method to establish switchgrass yield. The results of the study show that red clover in strip crops survived for 3-4 years and acting as bioherbicides in the row-spacing of switchgrass had a protective function, preventing from weeds germinating. Subsequently, legume aftereffect is observed for 2-3 years after sowing. In general, switchgrass growing in strip crop, in comparison with sole crop, provides the increase (by 0.02-0.045%) of SOM content, which results in the increase (by 0.10-0.13 kg m-2) of dry biomass yield. This is confirmed by a strong correlation between the indicators: the correlation coefficient in strip crop was $r = 0.93$, in mixed crop - $r = 0.92$ and in sole crop - $r = 0.91$ ($p < 0.05$).
Thus, the cultivation of switchgrass by the proposed methods will improve the environment and produce sustainable biomass for the production of biofuels. In the long run, this can reduce the energy dependence of the developing countries, including Ukraine.

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Application of mannan oligosaccaharides (Alltech Inc.) in waterfowl: Optimal dose and effectiveness

Kasianenko, OI; Kasianenko, SM; (...); Palii, AP
2020 | UKRAINIAN JOURNAL OF ECOLOGY 10 (3) , pp.63-68
The search for alternatives to antibiotics intensifies the use of effective, natural, safe and economical means of protecting the macroorganism from the action of pathogenic microflora. In vitro experiments have established the ability of 0.1-0.4% of mannan oligosaccharides (Alltech Inc.) to adsorb isolates of E. coli O-2 and enterobacteria (P. vulgaris, K. pneumonia, C. diversus) with the most active process occurring with 0.4% solution. Introduction of mannan oligosaccharides (Alltech Inc.) in amount 4 kg/t into the diet of ducklings provides regulation of intestinal microbiocenosis based on a decrease in the concentration of pathogenic microorganisms and an increase in the concentration of lacto- and bifidobacteria ($p<0.05$). The immunomodulatory and growth-stimulating effect of mannan oligosaccharides (Alltech Inc.) has been proved by increasing the bactericidal activity of serum by 34.85% ($p< 0.05$), lysozyme activity of serum - by 33.82% ($p<0.05$), phagocytic index - by 32.81% ($p<0.05$), phagocytic number - by 28.37% ($p<0.05$); increase in poultry survival by 9.0%, pre-slaughter live weight - by 14.3% and meat yield - by 4.8%.

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Dependability Assessment for SCADA System Considering Usage of Cloud Resources

Ivanchenko, O; Kharchenko, V; (...); Kabak, L

IEEE 11th International Conference on Dependable Systems, Services and Technologies (DESSERT) - IoT, Big Data and AI for a Safe & Secure World and Industry 4.0
2020 | 2020 IEEE 11TH INTERNATIONAL CONFERENCE ON DEPENDABLE SYSTEMS, SERVICES AND TECHNOLOGIES (DESSERT): IOT, BIG DATA AND AI FOR A SAFE & SECURE WORLD AND INDUSTRY 4.0 , pp.13-17
Supervisory Control and Data Acquisition (SCADA) system is one the most significant cyber-oriented components of management circuit for any complex hierarchical infrastructure. The effectiveness and performance of the SCADA system depends on a number of relevant factors including a possibility to utilize additional cloud resources. Of particular note, the cloud services can apply in order to create concurrent redundant system for implementation of disaster recovery feature of SCADA information resources during different deliberate malicious impacts and intrusions. However, in spite of the fact that usage of the cloud services allow to enhance functionality of SCADA system, there are dependability and cybersecurity aspects for their joint utilization hat keep to remain a serious challenge for service personnel and users. In this paper, authors propose to employ analytical and stochastic modelling in order to get a numerical dependability assessment for SCADA system with realization of the cloud resourcing support considering influence of diverse negative factors. Furthermore, developers can utilize these modelling results in order to perform justification of overall functional requirements of the SCADA system.

191

Aggregation-Induced Emission in Organic Nanoparticles: Properties and Applications: a Review

Granchak, VM; Sakhno, TV; (...); Kuchmy, SY
Jul 2018 | THEORETICAL AND EXPERIMENTAL CHEMISTRY 54 (3) , pp.147-177
Data on the aggregation-induced emission (AIE) of organic nanoparticles are summarized. The mechanisms for the appearance of AIE in nanoparticles with a wide variety of molecular structure including hydrocarbons, compounds with heteroatoms, and organometallic complexes as well as the major factors determining the efficiency of luminescence in the solid state are examined. Applied aspects of the use of AIE are discussed.

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Mollusks (Gastropoda) as Intermediate Hosts of Cattles' Trematodes (Trematoda) in Conditions of Dnipro Basin's Small Ponds (Northern Ukraine)

Feshchenko, DV; Bakhur, TI; (...); Melnychuk, VV
2019 | ACTA VETERINARIA EURASIA 45 (1) , pp.16-21
The article presents the data on distribution and defeat of gastropod mollusks by parasitic trematodes in biotopes of small reservoirs (rivers, lakes and swamps) of the Dnipro basin of northern regions of Ukraine. During the 2016-2017 years, at the following areas were collected and identified: Lymnaea (L.) stagnalis (Linnaeus, 1758); L. truncatula (Muller, 1774); Planorbis (P.) corneus (Linnaeus, 1758); P. planorbis (Linnaeus, 1758); Viviparus contectus (Millet, 1813); Valvata piscinalis (Muller, 1774) and Succinea pfeifferi (Rossmassler, 1834). The microscopic study of the mollusks' liver allowed us to detect the presence of pathogens of cattle trematodoses inside a certain number of the snails - Fasciola hepatica (Linnaeus, 1758) and Paramphistomum sp. (Fischoeder, 1901). At biotopes of small rivers, 8.3% of mollusks L. truncatula species, 23.5% of L. stagnalis and 5.7% of P. corneus were affected. At lakes and swamps, the number of affected L. truncatula was 36.3%, and L. stagnalis - 13.7%. It was determined the defeat of

ruminants with fasciolosis and paramfistomatoses in designated regions. It testifies to the formation of sustainable natural foci of these invasions.

193

Research of the photobiological safety of led lamps and luminaires for general lighting

Shpak, S; Kozhushko, G; (...); Pitiakov, O
2020 | UKRAINIAN METROLOGICAL JOURNAL (4) , pp.29-35
The paper analyzes the methods of assessing the photobiological safety of LED light sources according to international standards. It provides information on test equipment for determining the spectral composition of radiation and photometric parameters on the basis of which LED products are classified by risk groups of blue light. LED lamps and luminaires for general lighting in various spheres including household, public and office premises, outdoor lighting, etc. are studied. The level of danger of blue light is assessed at a distance at which the illuminance of 500 lux is formed, as well as at a distance of 200 mm (the most unfavorable conditions) according to the recommendations of international standards IEC 62471, IEC/TR 62471-2 and IEC/TR 62778. The results of the study of certain industrial samples of LED lamps and luminaires available on the Ukrainian market are presented.

It is shown that the vast majority of LED products for general lighting have photometric parameters that do not exceed the group of insignificant risk RG1. All studied lamps in which low-power LEDs and bulbs with light scattering coating are used belong to the general group RGO (no risk). Luminaires with low-power and medium-power LEDs, that have diffuse light diffusers, also correspond to the risk group RGO. Only luminaires with bright small-sized LEDs that don't have the light diffusers (angular size less than 11 d) exceed the limits of the RG1 low-risk group. The number of such lamps does not exceed 10% of the studied products. At a distance at which an illumination of 500 lux is formed, the danger of blue light does not exceed the RG1 group. When the photobiological safety of blue light was measured from a distance of 200 mm, part of the luminaires with RGO were moved to the group RG1, and luminaires from the group RG1 were moved to the group RG2. For luminaires belonging to the group RG2, the limit distances at which the luminaires still belong to the group RG1 were calculated.

It was noted that a set of test equipment for determining the spectral composition of radiation and photometric parameters, as well as the software used to process the measurement results, significantly increases the productivity of assessing the photobiological safety of LED products. It was proposed that regulatory documents and catalogs for LED lamps and luminaires should declare the maximum luminance of these lamps.

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THE SYNTHESIS OF PLANT GROWTH STIMULATORS BY PHYTOPATHOGENIC BACTERIA AS FACTOR OF PATHOGENICITY

Dankevych, L; Leonova, N; (...); Wlodarczyk, B
2018 | APPLIED ECOLOGY AND ENVIRONMENTAL RESEARCH 16 (2) , pp.1581-1593
The environmental changes significantly influence the microorganisms and affect their properties, leading them to take uncharacteristic ecological niches. This study has focused on the ability of phytopathogenic bacteria that belongs to the genera Pseudomonas, Curtobacterium, Ralstonia, Pantoea and Xanthomonas, which are able to cause various diseases of legumes, to

produce extracellular phytohormones with stimulatory action in vitro. The qualitative and quantitative composition of extracellular auxins and cytokinins has been determined by spectrodensitometric thin-layer chromatography. This research revealed that the synthesis of plant growth promoting phytohormones that are agents of different plant bacterial disease, play an important role in their pathogenicity and ecological plasticity. In particular, it has been established that the level of auxins synthesis by the studied bacteria, which cause diseases of legumes, correlates directly with their pathogenic properties. Also, a clear connection between the pathways of interaction with plant and the amount and spectrum of synthesized auxins and cytokinins has been revealed.

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MANAGEMENT OF SMALL BUSINESS ENTITIES

Portovaras, T; Harbar, Z; (...); Samoilyk, I
May 2020 | INDEPENDENT JOURNAL OF MANAGEMENT & PRODUCTION 11 (8) , pp.680-694
The purpose of the study is to identify the factors influencing the management of the activity of small businesses and to provide recommendations for its development through the resolution of crisis issues that prevent businesses from achieving strategic prospects and stable profits. The main factors for reducing the effectiveness of small businesses have been identified on the basis of the results of the questionnaire survey of one level of managers (small business directors), which should be taken into account in the formation of strategic management decisions and long-term development strategies. It is found that many of the factors are subject to managerial influence, which minimizes the negative impact on the performance of small business entities. The hypothesis that the main tool for stimulating small business development remains the state has confirmed with the help of research, but there is an urgent objective need to identify other factors that influence the activities of small businesses that impede their development and lead to closure. The study suggests that only a balance between the internal environment of small businesses and the regulatory framework of the state will allow them to work effectively in market conditions and provide the national economy with money.
The authors present a position on the organization of a small business entity management system that reflects the links between processes and events in a market environment. The presented approach takes into account a number of elements of influence on a small business when forecasting its development in a strategic perspective. The results of the study showed that it is necessary to clearly identify the tasks at each stage of development of a small business entity, to form alternative models of its development by looking for ways to optimize activities and opportunities to avoid possible risks.

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TECHNOLOGY OF DIETARY SUPPLEMENTS FROM WALNUTS

Tiurikoya, IS; Peresichnyi, MI; (...); Budnik, NV
2020 | JOURNAL OF CHEMISTRY AND TECHNOLOGIES 28 (1) , pp.51-60
Aim. To develop technology for dietary supplements made from walnuts to increase the biological value of beverages. Methods. The state of plant cells of the nut residue after extraction with various extractants was determined with a help of histological and chemical analysis. Microphotography of the areas selected for illustrations using a Biorex-3 VM-500T microscope with a DCM 900 digital microphotometer with software adapted for these studies was performed. The Statistical V. 6.0 program was used for mathematical processing of experimental

results. The study of quality indicators of dietary supplements was carried out with a use of standard methods. Results. The expediency of using walnuts as a dietary Supplement for beverages is justified. The parameters of extraction (duration, hydromodule) of biologically active substances from fruits of milk-wax ripeness and pericarp of a ripe nut were studied. The selection of extractants was confirmed by histological studies of the plant cell of the raw material after extraction. A basic technological scheme for preparing extracts has been developed. Physical and chemical parameters of dietary supplements made from walnuts were studied. Conclusions. The introduction of the proposed technology will expand the range of natural dietary supplements and beverages with their use of increased biological value. The consumption of beverages in the daily diet will help to improve overall health of people and improve their quality of life.

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MANAGEMENT OF EFFICIENCY OF THE ENERGY AND RESOURCE SAVING INNOVATIVE PROJECTS AT THE PROCESSING ENTERPRISES

Zos-Kior, M; Hnatenko, I; (...); Rubezhanska, V
2020 | MANAGEMENT THEORY AND STUDIES FOR RURAL BUSINESS AND INFRASTRUCTURE DEVELOPMENT 42 (4) , pp.502-513
Introduction and optimization of the use of the energy and resource saving innovations in the production process of enterprises is one of the main conditions ensuring stable development of the economy of any country. Due to the high level of consumption of fuel, energy raw and auxiliary materials, the introduction of these innovations is relevant for processing plants. At the same time, management of the energy and resource saving innovations at these enterprises is complicated by the lack of investment in the processing industry as a whole, low efficiency of use of the enterprise own financial resources and high level of the credit risk inherent in the innovation projects. In this regard, the aim of the article is to develop a methodology for evaluating the economic efficiency of innovative energy and resource saving projects. To achieve this goal, the following research methods were used: system analysis, economic and mathematical modeling, abstract and logical method. The proposed as a result of the study method of assessing economic efficiency of innovative projects on the energy and resource saving can be used in the process of integrated management of the energy and resource saving innovations at the processing plants by implementing basic standards of resource management taking into account possible risks.

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Analysis of country's competitiveness factors based on inter-state rating comparisons

Shmygo, N; Galtsova, O; (...); Arsawan, IWE
International Conference on Sustainability Science and Management - Advanced Technology in Environmental Research (CORECT-IJJSS)
2020 | INTERNATIONAL CONFERENCE ON SUSTAINABILITY SCIENCE AND MANAGEMENT: ADVANCED TECHNOLOGY IN ENVIRONMENTAL RESEARCH (CORECT-IJJSS 2019) 153
Within the framework of the research was conducted an analysis of the modem level and problems of development of competitiveness, taking into account various aspects and system of advantages. In the article it was proved that despite the wide elucidation of the conceptual apparatus, methodological bases and ways of ensuring the competitive advantages of the

respective objects of research, single, generalized point of view on this subject today doesn't exist. It was done the analysis of the factors that ensure the country's competitiveness on the basis of interstate rating comparisons, which made it possible to organize the factors according to the degree of influence by the Pareto's method and to determine priority directions of state development.

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Globalization-induced changes in higher education management in Ukraine

Markina, IA; Chykurkova, AD; (...); Dobrenko, IA
Sep 9 2019 | INTERNATIONAL JOURNAL OF EDUCATIONAL MANAGEMENT 33 (6) , pp.1291-1302
Purpose The purpose of this paper is to identify the features of higher education management in the context of global economic transformations. Design/methodology/approach A correlation-regression analysis of the functionality of the modern education system was carried out in the "personality-society-economy" triad by analyzing the impact of global indices such as Economic Quality Index, Personal Freedom Index and Social Capital Index on the resultant indicator, or the Education Index. Findings It was determined that the impact of economic factors on the level of education is rather low, and at the same time, this indicator largely depends on the indicator of the social capital. In this regard, the following social trends have been identified that need to be implemented for the successful education management: expanding the population education program, as well as providing lifelong education, ensuring equal access to quality education, strengthening the role of the state in ensuring equity in education, efficient and effective use of education costs, humanization and democratization of education, updating the content, forms, methods and means of training, enhancing the professional competence of teachers, transparency of education systems, the formation of state-public forms of education management. Originality/value In the framework of the proposed research, it was established the hypothesis that the modern education system is dependent on the relation between individual, society and the national economy.

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Commercial Biogas Plants: Lessons for Ukraine

Havrysh, V; Kalinichenko, A; (...); Olejarz, T
May 2020 | ENERGIES 13 (10)
Ukraine has enough biomass resources for biogas production. However, this energy potential is not used sufficiently. This research is aimed at examining the current experience of commercial biogas systems in the Europe Union and its adaptation for Ukraine. Special attention was paid to economic indicators, such as specific investment costs, production costs (biogas, biomethane, and electricity), and incentives. Using statistical data for the European Union and Ukraine, the biogas potential for Ukraine (based on European experience) was determined. The economic competitiveness of biogas production was evaluated compared to alternatives, such as photovoltaic, wind power, biomass, conventional fuels, and liquid biofuels. The results showed that biogas complexes have higher specific investment costs and produce more expensive electricity. It was highlighted that agricultural residues and industrial waste are sustainable feedstocks for biogas systems. A perspective biogas plant is a plant that is an integrated part of the circular bioeconomy that is based on organic residues. Biomethane production (as a substitution for vehicle fuel) combined with capture and utilization of carbon dioxide is a more profitable pathway. Awareness and perception of the importance of biogas are key factors for the

development of the biogas industry. To develop an effective strategy for the biogas industry, it is necessary to create a positive image in order to raise awareness and knowledge of biogas technologies.

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The Algorithm of a Game-Based System in the Relation between an Operator and a Technical Object in Management of E-Commerce Logistics Processes with the Use of Machine Learning

Miler, RK; Kuriata, A; (...); Kalinichenko, A
Aug 2021 | SENSORS 21 (15)
Enriched Cited References
Machine learning (ML) is applied in various logistic processes utilizing innovative techniques (e.g., the use of drones for automated delivery in e-commerce). Early challenges showed the insufficient drones' steering capacity and cognitive gap related to the lack of theoretical foundation for controlling algorithms. The aim of this paper is to present a game-based algorithm of controlling behaviours in the relation between an operator (OP) and a technical object (TO), based on the assumption that the game is logistics-oriented and the algorithm is to support ML applied in e-commerce optimization management. Algebraic methods, including matrices, Lagrange functions, systems of differential equations, and set-theoretic notation, have been used as the main tools. The outcome is a model of a game-based optimization process in a two-element logistics system and an algorithm applied to find optimal steering strategies. The algorithm has been initially verified with the use of simulation based on a Bayesian network (BN) and a structured set of possible strategies (OP/TO) calculated with the use of QGeNie Modeller, finally prepared for Python. It has been proved the algorithm at this stage has no deadlocks and unforeseen loops and is ready to be challenged with the original big set of learning data from a drone-operating company (as the next stage of the planned research).

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World informatization in conditions of international globalization: factors of influence

Babenko, V; Perevozova, I; (...); Mykolenko, I
2019 | GLOBAL JOURNAL OF ENVIRONMENTAL SCIENCE AND MANAGEMENT-GJESM 5 , pp.172-179
The level of information today is decisive in the socio-economic development of the country. The purpose of the article is to identify the most influential factors in the process of developing informatization in the context of international globalization. The assessment of factors influencing world information is based on the following stages: forming incoming information about the state of world information, a methodical approach to assessing the impact of world information, modeling the interrelation of components, the influence of world information as hidden factors in the development of information. Factor and correlation analyses are carried out within each cluster with a single level of information by groups of countries. Based on the calculation of factor loads, the most influential indicators have been determined, which serve as the basis for the formation of the informatization process mechanism in the countries of each cluster group. Accordingly, for example, from Innovations and Improvement Factors the major ones were only for second cluster: Government efficiency and Efficiency of goods market and for third cluster was Global Competitiveness Index. The study allowed to determine the main priorities for the development of information in the context of clusters, formed in accordance

with the level of information development in the country of each group. Interpretation of the results allowed determining the most influential factors in the development of informatization of the countries of each group, which is the basis for forming recommendations on organizational measures to increase the level of informatization in the context of international globalization. (C) 2019 GJESM. All rights reserved.

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The effectiveness of EC policies to move freight from road to rail: Evidence from CEE grain markets

Pittman, R; Jandova, M; (...); Paleta, T
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The European Commission adopted in 1991 a policy of encouraging the substitution of motor carrier haulage of freight with rail and water carrier haulage, as part of its "green" agenda of reducing fuel consumption, emission of pollutants, carbon intensity, and road congestion. Regarding railway freight in particular, one policy tool that the Commission has emphasized for this purpose is the restructuring of the rail sectors of member countries through the creation of competition for the incumbents by new train-operating companies (TOC's) - seemingly a less obvious policy choice than alternatives such as Pigouvian taxation measures or infrastructure subsidies. This paper focuses on one important commodity group - grain - in three EC member states and one non-member state - Poland, the Czech Republic, Slovakia, and Ukraine - to examine what appear to be the binding constraints to increases in rail's share. Such constraints seem more closely related to shortages in infrastructure capacity than to a lack of competition among TOC's. Our findings suggest that a policy focused more directly on infrastructure investment - whether an increase in subsidies or alternative strategies for attracting private investment into infrastructure, including alternative reform models - will be required if the current constraints binding rail's share are to be relaxed.

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MULTIPLE SYSTEM OF INNOVATION-INVESTMENT DECISIONS ADOPTION WITH SYNERGETIC APPROACH USAGE

Khalatur, S; Khaminich, S; (...); Karamushka, O
Jun 2020 | ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES 7 (4) , pp.2745-2763
The purpose of the article was to comprehensively study and systematize knowledge about the essence, sources of origin and evaluation of synergistic effect in integration processes of national economy in order to build a conceptual scheme of its receipt in the implementation of integration interaction. The conducted research has shown that, a multi-level system of making innovative investment decisions using a synergistic approach is necessary to identify and build up a positive synergistic effect from the combination and interaction of assets and sources of fmancing, evaluation of the end results of such interaction, cooperation of labor, integration of industries, production integration. For example, the fmancing of the banking system of the agrarian sector of the Ukrainian economy was considered. The practical significance of the research is that the scientific developments will enable the formation of an effectively functioning agro-industrial complex in Ukraine with optimal financing based on the use of a multi-level system of making innovative investment decisions using a synergistic approach. Further studies are in the field of studying the system-forming factors and patterns of behavior of economic systems in terms of restoring the synergy potential.

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EVALUATION OF BIOGAS PRODUCTION AND USAGE POTENTIAL

Kalinichenko, A; Havrysh, V and Perebyynis, V
Sep 2016 | ECOLOGICAL CHEMISTRY AND ENGINEERING S-CHEMIA I INZYNIERIA EKOLOGICZNA S 23 (3) , pp.387-400
The aim of the research is the development of theoretical and methodical bases for determining the feasibility of plant raw materials growing for its further bioconversion into energy resources and technological materials to maximize profit from business activities. Monograph, statistics, modelling and abstract logical methods have been used during the research. Directions of biogas usage have been examined. Biogas yields from different crops have been analyzed. It has been determined that high methane yields can be provided from root crops, grain crops, and several green forage plants. So, forage beet and maize can provide more than 5,500 m3 of biogas per hectare. Attention is paid to the use of by-products of biogas plants, especially carbon dioxide. Carbon dioxide is an important commodity and can increase profitability of biogas plant operating. It can be used for different purposes (food industry, chemical industry, medicine, fumigation, etc). The most important parameters of the biogas upgrading technologies have been analyzed. If output of an upgrade module is more than 500 nm(3)/h, investment costs of different available technologies are almost equal. According to experts, it is economically feasible to use anaerobic digestion biogas systems to upgrade biomethane provided their performance is equivalent to 3,000 litres of diesel fuel per day. The economic and mathematical models have been suggested to determine the feasibility of growing plant materials to maximize the gross profit. The target function is the maximum gross income from biogas utilization. It has the following limitations: annual production of biogas, consumption of electricity, heat and motor fuels. The mathematical model takes into account both meeting own requirement and selling surplus energy resources and co-products including carbon dioxide. In case of diesel fuel substitution, an ignition dose of diesel fuels has been considered. The algorithm for making a decision on construction of a biogas plant has been offered.

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Morphological and ecological peculiarities of checker tree mountain ash (Torminalis glaberrima) plants and biochemical composition of its fruits

Moskalets, TZ; Vovkohon, AH; (...); Verheles, PN
2020 | REGULATORY MECHANISMS IN BIOSYSTEMS 11 (3) , pp.405-413
The selection and comparative study of new forms of the Red Book species checker tree mountain ash (Torminalis glaberrima (Gand.) Sennikov & Kurtto) were conducted on the basis of generalizing the literary data and expeditionary research on the natural and local gene pool of the above-mentioned plant Information was presented about the peculiarities of the selection and valuable forms of the checker tree concerning the indices of vitality and morphology in the Central, South-Western, and Western Forest-Steppe of Ukraine. These forms appeared to be characterized by high vigour (over 30-40 cm), large size and mass of the fruits (1.7-2.4 g), their increased nutritional value, high ecological plasticity and omamentality (crown shape, leaf colouration and shades during the growing season) Taking into consideration the ornamental characteristics, the selected forms are rather promising in landscape construction and phytodesign as complementary elements of oak-beech, oak-hornbeam and other species associations, as well as green corridors of the ecological network. This will contribute to the restoration and preservation of this rare species, thus facilitating restoration, spreading and conservation of this rare species, thereby increasing the stability of ecosystem components,

squares, alleys, nature-conservation territories and enhancing the aesthetic qualities of the gardens when establishing harmonious landscape compositions. The fruits of T. glaberrima are characterized as raw material for processing and manufacturing of medicinal preparations and food products. The biochemical analysis of the checker tree mountain ash benies has shown that they are characterized by high content of a number of biologically active substances: polyphenolic compounds, flavonoids, vitamin C. The wide use of the checker tree will enable the food and pharmaceutical markets to be supplied with medicinal and fruit raw material by its introduction into new cultivation conditions, namely: into industrial and ornamental horticulture, forestry. The new genotypes of T. glabenima were selected and are planned to be transferred to the National Centre for the Plant Genetic Resources of Ukraine. That will make it possible to replenish the genetic bank of Ukraine with representatives of the species, which are promising in fruit growing and ornamental horticulture, forestry and nature conservation.

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APPLICATION OF PROJECT MANAGEMENT: LEAN TECHNOLOGIES AND SAVING MANUFACTURING (ASPECTS OF MANAGEMENT AND PUBLIC ADMINISTRATION)

Kulinich, T; Berezina, L; (...); Huriievska, V
May 30 2021 | INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND NETWORK SECURITY 21 (5) , pp.57-68
Successfully adapting to digital and customer-oriented transformation, the concept of lean manufacturing professes the philosophy of creating greater benefit while minimizing losses. These losses are operations that do not add value in the production process to ensure the efficiency, flexibility, and profitability of projects. In the context of broad automation and digitalization of all sectors of the economy, mechanisms for combining automation technologies and lean production are becoming available. Moreover, when it comes to the efficient use of financial, human, or material resources, it is clear that the use of Industry 4.0 technologies can be an effective tool for achieving the goals of lean production, as many of them pursue the same goal. In this context, this article aims to study the effectiveness of the implementation of project management concepts at the global level and identify the main factors influencing its effectiveness to ensure the achievement of lean production through LEAN technologies and Industry 4.0 technologies. To achieve this goal, several statistical indicators were selected and several statistical methods of analysis were used: pairwise correlation, regression analysis, methods of comparison, synthesis, and generalization. Statistical analysis was conducted according to a survey conducted by the Project Management Institute (PMI) in 2020. An economic-mathematical model of dependence of project effectiveness in different regions of the world on the level of implementation of project management approaches is built, which shows that the increase in project effectiveness by 85% is due to financial losses, technical training, and consumer orientation. These results allow project managers to develop appropriate strategies to improve project management approaches at all levels. It is established that LEAN technologies and technologies of Industry 4.0 have several tools that have a positive effect on minimizing losses following the concept of lean production. Besides, given that the technology of Industry 4.0 is focused on the automation of Lean Production technology, a mechanism for the introduction of lean production using these technologies and methods.

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Development of Students' Research Activity During Studying at Higher Education Institutions

Bessarab, A; Sadivnychyi, V; (...); Tainel, E
2021 | ESTUDIOS DE ECONOMIA APLICADA 39 (5)
The study is devoted to the development of activities for the development of research activities of students in the learning process in universities. The authors analysed the essence of students' research activities, identified the main tasks of students' research activities and formed a hypothesis that the development of students' research activities in the process of studying at a university will be useful and will be reflected in the dynamics of their creative self-development if it is carried out within the framework of the research development program as a joint activity of a teacher and a student. The authors proposed a model for the development of research activities of students in the learning process, and empirically tested its effect, which confirmed the hypothesis. However, during the experimental phase, some limiting factors were identified.

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THE ROLE OF CHRONIC GASTRITIS AMONG PRECANCEROUS DISEASES OF THE STOMACH

Kharchenko, AV; Cherno, VS; (...); Myronenko, SG
2020 | WORLD OF MEDICINE AND BIOLOGY 73 (3) , pp.238-242
The purpose of the study is to statistically analyze the condition of the gastric mucosa affected by Helicobacter pylori in young people engaged in sports. Studies of chronic gastritis type B in student volunteers involved in sports. In 92% of cases, chronic gastritis were Helicobacter pylori-associated. Between the degree of contamination of the mucous membrane of Helicobacter pylori and the degree of leukocyte infiltration of the mucous membrane, the Pearson correlation coefficient r(xy) is 0.935, the correlation is very strong, the determination coefficient is D=r(xy)(2)-0.874, the critical value of the correlation coefficient with a probability of 0.95-0.2732, the critical value of the correlation coefficient with a probability of 0.99-0.3511, comparing the correlation coefficient r(xy) with a critical r(cr) value for a significance of 0.95-r(xy) >r(cr), comparing the correlation coefficient r(xy) with a critical r(cr) value for a significance of 0.99-r(xy circle)>r(cr) to the covariance coefficient is 521.641, this makes it possible to conclude a statistically significant dependence with a probability of 0.99. Thus, chronic atrophic Helicobacter pylori-associated gastritis is a common disease of young people engaged in sports, and is central among precancerous diseases of the stomach.

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FORMATION OF CROP YIELDS OF ENERGY CROPS DEPENDING ON THE SOIL AND WEATHER CONDITIONS

Korenko, M; Bulgakov, V; (...); Matusekova, E
Mar 2021 | ACTA TECHNOLOGICA AGRICULTURAE 24 (1) , pp.41-47
The article presented discusses the need to use plant biomass made of energy crops grown in marginal soils as an alternative energy source. Variability of biometric indicators of the plant vegetative parts (productivity elements) was experimentally established: stem quantity per area unit and stem height depending on the soil and weather conditions. Based on the five-year research, there was observed a significant influence of soil and climatic growing conditions (average daily air temperature; rainfall; soil fertility) on formation of crop energy productivity. Results showed that the variability of stem density and height; dry phytomass productivity of millet switchgrass and giant miscanthus during observed years depended on the studied factors. Correlation-regression analysis proved and characterized the influence of soil and climatic conditions during the growing season of energy crops on the yield of dry phytomass of millet

switchgrass and giant miscanthus in the central part of the Ukraine forest-steppe. The impact proportion share of weather conditions and plant productivity elements on the level of energy crops yields was calculated.

211

Minimization of Soil Pollution as a Result of the Use of Encapsulated Mineral Fertilizers

Vakal, S; Yanovska, A; (...); Malovanyy, M
Jan 2021 | JOURNAL OF ECOLOGICAL ENGINEERING 22 (1) , pp.221-230
The application of nitrogen fertilizers allows increasing crop yields and partially increase the natural soil fertility. They have a negative influence on the environment due to the significant release of nitrogen. Hence, the technology for decreasing the N-release is proposed in this work. Obtaining of complex organo-mineral NPK fertilizers by encapsulating a carbamide granule with a phosphate-potassium shell with humates is the main aim of this work. The main tasks of this shell is slow release of the nitrogen and phosphate nutrients from the granules into the soil following the agrochemical needs of plants and prevention of soil pollution. The powdered components agglomeration of phosphate and potassium fertilizers with a small amount of liquid phase (plasticizer) allows forming a phosphate-containing coating on a carbamide core by means of the semi-dry method. This innovation allows organizing the production of such a product at the average enterprise with less capital investment. Carbamide prills, phosphate-glauconite concentrate, calcium and potassium ballast humate, and "Avatar" trace-element chelate complex were used in experimental studies. A preliminary assessment of the market prospects for such an innovation shows a high level of market attractiveness for all market participants: producers, consumers, and society.

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Local Green Power Supply Plants Based on Alcohol Regenerative Gas Turbines: Economic and Environmental Aspects

Cherednichenko, O; Havrysh, V; (...); Nakonieczny, J
May 2020 | ENERGIES 13 (9)
Growing economies need green and renewable energy. Their financial development can reduce energy consumption (through energy-efficient technologies) and replace fossil fuels with renewable ones. Gas turbine engines are widely used in transport and industry. To improve their economic attractiveness and to reduce harmful emissions, including greenhouse gases, alternative fuels and waste heat recovery technologies can be used. A promising direction is the use of alcohol and thermo-chemical recuperation. The purpose of this study is to estimate the economic efficiency and carbon dioxide emissions of an alcohol-fueled regenerative gas turbine engine with thermo-chemical recuperation. The carbon dioxide emissions have been determined using engine efficiency, fuel properties, as well as life cycle analysis. The engine efficiency was maximized by varying the water/alcohol ratio. To evaluate steam fuel reforming for a certain engine, a conversion performance factor has been suggested. At the optimal water/methanol ratio of 3.075 this technology can increase efficiency by 4% and reduce tank-to-wake emission by 80%. In the last 6 months of 2019, methanol prices were promising for power and cogeneration plants in remote locations. The policy recommendation is that local authorities should pay attention to alcohol fuel and advanced turbines to curb the adverse effects of burning petroleum fuel on economic growth and the environment.

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Species composition of microbiota of cows udder and raw milk quality at mastitis

Palii, AP; Ulko, YS; (...); Paliy, AP
2020 | UKRAINIAN JOURNAL OF ECOLOGY 10 (4) , pp.78-85
To increase the productivity of cows and improve the nutritional and sanitary-technological qualities of milk is one of the most important tasks in the development of dairy farming in all countries of the world. The cause of degradation of these parameters is such a widespread disease of cows as mastitis. The social significance of mastitis is manifested in the fact that the causative agents of mastitis in cows can cause disease in humans. Since streptococci and staphylococci play a leading role in mastitis, they are the most common in milk. Studies have shown that udder disease in cows with mastitis at the beginning of lactation has a certain seasonal nature and its main peaks occur in March-May and September-November. During these months, from 2.5% to 4.1% of cows from the total number of livestock of the farm were found to have mastitis. Physiochemical features of milk from the cows with mastitis were an increase in the number of somatic cells to 1,500,000/cm(3), increase of milk pH to 7.3, caused by the breakdown of milk proteins into ammonia, the increase in milk electrical conductivity to 5.92-7.54 mS/cm, associated with the entry of sodium and chlorine ions from the blood into the milk. In studies of cows with mastitis, 16 species of bacteria were isolated from the secretion of the udder. In monoculture, the microflora, that was found in 30.5% of cows, consisted of E. coli, St. epidermidis, C. freundi, Sh. Dysentery, St. aureus, St. hyicus spp. Chromogenes, Str. Agalactiae, St. lentus, and St. intermediate. In 69.5% of cows with mastitis, the microflora was found in various associations. The most common associations of bacteria were St. epidermidis + St. aureus + Str. agalactiae + Str. haemolyticus; E. coli + Str. agalactiae; Str. agalactiae + St. epidermidis; St. epidermidis + St. aureus + Str. agalactiae. We developed a method for diagnosing mastitis in cows, which was to diagnose the disease at early stage of inflammation of the mammary glands by studying the composition of the milk the examined lobe of the udder.

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Life Cycle Energy Consumption and Carbon Dioxide Emissions of Agricultural Residue Feedstock for Bioenergy

Havrysh, V; Kalinichenko, A; (...); Stebila, J
Mar 2021 | APPLIED SCIENCES-BASEL 11 (5)
The depletion of fossil fuels and climate change concerns are drivers for the development and expansion of bioenergy. Promoting biomass is vital to move civilization toward a low-carbon economy. To meet European Union targets, it is required to increase the use of agricultural residues (including straw) for power generation. Using agricultural residues without accounting for their energy consumed and carbon dioxide emissions distorts the energy and environmental balance, and their analysis is the purpose of this study. In this paper, a life cycle analysis method is applied. The allocation of carbon dioxide emissions and energy inputs in the crop production by allocating between a product (grain) and a byproduct (straw) is modeled. Selected crop yield and the residue-to-crop ratio impact on the above indicators are investigated. We reveal that straw formation can consume between 30% and 70% of the total energy inputs and, therefore, emits relative carbon dioxide emissions. For cereal crops, this energy can be up to 40% of the lower heating value of straw. Energy and environmental indicators of a straw return-to-field technology and straw power generation systems are examined.

215

Effect of colostral bacterial contamination on the calves

Palii, AP; Rodionova, KO; (...); Honcharenko, HO
2020 | UKRAINIAN JOURNAL OF ECOLOGY 10 (3) , pp.76-+
The first hours and days of a calf's life are the most crucial. During this period they adapt to the new living conditions. The newborned calf demand specific protective antibodies and it can receive them only with colostrum. Colostrum is the ultimate nutrition for a calf in the first period of life. It has all necessary nutrients and contains much more protein (5 times higher), minerals (2 times) and vitamins A and D (5 times) than milk. Colostrum contains a large number of immune bodies that protect the newborn's organism from pathogens of contagious diseases. We assessed the bacterial contamination of cow colostrum and its effect on the calves. We established that the level of bacterial contamination of colostrum, selected under proper conditions with the observance of the rules and its subsequent storage at a temperature of 18 +/- 2 degrees C in the frozen state was reduced by 300-1200 times. At the same time, the number of psychrophilic microorganisms increased by 8.5 times on the 30th day of incubation. We also proved that the level of psychrophilic microorganisms in freshly milked colostrum up to 5,000 CFU/cm(3) can be considered an important veterinary and hygienic standard of quality and safety, which characterized the suitability of colostrum for cooling and storage. The application of the electrogram of the calf's intestine revealed the effect of untimely intake of colostrum - when not receiving a portion for 1.5-2 hours and 2.5 hours.

216

Operating value and economic efficiency of Large White breed sows

Khalak, V; Gutyj, B; (...); Kuzmenko, L
2020 | UKRAINIAN JOURNAL OF ECOLOGY 10 (4) , pp.122-126
The article deals with the reproductive qualities of Large White breed sows of Hungarian origin and their operational value. We also determined they economic efficiency. The experimental part of the research was conducted in agricultural formations of Dnipro region (AALLC "Druzhba-Kaznachejivka", Ltd. "Vidrodzhennja") and livestock laboratories of the State establishment Institute of Grain Crops NAAS. Evaluation of sows on the main indicators of the level of adaptation and reproductive qualities was performed taking into account the following quantitative characteristics: life expectancy, months, duration of breeding use, farrowing was obtained, total piglets were obtained, heads, live piglets were obtained, heads, fertility of heads, nest masst at the time of weaning at the age of 28 days (kg), preservation (%), duration of between farrowing period, days, number of unproductive days per farrowing. It is defined that sows of Large White breed of the controlled herd on the main indicators of reproductive qualities (fertility, head; nest mass at the time of weaning at the age of 28 days, kg) meet the minimum requirements of class I and elite class. A significant difference between the groups of animals of the categories "high operational value" and "low operational value" was defined by indicators "life expectancy, months" (29.9 months, td = 13.71), "duration of breeding use, months" (29.6 months, td = 14.50), "farrowings were obtained" (5.7 farrowings, td = 14.50), "total piglets were obtained, heads" (70.5, heads, td = 13.85), "obtained live piglets, heads" (67.7 heads, td = 20.83), "fertility, heads " (3.3 heads, td = 10.31), nest mass at the time of weaning at the age of 28 days (6.5 kg, td = 2.55). Coefficients of phenotypic consolidation of signs of reproductive qualities in sows of different operational value ranged from -0.785 to +0.856. The maximum supplement in additional products on the indicator "nest mass at the time of weaning at the age of 28 days, kg" was obtained from sows of the category "high operational value" - 6.03%.

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Managing the Competitiveness of Innovation Clusters

Sviatoslav, K; Olexandra, F; (...); Yelizaveta, T
35th International-Business-Information-Management-Association Conference (IBIMA)
2020 | EDUCATION EXCELLENCE AND INNOVATION MANAGEMENT: A 2025 VISION TO SUSTAIN ECONOMIC DEVELOPMENT DURING GLOBAL CHALLENGES , pp.1257-1262
Innovative clusters are considered as a dynamic environment in the competitiveness management system. It is proved that this environment creates certain competitive advantages for business entities. Based on the results of the study, the sources of innovative clusters competitiveness are identified and grouped by factors of direct and indirect impact. It is proved that some of them have a particularly significant impact on certain stages of forming and developing innovative clusters. The presented results form a theoretical basis for modeling the competitiveness management system of innovative clusters in order to determine the vectors of its improvement in the future.

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Test of antimicrobial activity of morpholine 2-(5-(3-fluorophenyl) -4-amino-1,2,4-triazol-3-ilthio) acetate (BKP-115) by experimental model of pancreatitis in rats

Bigdan, OA; Parchenko, VV; (...); Guta, ZA
2020 | UKRAINIAN JOURNAL OF ECOLOGY 10 (3) , pp.201-207
The purpose of this research was to study the anti-inflammatory properties of morpholine 2-(5-(3-fluorophenyl) -4-amino-1,2,4-triazol-3-ylthio) acetate (BKP-115) in intramuscular and intragastric introduction on the model of experimental pancreatitis in rats. Determination of the anti-inflammatory activity of the substance morpholine 2- (5- (3-fluorophenyl)-4-amino-1,2,4-triazol-3-ylthio) acetate was performed on 68 male rats with a starting weight of 180-200 g, which were kept in standard vivarium conditions. Since the main chain of pathogenesis of AP is the activation and influence of proteolytic enzymes of the pancreas, the toxic-infectious model was chosen - the introduction of trypsin into the tissue of the pancreas. The introduction of trypsin in animals resulted in pancreatitis with endogenous intoxication, inflammation of the tissue of the pancreas and violation of the liver functional state. As a result, one animal died in the positive control group. Prophylactic i/g and i/v injection of the BKP-115 substance contributed to a significant reduction in the content of MAW (molecules of average weight) and CIM (circulating immune complexes) in animals from control and intact groups, indicated a decrease in the level of endogenous intoxication and detoxification properties of tested substance. The highest effectiveness of BKP-115 was registered after intragastric injection. Animals from this group had similar parameters with animals injected by "Contryven" and from intact control. Intramuscular injection of BKP-115 had therapeutic effect on experimental pancreatitis and endogenous intoxication, but it was less effective after intragastric injection and had weaker efficiency than "Contryven".

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Forticept (R) innovative products' effectiveness for complex udder hygiene

Shevchenko, AN; Feshchenko, DV; (...); Melnychuk, VV

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The quality of cow's milk and the spread of mastitis greatly depend on the level of udder hygiene. Our author's research was conducted to evaluate the effects of Forticept (R) Udder Wash and Forticept (R) Udder Forte, used before and after milking. on the treatment and prevention of subclinical mastitis and hyperkeratosis of cows' udders. A total of 6880 milk samples were taken from 430 cows, 3-4 years old, 470-490 kg weight, at 60 +/- 15 days of lactation. The therapeutic efficacy coefficient (EC) of Forticept (R) polymers based on benzetonium and benzalkonium chloride. against the subclinical form of mastitis was 73.8% compared to iodine-containing agents; preventive EC - 32.4%. Dipping hygiene of the udder using Forticept (R) on the 30th day reduced the number of 1-3 stage teat hyperkeratosis cases from 78.8% to 41.3%. Also, during this period, a significant (P<0.05) improvement in the chemical parameters of the milk was observed - an increase in fat (up to 3.94 +/- 0.08%), protein (3.35 +/- 0.07%), casein (3.15 +/- 0.09%) and dry matter (14.91 +/- 0.28%). After using Forticept (R). the total bacteria count (TBC) of the milk decreased to 3 x 10(5) CFU/cm(3). and the somatic cell count (SCC) - to 130 thousandkm 3 (P<0.05). Test day milk yield (TDMY) increased by 1.15% due to efficient dipping with Forticept (R) (P<0.05).

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Management of Energy and Resource - Saving Innovation Projects at Agri-Food Enterprises

Semenov, A; Kuksa, I; (...); Rubezhanska, V
May 2021 | TEM JOURNAL-TECHNOLOGY EDUCATION MANAGEMENT INFORMATICS 10 (2) , pp.751-756
The concept of innovative projects and effective management of modern enterprises in the world of agri-food sector requires a comprehensive adaptation of the management system to ensure energy and resource consumption in order to achieve competitiveness of enterprises. Since market economy tendencies encourage the spread of active policy of all resources types saving, one of the directions of which is energy and resource-saving strategy for the development of any socially oriented business entity. In this regard, the purpose of the study is to economically model the process of assessing the dynamics of financing measures for the development and implementation of innovative energy and resource-saving projects in the agri-food sector. Based on the construction of the above model, the main directions of management of innovative energy and resource-saving projects at agricultural enterprises are formulated.

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Didactic model of information and communication competence formation of future specialists of economic

Kononets, N; Baliuk, V; (...); Shkola, O
2021 | JOURNAL FOR EDUCATORS TEACHERS AND TRAINERS 12 (4) , pp.170-181
In the higher economics education faces a principally new task - the creation of an integrative model of formation of future specialists in economics, who possess the skills of using the information and communication technologies, operating in a digital economy as well as displaying professional mobility. Therefore, the context of digital transformation of the Ukrainian society calls for the improvement of professional training of future specialists of economic profile in the university educational environment; their personal and professional formation and creation of information and communication competence acquires special importance. The authors have revealed and experimentally tested the effectiveness of the didactic

conditions of the formation of information and communication competence of future economic professionals in the educational environment of the university: 1) creation of electronic educational resources; 2) introduction of the training studio "Digital technologies in the work of an economist"; 3) complex pedagogical influence by means of coaching. The didactic model of formation of information and communication competence of future economists in the educational environment of the university is developed and scientifically substantiated, as incorporating the following structural blocks: motivational-target, information-content, operational-effective and diagnostic-effective. It is experimentally proven that the implementation of certain didactic conditions has positively affected the effectiveness of the formation of information and communication competence of future economic professionals in the educational environment of the university.

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Overcoming Poverty and Social Inequality in Third World Countries (Latin America, Africa)

Drobotya, Y; Baldzhy, M; (...); Kulinich, T

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The relevance of the research is due to the fact that the issue of poverty is one of the most acute social problems of the beginning of the third millennium. The phenomenon of poverty is widespread in third world countries as well as it is observed in relatively developed countries. Poverty rates in Latin America are threatening. Consequently, the issue of social and economic inequality in these countries has become extremely acute. The purpose of the research: to identify the causes of poverty and social inequality and substantiate the main directions of poverty reduction in third world countries. The research methods: comparative analysis; index method; systematization; grouping; generalization. Results. The classification of the causes of poverty has been carried out and the directions of its overcoming in the countries of Latin America on groups of indicators have been defined, namely: 1) political; 2) economic; 3) demographic; 4) regional-geographical; 5) social; 6) qualification; 7) personal. Based on the Net Domestic Product indicator, a comparison of economic indicators of the studied countries has been carried out. It has been revealed that from 1990 to 2018 income inequality increased in 52 of 119 countries studied, and decreased in 57 states. Inequality has increased in the world's most populous countries, particularly China and India. In general, countries with growing inequality are home to more than two-thirds (71%) of the world's population. Trends in the distribution of income in the world have been investigated by applying the Gini index, the high level of which is observed in Latin America (Colombia 48,9%, Panama 46,1%, Chile and Mexico 45,9%). The forecast of the impact of the Covid-19 pandemic on this issue has been outlined; the ways of its impact on the economies of the countries have been studied. As a result of the study, the main directions and mechanisms of the strategy for poverty reduction and social inequality in the third world countries have been identified. The implementation of the poverty reduction strategy presented in this academic paper may have a positive impact on the economic situation of the population of Latin American countries.

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ECONOMIC MECHANISM OF OPTIMIZING THE INNOVATION INVESTMENT PROGRAM OF THE DEVELOPMENT OF AGRO-INDUSTRIAL PRODUCTION

Brockova, K; Rossokha, V; (...); Rubezhanska, V
Mar 2021 | MANAGEMENT THEORY AND STUDIES FOR RURAL BUSINESS AND INFRASTRUCTURE DEVELOPMENT 43 (1) , pp.129-136
The progressive activity of agro-industrial production in the context of imperfect competition, turbulence of the environment and unexpected market challenges in the agro-industrial market because of spread of COVID-19 should be ensured by the most effective selection of the optimal innovation and investment program. Such program must be adapted to the realities of today, provide effective innovation projects and financial resources for their implementation support. This can be achieved due to the formation of a comprehensive innovation and investment program for multidirectional projects taking into account the required amount of money at all stages of risky innovative activities implementation. In this regard, the aim of the article is to conceptualize the implementation of the innovation and investment program in the activities of agro-industrial enterprises using an adaptive model of the optimal selection of the most effective projects or diversification of existing ones and planning their intrusion into the consumer market by choosing the optimal financial strategy for innovation support. To achieve the aim, the following methods were used: observation, system analysis, economic and mathematical and experimental modeling, abstract-logical and graphical method. The economic and mathematical model developed by the authors can be used in the practical activity of agro-industrial enterprises. This model enables to determine a promising strategy of innovative development and form the target programs for their financial support under conditions of limited resources and market changes in agriculture.

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Methods of multi-criteria evaluation of economic efficiency of investment projects

Isai, O; Romashko, O; (...); Rubezhanska, V
2021 | JOURNAL OF PROJECT MANAGEMENT 6 (2) , pp.93-98
In the context of globalization and fierce competition in world markets, the high level of investment activity in the country is a key to economic and innovative development. The high level of wear and tear of fixed assets in developing countries gives special relevance to solving the problem of attracting investments for production development. Hence, for the investment management system choosing an optimal variant among several available investment projects is one of the most responsible stages of ensuring the stable operation and sustainable development of an enterprise. In this regard, the aim of the article is to develop a comprehensive multi-criteria approach to choose the best investment option. The article analyzes the existing methodological approaches to assess the economic efficiency of the investment projects, identifies their advantages and disadvantages. A multi-criteria method of investment project evaluation is proposed, which is characterized by the absence of restrictions on the number of individual evaluation indicators and the possibility for the investor to determine the significance of every indicator using weights independently. The use of the proposed methodology by enterprises will improve the quality of management decisions at the stage of choosing the optimal investment option. (c) 2021 by the authors; licensee Growing Science, Canada

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Validation of novel food safety climate components and assessment of their indicators in Central and Eastern European food industry

Tomasevic, I; Kovacevic, DB; (...); Djekic, I

Nov 2020 | FOOD CONTROL 117

Important insight into the Central and Eastern European food industry, beyond traditional food safety (FS) management and reflects on its food safety climate or the human route of its food safety culture is provided. Novel FS climate self-assessment tool was developed and validated by 65 FS experts from governmental agencies, third party certification bodies, food sector associations, universities and food industry. Three original FS climate components: FS knowledge, business priorities and FS legislation, were introduced and their nine components were assessed in nine Central and Eastern European countries involving 470 food companies. FS knowledge was better assessed in big and medium sized than in small companies. Knowledge component was equally assessed as good, irrespective of the FS risk profile of the food company surveyed while certified FS management system was charted by higher FS knowledge scores within a same food company. Business priorities in Central and Eastern European food organizations were related to hygiene and food safety and were always put before profit regardless of the company size. Hygiene and food safety were seen equality as a critical business success factor irrespective of the associated level of riskiness. FS climate legislation component in all food organizations surveyed was assessed affirmatively. Central and Eastern European food companies seemed to avoid problems in cooperation and trust between food safety leaders and other employees, since they have perceived FS climate highly and similarly. EU operating food companies had comparable overall FS climate to non-EU companies mostly because they have equally perceived their business priorities and appropriateness of associated FS legislation. The only exception was the FS knowledge that was better assessed in EU than non-EU food enterprises.

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Covid-19 pandemic effects on food safety - Multi-country survey study

Djekic, I; Nikolic, A; (...); Tomasevic, I

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This study provides an important insight into the response of food safety systems during the first months of the pandemic, elevating the perspective of preventing Covid-19 within conventional food safety management systems. A multi-country survey was conducted in 16 countries involving 825 food companies. Based on the results of the survey, it is obvious that the level of maturity of a food safety system in place is the main trigger in classifying companies and their responses to the pandemic challenge.

Staff awareness and hygiene are the two most important attributes in combating Covid-19, opposed to temperature checking of workers in food establishment and health protocols from the World Health Organization, recognized as attributes with limited salience and importance. Companies confirmed implementation of more restrictive hygiene procedures during the pandemic and the need for purchasing more additional personal protective equipment. Retailers were identified as the food supply chain link mostly affected by the pandemic opposed to food storage facilities ranked as least affected. During this challenging period, all companies declared that food safety has not been compromised at any moment. It is important to note that less than a half of the food companies had documented any emergency plans associated with pandemics and health issues in place.