

AGRICULTURE. PLANT CULTIVATION

Tishchenko V. N., Batashova M. E., Shapochka O. M. Indirect methods of selection in winter wheat breeding on basis of genetic correlations // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 7–10.

With the aim to improved breeding process for productivity, correlations among yield and a number of traits and indexes in 170 winter wheat lines have been investigated. For searching the most effective methods of estimating accessions we have used comparison of genetic and ecological correlations variability. The application of such indexes as attraction index (weight of spike, g/weight of stem, g), microdistribution index (weight of grains in spike, g/weight of spike chaff) and poltavskiy index (weight of grains in spike, g/apical internode length, sm) in indirect selection on the early winter wheat breeding will provide effective breeding for high spike productivity. The obtained results indicate at the variability of traits and indexes depending on the genotype, homo- or heterozygote state. For increasing the efficiency of selection it is very important to find phenotype correlations where the genetic component is directed one way and the ecological is opposite or near zero. Correlation coefficients increased under the influence of limiting environment factors and decreased in comfortable conditions for growth and development of winter wheat plants.

Kramaryov S. M., Artemenko S. F., Pisarenko P. V. Effective elements of technology of cultivation of soybeans in the northern steppes conditions // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 11–15.

Inoculation and incrustation of seeds in technology every culture is important. Treatment of inoculum promising strains of nitrogen-fixing bacteria positive influence on the potential productivity of nitrogen fixation and consequently the harvest of this crop. On the plots, where the seeds of inoculation were treated strains 46 and a, the number of nodules on the same plant grew 3.3 times, and their weight in 2 times. These crops are formed maximum area leaves 39.0–40.0 thousand m²/ha) that was beyond the control plots 17.8–20.8 %. The number of beans increased by 11.7–17.4 %. Pre-sowing seed inoculation azotfiksatsii strains of root nodule bacteria X9; a; 46 have provided the best conditions for nitrogen fixation and high seed productivity of soy. The yield of soybean seeds, which produced the pre-sowing treatment of seeds per-looking strains of nitrogen-fixing bacteria, increased by 11.9–15.2 %.

Incrustation of seeds with foaming agent Mars EL and drug Antistress, which contains potassium phosphate, together with molybdenum and boron put additional field germination rate is 10.8–11.8 percent. The use of these drugs was provided by the formation of a greater height of soybean 9.6–14.2 % and the number of nitrogen-fixing nodules increased by 26.3–39.5 %. Soybean crops have formed a large area of assimilating leaf surface by 26.7 % with the use of the drug antistress at the incrustation of seeds, and together with complexions metals molybdenum and boron this figure increased to 53.5 %. The best yield of 2.18 t/ha, formed soybean crops using for incrustation of inoculum preparation Antistress (200 g/t) of complexions and metals molybdenum and boron (100 g/t each) and the crickets granilit (2.5 l/t).

Konoplya N. I., Masliev S. V. Influence of treatment of soil on the water-physical indexes of its fertility and productivity of pischevy'kh subspecieses of corn // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 16–19.

The results of long-term experiments of influence of basic treatment of soil are resulted, in particular turn and bezotval'noy ploughing on 22–24 see and shallow treatment of soil on 10–12 see in combination with tothree doposevnymi cultivating on the dynamics of supplies of productive moisture and water-resistant aggregates, its structure, by volume mass and hardness. The productivity of ears of saccharine and grain of bursting corn is rotined.

Boyko P. I., Kovalenko N. P., Opara N. N. Effective different term crop rotations are in modern agriculture // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 20–32.

Strategy of improvement and innovation of structure of sowing areas and scientifically reasonable crop rotations is considered taking into account ground-climatic terms and specialization of economies. It is set that high-performance and environmentally sound different term: shot term 3–4–5-fields and long term 6–10-fields grain, grain-growing, grain-par-growing, cultivated, forage crop rotations with the wide limits of satiation grain, technical and forage crops. It is discovered that the effect of crop rotation rises for the increase of variety of agricultural cultures and length of rotary press, that it is needed to take into account at development of projects of organization of the use of land for providing of еколого-економічного ground of crop rotations and organization of lands, their composition and maintenance.

Pisarenko P. V., Dichenko O. Yu. Simultaneous (synchronous) changes the dynamics of pests of sugar beet in the central forest-steppe of Ukraine // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 33–35.

The data, simultaneous outbreaks of many species of harmful insects, including some pests of sugar beet in the Central forest-Steppe of Ukraine. Confirmed that to predict the onset of regular population cycles of winter Cutworm, Cutworm-gamma, cabbage moths, meadow moth and beet weevil usual it is advisable to use the drastic changes in solar activity. It is established that the beginning of the next mass outbreaks of these pests in the Central forest-Steppe of Ukraine took place in 90–93 % of the cases analysed, which gives the possibility to predict the trends of mass breeding in the future.

Ridei N. M., Kucherenko Yu. A. Structural and functional features of the agricultural components // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 36–45.

The analysis of methodological and regulatory support structural and functional features of the agrosphere and characterizes its constituents, namely: territorial-spatial, territorial-administrative, natural and environmental, social, and environmental (ecological-providing); reveals the essence of the concepts of «agrosfera», «agroecosystem», «social ecosystem», «rural territory», «settlements», «terrain», «human settlements»; analyzed the economic functions countryside (villages).

Tanchik S. P., Salnikov S. M. The impact of farming systems in the dynamics of indicators of soil fertility in agrofytosenose sugar beet // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 46–49.

The research influence of farming systems in the main indicators of soil fertility and productivity of sugar beet. Held statistically-mathematical analysis of the obtained data, and proved the high correlation between soil reaction and content of humus, during the growing season in agrofytosenoses sugar beet. It is established that the application of ecological and biological farming systems, which provide for the use of organic fertilizers and by-products, has a positive effect on the reaction of soil solution that helps improve soil fertility.

Kulyk M. I. Formation switchgrass yield the third vegetation year // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 50–55.

The results of these studies suggest that the formation of yield biomass of switchgrass – the raw material for the production of biofuels depends on the variety and weather conditions, as well as the technology of cultivation. The quantitative parameters of vegetative terrestrial mass and yield of dry

biomass of the culture in the context of varieties assigned to the study area at different supply plants. Installed share of influence of the investigated factors on the productivity of the elements (plant height and number of stems per unit area) and effects on the yield of dry biomass of switchgrass varieties: Cave-in-Rock, Carthage and Foresburg.

Kurtsev V. A. Agrometeorological basis of the sowing terms for winter rape in the steppe zone of Ukraine // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 56–60.

The researches have established that a significant loss of plants of winter rape in winter caused a number of factors: the excessive development of the shoots in the autumn, the lack of well-developed root system and so on. In this regard, much attention should be paid to the terms of sowing of a crop. From this point of view, the best period of sowing is considered to be that, which will ensure the optimal growth of plants during the autumn vegetation. A choice of a term of sowing should be individualized for both a zone of growing and for growing conditions of each specific farm. A basis of the acceptance of a decision should be a long-term monitoring of a temperature, a frequency, an amount and a nature of precipitations, both in a pre-sowing period and during the emergence of the shoots and development of the plants, dates of a stopping of a vegetation of plants. The most optimal terms of sowing of winter rape in the Steppe zone of Ukraine is the time from August 25 to September 5, the optimal permissible – from August 20 to September 10. The date of maximum permissible threshold of optimal term of sowing of winter rape is September 5–10. The limitative factor in this range is the presence of moisture in the soil and loss of effective rainfall in this period.

Sitar O. V., Novitska N. V. The content of biologically active substances phenolic nature of the seeds of soybean (*Glycine max* (L.) Merr.) for the actions of ionic colloidal solutions of metal nanoparticles // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 61–66.

The effect of processing soybean seeds by solutions of metals nanoparticles on the content leucoanthocyanins, isoflavones, polyphenols and tannins in the seeds of soybeans has been investigated. Positive effect in increasing content of leucoanthocyanins, isoflavone-sand polyphenols in soybean seeds after seed treatment by solutions of metals nanoparticles based on silver, molybdenum, manganese and iron was recorded. In particular, pre-treatment of non-ionic colloidal solutions of metal nanoparticles on the basis of silver, molybdenum, manganese and iron content boosted leucoanthocyanins, isoflavone content increased on average by 30 % relative to control.

AGRICULTURE. ANIMAL HUSBANDRY

Polishchuk A. A., Bulavkina N. P. Rape: pro and con // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 67–70.

The results of the analysis of literature and information sources for use in feeding of agricultural animals of rape seeds and products of its processing oil – cake, meal and vegetable oil at the present stage. Defined their positive and negative sides. It is determined, that feeding of animals can be used as rape seeds and products of its processing – cake, sunflower and rapeseed oil. Harmful substances in rape seeds – glucosinolate and erukova acid – limit the widespread use of feeds from rapeseed in animal feeding. The level of these substances in the seeds of Uribe widely and depends on the varieties of rapeseed. Kanalov (00) spring rapeseed varieties do not contain antipovna substances. Rape animal feed feed is limited and only in the composition of the feed.

Myronenko O. I. Some components of chyme and their metabolism in the piglets' body // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 71–76.

The peculiarities of the digestive system in piglets after weaning, justified the use of certain non-conventional feed additives in the diets of pigs. The dynamics of the mineral elements (calcium, phos-

phorous, potassium, sodium, iron) and their metabolism in the gastrointestinal tract of pigs by the action of certain feed additives. The results of studies of dry feed additives mineral concentrate, Liprot and Echinacea purpurea in terms of their influence on the contents of the stomach empty and ileum.

Yaremich N. V. Implementation of reproductive ability of female mink of scandinavian type selection depending on the nutritional status // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 77–81.

A study of the reproductive parameters of female mink of different genotypes of Scandinavian selection based on their level of nutritional status at the time of the pairing season. For groups of mink of Scanglow and Pearl genotype maximum values recorded in female fertility index fatness was 23–25, and for the animals of Scanblack color type the figure was maximum under condition of increase of fatness index to 26–28. It was determined that the increase of fatness index for animals such as the Scandinavian brown color is correlated with decline in the proportion of stillbirths kits, and for pearl mink is typical increasing the size of the nest with a decreasing of the nutritional status of females.

VETERINARY MEDICINE

Jacubtchak O. M., Obstat S. B., Mycovos B. M., Karpulenko M. S., Havrylenko O. S. An analysis of epizooticheskoy situation of infectious diseases of pigs in Ukraine // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 82–85.

The article analyzed the statistical data in comparative historical aspect of Veterinary reporting in Ukraine of infectious diseases of pigs in period from 1999 by 2013. The most common diseases in Ukraine is colibacillosis, salmonellosis and leptospirosis, that require application preventive measures. The high intensity of epizootic process of infectious diseases was revealed and characterized of a common incidence is more than 1% and of epizootic index, that varies between 0,62–1,00. The analyzed data indicate about danger aforementioned diseases and the need for a detailed study of the characteristics of their occurrence.

Ponomar S. I., Kruchynenko O. V. Warning damages mixed infestations cows caused fasciola, paramfistoma and dikrotseliya // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 86–88.

The results of the impact of mixed infestations caused fasciolas, paramfistoma and dikrotseliya and

dairy efficiency of cows. Found that mixed infestation paramfistoma and dikrotseliya and causes significant economic damage to farming, is 860 UAH. During the four months of lactation production of the cows were treatment by trematozol above 276 kg, 10 % albendazol ultra 222 kg compared with cows of the control group. As a result of treatment with albendazole and cows trematozolom 10 % prevent economic damage in the economy amounted to 1281,4 UAH.

Yevstafieva V. A. Efficiency of the flotation coproovoscopical intravital diagnostic methods of protozooses and nematodoses of pigs // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 89–91.

The results determine the species composition of parasites of pigs in the Poltava region (Poltava, Dykanka, Karlivka areas) and the efficiency of flotation methods of diagnosis. Because coproovoscopical studies established pathogens helminths (askarosis, ezofahostomosis, tryhurosis) and protozooses (eymerioses, balantidiiasis). Flotation method using bishofit and method of the Kotelnikov-Khrenov showed high efficiency in

ANNOTATIONS

diagnosis askarosis, ezophagostomosis, eymerioses and balantidiosis respectively.

Tsvilikhovskiy M. I., Bereza V. I., Nemova T. V., Yakymchuk O. M. Limit factors and the pathology of animals of antenatal and postnatal development // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 92–94.

Shows the interaction of limit factors and their role in the occurrence of pathologies in antenatal and postnatal periods of animals. Established that the level of environmental factors that are beyond the minimum or maximum values leading to different types disorders in animal organism. Environmental factors influence on animals not separately but comprehensively in different ratios. Established that antenatal pathology of animals is a negative effect of «non-environmental activity» of people in livestock.

Tsvilikhovskiy M. I., Golopura S. I. Correction of content of total protein and urea in serum of blood of newborn calves during the formation period of colostrum immunity // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 95–97.

In this article the results of application of experimental liposomal macrocapsular preparation based on soyabean lecithin for correction of indexes of content of general protein and urea in the serum of blood of newborn calves in the formation period of colostrum immunity are provided. It is shown that use of the drug per os newborn calves for 15–20 minutes before feeding them colostrum provides the predominance of catabolic anabolic processes, prevention of occurrence digestive disorders and improves detoxification mechanisms in these animals.

Lokes P. I., Kravchenko S. O., Lokes-Krupka T. P. The state of metabolism of bilirubin in domestic dogs and cats at hepatitis // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 98–100.

It was found that in dogs and cats with hepatitis pigment function of liver is disturbed. There is a violation of dynamic equilibrium between formation, conjugation and excretion of bilirubin. In dogs with acute hepatitis the number of total

bilirubin increased to 5.0, conjugated – at 13.1 times; more disturbed allocation of conjugated form of pigment. In cats, the content of total bilirubin increased to 10.5 times and equally disturbed synthesis dyglucuronide of bilirubin and its excretion.

Tsvilikhovskiy M. I., Lokes-Krupka T. P. The enzyme activity in blood serum of domestic cats suffering from hepatolipidos during treatment // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 101–103.

The article contains results of researches of domestic cats different ages and gender, suffering from hepatolipidosis in the treatment process. The following scheme of treatment comprising diet and pharmacotherapy. As a result, of complex treatment in cats of both groups we noted positive changes of general condition. This is confirmed by biochemical changes in the spectrum of animal blood. Decreased activity of ALT, AST in serum, both in animals first and second group (the first group – 23.3 and 20.6 %, second group – 19.1 and 16.3 %, respectively). The activity of ALP in serum decreased in animals first and second groups by 24.8 and 19.2 %, respectively. The same tendency was observed on the activity of GGT, which in the serum of cats first group decreased by 25.4 %, and the second – by 28.4 %.

Mikhaylyutenko S. M. Posthumous diagnostics of amidostomozu of ganders // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 104–105.

The literary information about the existing methods of post-mortem diagnostics of the gastrointestinal tract of bird is induced, their deficiencies are represented. Is proposed the improved method post-mortem of diagnostics of amidostomomum in geese, which includes detection nematode under the cuticle of muscular stomach with the subsequent determination of the intensity of invasion. It is determined, that the improved method ensures the retention of the integrity of helminths, furthermore convenient in the use in the case of the significant necrosis in the cuticle of the muscular stomach of geese.

ECONOMICS

Lozinska T. M., Chagovets' O. V. Increase of competition firmness of agricultural enterprises by their diversification // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 106–110.

Actuality analyzing readiness farms to diversify in order to improve their competitive sustainability is substantiated. Tendencies of development of agricultural markets and established motives

diversification of agricultural enterprises are discovered. Shows the effects of three-dimensional morphological classification method to detect the state of readiness of enterprises to diversify. Characterized the content of cause-effect relationships that arise from a combination of business processes with different parameters. The attention to subjectivity farms in the diversification.

ANNOTATIONS

Pisarenko V. P. The introduction of e-government in Ukraine // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 111–115.

This article deals with the implementation of e-government in Ukraine's integration into the European Union and the issue of his creation of space which is of particular relevance. The paper analyzes regulatory provisions relating to electronic documentation, digital signature, e-governance. Reduced foreign experience in implementing e-government and public access to information networks of power and capabilities of the population in decision-making to local communities. Formed conclusions that the emergence of new information and communication technologies has given reason to talk about the new telecommunications revolution.

Tyukhtiy M. V., Ponomarenko O. G. Production costs: conceptual aspects of domestic and international experience in accounting reflection // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 116–119.

Full recognition, distribution and registration reflection overhead cost has a direct impact on the reliability of the determination of cost, which correlates with indicators of enterprise performance. Methodological difficulties for practicing accountant is the process of attributing overhead costs to fixed and variable, since this division in some situations a conventional signs. The same applies to the determination of "normal capacity". Domestic and foreign research and development of the abovementioned issues relating primarily base choosing the optimal allocation of overhead costs. Research conducted towards comparative analysis of different options cost allocation bases and their adaptation to the specific manufacturing process in specific sectors of the economy. Attention is also provided technical approaches include overheads in cost of sales in terms of its definition of the norms P (S) BU 16 «absorption cost» and according to popular in developed foreign countries approach «direct-costing», as well as in light of the requirements of the tax legislation.

Plaksienko V. Ja., Gladilina T. V. Scientifically-organizational aspects of charge formation on organization the state testing sorts of winter wheat // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 120–126.

In the article, forming of structure of expenses is certain on conducting State сортоиспытания sorts of wheat by a winter crop in selection and research establishments (on the base of selection center PGAA), the legal providing of conducting is studied

State сортоиспытания sorts of plants in Ukraine with the purpose of diagnosing and perfection of ways of forming of expenses on creation of sort with the use of innovative methods selections of winter wheat, influencing on unloading of selection process in space and time, on diminishing of expenses of selection process, increase of scientific and technical level of production of grain, effective use of of high quality vegetable resources of selection establishments.

Dorogan'-Pysarenko L. O. Labour payment of civil servants: organizational registration aspect // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 127–131.

The article highlights the current state of civil service pay. Analysis of the experience of foreign countries in the public service. A system of payment to settle civil servants by restructuring their income. The necessity of unification of the difference in salaries and wages of employees of various levels of government. The basic directions of perfection of the civil servants and their pay.

Lytvyn O. Y., Panchenko O. P. The economics ideas of ancient Egypt's manuscript «The preaching Akhtoy son Duaufa to one's own son Pyopy» // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 132–134.

The principal economics ideas of ancient Egypt's manuscript «The preaching Akhtoy son Duaufa to one's own son Pyopy» are considered in the article. The article analyses some publications by Ukrainian and Russian researchers, historians and publicists dedicated to study of this problem.

Mats T. P., Levchenko S. M. Organization of audit in the sphere of administrative informational systems // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 135–138.

Generalized and systematic approach of local scientists and foreign scientists on the organization of the audit. The definition of audit based on the analysis of the main components of organizational performance that is based on management information systems and technologies. Taking into account the specific features of the audit, its types and purposes of implementation, we proposed components of the audit process. In this case, the internal and external processes related to the organization of the audit can be implemented by various electronic means.

Karpenko N. G. Usage of game forms in the study of discipline «Control and revision in budgetary and financial establishments» // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 139–141.

Introduction of interactive teaching methods in professional disciplines enables to change the attitude to learning object, turning it into a subject. The student becomes a co-author lectures, seminars, etc. In the article the procedure for applying interactive forms of education for the education in the students such qualities of the future specialist that facilitate the implementation of their tasks, the development of complex analytical, forecasting, innovation and organizational communication skills.

Chip L. O. Features of investment climate in Ukraine // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 142–146.

The features of the main problems of the investment climate in Ukraine, its crucial importance to the promotion of the dynamics of socio-economic development and upgrades on this basis of the national economy. The main features and trends of investment processes in Ukraine and ways of improving the state policy in the field of investment, as well as measures to improve the legal framework in the field of investment. The attention is focused on the fact that Ukraine is dominated by negative assessments of the investment climate, because domestic investment is not enough to provide high long-term trend, and the rate of foreign direct investment – investment as a stimulant – slowed considerably. Necessity, that at the present stage of development of the economy, foreign direct investment is an integral part of its normal operation. Highlight the fundamental importance of investment for a clear outline tion of national interests, taking into account effects of the geopolitical environment.

Samojlik M. S. Management resource-ecological safety at regional level // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 147–154.

In the articles worked out SWOT-analysis of factors of existent control functioning system by resource-ecological safety (RES) and a regional to the cluster case of RES frame is formed, that can be realized for two cases: opening of innovative-investment potential of secondary material and power resources; creation of productive clusters ecological that is determined by the productive specific of regions. Conceptual principles of cluster politics of management of resource-ecological safety are worked out in a region, the algorithm of realization of that includes: preparatory, analytical, organizationally-economic the stages and efficiency estimation of cluster activity that envisages development of scenario of long-term development of cluster also, including prognoses of functioning

on separate directions, forming of estimation methodology of cluster efficiency from the point of effects sinergistical view and contribution to strategy of region development in relation to providing RES.

Chayka T. O. Causes and mechanisms of provision of economic incentives to improve soil fertility // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 155–158.

In this paper the necessity of improving soil fertility through the definition of their critical state is proved, which is associated with the development of erosive processes, increase of acidity and reduction of humus. Problem questions on designing of crop rotation are identified as an effective measure to restore soil fertility. The practice on maintenance of quality of soil and crop rotations in different EU member states is presented. The necessity of introduction of economic incentives for improvement of agro-ecological condition of farmlands is substantiated, which is based on the methods of monetary valuation of the land. The necessity of carrying out laboratory tests to determine soil quality is proved.

Nezdoyminoga E. E. Order of forming and using of reserves for credit risks in banks of Ukraine // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 159–163.

Basic tendencies are investigational in realization of activeoperations bank institutions. Essence of credit risk, external and internal factors of influence is certain on him. Classification of credit to the brief-case bank is consideredand the categories of credit operations after the level of credit risk and corresponding norms of withholdings are to reserve under the credit risks of banks of Ukraine. The order of forming and drawing on reserves is reflected under the credit risks of banks of Ukraine. Generalized basic methods of adjusting of credit risks.

Mykhailyn V. I. Efficiency of fertilizing in the technology of red cabbage growing // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 164–166.

Localization of fertilizing and strengthen optimization of mineral nutrition through the use of micronutrients, providing increased yields when grown red cabbage on irrigated black soils on the left – Forest-steppe of Ukraine. The greatest economic effect provides locally application $N_{45}P_{45}K_{30}$ with foliar feeding by complex fertilizer "Nutrivant plus oil" that gives further 5,92 thousand uah/ha, profitability – 87 % coefficient of bioenergetic efficiency – 2,51.

TECHNICAL SCIENCES

Goryk O. V., Kovalchuk S. B., Yakhin S. V. Analytical and experimental determination of carrying capacity of the carcass elements of stadium "Vorskla" named after alexey butovsky (Poltava). Message 2. Navigation tests // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 167–171.

The following report shows results of the following (second) stage of the complex research of operational reliability of construction tribune stadium (East tribune). This stage includes real-life operational tests of the direct natural rigidity of inclined crossbars of cross-section frames and follows after the determination of technical condition. According to a technical condition of the covering of the tribunes, inclined crossbars have appeared as defining model elements of the framework, from the point of view of reliable operation. This was shown from the natural experimental data tests that have laid down in a basis of modeling of working capacity of tribune construction of the stadium, which are also provided in this message.

Dudnikov A. A., Bilovod A. I., Pasyuta A. H. Improving the reliability of working organs of tillers // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 172–177.

The article examines the increasing durability and reliability working organs of tillers in their recovery (manufacturing) using vibrations promoting intensification of processing methods, increase the level of mechanization and automation of many labor-intensive technologies. Shows the intensity of the vibration hardening on the following factors: the processing mode, the physical and mechanical properties of the material of workpieces. Found that the main parameters of the process of hardening of the vibration exciter is the disturbing force, the amplitude and frequency of the oscillations of the machining tool, speed and processing time.

Lyashenko S. V. Improvement of the conducting diagram and development of list of necessary operations of technical maintenance of facilities of small mechanization according to the results of tests on small household plot // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 178–182.

The analysis of operations of technical service, foreseen to implementation for motocultivator WEIMA 900M is considered. Improved the conducting graph and the list of necessary to execution operations of technical maintenance of motocultivator is complemented after the results of his tests on the small holding. Control the system is developed by exploitation of motocultivator, which is based on an accumulation with the subsequent use of database about breakages and disrepairs, allowing to warn them during servicing, that, in same queue, will enable to control the technical state during all period of exploitation.

Hodursky V. E., Kiva O. V., Kitayev E. V. Development of the method of application of the emitter onto the electrode discharge lamps by vacuumizing // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 183–184.

The article presents the results of work which was carried out to develop method of application of the emitter electrodes of discharge lamps by dipping them in a suspension of the emitter to the previous vacuumizing. Experimental studies were carried out on electrodes of lamps DRL-250 from the previous study the effect of evacuation on weight gain of the emitter, deposited on the electrode and the degree of filling of internal cavities emitter electrode on which it was proposed the technology of application to the emitter electrodes of discharge lamps with the previous vacuumizing. The article also gives results of experimental tests and obtained the comparative characteristics of methods for applying the emitter electrodes in HID lamps known technology and by previous vacuumizing.

THE YOUNG SCIENTISTS PAGE

Bondarenko T. I. Role of symbiotic bacteria in the invasive success and agronomic dangerousness of their hosts: the case of the whitefly *Bemisia tabaci* // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 185–188.

Symbiotic associations between bacteria and arthropods are quite common in nature. Bacterial symbionts are generally divided into two groups, primary symbionts that are required for their hosts and secondary symbionts which are optional and

have varied phenotypes. These endosymbionts can have a strong impact on the biology and ecology of their hosts, especially by modifying the tolerance to stressful environmental conditions. Some species harbor high bacterial diversity, notably *Bemisia tabaci* (Hemiptera: Aleyrodidae). Beside their obligatory symbiotic bacterium *Portiera aleyrodidarum*, over 95 % of individuals are infected by at least one secondary symbiont and more than 65 % harbour simultaneously several secondary symbi-

onts (7 have been described). These bacterial communities are variable and associated specifically with mitochondrial haplotypes. Indeed, *B. tabaci* is in fact a cryptic species complex composed by biotypes with various phenotypic traits like these bacteria. In this work, we studied the influence of the symbiotic bacteria on the life history traits of *B. tabaci* under heat stress conditions and exposure to insecticide. In order to do this, we used hybrid lines infected by different bacteria. Results suggest that symbiotic bacteria do not influence on the heat-resistance in MEAM1 species in *B. tabaci*. Rather, this suggests that heat-resistance is related to the heterosis phenomenon. However, it seems that endosymbionts can be involved in insecticide resistance. These results showed that in *B. tabaci*, symbiotic bacteria can influence on the ecology of their hosts.

Filipov E. G. Influence of an agrotechnology of cultivation of a *Carthamus tinctorius* on water consumption and its efficiency in the conditions of the south of Ukraine // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 189–192.

In the article the results of researches of influencing of agrotechnical receptions are resulted on productivity of plants of the *Carthamus tinctorius*, tilled in the conditions of irrigation of the South Ukraine. It is set on results researches, that at growing of the *Carthamus tinctorius* on the irrigated lands of southern Ukraine for achievement of productivity level of seeds of culture within the limits of 2.0–2.5 t/ha it is necessary to conduct ploughing on a depth 20–22 cm, to use space between rows 30 cm, to conduct sowing in early terms (III ten-day period the March) and bring in the mineral fertilizers by the dose N₆₀P₆₀. The terms of sowing and fertilizer have most particle of influence on forming of productivity of seeds.

Kulibaba M. Yu. Development of tuber apparatus of soy in dependence on terms of sowing and usage of «Rizogumin» // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 193–196.

At the extreme terms of 2012 a tuber apparatus was formed worse, its development depends on correlation of phenologic phases of plant and period of intensive providing moisture. Exactly the choice of terms of sowing influences on material well-being of plants productive moisture. In addition before sowing treatment of seed by bacterial preparation has an important value which in future influences on the level of development of tubers: their amount and colouring in a cut, the high-quality indexes of harvest (mass which varies 1000 grains of, depending on the level of development of tuber vehicle).

Servetnyk N. R. Effect of lead on immunological indicators of laying hens // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 197–199.

This paper presents the results of research on the impact of feeding different doses of lead acetate on immunological parameters of laying hens. Established that the insertion into the organism of chickens lead ions in amounts of 2.5, 5 and 12.5 mg/kg body weight for 45 days caused a probable increase in the concentration of circulating immune complexes in the serum of birds of all experimental groups compared to controls. Also in laying hens research groups have observed a tendency to increase the degree of endogenous intoxication, as evidenced by an increase in serum content of medium molecules.

Mirzaeva M. S. Effectiveness of local application of colloid of nanoclusters aquachelate of metals (Ag, Cu, Zn, Mg) in treatment of parodontopathy conditions in dogs // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 200–203.

In work was clear up in dynamics the results of individual morphological indexes of krevicular fluid in comparison under using 10 % colloid of nanoclusters akvahelat of metals (Ag, Cu, Zn, Mg) and chlorhexidine digluconate (0,05 % solution) by the treatment of the early forms of parodontopathy in clinically sick dogs. By ascertainment the comparative effectiveness we were compared quantitatively and qualitatively dynamics of desquamative pavement epithelium and forms of leukocytes. While topical use of a colloid of nanoclusters recorded gradual normalization of these indexes.

Sanzharevska O. I. Analysis of impact of condensate pollution on soil condition in Poltava region // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 204–207.

Poltava Region is one of the leading oil and gas extraction regions of Ukraine. Almost 40 per cent of Ukrainian gas and every fifth ton of oil with condensate are extracted from depths of Poltava Region, which have unique fields of fuel and power as well as mineral resources. However, during extraction, transportation and processing of oil and gas condensate, oil spills occur, which is associated with accidents and unauthorized. The result is polluted soil, ground and surface water. We have identified the major negative results of influence on the soil ecosystem gas condensate. It was experimentally determined that the basic physical and chemical properties of soil contaminated with a mixture of gas condensate and comparison with uncontaminated soil mineral oil in Poltava. Conclusions were made concerning the suitability of the soil for agri-

ANNOTATIONS

cultural use and possible ways to improve it. There were appeared some problems that should be solved for improving soil Poltava.

Romanovych I. S. Research of specific impact of oil pollution on changes in physical-chemical properties of soil // News of Poltava State Agrarian Academy. – 2014. – № 3. – P. 208–210.

The basic physical and chemical properties of soil samples contaminated with crude oil are studied experimentally. The results of changes in physical

and chemical characteristics of the soil as a result of oil pollution are presented; the influence of oil on the basic properties of the soil at different concentration levels of pollutant in the soil was analyzed. The conclusions regarding the impact of oil on the quality and water-soluble component of soil are made. The analysis of the determination of possible influence of oil pollution on groundwater was conducted.

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Формат 60x90/8. *₁₅₈ Ум. друк. арк. 27,5. Тираж 100 пр. Зам. № 210.
Видавець і виготовлювач: Полтавська державна аграрна академія.
Адреса: 36003, м. Полтава, вул. Григорія Сковороди, 1/3.
Свідоцтво суб'єкта видавничої справи ДК №2174 від 26.04.2005