
AGRICULTURE. PLANT CULTIVATION

Pysarenko P. V., Khlebnikova Ya. O. About possibility of solar activity's influence on the yield of agricultural crops in Poltava region // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 11–21.

The role of solar activity in the formation of yield of different crop in agroecology conditions in Poltava region is considered in this article. Data of crop yield in 25 districts of Poltava region for 47-years period (from 1966 to 2012) and data of average month solar activity (numbers of Wolf) during similar period are analyzed. It has been found out that maximum of solar activity and maximum of yield for all crops are coincided in 1989 and 1990. It has been established that phase of yield maximum displacement in comparison with solar activity maximum are carried from 1980 to 1973-78. It has been stressed that high indices of crop yield can be caused by solar activity maximums. Correlation analysis for each solar activity cycle between yield indices and average month numbers of Wolf during vegetation period is also carried out.

Zuza V. S., Rozhkov A. A., Gutyanskyi R. A. Productivity of soybean depending on the predecessor, weather condition and efficiency of herbicides // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 22–24.

The results of four years research of the influence of predecessors, including winter wheat and spring barley and soil herbicide Harnes on soybean's productivity in years with different levels of moisture providing are presented. It is installed, that soil herbicide Harnes controlled the total wet weight number of weeds after the winter wheat predecessor respectively 92 and 93 %, and after predecessor of spring barley – 91 and 83 %. We found that after winter wheat predecessor yield of soybean was formed more than after spring barley.

Melnyk A. V., Trotsenko V. I., Govorun S. O. Output of main nutrients by sunflower plants depending on the variety characteristics, predecessors and rates of chemical fertilizers in the north-eastern Left-bank Forest-Steppe zone of Ukraine // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 25–28.

According to the research it was found that fertilizers' application on sunflower crops caused the cost reduction of nitrogen and potassium per unit yield formation. Application of $N_{30}P_{30}K_{30}$ results reducing of nitrogen's consumption to 0,9 kg/ha and potassium to 6,1 kg/t. Application of $N_{60}P_{60}K_{60}$ reduced the use of nitrogen to 0,9 kg/ha and

potassium – to 8,8 kg/ton, compared with the control. Use of phosphorus were unchanged.

Kramarev S. M., Kramarev O. S., Khrystenko A. O., Tokmakova L. M., Zhuchenko S. I., Syrovatko V. A., Tseva U. A., Syrovatko K. V. A comparative estimation of maintenance of mobile phosphorus in different genetic horizons of ordinary chernozem // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 29–31.

Ordinary chernozem on the loess breeds of heavy granulometric composition of north Steppe zone of Ukraine contain the promoted amount of patitapaban chemical compounds. As a result of this the use of any acid methods, including GOST 26204-91 (Chirikov's method) results in the substantial artificial overstating of estimation of the phosphatic state of soils (on 40–80 mgs of P_2O_5 /kg of soil). For diagnostics of the phosphatic state of these soils (in obedience to the requirements of normative documents of Ukraine) it is necessary to use the followings standards: GOST 4114 (Machigin's method), GOST 4727 (method of Karpinskiy-Zamyatina) and GOST ISO 11263 (method of Olsen). Natural material well-being of arable layer of chernozem ordinary phosphorus matches the limit of low and middle well-being this element of the plants feed, that is confirmed the known empiric information about high efficiency of phosphoric fertilizers on these soils. The arable layer of soils, which contains the remaining phosphates of fertilizers, and also overhead humus horizon of virgin soils has high level of phosphorus. Therefore, for the receipt of high harvests with high quality on chernozem ordinary of north Steppe of Ukraine it is necessary to bring in not less phosphoric fertilizers, that on other soils of country (based on information of gravel diagnostics).

Yanovskiy Yu. P., Suhanov S. V., Grychuniuk V. P. The peculiarities of biology and harmfulness of *Thomasiniana Oculiperda rubs.* and protection methods against it in apple trees' sapling of the Central Steppe zone of Ukraine // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 32–35.

The results of studies were showed to clarify the biological peculiarities, harmfulness of apple leaf curling midge of apple trees' sapling and efficacy of insecticides in control of pest infestation in Forest-Steppe zone of Ukraine. It is established, that larva overwinters in the soil on the depth of 4–5 cm, their revival is observed at the end of 1st till the end of second decade of April and pupation – in late second – early third decade of April. Adult female's

flights take place in the second decade of May – first decade of June. In 8–10 days larva appears, which damage 29,8–37,7 % of grafting buds. During the vegetation period the pest is developing by three generations. For one generation of pest's development need the sum of effective temperature from 274,3 °C to 290,6 °C (the lower threshold of the temperature is 15,6 °C). The technical efficiency of products application in protection of this crop against this pest is studied. It is established that for decreasing of its harmfulness it needed to apply the following insecticides Mospilan, RP (0,2 kg/ha), Calipso 480 SC, (0,25 l/ha), Sumition, KE (2,5 l/ha), Hloviv SK (1,5 l/ha), Dursban 480, SC (2,0 l/ha), Zolon 35, KE (3,0 l/ha), Lannate 20, RK (1,2 l/ha) and Pirineks 480, KE (2,0 l/ha).

Yanovskiy Yu. P., Suhanov S. V., Muhailenko L. P., Chepernatui Ye. V. Biological peculiarities of *Epicometis Hirta Poda.* and methods of its harmfulness limitation in industrial plants of strawberries in Forest Steppe zone of Ukraine // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 36–40.

It is showed the results of studies where the biological peculiarities of *Epicometis Hirta Poda.* are ascertained in industrial plants of strawberries in the right bank of Forest Steppe zone of Ukraine. It is established that beetles fly in warm sunny days the most intense from 10 a.m. to 15 p.m. and after 18 p.m. and in cool nights beetles hide in the soil on the depth of 0,5–2,5 cm. Pest has started to harm plants of strawberry starting of phase «nomination of peduncles» to the end of phase «end of flowering and the formation of ovaries» without any preferring of varietal origin. Copulation of individuals was started immediately after beetles appearing on the soil surface and lasted until the end of the adults fly. During the first half of May till the end of June active pests' eggs laying in the soil on a depth of 35 cm was observed. The potential production of one female (2–3 times) has reached 34–44 eggs, she postponed 12–17 eggs in the soil in several places. Larvae hatching from eggs was observed in II-decade of May and continued until the end of the III decade of July. The larvae lived in the soil by the end of August – early September and was fed by plant remains. The pupation phase was started from the end of August and lasted until half of September. After 15–20 days there were young beetles that stayed wintering in the soil (in untreated plots) till the next spring. In time of absence of protective measures to 93 % of flower of plants in plantations were damaged by this pest, their productivity was reduced to 65 %. For decrease of this pest population it is required to apply

insecticide «Mospilan», RP (0,2 kg/ha) and «Calipso 480» SC, (0,25 l/ha).

Kolesnikova L. A., Fedusko M. P. Analysis of phytotoxicity of oil-contaminated soils // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 41–43.

The analysis of the toxic effects of crude oil on anatomical and morphological indices of leaf blade (LB) seedlings of spring wheat which were grown on soil with simulated contamination was held. There are three main effects of crude oil on the morphology of the LB model test culture were identified: stimulation of chlorine anabolic processes; resistance, the resistance of seedlings of spring wheat to the effects of oil contamination of soil; phytotoxic effect, causing the development of atrophy and destruction of chlorenchyma cells and leads to death of seedlings.

Pospelova A. D. Species composition of plant pathogenic flora of soybean seeds // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 44–48.

The results of photoexpress of soybean seeds are presented. The quality indicators, the degree of contamination and species composition of pathogenic microorganisms are defined. The representatives of mushrooms (genus *Alternaria*, *Fusarium*, *Peronospora*, *Cladosporium*, *Botrytis*, *Aspergillus*, *Penicillium*, *Mucor*) and bacterial flora (bacteria of the genus *Pseudomonas*) are identified. Among the pathogenic microorganisms was widely spread fungi of the genus *Alternaria* (26–35 %) and *Mucor* (22–47 %). The species composition of pathogens is varies on different soybean varieties. It was more diverse of soybean seed's variety Kyivs'ka 98.

Kurdyukova O. M., Zherdeva Ye. O. Communities and invasion of *Cyclachaena Xanthiifolia* in anthropogenically disturbed ecotopes // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 49–54.

This article contains the data obtained in the multi-year studies of the features which characterize the growth and development of *Cyclachaena xanthiifolia*, as well as species and quantitative composition of associated types in various age-related cenopopulations with different ecologophytocenotic and anthropogenic influencing factors. It is determined, that the species and quantitative composition of the most common weeds in uneven-aged communities of *Cyclachaena xanthiifolia* was considerably varied, and the density of plant populations from germination to maturity was decreased in about 10 times. The maximum density of germination of *Cyclachaena xanthiifolia* (412–321 pieces/m²), vital power level (4), and seed

growing potential (80,5–93,8 thousand of seeds per plant) are characteristic for cenopopulations with a low anthropogenic impact, which are located within territories of livestock farms and along river banks with loose humid soils which are rich with organic substances.

Dychenko O. Y. Spatio-temporal dynamics of vegetation as a factor of dynamics of harmful insects' population // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 55–59.

The article presents data about the influence of vegetation dynamics on the number of harmful insects. It is established that vegetation dynamics

during the previous and current years affects the rate of growth of pest populations in a present year compared to last year. Quantitatively this effect is estimated using regression analysis.

For the qualitative assessment of the impact of vegetation dynamics on the number of pests of sugar beet dynamic maps of the following types are offered: *Aphis fabae*, *Asproparthenis punctiventris*, *Cassida nebulosa*, *Cassida nobilis*, *Tanymecus palliatus*. This tool allows you to visualize the complex nature of the processes that determine the dynamics of insect populations, including harmful ones.

AGRICULTURE. ANIMAL HUSBANDRY

Voitenko S. L. The gene pool of the animal species of poltava and risks of loss of local populations // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 60–64.

The article presents the results of certification of entities breeding in dairy cattle breeding of Poltava region, and examination of local herds of small animal breeds. It is revealed that breeding farms of breeding cattle of dairy breeds differ both by the level of selection and breeding work, and the number of cows in herds and their performance. A significant number of households does not have an automated system for the maintenance of tribal records, making it impossible for effective selection of animals, assessing them by a number of features and improve performance in a number of generations. Industry analysis confirmed that in the region in the category of subjects of dairy cattle's breeding are households where there are significant violations with the reproduction of the herd, unreasonable use of certain sires, the high cost of feed for milk production. It was offered to carry out the selection in herds in accordance with programmes with specific breeds under the control of academic institutions. Examination of herds of local breeds in Poltava region, among which Mirgorod breed of pigs, Sokolska breed of sheep and Poltava clay colour breed of hens showed their critical condition by the number of permanent declining of populations as a result of lack of demand for livestock products. The conservation of these populations is impossible without government subsidies, and their disappearance is correlative loss of national heritage and cultural values.

Chukhlib E. V., Golub N. D., Skarednov D. Yu. Osteological studies of pigs of Poltava meat breed by using the different technologies soy feed preparation // News of Poltava State Agrarian

Academy. – 2015. – № 1–2. – P. 65–68.

The results of pigs' fattening of Poltava meat breed using soy feed, which made by different technologies (expansion under pressure, spin under pressure, extrusion) and the impact of these protein feeds on the chemical composition and strength of the femoral bone. More productive pigs were fed soy concentrate (group R1), soybean oilcake (group R2) and soy extrudate (group R3). In feeding they showed average growth 825–833–785 g, and spent 3,26–3,47 feed units for 1 kg of growth. Their femoral bone had more calcium to 1,66–1,04–2,78 % and phosphorus to 0,67–0,53–0,38 % than the bones of animals in the control group. Piglets of the research groups had smaller diameter of bone to 0,51–0,33–0,73 mm, but thicker thickness of bone's wall (except group R2) to 0,35–0,24 mm. The maximum load for the entire diameter of the bone was observed in the experimental group R3.

Bondarenko O. M. From history of development of cattle breeding in Poltava region (end of XIX – beginning of XX century) // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 69–73.

Some aspects of the history of the cattle breeding development in Poltava region in the end of XIX – beginning of XX century are considered on the basis of literary sources. Two factors had special influence on the breeding of cattle: the increase of urban population and the intensification of land cultivation. The growth of commercial agriculture, which demanded the increase of work productivity, resulted, on the one hand, to more enhanced working cattle breeding than productive, and on the other, due to stratification in rural areas, growth of livestock only in the affluent part of the peasantry, which had a pulling force. For Poltava region breeding cattle at all stages of historical development was very

important, providing the population with high-calorie meat and dairy products.

Usacheva V. E. The modern condition of fish farming, the history and development of the industry in Poltava region // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 74–79.

Fish production in the segment of world aquaculture are studied and based on the literature. The fish catching and production of other aquatic resources in Ukraine and Poltava region in the last years is analyzed. The some aspects of the historical development of fish farming in the region are considered. The potential of the fishing industry in the study area is clarified. That is defined by the presence of a complex of conditions for its development, including a large number of fisheries waters, a system of pond farms.

Paliy A. P. Establishment the factors influencing the process of washing milk // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 80–83.

High-quality washing milking equipment along with the use of highly efficient technologies and equipment is a critical factor in obtaining of high quality milk. It has been established that there are three basic methods of forming plugs in a milk cleaning solution, formation mechanisms which depend on the design of the washing machine and the program for the implementation of selected processing operation. The results are a prerequisite of improving the system of control the parameters of milking cattle and washing milking equipment.

Goncharova I. I. Ability of beef breed heifers to reproduce depending on the level of feeding // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 84–86.

There are some results of live weight and reproductive ability of Znamyanka interbreeding

type of heifers of Polissian meat breeds with different levels of feeding. Optimal live weight and age of productive pairing heifers are established. Thus, intensive growth of heifers provides daily gain of 700–800 g and live weight of 385 kg at 15–16 month old heifers. It is shown experimentally that intensively reared animals consumed less feed daily during the whole growing period, it was marked as the best reproductive ability, their age of productive pairing was 146 days less than in the control group of their peers. Indicators of their fertility were 6 % higher. These heifers were 4–5 months younger during the period of productive pairing, that indicates the higher precocity of intensively reared heifers.

Lyashenko A. O. Correlation between the quality indicators of bull semen of long-term storage // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 87–90.

The investigation of the relationship between the physiological, morphological and morphometric characteristics of bulls' sperm of different breeds of the Bank of genetic resources, depending on the storage term was carried out. We determine the correlation between indicators of sperm of morphology and morphological indexes. We determine the inverse relationship between the content of pathological forms and the number of normal acrosome: the greater number of sperm with normal acrosome, the less number of abnormal cells $r = -0,3$ ($p < 0,001$). There is a negative correlation between the number of abnormal sperm and HOST ($r = -0,54$) ($p < 0,001$), between the percentage of damaged acrosome, the number of abnormal cells, the number of pathological and dead cells and the length of the different parts of the sperm ($r = -0,2$) ($p < 0,05$).

VETERINARY MEDICINE

Yevstafieva V. A., Havryk K. A. Distribution of akaroses of dogs in conditions of town Kremenchuk // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 91–94.

The results determine the species composition of Acariformes that parasites on dogs of town Kremenchuk. We studied the distribution of akaroses of dogs and seasonal and age dynamics of invasions. As a result of akarological studies we found significant lesions of dogs by demodexes, otodexes and sarkopteses. Adult dogs ill demodecosis and sarcoptosis, otodektosis – young up to 6 months of age. Akaroses of dogs in town

Kremenchuk was recorded during the year, but the peak of demodekotic invasion falls on spring and autumn, otodektotic – summer and winter, sarkoptotic – autumn and winter seasons.

Kyrychko B. P., Semirenko V. V., Zvenygorods'ka T. V. Number and types of microorganisms of surgical infection in pigs // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 95–98.

In the article the results of the spectrum of microorganisms of pigs suffering from inflammatory and purulent and inflammatory processes are shown. Age of the animals is from two months till 2,5 years.

Breeds – large white and Landrace. It is set that in places of purulent inflammation often and in highest concentrations we found *A. actinomycetem comitans* and *Staph.aureus*. From the nasal mucosa in inflammatory processes in pigs *Escherichia coli* was often isolated. In the urogenital tract *Campylobacter coli*, *Escherichia coli* and *Candida Albicans* dominated.

Kulinich S. M. Treatment of random festering wounds in horses based on Chutovo stud «Traken» // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 99–101.

The article presents data of the distribution of purulent wounds in horses, clinical and planimetric study and treatment of sick animals. It was found that use of the drug aerosol «Chemi-spray» 1 time a day after the initial debridement in combination with a single parenteral administration 15 % of amoxicillin helps to clean wounds till $6,8 \pm 0,64$ days. The average healing period was $23,6 \pm 0,64$ days.

Peredera S. B., Kinash O. V. The susceptibility testing of *Mucor* and *Aspergillus* to some plant origin substances // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 102–105.

The results of susceptibility testing of *Aspergillus* and *Mucor* to plant origin substances (infusion of *Echinacea purpurea*, *Echinacea* liquid extract, *Echinacea* tincture, essential oil of Basil, essential oil of Monarda, eugenol) are shown. There are numerous data in the literature relating to bactericidal and immunostimulatory activity of those substances, however, the data for their fungicidal properties described insufficiently. The studies was conducted by standard disc-diffusion method. We used medications of *Echinacea purpurea* and essential oils of pharmaceutical network. Plant origin substances are promising for use in veterinary medicine as an alternative to antibiotics and disinfectants simultaneously. In particular, essential oils and their components can be used to optimize the air of poultry premises, as a disinfectant and as chemicals of anabolic and immunostimulatory action.

Scherbakova N. S., Peredera Zh. A., Peredera S. B., Lubens'ka A. Yu. Disinfection of sausage wares with a help of mikrowave // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 106–108.

The paper shows data about the sausages' decontamination by microwaves. It is established, that mode of microwave's power and processing time of samples products an affect on reduce the number of microorganisms in sausage. It is determined that the processing time of sample has a significant impact on reduce of the number of

microorganisms in it than the selected mode of microwave's power. Prolonged exposure of products by microwave waves (within 3 minutes) fosters the destruction of much microorganisms, but the minimum time (1 minute) is sufficient to reduce the number of microorganisms in sausage products of questionable freshness to assume it is not harmful to the human body after decontamination.

Klymenko A. S. Distribution of rabbits' Parasitosis in private economies of Poltava region // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 109–112.

The analysis of literary data and own researches testify about considerable distribution of rabbits' Parasitosis in the economies of different patterns of ownership in the most world countries. Almost general distribution of Psoroptosis, Eimeriosis and Passalurosis are set by laboratory researches of material from the rabbits of private economies of twelve districts in Poltava region. Extensivity of Psoroptes invasion presents 37,68 %, *Eimeria* – 47,69 %, *Passalurus* – 21,26 %, although in separate economies the indexes of defeat are 100 %. Obtained data testify the necessity of development and introduction of measures of fight against Parasitosis of rabbits in private economies.

Kone M. S., Corchan L. M., Derzhovs'ka Ye. O., Zabiyaka O. O. Effectiveness of treatment and prevention of feline calicivirus (FC) in veterinary clinic LLC «Biocenter» in Poltava // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 113–115.

The age and breed sensitivity, seasonal occurrence and dynamics of FC manifestation in veterinary clinic of LLC «Biocenter» in Poltava was studied. A variety of treatment regimens of FC was offered. We established that FC is often recorded among cats aged from two months till one year. More vulnerable to the disease are outbred animals. The disease has an expressed seasonality, which appeared by frequent events in spring-summer-autumn period. Our offered treatment of FC provides high therapeutic effectiveness.

Panikar I. I. Morphology of lymphoid formations associated with mucous membranes of tube-like organs of domestic swine at early stages of postnatal period of ontogenesis // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 116–118.

It has been found out that morphological features of the development of lymphoid formations associated with mucous membranes of tube-like organs are connected with their topography and they are the criteria to evaluate the state of non-specific and specific immune reactivity of the pig's body. Their cy-

tostructure is represented by the population of relevant cellular elements. The dynamics of the relative area of the lymphoid patches varies irregularly: it increases in the anterior and medium parts of the jejunum up to the age of 14th day and in the posterior part – till the age of 7th day and then gradually decreases till the age of 29th day.

Maslak Y., Sobakar A. Etiopatogenesis of osteodystrophy of Zaanenska breed of goats // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 119–123.

It is established that alimentary osteodystrophy of goats of dairy breeds is characterized by both clinical signs and specific dynamics, which biochemical indicators display both changes of the general metabolic status of animals and a condition of connecting tissue, in particular, of the bone. This maintenance of glycoproteins, communities of the hondroitinsulfat separate glikozaminoglikan, activity

of alkaline phosphatase and its bone isoenzyme, activity of sour phosphatase, the general and ionized calcium and phosphorus in serum of animals' blood.

Melnychuk V. V., Nazarenko O. S., Nazarenko S. I. Biochemical changes in blood serum of pigs patient trichurosis // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 124–126.

The results of hematological studies to determine the impact of the pathogen of trichurosis of pigs on blood serum biochemical parameters of infested animals are presented. We established that trichurises' parasites in the body of pigs leads a significant reduction of total protein, albumin and increase of total bilirubin, indirect bilirubin and enzyme activity in blood serum. These data suggest about involvement of liver parenchyma in the pathological process, cardiac muscle and smooth muscles of the intestine.

ECONOMICS

Lytvyn A. Yu. The problems of the modern system of new housing // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 127–130.

The individual problems of the modern system of new housing, their description in the world's economic literature are reviewed. The analysis of studies over this topic is implemented. The attention is focused on that part of the problems during the construction of new housing – high prices,

corruption in the allocation of land, the implementation of developers various shadow schemes to artificially increase the cost of housing, lack of control from buyers over the targeted use of funds, system of customers, neglect of needs of certain categories of the population – can be resolved through the mechanism of housing cooperatives.

TECHNICAL SCIENCES

Dmitrikov V. P., Shestozub A. B., Oliynyk M. A. Integrated approach to improve consumer properties of fertilizers on the example of calcium saltpetre // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 131–133.

The last researches and publications of the decision of problem is grounded in which are analysed. Possibilities of the complex approach to the increase of consumer demand of agricultural enterprises on calcium saltpetre are presented. Measures of the improvement of technology of calcium saltpetre production are offered. The calculation of charges of raw material and energy of production of solutions of calcium saltpetre is performed with neutralizing addition potassium of carbonate. The measures of modification lead cutting of power costs, upgrading of calcium saltpetre, improvement of ecological indexes of production.

Dryuchko A. G., Storozhenko D. A., Bunyakina N. V., Ivanitskaya I. A., Golub'atnikov D. V. Thermo-analytical complex for substances identification by the method of differential thermal analysis // News of Poltava State Agrarian Academy. –

2015. – № 1–2. – P. 134–137.

The designed thermo-analytical complex in functioning and technical realization of a number of existing prototypes differs from all developed and patented method of formulating the linear law of temperature change of a heater and the use of the combined differential-thermal method of investigating the model and indifferent substance. It uses a precision system for the phase control of average thermal energy supply into the heating zone by program assignment of the proportional, in the course of time, the «development» law of the reference voltage value of the setting device in accordance to temperature characteristics of the chromel-alumel converter with a simultaneous continuous tracking the voltage misbalances Ch-A of thermocouple in the chain of its negative feedback. The complex is simple, with high sensitivity and a good diagnostics ability.

Opara N. M. The problem questions of teaching «Safety of life» in ukrainian universities // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 138–140.

The current issues of teaching of the courses «Safety of life», «Occupational safety», «Civil protection», «Safety in industry» are presented in the article. We made the analysis of recent scientific publications on the subject, consider issues that arise during the transformation of the study above mentioned disciplines from the regulatory category in the category of «choice»; it is shown possible ways of their elimination.

Padalka V. V. From hard to simple using «Shishaky technologies» // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 141–144.

This work is dedicated to the problem of ecological agriculture. The analysis of existent technologies of minimum soil cultivation is conducted. The more similar examples to ecological agriculture are separated on the example of implanted system in PE «Agroecology». We offer a system of concepts of soil cultivation for maintaining its fertility and growing ecologically clean products of crop production. We light up the problem of insufficient maintenance of moisture and ways of destruction of non-arable sole by mechanical and biological character. We offer an example of technological operations of soil cultivation that is implanted for ecological and biologically restorative agriculture.

Lyashenko S. V. Preparation of facilities of small mechanization to storage // News of Poltava State

Agrarian Academy. – 2015. – № 1–2. – P. 145–151.

The analysis of technological operations of preparation of WEIMA 900M to storage is considered. Improved technological process of preparation of motocultivator to storage, due to development of recommendations necessary to implementation. Control the system of storage of small mechanization's facilities, which is based on collection and use of database about damages and breakages which arise in the period of storage of technique, is offered. Due to the developed system, possibility to control the technical state during the period of exploitation appeared.

Beseda A. A. Study of resistance during covering of sowing crops into the seed fertilizer pipe // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 152–154.

The work is devoted to the study of the movement of seed under the action of gravity in sowing system, namely «sowing system – seed fertilizer pipe – guiding device – undertenon space of dovetail ploughshare – switchgear». The impact of resistance during the flow of seed on the example of winter wheat was theoretically described, which is considered with regard to the form of profile of its convenient shape by flow in sow automate, provided mechanical feeder that is able to assume and theoretically describe the general scheme of seed movement in sowing system.

THE YOUNG SCIENTIST'S PAGE

Kulibaba M. Yu. Growth and development of soybean depending on sowing time and microbioreactor // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 155–159.

The duration of the vegetation period of the plants of soybean depends on sowing time: the longest it at early period, and under optimal and late it decreases. The duration of the interphase periods during the growing season was also distributing differently depending on sowing time. The degree of development of plants during the growing season depends on pre-treatment of seeds of microbiological preparations: plants which at the sowing day were treated by drug «Rizogumin» develop better at all three rows of planting. However, yield and it's quality depends on the processing of biological preparations and sowing dates. The highest rates were observed in plots treated with «Rizogumin» which were sown in early term.

Stepanenkov H. V. Influence of drinking water quality on level of population health in Poltava region in 2001–2002 // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 160–164.

The influence of drinking water quality on the

level of population health in Poltava region is considered, and the results of the research are given. The obtained results are shown in the graphs and calculated correlation coefficients. Graphs are shown both for the total incidence in the area and for two the most common groups of diseases (blood circulatory system diseases, diseases of the musculoskeletal system and connective tissue). It has been proved that the quality of drinking water in the region has a significant effect on human health. Appropriate general conclusions are drawn.

Milenko O. G. Change of duration of vegetation period and phases of growth and development of soybean plants depending on growing conditions // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 165–171.

Influence of weather conditions, variety properties of varieties, different methods of crops' care and seeding rate on duration of vegetation period and phases of growth and development of soybean plants has been established. Weather conditions of the year most influenced on vegetation period and separate phases of growth and development of soybean plants. There was

considerable shortening of vegetation period of soybean plants in droughty years. The method of crops care not substantially influenced on soybean plants' organogenesis. Sagement of agrophytocenosis affected phases of growth and development of varieties Romantyka and Ustyia. Increased seeding rates stimulated shortening of bean forming and seed forming periods.

Papka O. S. Some questions of biology of germination of the *Asclepias syriaca L. sys. A. Cornuti Decne* // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 172–173.

The results of researches which testify that the seed germ of *Asclepias syriaca L. sys. A. Cornuti Decne*. through 1–1,5 month after collection is fully able to growth (terms for the germination of the freshly collected seeds are needed the same, as well as for those, that ripened) are presented. In unoptimal terms the freshly collected seeds germinate approximately similar, as well as ripened. It shows that the post-harvest ripening of seeds *Asclepias syriaca L. sys. A. Cornuti Decne*. are poorly expressed.

Gorobets V. O. The breeding of pigs as a way to increase their fattening and meat characteristics // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 174–177.

The article presents the results of the evaluation of pigs of foreign origin and crownest of fattening and meat traits with determining of the best combinations of parental genotypes to obtain the effect of heterosis in the descendants. Research has shown that a hybrid young stock had the highest growth rate during feeding, who was obtained by crossing dohorthy sows (large white of French origin x Duroc of German origin) with grunts of Pietrain breed of English origin. The largest declines of the young stock's backfat thickness at 6–7 thoracic vertebrae and increase the mass of the posterior third of the side will ensure three times Pietrain boars' cross breeding of English origin at the final stage. Purebred breeding of pigs of large white breed does not promote the fattening and meat traits in young stock, even for the unification of their genotype heredity animals of French, German and English origin. The profitability of fattening of young pigs in the conditions of modern industrial production should be based on associations of species, particularly when animals of foreign origin are used.

Kanivets N. S. Treatment of calves with an ulcer of the tongue // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 178–181.

In the article, on the basis of a comprehensive study, justifies the treatment of calves with ulcers of the tongue. The studies of biological substrates of sick animals showed an increase: in saliva – albumin in 1,8 times, in the serum – activity of AST in 1,7 times, GGTP and LF in 1,5 and 2 times respectively. These changes indicate that the ulcer of the tongue in cattle is often accompanied by the development of hepatogastric. The use of complex therapy (20 % solution of sodium tetraborate in glycerol and Hepavex 200) this pathology of calves is accompanied by positive changes of blood biochemical parameters that indicate the recovery of the metabolic processes of the liver.

Dvornik I. V. The role of shadow economy in formation of incomes of rural population // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 182–187.

The basic manifestations of shadow economy in the process of formation of rural population's income is explored in this article. The main sources of unreported income are: wage «in an envelope», providing services, sale of agricultural products on the market. Schemes of use of «white», «grey» and «black» wages as well as principle model of underground economy are presented. The system of measures from the side of the state for supporting rural population and control of conducting shadow activity by employers are offered.

Makedon H. M. Consumer sentiment of rural population: analysis of social factors // News of Poltava State Agrarian Academy. – 2015. – № 1–2. – P. 188–192.

The focus of attention is on the impact of the population's behavior on the state's economy. Method of calculating the Index of Consumer Sentiment (ICS) was researched. ICS dynamics of rural population in Ukraine over the last year was analyzed. Rural households are less sensitive to political changes and escalating conflict in eastern Ukraine so their ICS is higher than in urban citizens. National indicators is compared with similar in foreign countries. We established that consumer confidence is the highest in Asia. We recommended to learn the experience of these countries to increase consumer sentiment of population in Ukraine.