

**Prysiazhniuk M. V.** Scientific and organisational activity of Variety and Seed Administration of Sugar trust in the 1920-th // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 7–11.

The article describes the state of seeds business in Ukraine at the beginning of the XX<sup>th</sup> century as well as scientific and organizational activities of Variety and Seed Administration in the 1920-th. Preconditions of the Administration foundation and its role in the national agricultural development have been analyzed. Coordinated work with participation of famous functionaries and professors of agrarian science favoured agricultural restoration after the First world and Civil war and development of both sugar production and the whole research activity of Ukraine.

**Pysarenko P. V., Chukhlib Yu. O.** Investigation of agroecological state of Poltava region soil as a result of their ecological and agrochemical survey // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 12–15.

The article deals with the problems of the land use in Ukraine and Poltava region. The necessity and importance of agrochemical survey of soil as a part of agroecological monitoring have been proved. The complex ecological and agrochemical evaluation of Poltava region soil has been given after the results of solid agrochemical survey to determine the level of their fertility and agroecological state. Measures for increasing soil fertility and improving their agroecological state have been offered.

**Mischenko S. V., Laiko I. M., Vyrovets V. H.** Peculiarities of morphological and technological signs of dwarf plants of hemp variety Glukhivska 58 // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 16–19.

For the first time dwarf plants have been found in the population of modern variety of monoecious hemp Glukhivska 58 and in self-pollination plants (I<sub>1</sub>, I<sub>2</sub>). This isn't connected with the pleiotropic action of genes of male sterility. The specialities of morphological (general length, technical length, diameter of a stem, width and length of leaves), technological signs (mass of a stem, mass of a fibre, content of a fibre) and dynamics of growth in ontogenesis of dwarf plants have been studied. The prospects of their use in selection have been considered.

**Pysarenko P. V., Laslo O. O.** Peculiarities of introduction of exact technologies of production in Ukraine // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 20–22.

In modern conditions efficiency of agriculture in many cases depends on the degree of mastering of achievements of science and technology as well as timely introduction of new scientific technologies in the process of production of agricultural production. Combination of new scientific technologies and last achievements in agrarian industry enables to develop the system of exact production as a complex of measures of perfection of processes of agriculture and crop growing, the basic task of which is a receipt of economic effect due to optimization of the use of production facilities and technological processes.

**Pospelov S. V., Nechyporenko N. I., Pospelova A. D.** Influence of storage terms on sowing qualities and phytosanitary condition of seeds of some kinds of genus *Echi-*

*nacea Moench* // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 23–28.

Dependence of sowing qualities and phytosanitary condition of seeds of coneflower (*Echinacea purpurea* (L.) Moench.) cv. „Zirka Mykoly Vavilova“ and pale coneflower (*Echinacea pallida* (Nutt.) Nutt.) cv. „Krasunja of praries“ on term of storage has been found out. Its increase from 1 to 4 years resulted in energy reduction of seeds germination of coneflower by 49 %, laboratory germination – by 5 %, pale coneflower – by 11 % and 24 % respectively. Secondary infection rised from 16 % to 36 % for coneflower seeds and from 19.3 to 23.6 % for pale coneflower seeds for 6 years of storage. The specific structure of micromycetes on coneflower seeds and structure of the pathogenic complex have been analyzed.

**Ilichov O. G., Ilichov Yu. G., Chigrin A. V.** Syrian designs of naked-grained barley as a source of new input material for breeding in the forest-steppe of Ukraine // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 29–36.

The article presents data on the collection of spring barley, which is formed in Ustymovskiy plant growing experiment station. The results of a complex study of designs by economically valuable signs in southern forest-steppe of Ukraine have been given. The samples which can be used as an input material in breeding to create new varieties of spring barley have been sorted out. They are characterized by vegetation period within 82–84 days, productivity 240–310 g/m<sup>2</sup>, weight of 1000 grains 36.1–44.1 g, productive bushiness 3.5–3.7 productive stems per a plant, steadiness to being beaten down 7–9 points. The given samples can be used as a source material in selection process when developing new varieties of spring barley.

**Sokolovska I. M., Kurdyukova O. M., Makhmud Mokhkhmad Suleyman Al-Bdur.** Influence of terms and norms of sowing of winter barley on contamination of sowing // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 37–39.

Research of the modern state of weeds populations in agrocoenosis has a great importance for prognostication of their further development and influence on the yield, quality and productivity of crops. The different terms of sowing of winter barley resulted in the different degree of contamination of its sowing both in autumn period of vegetation and spring and summer one. In the earliest term of sowing of winter barley – on September, 15, contamination of sowing in autumn period was maximal. In later terms of sowing the closeness of weeds per a unit of area diminished on 9–14 things, and minimum was at sowing of winter barley in the second ten-day period of October. The norms of sowing had a considerable influence on the index of contamination of winter barley sowing. The thickness of sowing of barley of different sorts resulted in diminishing of amount of weeds per a unit of area.

**Antal T. V.** Influence of fertilizers and weather conditions on yield of durum spring wheat // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 40–43.

Results of the research concerning study of mineral fertilizers application on yield of durum spring wheat in conditions of right-bank Forest - steppe of Ukraine have been

presented. The level of durum spring wheat productivity in conditions of right-bank Forest-steppe is determined on 52 % by fertilization system, on 12 % – by weather conditions, on 8 % – by variety and accounts for 1.68–6.01 t/ha. The highest yield was obtained with application of  $N_{120}P_{120}K_{120}$  and  $N_{120}P_{120}K_{120}+N_{30IV}$  that accounts for 5.57 and 5.65 t/ha for Isolda and 5.10 and 5.19 t/ha for Bukuria variety.

**Myronov O. S.** Solar heat and terms of agricultural crops sowing // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 44–48.

Unfortunately we can't use the folk agrarian calendar because of its mismatches with the traditional Gregorian calendar and even the lunar calendar. Native folk agrarian calendar is based on the four seasons and is closely related to the terms of agricultural works. It should be noted that we can't use the same date from the Gregorian calendar to start crop sowing every single year. Studying solar activity, the Moon and the Sun tide-generating forces during the year, existing research methods of phases of plants growth – gave us an opportunity to develop the method of practical definition terms of agricultural crops sowing.

**Kudryk M. A., Steblina E. F.** Investigation of juice with pulp derived from stone fruits // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 49–51.

The juices with pulp received of stone fruit have been investigated. It has been found out that the juices with pulp sold in Poltava city meet the requirements of state standard. The standards introduction on the indicators definition methods which allow to establish nature juice will provide standard base for liquidation the sale of forged production to consumers and creation the priority conditions for responsible manufacturers.

**Vergeles P. M.** The development and harmfulness of *Pandemis ribeana* Hb. in the central forest-steppe of Ukraine // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 52–55.

The results of investigation of the biological development and harmfulness of buffer black currant in the central forest-steppe of Ukraine have been presented. Specified place and phenology of caterpillar diapause have been considered. The regulatory role of entomophages has been studied. Biological effectiveness of biological products Fitoverm 0,2 % and *Trichogramma pintoi* to reduce the spread and harmfulness of *Pandemis ribeana* Hb has been found out. The separate use of preparation and *Trichogramma pintoi* can not protect the currants from caterpillars.

**Voitenko S. L.** Inbreeding of pigs in small population // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 56–59.

The paper presents results of studies on the similarity of pigs in such small population as Myrgorodska and their possible use for related breeding. It has been found out that plant breeding herd of pigs on a "closed population" contributed to the emergence of the herd in a large number of inbred animals, which use is accompanied by a decrease of reproductive ability. The optimum ratio of the degree of inbreeding sows, in which there is no decline in reproductive ability among pigs of Myrgorodska breed has been defined.

**Birta G. O., Burgu Yu. G.** Investigation of microscopic structure of liver and cerebrum as a sign of ecological

safety // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 60–62.

Internal organs and ductless glands play an important role in the productivity and health of animals. They are studied by morphological, histological methods and by the method of radioactive isotopes. They play an important role in the exchange of matters, growth and development, adaptation of animals, in reply to the change of an environment. Cooperating with nervous system they mobilize an organism at pathological states and stress caused by the action of harmful factors. The hormones of ductless glands together with other biological regulators provide the sequence of biochemical processes, which start the development of gametes, impregnation, sexual differentiation, growth and development and forming of animals' productivity.

**Grechka G. M.** Modern honey yield and its consumption by bee families // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 63–67.

Results of researches concerning studying of modern honey yield conditions in Forest-steppe of Ukraine, the possibility of their consumption by bee families of the Ukrainian steppe breed have been presented. It has been found out that honey yield conditions of Forest-steppe of Ukraine presented by different kinds of honey yield flora of woods, roadside afforestations, gardens, meadows, ravines, valleys, fields, provide bees with supporting and the basic honey flows and are suitable for beekeeping development. The main bee plants are sainfoin, buckwheat and sunflower. Optimum time of intensive visiting by bees of sainfoin is 8–14, buckwheat – 10–14, sunflower – 9–14 hours. Bee families of the Ukrainian steppe breed are capable to use productively biological stocks of pollen and nectar from plants of different botanical species.

**Shamro M. O., Shamro L. P., Shamro T. M.** Retention of royal jelly quality in queens // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 68–70.

The article deals with investigation of changes of titrated acidity, antimicrobial activity, and bacteriological seeding by non-pathogenic microorganisms of royal jelly with queen bee larva in queens depending on conditions and terms of their retention. It has been found out that the acidity growth of royal jelly in queens was 9,1% lower for a year period in conditions of preservation at  $-18^{\circ}\text{C}$  than at  $-4^{\circ}\text{C}$ . Following production technology, transportation, and preservation of queens with royal jelly and queen bee larva gives the possibility to obtain the product with antimicrobial activity of  $0,2-0,3 \cdot 10^2$  units (KUO) while the standard norm is  $2,5 \cdot 10^4$ . The obtained product is free from non-pathogenic microorganisms.

**Yemets E. I., Bugera S. I.** Expenditures and selling price for beekeeping production // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 71–74.

The article deals with the structure of factual productive expenditures as a whole on an apiary, factual and standard expenditures per a unit of beekeeping production as well as relation of their selling prices and factual expenditures to standard expenditures. It has been found out that factual expenditures in beekeeping were lower than standard ones on 22.4–47.7% and facilities and equipment were not renewed. It is concluded that the size of factual expenditures cannot be the basis for pricing models in beekeeping production for extended beekeeping reproduction in modern conditions of farming. Selling price

for beekeeping production should be set based on standard expenditures.

**Grygorkiv L. N., Subota Yu. V., Prytula F. I.** Wintering of paternal families // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 75–78.

Wintering of paternal families in the apiary of underground type and in the wild has been studied. It has been defined that on the basic indicators of an estimation of wintering (force, forage use) the difference between two groups of families was not significant. Reduction of force of families that spent winter in the wild included two side streets, and in the apiary – 2,3 side streets. Forage use for winter a side street of the bees that spent winter in the wild was 2,53 kg, and in the apiary – 2,21 kg. The first drone brood was fixed simultaneously in all investigational families in identical quantity – 8 squares. Thus, the way of wintering of paternal families does not influence their condition and their keeping of early drones.

**Gyria V. M., Nagaevych V. M., Usachova V. E.** Using of ultrasonic devices for the estimation of pigs by phenotype // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 79–82.

The article deals with lifetime estimation of thickness of salted pork fat on the living pigs of different genotypes by measuring of different construction with ultrasonic devices in different points: behind shoulder-blades at the level of 6/7 pectoral vertebrae, on small of the back above the level of the last rib and on a sacrum above the level of the last vertebra. Measuring results have been compared to their actual sizes determined by a ruler after slaughter of animals. Cross-correlation relations with measuring of thickness of salted pork fat before and after slaughter have been resulted. The correction factors of measuring for ultrasonic devices Draminsky Sonik Test 3A, PIG LOG 105 have been fixed.

**Rusko N. P., Shapovalov S. O., Rosso L. M.** Protein content evaluation in milk // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 83–87.

The study of more than 13,500 milk samples on mass fraction of the total protein, true protein and non-protein nitrogen containing compounds (NPN) helped to find out that the level of NBN in the milk is non-permanent and seasonal. It fluctuates within 6,6–7% of total protein that significantly masks the true proportion of protein. True protein content in milk is important for milk processors (especially cheese producers). So it makes sense to settle the purchase of milk according to this indicator. In assessing milk quality in pedigree cows it is also better to pay attention to the actual protein content without the masking effect of non-protein nitrogen. Instrumental methods of assessing the quality of milk protein generally are Kjeldal's methods (DSTU ISO 8968-1:2005), true protein DSTU ISO 8968-5:2005.

**Chekhlaiyi O. M.** Beginning of scientific research on feeding pigs in Poltava region // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 88–92.

The article deals with beginning of scientific research on feeding pigs on the territory of Poltava province at the end of the XIX century. Basic directions and results of researches of scientists of the Poltava experiment field including determination of economic efficiency of pigs feeding of local and Berkshire breeds, calculation of cost of meat and fat production at feeding young pigs with

crop growing products, analyzing existent technologies for feeding pigs by the different types of forage.

**Berdnyk V. P., Bublyk O. O., Berdnyk I. Yu.** The historical look at the nomenclature of pig diseases caused by mycoplasma // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 93–97.

Today speaking about pig diseases dealing with mycoplasma some scientists use the term «enzootic pneumonia of pigs», «mycoplasma pneumonia of pigs», «mycoplasma infection of pigs», «respiratory disease induced by mycoplasma» and «complex of respiratory diseases of pigs», and majority from them – «mycoplasmosis of pigs». The letter represents etiologic sense of disease and, thus, aims at development of effective methods and facilities of its diagnostics, prophylaxis and fight against it.

**Yevstafyeva V. O.** Epizootology of the associated invasion of pigs in the conditions of Forest-steppe and Steppe of Ukraine // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 98–100.

According to the results of coproscopical and akarological investigations of pigs of different age groups on the farms of Forest-steppe and Steppe areas of Ukraine the following parasitic diseases were registered: intestinal helminthoses (askariosis, trikhurosis, ezofagostomosis), protozooses (eymeriosis, izosporosis, balanthidiosis) and sarkoptosis. From a number parasitocenoses of pigs a maximal percent was on associated invasion. Polyinvasions consisted of associations: eelworms and the simplest; simplest organisms; intestinal eelworms; the simplest; eelworms and sarkopteses; simplest organisms and sarkopteses; eelworms and sarkopteses.

**Zamazii A. A., Kambur M. D.** Processes of peroxide oxidation of lipids in the organism of cows giving birth to calves in hypoxia state // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 101–104.

The results of studies show that the hypoxic state of newborn calves accompanied by activation of peroxide oxidation of lipids which predominate in hemolysate erythrocytes. Catalase activity, depending on the severity of hypoxic damage is 1.69 times (p 0,01) lower in average while content of lipid hydroperoxide of malon dialdehyde increases. The relative content of hydroperoxides increases, the ratio of MDA / lipids is 2.10 times higher.

**Panikar I. I., Yatsenko I. V.** Pathomorphological changes in aborted fetuses and animals of the first weeks of life at cattle clamidiosis // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 105–106.

Haemodynamics disturbance is observed in aborted and still born calves as anasarca, stromas hardening and parenchymatousbleeding. Liver, kidneys and myocardium are characterized by granular dystrophia and lymph stroma infiltrate. In young animals the disease is accompanied by conjunctivitis, encephalitis, gastroenteritis catarhal and fibrinogenous pleuropneumonia. Serous lymphadenitis and splenitis are typical. Pathological process in calf joints develops in the form of serous and fibrinogenous polyarthritits полиартритита and tendovaginitis.

**Kyrychko B. P., Sobchyshyna T. N.** Dynamycs of lipoperoxidation indicators and antioxidant protection in purulent osteomyelitis of cats // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 107–109.

The article deals with the problem of pathogenesis of purulent osteomyelitis of tube bones in female cats.

Dynamics of certain indices of peroxide oxidation of lipids and antioxidant protection of pathogenesis of purulent has been studied. Dependence between osteomyelitis stages and contents of malon dialdehyd in blood serum as well as activity of serum catalase have been found out. The increase of malon dialdehyd in blood serum and the increase of catalase activity occur on 3rd and 45th day of a purulent osteomyelitis.

**Dovgopol V. F., Plugatyrev V. P., Panasova T. G.** Normalization of sexual function of heifers with ovarian hypofunction and hypoplasia // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 110–112.

The efficiency of selehumat for the treatment of hypofunction and hypoplasia of the ovaries and the normalization of sexual function in heifers have been found out. The introduction of selehumat to the breeding-age heifers ensured the normalization of sexual cycle in 100 % of animals, including for a month – 66.2 %, of which 83.7 % was impregnated after the first insemination. Thus, the application of selehumat had positive impact also on the level of impregnation of heifers, doubled it in comparison with the control. However, in animals with hypoplasia of the ovaries selehumat efficiency was slightly lower than in heifers with ovarian hypofunction.

**Kurman A. F., Mokryi Yu. O., Grubych P. Y., Handkarjan V. N., Lepeta L. V.** Blood biochemistry parameters of puppies-gnotobiotics suffered from babesiosis // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 113–114.

Babesiosis of dogs have been reproduced on puppies-gnotobiotics at Poltava experiment station. Biochemical analysis of blood plasma of experimental animals has been made. The changes in activity of indicator enzymes AST and ALT for liver. In the experimental puppies-gnotobiotics activity of AST was increased but ALT was reduced. There was an increase of creatinine, urea, bilirubin, uric acid and activity of HHTP in the experimental animals. Glucose and A-amylase activity were reduced.

**Kurman A. F., Grubich P. Y., Mokryi Yu. O., Lepeta L. V.** New aspects of laboratory diagnosis of babesiosis of dogs // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 115–116.

Babesiosis is one of the important diseases of dogs in Ukraine. Laboratory diagnosis of its universally accepted method is not effective at low parasitemia. This encourages the search of new methods for detection of hemoparasites. The results of testing of new methods of laboratory diagnosis of babesiosis of dogs have been given in the article. The method of "thick film" was used to cross-view 200–300 fields of view of the blood smear and found babesia in venous blood. This methodology requires further improvement to establish a laboratory diagnosis for babesiosis and to use the technique for research purpose.

**Korchan M. I., Korchan L. M.** Comparative effectiveness of certain helminthlarvosopic methods to diagnose lung nematosis in small cattle // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 117–119.

The article deals with the comparison of the effectiveness of certain helminthlarvosopic methods to diagnose lung nematosis in small cattle. It has been found out that the developed method of quantitative helminthlarvosopic research does not require complicated and expensive equipment and consider-

able time for research. The given method assists the sanitary safety and has a reliable and simple way of counting the larvae by using the proposed counting chamber. The method is characterized by the efficiency that exceeds the results of Ber- man's method in 2.3 times.

**Morozenko D. V.** Diagnostics of chronic bronchitis in cats // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 120–121.

The article deals with the problem of diagnostics of chronic bronchitis in. It has been found out that chronic bronchitis in cats is the primary reason of development of a bronchial asthma. As a rule clinical signs of illness are nonspecific, and the X-ray pattern of chronic bronchitis is shown by inspissations of a pulmonary drawing on bronchial type, but this sign cannot serve as a criterion of making a diagnosis. The maintenance of glycoprotein in blood serum, an oxyproline and uronic acids increased in urine at a chronic bronchitis. It testifies to rising of a catabolism of collagen, proteoglycans and fibrosis bronchuses. Thus, the use of the given tests allows estimating the condition of an extracellular matrix of lungs at chronic bronchitis in cats.

**Titarenko E. V.** The role of enterobacteria *Proteus mirabilis* in gastrointestinal swine diseases // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 122–123.

The results of investigations of *Proteus mirabilis* by bacteriological method in gastrointestinal swine diseases have been presented. It has been found out that *Proteus mirabilis* predominated more than *Proteus vulgaris*. The enterobacteria *Proteus mirabilis* mainly has been separated from feces of pigs with diarrhea. The *Proteus mirabilis* has been isolated from intestines of pigs died from gastrointestinal diseases rare. *Proteus* from feces of healthy mature swines have been isolated least frequently.

**Kruchynenko O. V.** Comparison of coproscopic methods of fasciolosis diagnostics of cattle // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 124–126.

The results of search of effective flotation mixture for coproscopic method of fasciolosis diagnostics have been presented. High efficiency (36,4 %) has been supplied by the flotation mixture from the saturated solution of the chloride of zinc and bischofite in the ratio 1:1 using coproscopic flotation method of faeces investigation. The use of bischofite as an ecologically pure natural mineral that has coagulation properties and is contained in flotation mixture allows to obtain a clean surface film after centrifugation, which gives the opportunity to explore the morphological characteristics of eggs of fasciolas and enhances the effectiveness of life-time diagnostics.

**Klymenko O. S.** Analysis of epizootologic situation on helminthosis of dogs in private farms of Poltava area // *News of Poltava State Agrarian Academy*. – 2010. – № 3. – P. 127–129.

The results of own research and literary data concerning helminths of dogs in farms of different forms of ownership have been analyzed. It has been found out that carnivores with clinical signs of exhaustion and disorders of intestinal tract were suffered from helminths on 88,88 %. It is concluded that dogs contaminate an environment and are dangerous for people and animals. In farms of Poltava area *Trichuris*, *Toxocara*, *Toxascaris* parasitize more frequent in dogs. Extensiveness of invasion varies from 12,12 to 38,38 % at intensity of 13,17–16,54 invasion

elements in the drop of the investigational liquid. The prospect of further research is development of the scientifically grounded facilities of helminthosis control carnivorous in farms of central part of Ukraine.

**Makarenko P. M.** Theory of price in a commodity economy // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 130–135.

Basic theories of price formation have been analyzed in a commodity economy. Tendencies of pricing observed in modern terms have been found out. Pricing practice confirms the necessity of multifactor approach to it. One-sided estimation is not proved. Labour expenditures, goods availability for consumers, benefit scarcity as well as demand and supply ratio should be taken into consideration.

**Petrosian S. A.** Ukraine – Armenia: perspectives of cooperation // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 136–139.

The article describes the current state of Armenian and Ukrainian cooperation and perspectives of their development. Certain difficulties and intentions of leaders of two countries to overcome them have been presented. The basic tasks of cooperation development are the following: 1) in economic sphere it is necessary to diversify export from the point of view of commodity list extension (both for Ukraine and Armenia) and symmetrical development of foreign-trade operations including investment sphere; 2) realization of common transportation projects with involvement of other countries (for instance Georgia, Iran) is necessary; 3) improvement of investment climate in both countries is significant; 4) development of tax legislation is important.

**Kostenko O. M.** Hardware and software tools of methodology of optimal planning of an experiment // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 140–142.

Functional possibilities of hardware and software tools for methodology of optimal planning of an experiment have been summarised and described. For optimisation of plans of an experiment according to time and cost expenditures the following methods are used: analysis of transpositions of matrix terms of experiment planning, casual search, branches and borders, consequence approaching. Hardware tools for realisation of optimal plans of an experiment in the object of investigation have been described.

**Prasolov E., Lapenko T.** Modelling of work of shock-absorbers in machinery // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 143–148.

The work of shock-absorber using magnetic liquid is considered. The research was carried out with the use of matrix planning of experiment. The statistical analysis of results of the research was applied. Mathematical models of optimum dependences of initial parameters from interacting factors were under construction. The analysis of results of the research has confirmed positive influence of magnetic liquid in devices on quality of work of the shock-absorber. The use of magnetic liquids provides influence of mechanical fluctuations on reliability of a design and increase of safety of agricultural machinery.

**Kolesnikova L. A.** Change of a leaf blade and its epidermis layer in shoots of spring wheat grown in oil contaminated soil // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 149–157.

It has been found out that the law of “form similarity” was observed under unfavorable conditions the development of spring wheat shoots (oil contamination of

soil). The phenotype of given vegetative parts determines form similarity of root leaves and their cross-sections. Three basic patterns of epidermocyte development depending on conditions of the experiment were found out on the basis of the results of morphometric analysis of epidermis layer of a leaf blade. It has been concluded that structural homeostasis of a leaf blade epidermis of the fourth leaf of spring wheat shoots was kept at small doses of oil contamination of soil (5-10 ml/kg). This is stipulated by stable quantity of epidermocytes on outer and inner outlines of cross-section of a leaf blade.

**Ilyenko O. P.** Monitoring of density changes of forest shelter belts with the use of pictures of satellite Landsat 5 (TM) // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 158–161.

The article deals with the problem of operative density considerable changes exposure of forest shelter belts by the multispectral satellite Landsat 5 (TM) pictures. The results of the automated authentication of appropriate changes with the use of the normalized relative vegetation index (NDVI) have been presented. Efficiency of this type of monitoring has been proved on the territory of south-east districts of Poltava region for the period 2006–2010. The digital map of density changes on forest shelter belts with attachment to the rectangular national co-ordinates system has been developed as a result of the research.

**Herman M. M.** Formation of soft winter wheat quality depending on the pre-sowing treatment of seeds // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 162–165.

The results of three-year study of formation of soft winter wheat quality depending on a fertilizer and pre-sowing treatment of seeds are presented. A significant influence of drugs of pre-sowing treatment of seeds on the formation of physical characteristics of grain and on the improvement soft winter wheat quality has been revealed. According to the research a high increase of weight in 1000 grains, nature, the content of protein and gluten of soft winter wheat the application of bacterial preparations and polymixobacterine and diasophite at a dose of 150 ml/t has been found out. A close correlation between the nature and glassiness and the weight of 1000 grains as well as the content of protein and gluten.

**Grygoriv Ya. Ya.** Influence of seeding time and method of cultivation on seed quality of spring false flax in conditions of Prykarpattya // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 166–168.

The article describes the influence of seeding time and method of cultivation on seed quality of spring false flax of Hornyi variety. In the prevailing oil and Linoleic and linolenic acids dominate in oil. There is a big content of oleic and eicozenove acids as well as erucic acid that is typical for all cruciferous crops. Relatively small amount of saturated fatty acids like palmitic one is observed. It has been found out that the optimum seeding term is the first period of sowing under control. Seed quality directly depended on the quantity of mineral fertilizers. One should also note the that these figures had the effect on seed rate oiliness of spring false flax .

**Golovan L. V.** Allozyme polymorphism in American species group of *Phaseolus L.* // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 169–173.

## ANNOTATION

Polymorphism of 25 bean samples from different ecological and geographical zones was analyzed on 5 enzymatic systems in this work. Precise zones availability was characteristic for the studied enzymatic systems. Two zones of activity were determined for enzymes *GOT* and *cACP*, three zones – for *ADH* and *6PGD*. Enzymatic system *SKDH* was characterized by one activity zone. Interspecific polymorphism was established in systems *ADH*, *6-PGD* and *cACP*. Interspecific and intraspecific polymorphism was established for enzymatic system *SKDH*. System *GOT* appeared to be monomorphic for all analyzed bean species. The results of the investigation are topical for identification and also for genetic base collection expansion.

**Melnyk O. V.** Monitoring study of feed on presence of *Aspergillus* fungi in them // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 174–177.

A mycotoxicological study of 128 samples of various feeds was carried out on the farms of Poltava region. From 19,88 % of samples the fungi of the *Aspergillus* genus were isolated. Following the identification in 161 strains 32 strains of *Aspergillus* were isolated. As a result of mycology researches of forages the microscopic fungi of *A. flavus* and *A. fumigatus* were selected. During determination of toxicity of the contaminated forages by a biological test using rabbits and test-object *Colpoda* 22 strains of *Aspergillus* were found out. The most of them was observed in mixed fodder (*A. fumigatus*). The methods used in the investigation have been described in the article.

**Atamanchuk O. V.** Frequency of secretion of cultures of salmonellae and goldish staphylococcus in Odessa area for 2005–2008. Report 2. Results of analysis of reports of humane medicine // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 178–181.

Analysis of reports of humane medicine for 2005–2008 showed that the cultures of salmonellae had been secreted from 0,72 % (3440 persons) of examined people. From 3484 secreted cultures 1875 (53,8 %) were defined as *S. enteritidis*

and 1178 (33,8 %) – *S. typhimurium*. Among others 431 (12,4 %) cultures there were 28 serum variants of a stimulant. Goldish staphylococcus was secreted in 10,8 % examined people. Its coagulase and positive variant in 67,25–85,95 % cases was the reason of toxic infections and children's toxicosis sometimes with a fatal outcome. Causal relationship between the episodes of toxic infections among animals and people was not observed.

**Zarytska A. O.** Pathomorphological changes in the kidneys of rabbits during acute pasteurellosis // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 182–184.

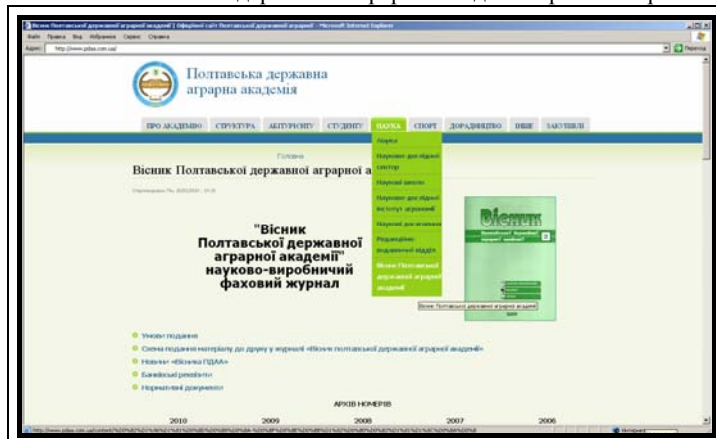
In acute pasteurellosis of rabbits in the cortical area of kidneys glomerules are filled with blood. Local extracapillary glomerulonephritis as well as granular and hydropic degeneration and necrosis of nephrocytes are observed. In advanced cystic lumina of tubules there is an amorphous substance with a high protein content. In the medullary zone there is vessels supply with blood, hydraulic cement kiln degeneration and coagulation necrosis of nephrocytes. In the lumen of most tubules there is eosinophilic substance. Symptoms of catarrhal pyelonephritis have been registered.

**Dychenko O. Yu.** History of mass reproductions of basic wreckers of sugar beet // News of Poltava State Agrarian Academy. – 2010. – № 3. – P. 185–187.

The article provides historical information about the mass breeding of the main species of insects-pests of sugar beet in Ukraine and other regions.

Historical information on the mass reproduction of insects-pests of sugar beet has been summarized and significantly supplemented. The regional and global synchronization of mass reproduction of the latter in space and time has been shown. The given materials are the basis for the study of the regularities of the multi-year dynamics of the populations and the development of forecasts of mass outbreaks of the above-mentioned kinds of pests of sugar beet in different regions.

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