

AGRICULTURE. PLANT CULTIVATION

**Kurylo V.L., Rakhmetov D.B., Kulyk M.I.** Biological features and potential of yield of energy cultures of the family of thin-skinned in the conditions of Ukraine // *Bulletin of Poltava State Agrarian Academy.* – 2018. – № 1. – P. 11–17.

The article substantiates the necessity of comprehensive study and cultivation of energy crops on marginal lands in the conditions of Ukraine for obtaining biofuel. Biological and morphological characteristics and illustrative material of energy cultures from the family of fine-toned ones are presented. Understanding the morphological and biological features and the ratio of energy crops to environmental conditions will allow them to be placed rationally in certain soil and climatic zones of Ukraine, and to select the optimal elements of growing technology. This will ensure conditions close to those favorable for the growth and development of plants, and will allow obtaining a large, energy-intensive phytomass. The harvest of the phytoagulants of energy crops is expedient for use in the production of biofuel and energy production.

**Semenov A. A., Kozhushko G. V., Sakhno T. M.** Effects of preventive UV-inflammation on the development and productivity of potatoes // *Bulletin of Poltava State Agrarian Academy.* – 2018. – № 1. – P. 18–22.

The effect of ultraviolet (UV) irradiation on potato tubers before planting is investigated. Experimental studies were conducted on medium-early potato varieties «Utro raneie» and «Rocco» using ultraviolet mercury discharge lamps of low pressure. It was established that in plants with irradiated tubers, which before irradiation at a dose of 120–240 J/m<sup>2</sup>, early roots were formed and developed. In addition, plants increase vegetative growth and increase yields.

**Tsvey Ya. P., Tyshchenko M. V., Filonenko S. V.** Monitoring of the obstinacy of crops in agricultural crop in the line of grain-beet rotation in production conditions // *Bulletin of Poltava State Agrarian Academy.* – 2018. – № 1. – P. 23–30.

Based on the results of the monitoring of the weediness of winter wheat, sugar beet and barley crops with the sowing of perennial grasses in the link of grain-beet crop rotation, the species and quantity composition of the weeds in the crops of the above-mentioned crops is determined under production conditions. All this makes it possible to plan and apply effective ways and methods of combating segetal vegetation. As a result of the conducted studies it was established that the

combination of such factors as the method of basic tillage, the precursor and predecessor, the fertilizer system and the peculiarities of the weather conditions of the growing season, and the biological properties of the cultivated crop, have a significant influence on the species composition of weeds that are widespread in crops.

**Tyshchenko V. M., Gusenkova O. V., Shandyba V. V.** Level of formation, variability and genetic connections of size of sort and selection lines of winter wheat // *Bulletin of Poltava State Agrarian Academy.* – 2018. – № 1. – P. 31–34.

The article presents the results of an experiment on the study of the level of formation and variability of the «grain weight from ear» (M1) of winter wheat varieties and breeding lines (SL) and its genetic correlations with quantitative characteristics, depending on the year of cultivation and the timing of sowing. In the experiment, 3 sowing lines were used: early (September 1, SP-1), optimal (September 15, SP-2), late (October 1, SP-3). The task of the experiment was to investigate how the mass of grain from the ear is formed by the terms of sowing and years of research, as well as determine how the genetic links of the optimal seeding period are formed in relation to the early and late, and when genetic correlations are more clearly manifested between quantitative traits. In the course of the study, it was found that the highest level of the «mass of grain from the ear» was formed in 2015. It is determined that the sign «mass of grain from the ear» has a direct correlation with the structural elements such as: the number of grains from the ear, the mass of the colon with seeds and the weight of the plant, and less stable genetic relationships with other quantitative features, as in the years of research, and on sowing terms. It was investigated that the genetic links of the optimal seeding time of the sign «grain mass from the ear» with the generative and vegetative features have an approximate value to SP-1 and SP-3 and are formed with a slight difference.

**Tsekhmeistruk M. G., Sheliakiv V. O., Shevnikov M. Ya., Lytvynenko O. S.** The influence of sowing dates on the yield capacity of soybeans sorts // *Bulletin of Poltava State Agrarian Academy.* – 2018. – № 1. – P. 35–41.

The results of the experiments confirm the possibility of obtaining stable yields by years due to the selection of the sowing date and the background of mineral nutrition. On average, in 2002–2005, the sort Romance marked a clear tendency to increase yields from early to late, regardless of backgrounds (from 1.73 t/ha to 2.08 t/ha on average for 4 years).

In the sorts Mriia and Amethyst on the background of non-fertilizers, the same tendency appears, whereas in the background of the application of fertilizers the most optimal terms were earlier (the third decade of April and the first decade of May) than the late ones. The highest level of soybean productivity in 2006–2010 was obtained at the early (22.04) sowing date – 1.82 t/ha, and the worst indicators were obtained in late (21.05) sowing where the yield was 1.67 t/ha. In terms of sorts – the best results, for most of the time, except for late was obtained during the cultivation of the sort Romance, which provided 1.84–1.87 t/hectare of seeds. In late times, the third (06.05), the fourth (14.05) and the fifth (21.05) higher yields were obtained for the cultivation of the sort Annushka – 1.72–1.85 t/ha.

**Tsvei Ya. P., Tyshchenko M. V., Gerasymenko Yu. P., Filonenko S. V., Liashenko V. V.** Soil cultivation, fertilizers and sugar beet productivity // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 42–47.

The article presents the results of studies on the influence of ground tillage systems on the productivity of sugar beet on the organic and mineral systems of their fertilization in short-rotation fertile crop rotation. A detailed analysis of peculiarities of the formation of crop roots and their technological qualities of various investigated factors is presented. It was established that for producing a plow on a depth of 30–32 cm under sugar beets and a flat-breasted loosening at a depth of 20–22 cm under grain crops, the maximum yield of sugar beets was obtained at the background of the application of 25 t/ha of manure + N<sub>90</sub>P<sub>120</sub>K<sub>90</sub> + straw under the beet: the yield of root crops and the sugar harvest amounted to 52.7 t/ha and 9.28 t/ha respectively.

**Kovana O. O., Tarasova V. V., Muliukina N. A.** Influence of EM-preparation on agrobiological and technological indicators of grape varieties of selection by National Scientific Center «Institute of Viticulture and Wine named after V. Ye. Tairov» // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 48–54.

The study assessed the effect of the «EM-agro» drug on productivity, namely the increase in yields to 37 %, mainly due to the increase in the weight of berries. The inoculation of microorganisms into the ecosystem and their inclusion in the microbial groups of the leaf surface of grapes contributed to the removal of phenolic and colorants, the decrease of the activity of o-diphenol oxidase in the prototype and the prevention of the oxidation of phenolic substances. The results allow us to recommend the use of EM-preparations for organic viticulture and winemaking, both in terms of improving the

productivity of grapes, and in view of improving technological performance.

**Zhukov O. V., Ponomarenko S. V.** Spatial-time dynamics of cereals of grain and grain crops in Poltava region // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 55–62.

The methodical approaches for determining the nature of the effect on the yield on the regional scale of factors of agro-economic, agrotechnological and agro-economic nature are elaborated in the work. It was shown that the yield of crops of cereals and legumes in agricultural enterprises of Poltava region by districts averaged over 1995–2016 ranged from 29.79±2.79 c/ha (Kobeliaky district) to 41.10±3.36 c/ha (Shyshaky district). The lowest level of variation of grain yield and leguminous crop yields during the study period was characteristic for Orzhytsia region (coefficient of variation 27,95 %), and the largest one for Chornukhy (CV = 62,02 %). The spatial component of variation in the average yield of grain and leguminous crops is insignificant. Significant contribution of factors of spatial nature in the variation of variability of crop yields is established. A clear trend has been established for increasing the yield of cereals and legumes during the study period, which can be described by linear dependence. The linear model coefficients are meaningfully interpreted as the rate of productivity growth over time and the productivity potential in the initial period of the study.

**Marenych N.N., Yurchenko S.A., Bagan A.V., Eshchenko V.N.** Forming the productivity of winter wheat varieties under the influence of humic substances // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 63–66.

The article discusses the features of the use of growth stimulators by *Soil-Biotics* (USA) as an example of the integrated use of humates to improve the yield of winter wheat. It is proved that the norms and methods of using humates for presowing seed treatment and introduction into the soil contribute to a better formation of the elements of the yield structure, primarily productive tillering. Statistical processing by the method of multivariate analysis of variance showed that the variants in which presowing seed treatment with *IR Seed treatment* was applied at a rate of 3 kg / t and applied to the soil *5R SoilBoost EA* in the norm of 30 kg / ha, significantly exceeded the control by the number of plants, which were better wintered and productive. Analysis of the effect of humic preparations on the formation of signs of productivity shows that as a result of presowing seed treatment and application of humic preparation *5R SoilBoost EA* during sowing, productive tillering increases by almost

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37%. Other signs respond to the use of drugs less - the number of grains in the ear increased by 7.3%, and the mass of grain from the ear - by 5.5%. However, this difference was statistically significant compared to the control options. The mass of 1000 grains remained virtually unchanged - there was no statistically significant difference between the variants.

**Biliavska L. G., Vasetsky Yu. P., Pylypenko O. V., Biliavsky Yu. V., Diianova A. O.** High-adaptive sort of soy Aquamarine // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 67–69.

The value of protein culture of soy, the universality of its use is shown. The ways of increasing soy production in Ukraine are considered. To the State Register of plant varieties, suitable for distribution, a significant number of various soybean varieties are listed in Ukraine, most of which have a narrow ecological-geographical adaptation. In modern conditions, the soybean must be highly productive, adaptive, with a high level of resistance to biotic and abiotic environmental factors. Based on long-term practical experience in soybean selection, the hybridization of sources of adaptability to stress factors of the environment resulted in a variety with a higher base potential. Aquamarine variety, entered in the State Register of plant varieties, is suitable for distribution in Ukraine. The morphological and biological characteristics of the variety are given.

**Tkachuk V. P., Saiuk O. A., Plotnyts'ka N. M., Gurmanchuk O. V., Pavliuk I. O.** Influence of methods of basic surface treatment and fertilizer systems on obstinacy of field crops // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 70–73.

The data on influence of the methods of the basic tillage of the soil and fertilizer systems on the anthropogenic activity of field crops are given. It has been established that the systematic conduct, during four rotations of nine-way crop rotation, of disk and planar varieties, results in an increase in the potential forbearance of the soil by 22–50 %, compared to annual plowing. The use of organo-mineral and organic fertilizer systems leads to an increase in the number of weeds in a layer of 0–20 cm in 1.2–1.5 times, compared with the unhealthy background. The actual aging of winter wheat agrocenosis at the beginning of the growing season in the course of plowing and discarding under different fertilizer systems is respectively 9–18 and 23–42 pcs./m<sup>2</sup>, whereas in spring crops (lupine, linseed, corn, potatoes) these indicators range from 8–92 and 26–708 pcs./m<sup>2</sup>.

**Gorbatyuk E.N., Yatsyshyna T.P., Samoliuk O.P.** Effect of fertilizer on wintering of winter rape // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 74–77.

The results of studies aimed at studying the effect of the use of fertilizing rapeseed sown winter crops with the complexes of microfertilizers *Reak Chelat Bora* and *Quantum* in the phase of four or six real leaves against the background of the main fertilizer on the growth and development of plants, their wintering. Studies were conducted during 2015–2017 in the Forest-Steppe of Ukraine on chernozem typical low-humus. As a result of the conducted studies it was found that the application of foliar fertilizing on the background of the main fertilizer ensures satisfactory growth and development of winter rapeseed plants during the autumn vegetation period and allows obtaining high plant safety parameters during the spring vegetation renewal period. High levels of preservation of plant cultures were obtained using variants using N<sub>80</sub>P<sub>60</sub>K<sub>80</sub> + *Quantum* in the phase of four to six true leaves.

**Telepen'ko Yu.Yu.** Comparative assessment of drought resistance of blackberry varieties (rubus l.) in the Western Forest-Steppe of Ukraine // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 78–82.

The article presents the results of laboratory studies of the influence of high temperatures on the physiological state of the leaves of 25 varieties of blackberries in the Western Forest-Steppe of Ukraine. In the laboratory, water-physical properties, such as water retention capacity, moisture deficit and water content of leaf tissues, were studied. In terms of resistance to loss of moisture, the varieties under study are divided into three groups: high-drought-resistant (Black Diamond, Black Pearl, Chief Joseph, Heaven can Wait, Loch Tay, Natches, Orkan, Nasoloda, Chester, Ouachita), medium-drought-resistant (Karaka Black, Adriene, Asterina, Brzezina, Cacanska Bestrna, Navaho, Tornfree, Sadove chudo, Jumbo, Kiowa, Reuben) and varieties with low resistance (Apache, Black Butte, Black Magic, Triple Crown). Varieties Natches and Apache, and the highest – Black Butte are characterized by a low indicator of water deficit. The highest waterlogging of blackberry leaf tissues was noted in varieties of Loch Tay (58.9%), Tornfree (59.7%) and Brzezina (60.8%). The least hydrated are the fabrics of varieties Navaho and Black Butte (51.4 and 51.7 % respectively).

**Shtugerevych V. S.** Efficiency of foliar application of growth stimulators «4R Foliar concentrate» on barley spring crops // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 83–87.

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In the experiment, conducted in production conditions, the results were obtained, which testify to the rather high effectiveness of the use of drugs based on humic substances. The foliar application of the preparation «4R Foliar concentrate» (USA) in the norm of 1.5–2 kg/ha made it possible to substantially increase the yield of barley grain. On average, for three years of research spraying of crops contributed to an increase in yield by 11.4–22.8 % with a seeding rate of 4.5 million pieces of seeds per hectare. In case of a decrease in the norm to 4 million pcs. the yield of the control variant (without spraying) was somewhat smaller, but the increase in the yield level was 30.4 %. The

processing of crops with «4R Foliar concentrate» helped increase the mass of 1000 grains by 1.1–4.2 g, depending on the seeding rate, and the grain size increased by 6–8 %. Seed seeding rates, which provide an average of 4.5 million pcs. of seeds per hectare can be inexpedient, since the difference between control options for yield is not significant, but a decrease of 0.5–1 million is economically justified. So, in the case of a decrease in seed sowing rates of 1 million pcs. of seeds per hectare, the yield is not changing significantly, but the profitability of production is growing by almost 10 %. Even in the case of high rates of sowing, the profitability of production is higher by 9–24 %.

### AGRICULTURE. ECOLOGY

**Pysarenko P. V., Samoilyk M. S., Molchanova A. V.** Bioindication estimation of the effects of waste disposal on the state of the environment // *Bulletin of Poltava State Agrarian Academy*. – 2018. – № 1. – P.88–92.

The article assesses the impact of landfill of solid household waste (for example, landfill of waste from the city of Poltava) on biota due to the determination of the phytotoxic influence of contaminated soil on the growth, growth and root system of plants *Triticum aestivum*. It has been established that the level of depression of growth processes in

this soil is higher than average, which indicates the high content of heavy metals in the given soil and their toxic effect on the biota at the location of the landfill. It was substantiated that using «Sviteco-PBG» prebiotic can significantly improve the soil quality, and after 14 days the toxic effect on biota has decreased by 10 % on average. Thus, the use of prebiotics can significantly improve the efficiency of soil cleaning from heavy metals, which in the long run provides an opportunity to return the contaminated land to economic circulation.

### AGRICULTURE. ANIMAL BREEDING

**Voitenko S. L.** The influence of inbreeding of different degrees on the live weight of swine and their own productivity // *Bulletin of Poltava State Agrarian Academy*. – 2018. – № 1. – P. 93–96.

The article deals with the problem of inbreeding in pig breeding, in particular when breeding pigs not numerous, local breed. A positive effect of inbreeding on the live weight of pigs during their cultivation has been established. The highest live weight with weaning at the age of 45 days had mumps with the lowest coefficient of inbreeding (0,78–1,56 %), but in the process of animal growth, especially from the age of 6 months, the trend is changing and the largest live weight was of mumps with a higher coefficient of inbreeding (6,24–11,7 %). The positive influence of inbreeding of moderate and distant degrees is also noted in terms of the own productivity of the pigs. It was proved that with the increase in the coefficient of inbreeding from 1,56 % to 11,7 %, the age of reaching a live weight of 100 kg decreased by 11,4 days ( $P>0,95$ ), and the thickness of the bacon, measured in vivo, by 2,7 mm. On the basis of which a general conclusion is drawn on the possibility of a related selection of parental pairs in Myrhorod breed of pigs for the purpose of obtaining

descendants, the complex inbreeding coefficient of which is not higher than 11,7 %.

**Kolisnyk O.I., Prudnikov V.G., Kryvoruchko Yu. I., Nagorny S.A.** Characterization of organizational and technological conditions in the content of Aberdeen-Angus meat cows in the stall period without use of premises // *Bulletin of Poltava State Agrarian Academy*. – 2018. – № 1. – P. 97–100.

The organizational and technological conditions were assessed and the meat cows and Aberdeen-Angus breeds were kept in the stall period at open feeding grounds without using capital facilities in the Eastern Region of Ukraine. The article contains a technological map of the contents of cows and heifers - the amount of work, machines and mechanisms that are used in servicing animals, labor costs, and the number of attendants. The calculations of the most labor-intensive elements are made with the content of cows and heifers in the stall period in conditions of energy-saving technology of beef cattle breeding.

**Gyria V.N. Metlits'ka E.I., Usachova V.E., Bondarenko O.M.** Relationship between polymorphisms of PLIN and MC4R genes with fattening qualities of pigs // *Bulletin of Poltava State*

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Presented analysis of the distribution of allelic variants RLIN and MC4R genes in pigs of different breeds. The influence of gene polymorphisms on fattening quality of animals. These findings strongly complement the scientific and informative database of genetic factors that determine the level of productivity of young animals for fattening and support effective use of polymorphism as DNA markers in the regional breeding programs.

**Pidpala T. V., Kramarenko A. S., Zaitsev E. N.** Productive, reproductive and adaptative qualities of holshtian breed cows of different lines // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 108–111.

The article presents the results of the research work on the development of breeding features in cows of different lines of Holstein breed. It was established that cows of all lines are characterized by a high level of milk indicators. In the process of adaptation imported cows of German breeding showed a sufficiently high level of milk and fat in milk. Compared to them, the descendants of the next generation were distinguished by higher tastes, but were losing them in the fat content of milk, with the exception of Starbuck's and Chief's lines. Among the cows of Holstein breed of Ukrainian selection,

preference for milk yield was found for Starbuck, Marshall and Chifa animals.

**Petrushko N. P., Kabasova I. A.** Interrelation of the type of higher nervous activity with the working capacity of sports horses of the jumping group // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 112–114.

In this work, studies have been carried out on the relationship between the type of higher nervous activity (GNI) of horses and their shown working capacity during participation in competitions to overcome obstacles. The research was conducted on 10 heads of horses of the jumping group of the Dergachevska children's and youth horse riding school, who had experience of participating in competitions to overcome obstacles. It is established that the most promising for use in the competition are horses of strong, balanced mobile type of GNI; The horses of strong balanced inert type of GNI are suitable for participation in competitions under the beginning riders and as hobby-class horses; horses of a strong unbalanced type of GNI have unrealized sports potential and need a training system that is aimed not only at developing physical qualities, but also to increase stress resistance in competition conditions.

## VETERINARY MEDICINE

**Korchan L. M., Korchan M. I., Prykhod'ko Yu. A.** Stenophonendoscope for group auscultation of animals // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 115–118.

The offered stethophonendoscope for group auscultation of animals has two interchangeable sound-absorbing flat heads: one with a membrane, the second – with a stethoscopic head; sound-distributing device with an internal spherical acoustic chamber, which, with the help of an underwater and four bypass nozzles, is connected by standard flexible sound-lines with a sound-receiving head and spring headboards with vernal olives. Stethophonendoscope for group auscultation of animals is easy to manufacture, it is easy to use for different positions of the body of animals, it ensures equal and uniform sounding, enables simultaneous joint listening of sounds by several specialists during the consultative diagnostics, can be used to improve the quality of the learning process while mastering the technique auscultation by students.

**Yevstafieva V. O., Yeres'ko V. I.** Seasonal dynamics of geese capillariasis // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 119–121.

The article presents the results of studies of indi-

cators of invasion of geese by the causative agent of capillariasis, depending on the season in the climatic conditions of Poltava region. The seasonal dynamics of capillariasis in geese is characterized by the increase in the extensiveness and intensity of invasion in the spring-summer period of the year (up to 54.55 % and 80.67 eggs/g) and their decrease during the winter period (12.73 %, 28.57 eggs/g). At the same time, according to the results of helminthological opening of geese, the maximum number of sexually mature capillaries was detected in winter and spring (up to 72.22 % and 37.48 specimens/head), the smallest – in summer (39.62 %, 11.86 specimens/head).

**Yevstafieva V. O., Nazarenko O. S.** Biological features of the seasonal dynamics of *Varroa destructor* (Anderson and Trueman, 2000) in the conditions of Poltava region // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 122–125.

The data of the determination of infection rates of *Varroa destructor* honey bees in the climatic conditions of Poltava region depending on the season, taking into account the biological characteristics of parasitic ticks are presented. It has been established that the seasonal dynamics of varroosis is characterized by an increase in extensiveness of invasion and

the abundance index in the summer-autumn period of the year, and the rates of intensity of invasion in winter and summer. It is proved that during the year the number of ticks on one worker's bee ranges from 1 to 8 specimens. Biological features of ticks are characterized by activation of parasitism on bees in summer (up to 8 specimens of imago) and in autumn (up to 7 specimens).

**Melnychuk V. V.** Morphological and metric features of nematodes *Haemonchus contortus* (Rudolphi 1803) Cobb 1898 isolated from sheep (*Ovis aries* Linnaeus, 1758) // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 126–131.

The results of the determination of the features of the imaginal forms structure of nematodes of the species *Haemonchus contortus* (Rudolphi 1803) Cobb 1898, which parasitize in domestic ovaries (*Ovis aries*), in the climatic conditions of the central and South-Eastern regions of Ukraine are presented, taking into account their morphometric indices. It has been established that the specific features of the *H. contortus* males are the features of the morphological structure of the caudal bursa, spicules, shank, sexual cone, and their metric indices. The females of *H. contortus* have a specific for this species variability in the structure, shape, size, and number of cuticular valves in the vulva.

**Shcherbakova N. S., Peredera S. B., Peredera Zh. A., Shcherbakov E. A.** Changes in Ukraine's legislation on the appointment of judicial-veterinary expertise and procedures of experts' implication // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 132–134.

The article gives data about the analysis of changes in the criminal-procedural legislation of Ukraine in matters of legal grounds for conducting expert examinations and the procedure of involving experts in veterinary medicine. It was established that changes of the criminal procedure legislation in Ukraine on the legal grounds for conducting expert examinations and the procedure of involving experts in veterinary medicine show a systematic approximation of the normative and legal basis of Ukraine in the criminal process to international norms and standards and aim at achieving the maximum level of impartiality on the part of participants of the

criminal legal proceedings.

**Lokes-Krupka T. P., Kanivets' N. S., Derenchuk Yu. I., Krylevets' Yu. V.** The value of diet therapy for the treatment of domestic cats which have hepatitis // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 135–137.

Treatment of domestic cats for various types of liver pathology should be complex. In the occurrence of this illness a significant role is played by irregular and irrational feeding, which causes the metabolism of animals in general, so one of the important directions in the treatment of domestic cats with liver dysfunction is diet therapy. In our studies, we directed medical measures to eliminate the effect of this etiologic factor. In particular, the deficit of substances with a labile methyl group was offset, which is necessary to ensure the normal functioning of the liver. In addition, they ensured the receipt of irreplaceable (for cats) amino acids, the lack of which, in violation of the conditions of feeding, adversely affects, first of all, the function of the liver.

**Kravchenko S. O., Bobrova V. V.** Ultrasonography changes in acute and chronic pancreatic inflammation in cats // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 138–142.

Diagnosis of inflammatory pancreatic disease in the absence of specific tests: fPLI (specific pancreatic lipase in cats) and TLI (trypsin-like immunoreactivity), which today are the gold standard for the diagnosis of pancreatitis in cats, but are not available yet in our country for clinicians, is quite complex in the absence of a specific clinical picture, due to the peculiarity of the course of this disease in this species of animals. Ultrasound scanners with high-sensitivity sensors are relatively accessible today in the daily practice of a veterinarian and this visual method of diagnosis makes it possible to assess the presence or absence of structural changes in the pancreas of cats with a non-specific clinical picture of the disease. The article analyzes the possibilities of the ultrasonic diagnostic method in the study of this organ in this species of animals clinically healthy and patients and correlation of the revealed changes with the clinical symptoms of the disease are carried out.

#### THE YOUNG SCIENTIST'S PAGE

**Oliynyk O. O.** Peculiarities of substrate selection for in vivo adaptation of plants-regenerates of rose essential oil // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 143–146.

In research we studied substrates selection for successful adaptation of rose essential oil (variety

Lan') after microclonal propagation. The results showed that the most advisable is to use a mixture of peat and perlite in a ratio of 2:1. The survival rate of plants on the peat mixture with river sand was 70 % after 14 days of adaptation period. In the corresponding period this index was 62 % on a coconut

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substrate without impurities and 60 % on a coconut substrate with perlite. Using of a single-component substrate for the adaptation of rose essential oil are inadvisable, because the adaptation efficiency doesn't exceed 50 %.

**Molchanova A. V.** Technical characteristics of Poltava polygon of solid waste and the state of soil and air of populated areas // Bulletin of Poltava State Agrarian Academy. – 2017. – № 4. – P. 147–149.

There are no significant changes in the work of Poltava polygon of solid waste. Thus, during the last 5 years nothing was done, except the purchase of 4 bulldozer machines and the installation of automobile scales. The amount of accumulated livelihoods increases. Therefore, the problem of waste management is one of the key environmental problems.

**Makeieva O. V.** Ecological justification for the formation of a regional ecological network for determining the directions of functioning of riverside zones. Theory and practice // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 150–152.

The current state of Ukraine's natural landscapes partially meets the criteria for referring them to the General European Ecological Network. Deteriorating conditions for securing the territorial unity of sites with natural landscapes that make it difficult and sometimes impossible to make spatial biological exchange processes that are inherent in living nature.

Based on the results of survey methods, the place, role and current state of development of regional ecological networks have been studied and described within the framework of the national pro-

gram for the formation of the national ecological network of Ukraine for 2000–2015. The main principles of econetwork formation and their application at different stages of the program implementation are covered. A model for expanding the ecological network by functioning riverine zones was offered, having adopted the ecosystem of the Poltava riverine park in an ecologically stable functioning territory in a city where it is important not only to preserve the biocenosis but also to reserve and continue to grant status as a typically unique ecosystem based on stability indicators.

**Fediaieva A. S.** Improvements of the conditions of keeping of boars of foreign breeding, the impact of exercise on the production of sperm // Bulletin of Poltava State Agrarian Academy. – 2018. – № 1. – P. 153–155.

In the article materials are given on the use of exercise and the improvement of technological conditions for keeping of boars of foreign selection. Also the impact of the exercise on the production and quality of semen under the conditions of the current economy of the state enterprise «National Plus» of the private enterprise «National» of the Dnipropetrovsk region was studied.

We established that the introduction of the exercise and the improvement of the conditions of keeping of boars of foreign breeding positively influenced on the physiological state of the boars, which led to an improvement in the quality of the sperm. Also in the conditions of farming, the best genotypes of boars-producers are revealed. One of the main is the terminal boars of the Macster line (Canadian breeding), which in all respects exceeded all other boars.

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