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## SUMMARIES

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**Pryimak V.V. – A description of incubation apparatus of different systems of the second half of the XIXth century and the beginning of the XXth century**

The paper provides a historical overview of the application of incubation equipment of different systems of the second half of the XIXth century and the beginning of the XXth century. The material researched allows expanding the knowledge about the use of incubators that were not in the least inferior to natural hatching.

**Key words:** poultry, incubator, apparatus, breeding, temperature, humidity.

**Boroday V.P., Bazyvolyak S.M. – Raising young replacement chickens of table crosses with the use of different equipment**

The article presents the results of raising young replacement chickens of meat crosses with the use of foreign equipment manufactured by *Big Datchman* and *Plury-Tek* companies. It shows that the application of the equipment of these companies leads to high indices of stock uniformity and survival at the background of efficient feed consumption. The use of the *Plury-Tek* feeding system favors higher productivity of young replacement poultry.

**Key words:** young replacement chickens, raising, Big Datchman, Plury-Tek, live weight.

**Afonchenkova T.M., Masenko B.P. – The application of a logistic concept in planning for an electric power supply system for an autonomous agricultural consumer**

The paper considers the expediency of applying a logistic concept to the planning of an electric power supply system for autonomous consumers in the agricultural sector of economy.

**Key words:** electric power supply, logistic flows, power resource, electricity consumption, control system.

**Besulin V.I., Gordiyenko V.M., Karkach P.M., Kuz'menko P.I. Fesenko V.F., Fomenko S.G., Merkulova I.V. – The introduction of theoretical works of Academician V.Kovalenko into quail farming technologies**

The article presents the results of using theoretical works of Academician V.Kovalenko for an in-depth understanding of the effect of probiotic drugs on the productive and other characters of quails under technological stresses.

The study looks at the effect of the probiotic supplement *Protecto-active* on the development of quails raised under semi-intensive and intensive technologies. It shows that this feed supplement reduces a negative influence of the technological stress on the poultry.

**Key words:** probiotic *Protecto-active*, quails, females, males, semi-intensive and intensive technologies, indices of formation intensity, growth intensity, growth uniformity, productivity.

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**Bigun P.P., Bigun Yu.P. – The use of feed supplement *Camprovit* in poultry farming**

The study deals with the effect of the feed supplement *Camprovit* based on phytocomposition, pig's skin and *bacillus coli communis* on the metabolic processes in poultry. It shows that the use of the feed supplement at a rate of 1.0g per 1kg of live weight increases average daily increments and survival of poultry.

**Key words:** feed supplement *Camprovit*, poultry, average daily increment, survival.

**Vovchenko B.O., Guz' N.S. – The basics of the sheep breeding economics on a farm**

The study determines the highest economic value of twin lambs that are characterized by high productivity indices. This ensures high profitability, especially in sheepskin production and processing, and creates possibilities of equal functioning of the sheep breeding and processing industries.

**Key words:** sheep breeding, mutton-wool sheep, Askanian crossbred, sex and age group, sheep breeding products, twin lambs, farm.

**Novikova Y., Vovchenko B.O., Ryapolova I.O. – The effect of biologically active substances on the productive characters of sows**

The paper determines that the introduction of a complex multi-vitamin supplement *Chicktonic* to pregnant sows of the big white breed has a positive effect on their health and milk production, which in its turn contributes to the growth and development of piglets and their survival before weaning.

**Key words:** biologically active substances, sows, piglets, live weight, survival.

**Vovchenko B.O., Finchenko O.V., Savchenko I. – The study of wool production of sheep having sulphur-containing substances in their rations on the farm *Zelenyi Ranok* in Tsyurupyns'k district, Kherson region**

The study shows the expediency of using sulphur-containing feed supplements as one of the reserves of qualitative and quantitative improvement of wool production: sodium hyposulphate at a rate of 5-10 g per sheep, that is 3.8-4.2 g of sulphur.

**Key words:** ewes, Askanian fine-fleece sheep, development, sulphur-containing substances, live weight, wool clip.

**Bashchenko M.I., Kovtun S.I. – The current state and prospects for biotechnology applications in livestock production**

The paper analyzes the current state of biotechnology applications in livestock production and outlines a strategy of using modern breeding methods based on cattle embryo transplantation. It describes the embryo transplantation situation in advanced countries of the world and substantiates prospects for efficient application of biotechnology methods in Ukraine's animal husbandry.

**Key words:** cattle, embryo transplantation, early embryogenesis, sexed sires' sperm.

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**Voloshchuk V.M., Voloshchuk A.V., Ivanov V.O. – The reproductive capacity of boars-sires and sows on the pig breeding farm *Shamrayivs'kyi***

The study determines the variants of the combinations of parent pairs for industrial crossing on the pig-breeding farm *Shamrayivs'kyi* (Kyiv region): landrace boars-sires and big white sows. Yorkshire boars turned out to be more demanding to the feeding and keeping conditions.

**Key words:** pig breeding, breed, reproduction, boars-sires

**Gonchar A.O., Gutsulyak G.S. – The problems of using highly productive cows in dairy industrial complexes**

The paper highlights the main problems of the reproductive capacity of highly productive cows in industrial complexes. It also presents a new technology of increasing the dairy stock by the insemination of the pedigree herd with sexed sperm.

**Key words:** cattle breeding, reproductive capacity, sex cycle, service period, environmental factors

**Gorlov O.I., Mokeyev I.O., Ivina K.A. – The development of an information and analytical system in sheep breeding**

The article provides the results of the development of an information system for sheep breeding and its evolution from the system of automated breeding accounting to the information and analytical system that uses our new techniques, algorithms and software products and allows making an in-depth selection and genetic analysis of characters from the database.

**Key words:** information and analytical system, breeding and genetic analysis, databases

**Gratylo O.D., Smenov V.F., Smenova G.S., Petrychuk L.I. – A system of feed production for sheep in the southern dry steppe of Ukraine**

The paper provides data on the development of a system of feed production for sheep in the southern dry steppe of Ukraine. The components of the system are a pasture and raw material chain and an optimal structure of the sown area taking into consideration the economic efficiency of feed crop cultivation.

**Key words:** feed base, rain fed agriculture, cultured pastures, raw material chain, grass and leguminous mixture, annual drought-resistant crops, sown area structure, economic efficiency.

**Debrov V.V., Strilets' K.I. – Egg mass of modern crosses as one of the main characteristics of their marketable qualities**

The study considers changes in the dynamics of egg mass of modern highly productive crosses according to the egg production periods. It shows that *High Line white* and *High Line brown* combine a high egg mass with a high egg production. The highest average egg mass is recorded at the end of the productive period, hence laying chickens of modern crosses should be used as long as possible.

**Key words:** egg mass, modern crosses, regularities of average egg mass formation, assessment of lines and end hybrids, distribution classes.

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**Debrov V.V., Tors'ka S.M. – The morphological composition of eggs of modern highly productive crosses as the main character of their marketable qualities**

The article addresses the questions of the dynamics of the quantitative and qualitative composition of eggs of chicken crosses *High Line brown* and *High Line white*.

It shows that the white and yolk mass, specific weight of the white of eggs of *High Line white* are considerably lower than of *High Line brown*. The eggshell mass as the main guarantee of its thickness and thus of the protection of marketable qualities of eggs during storage and transportation is 11-12% of the egg mass and does not change significantly throughout the age period of 25-42 weeks.

**Key words:** mass of the white, yolk mass, eggshell mass, specific weight, change dynamics, age of poultry, morphological composition.

**Kanyuka O.Yu. – Assessment of the active acidity level of different muscle groups in pigs**

The paper provides data on the active acidity level of different muscles in pigs of different weight groups. It determines that the active acidity level of muscle tissues helps to describe physical and chemical processes in the carcasses of pigs after slaughter. The study graphically shows that active acidity of muscle tissues depends on the location of the muscle in the carcass, and on the live weight of animals. Different muscles have their own optimal level of the dynamics of changes in the index of active acidity throughout the maturation period.

**Key words:** pigs, active acidity, muscle tissue, assessment, quality, maturation intensity.

**Kovalenko V.F., Bindyug O.A., Bindyug D.O. – Technological features of conducting physiological balance tests under oscillating feeding of young pigs**

The paper provides a theoretical and experimental substantiation of the necessity of improving the rhythmical feeding of pigs taking into account their growth biorhythms. It describes a procedure approach to the preparation and conducting physiological balance tests of young pigs under different feeding patterns: uniform rated feeding, liberal, and rhythmical-oscillating feeding (non-uniform). The paper presents a test design for different feeding patterns and underlines its difference from and similarity to classical balance tests.

**Key words:** pig, feeding pattern, growth biorhythms, physiological balance test, oscillating feeding.

**Yukhno V.M., Kovalenko V.F. – Slaughter qualities of pigs having emulsified beef fat in their rations**

The article features some indices of slaughter qualities of pigs having emulsified beef fat in their rations. This accelerates pigs' reaching a mass of 100 kg, improves slaughter qualities (reduces lard thickness and increases «muscle eye» area), raises the dressing percentage, increases the amount of meat and decreases the amount of fat.

**Key words:** emulsified fat, live weight, average daily increment, dressing percentage, lard thickness, half-carcass length, «muscle eye».

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**Kononenko S. I. - Combined feeds with rape cake**

The article assesses the efficiency of using rape meal of «00» varieties in the rations of young pigs. During the investigation period, the average live weight of piglets of group 2 increased up to 18.36 kg, i.e. by 1.47 кг (8.6%) more than in the control group. Gross live weight increment in the control group was 12.32 кг. The study determines a positive influence of substituting 10% of sunflower cake for rape cake of «00» rape varieties.

**Key words:** hog raising, feeding, sunflower-seed meal, rape

**Markelova A.V., Kostenko V.M. – The use of corn silage mixed with cruciferous crops in the feeding of cows**

The article highlights the issues of using corn silage mixed with oil radish (75:25%) in the rations of cows and their effect on milk production and milk quality. The introduction of silage into the rations of lactating cows contributed to an increase in milk protein by 0.08%, and in lactose - by 0.02%.

**Key words:** corn silage, cruciferae family, milk production, milk quality, nutritional value of fodder.

**Kotlyar O.S. – Vermiculture biomass meal as a source of essential amino acids in the feeding of suckling pigs**

The paper looks into the possibility of using vermiculture biomass meal in the feeding of suckling pigs with a live weight of 8-20 kg. It considers the typical rations for piglets and amounts of feed supplements of animal origin that can be saved.

**Key words:** feeding of suckling pigs; sources of essential amino acids; vermiculture biomass meal.

**Tsvigun A.T., Len'kov L.G. – Digestibility of nutrients by young Symmenthal beef cattle under different raw fat content in their rations**

The paper presents the results of studying the character of digestibility of nutrients by male calves and heifers of Symmenthal beef cattle under the optimization of raw fat content in their winter and summer rations due to the use of rape oil. It shows that the optimization of raw fat content in feed rations contributes to the digestibility of the main food nutrients; however the excess level of such fat does not lead to the results expected.

**Key words:** male calves, heifers, rape oil, raw fat, digestibility, average daily increment.

**Lysenko V.F. – Dairy servicing co-operatives as a promising area of the development of the milk production industry in the Kherson region**

The article analyzes the state of the milk production industry of the Kherson region, and focuses on dairy servicing co-operatives.

It substantiates the main factors hindering the development of modern dairy servicing co-operatives, and provides data on the viability of such enterprises and the possibility of their integration into the milk production industry.

**Key words:** milk, feeds, feed production, servicing co-operatives, industry, processing enterprises, feeding.

**Lykhach V. Y., Lykhach A. V., Trybrat R. O., Konovalov I. V. – Productive characters of landrace pigs in the adaptation period**

The article provides the results of research into the impact of the adaptation process on the manifestation of productive characteristics of landrace pigs under the conditions of industrial technologies. It shows that acclimating animals display significant advantages over next generations according to all indices of growth intensity and reproductive characteristics. The lowest indices were displayed by the offspring of the first generation of imported pigs.

**Key words:** pigs, landrace pigs, adaptation, reproductive characteristics.

**Lisna T. M. – Specific features of digestibility of feeds in young pigs of pork genotypes of Ukrainian and foreign selection**

The article presents the results of determining the level of digestibility of feed nutrients, as well as the metabolism of nitrogen and mineral elements in young pigs of different genotypes under the conditions of the physiological research department of the Institute of pig breeding of the steppe regions Askania Nova.

**Key words:** pigs, breeding, breed, genotype, adaptation, metabolism.

**Lobchenko S.F. – Research into the ability of spermatozoids to penetrate the shining membrane of the ovicell of the pig outside the body**

The paper studies the ability of ejaculated and specially prepared spermatozoids of boars to penetrate the shining membrane of the extra-body oocytes of a sow. The results show that the preparation procedure used did not lead to the ability of spermatozoids to penetrate the shining membrane or accumulate in it like it occurs during a spontaneous process of the interaction of gametes in the pig.

**Key words:** shining membrane, penetration, pig, spermatozoid, outside the body.

**Lobchenko V.O. – Special cell formations in the oocyte-cumulus complex of the pig**

The paper examines the cytological state of separate cells and the morphology of the cumulus mass of oocyte-cumulus complexes from the follicles of the ovary of the pig. The study identifies new morphological structures in the cumulus mass of oocyte-cumulus complexes that appear at the final stage of follicle maturing. Such structurization reveals itself in the existence of special cell formations called sub-cumulus complexes. The physiological role of these formations remains unknown.

**Key words:** oocyte-cumulus complex, pig, sub-cumulus complex, follicle

**Nazarenko S.O. – The optimization of the housing density of broiler chickens reared in separate sex-based groups**

The study shows that raising broiler chickens in separate sex-based groups favors a higher survival rate of young table chickens and increases the dressing percentage per floor area unit of the poultry house. The use of this method together with the thinning of the stock at the age of 30- 35 days allows obtaining an additional 105.48 UAH profit per 1m<sup>2</sup> of the floor area of the poultry house.

**Key words:** broiler chicken, live weight indices, meat productivity, housing density, thinning of the stock.

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**Nikolayeva Y.V., Nazarenko S.O. – Ways of improving table egg production technologies on the poultry farm *Chernobayivs'ke***

The article analyzes the efficiency of table egg production in a closed and open production cycle. It shows that the efficiency of using hens from the parent stock enhances as the number of hens of the industrial stock increases. Thus, one of the ways of raising the profitability of the industry is the optimization of the structure of the flock.

**Key words:** closed production cycle, open production cycle, chickens, replacement young generation, parent stock, industrial stock, stock structure, economic efficiency.

**Nechmilov V. M. – A milking machine for sheep**

The paper provides the results of the development of a parlor milking installation for sheep that can be used for the semi-automatic fastening and unfastening of animals, for feeding them with concentrated feeds, for visual control of quantitative and qualitative characteristics of milk in the process of milking; it helps to guarantee a stable technological process of milking, eases the manual work of a milker, reduces the bacterial contamination of milk.

**Key words:** technology, parlor milking installation, machine milking, ewe, sheep's milk.

**Novgorods'ka N.V., Lyotka G.I., Demyanyuk T., Rozbors'ka V. – The use of selenium and manganese in the premix for fattening pigs**

The paper examines the impact of the improved premix VII2 of a balanced mineral and nutritive composition (manganese amount increased from 300 up to 1350 g/t of the premix; selenium in the form of sodium selenite was additionally introduced at a dose of 22 g/t of the premix) on the productive characteristics of fattening pigs.

**Key words:** premix, selenium, manganese, pigs, fattening

**Patreva L.S., Shevchenko T.V., Pys'menna I.V. – The dynamics of egg mass of ducks of the *Temp* cross of different ages and productive periods**

The paper examines the egg mass of ducks of the *Temp* cross of the first and second years of the productive period.

It shows that yearling ducks have a higher egg mass at the beginning of the productive period and display this regularity throughout the whole production period ensuring a quick start of the incubation company.

**Key words:** yearling ducks, pullets, egg mass, productive period.

**Ivanov V.O., Arkhangel's'ka M.V., Patreva L.S., Shevchenko T.V. – Specific features of the feeding of laying hens in the second phase of egg production on the poultry farm *Chernobayivs'ke* (Bilozerka district of the Kherson region)**

The study determines the necessity of feeding laying hens with combined feeds varying in composition and nutritive value in different phases of egg production.

**Key words:** raw protein, fiber, macro elements, microelements.

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**Arkhangel's'ka M.V., Patreva L.S., Shevchenko T.V. – The effect of the housing systems on the main productive characters of ducklings of the Temp cross raised for meat**

The study identifies a positive impact of raising ducklings in equal-weight groups on the main characteristics of their meat.

**Key words:** ducks, raising, meat quality.

**Pentylyuk S.I. – A comparative evaluation of the productivity of pigs having different feed supplements in their rations**

The study features the results of using feed supplements *I-Cak* and *Biomos* or their combinations in the rations of young pigs. Live weight dynamics analysis allows determining the conditions and expediency of the application of these drugs.

**Key words:** feeding, feed supplements, pigs, piglets, productivity.

**Strel'chuk L.S., Pentylyuk S.I. – The productivity of young sheep having a probiotic supplement in their rations**

The paper presents the results of using the probiotic supplement *I-Cak* in the rations of young sheep. The assessment of productivity indices made it possible to determine the effect of the drug under study on the dynamics of live weight and wool clip of young sheep.

**Key words:** feeding, feed supplements, sheep, young rams, productivity.

**Shatnyuk M.S., Pentylyuk S.I. – The use of brewing waste in the rations of pigs**

The article presents the results of using a protein feed supplement of brewing waste in the rations of young pigs. The assessment of live weight dynamics of animals made it possible to determine specific features of the growth of gilts under the influence of the feed factor.

**Key words:** feeding, feed supplements, pigs, productivity.

**Pidtereba O.I., Smyslov S.Y., Odaryuk M.M. – Prediction of the economic expediency of pork production as a guarantee of production profitability**

The paper considers the main causes of a lower profitability of pork production farms: the unstable market and inefficient price policy. It shows that the software products developed help to determine risk limits and make timely predictions and corrections of production indices.

**Key words:** pork production, prediction, software products, profitability.

**Pishchan S.G., Lytvyshchenko L.O., Gutsulyak G.S. – Lactation duration and physiological tension of Holstein primapara heifers**

The study shows that the physiological activity of primapara heifers throughout the period of 305 lactation days has a tendency toward increasing together with the length of the productive period. The lactation function of primapara heifers is the highest in a very long productive period and the lowest in a very short lactation period, their live weight being practically the same. However, after ten months of lactation, the physiological activity of primapara heifers reduces regarding the synthesis and secretion of milk.

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**Key words:** cow, primapara heifer, milk yield, milk fat, protein, lactation.

**Povod M.G. – Intensive technologies of pork production on individual farms**

The paper analyzes pork production by individual peasant farms and proposes a technology of pork production for an individual peasant farm with eight sows (200c of pork per year). It considers the efficiency of intensive pork production on individual peasant farms and substantiates its good prospects.

**Key words:** technology, production rhythm, farrowing, finishing, fattening, feed consumption, increment.

**Stavets'ka R.V., Rudik I.A. – The determination of the optimal insemination time of cows**

The paper determines optimal insemination time of cows after calving and its influence on the reproductive and productive characters of cows. Later insemination after calving leads to a longer service period, higher milk yields, higher fat and protein content, and a lower calf yield and reproductive capacity index. Thus, a one-day-longer service period, beginning from day 80 after calving, results in a lower calf yield (on average 0.2 heads per 100 cows). If farms are interested in milk production only and can purchase replacement animals, it is expedient to conduct the first after-calving insemination not earlier than on day 80. If a farm produces their own replacement heifers, it is expedient to inseminate cows 40–80 days after calving.

**Key words:** insemination time, service period, insemination index, conception rate, calf yield, milk production.

**Sakhats'kyi M.I., Sakhats'kyi G.I., Leshchenko V.A. – Egg laying dynamics of ducks of the parent stock before and during the technological light day**

The paper examines the egg-laying dynamics of ducks before and throughout the light technological day and assesses a technique of increasing the yield of incubation eggs. It shows that egg picking two hours before the beginning of the light technological day (egg production intensity being not less than 90-92%) and one hour before it (egg production intensity decreasing to 75-80%) ensures a 13.7% increase in the yield of incubation eggs

The study was conducted on the research farm of the Southern branch of the National University of bioresources and nature management of Ukraine *Crimean Agrotechnological University*.

**Key words:** ducks, parent stock, egg production, technology.

**Osepchuk D.V., Kononenko S.I., Skvortsova L.M. – The study of a possibility of substituting sunflower oil for oily kieselguhr in combined feeds for young pigs**

The article presents experimental data on the efficiency of substituting sunflower oil in the rations of young pigs for the wastes of the oil-extracting industry - oily kieselguhr. It does not record any negative effect of the supplement under study on weaners' health and their pork and lard productivity.

**Key words:** oily kieselguhr, sunflower oil, young pigs, feeding, meat productivity, economic efficiency.

**Sychov M.Y. – Meat productivity of quails depending on different sources of lipids in combined feeds**

The paper provides the results of research on the effect of different sources of lipids in combined feeds on meat productivity of quails. It shows that the use of feeds containing soybean oil throughout the rearing period of table quails has a positive effect on their slaughter characteristics.

**Key words:** quails, sources of lipids, slaughter qualities, carcass mass, dressing percentage.

**Agapova E.M., Susol R.L. – Productive characters of big white pigs with improved pork-making qualities**

The study makes an overall evaluation of the productive characters of pigs of the intrabreed type *Prychernomors'kyi* with improved pork-making qualities that is being selected within the big white breed using the genotypes of big white pigs of foreign breeding.

**Key words:** pig productivity, big white pigs, intrabreed type *Prychernomors'kyi*, breeding.

**Prokopenko P.S., Martynov D.G. – A comparative evaluation of the application of iron-containing imported and Ukrainian drugs for preventing alimentary anemia in piglets**

The paper examines the effect of the application of iron-containing drugs *Bioferon* (produced in Ukraine) and *Ferodex* (produced in Poland). It shows that intramuscular 2 ml injections of suiferon on the second and 20<sup>th</sup> day of life provide piglets with iron for the whole suckling period.

**Key words:** piglets, anemia, iron-containing preparations, domestic manufacture.

**Chernyshov I.V., Khomiv G.Y. – The formation of light sensitivity of pigs and its impact on the manifestation of productive characters**

The article describes some factors causing stress in pigs, outlines the mechanisms of stress-responses as well as the methods used to prevent stresses.

**Key words:** stress, stress factor, feed stresses, climatic stresses, technological stresses, anxiety stage, resistance stage, exhaustion stage, syndrome, tranquilizers, adaptogens.

**Shats'kyi V.V. – The main problems and trends in the development of the technical and technological potential of animal husbandry**

The article presents a methodology and results of studying the regularities and directions of the development of technical and technological provision of animal husbandry.

**Key words:** equipment, technology, biosystem, production, quality, competitiveness.

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**Sheremeta V.I., Gruntkovs'kyi M.S. – Ovulation stimulation in cows by a biologically active drug**

The study conducted shows that two under-skin injections of the drug *Stimulin Vet* with a neurotropic and metabolic effect 12 and 24 hours after insemination favor the ovulation of follicles in the ovaries of cows and reduce the number of animals with the anovulatory cycle by 28.6 % ( $p < 0,05$ ) compared with the control group.

**Key words:** cow, pregnant, non-pregnant, anovulatory cycle, embryo mortality, *Stimulin Vet*, artificial insemination, ovulation.

**Yakovchuk V.S. – A comparative assessment of the intensive fattening of lambs of the Askanian fine-fleece breed with a different lambing time**

The study makes a comparative assessment of the intensive fattening of lambs with a different lambing time. It shows that the fattening of April-born lambs contributes to a 25.3 UAH/head cost reduction only at the expense of a lower price for fodder grain on the market.

**Key words:** young sheep, intensive fattening, dressing percentage, intramuscular fat, hematological indices.

**Ivanov V.O., Voloshchuk V.M., Popova N.V., Ivanova L.O. – Ways of solving the problems of technological stresses in pig breeding**

The article examines the expediency of determining a disposition to stress in young pigs according to the coefficient of live weight change ( $K_{lwc}$ ) in the period of a 10-day action of technological stress. The application of the method proposed allows selecting parent pairs for producing multi-purpose populations and stocks where it is possible to obtain one or several maximally developed productive characters.

**Key words:** pig breeding, stress disposition, live weight, selection.

**Pyshmantseva N.A. – Probiotic *Prolam* in the rations of broiler chickens**

The article features the results of assessing the efficiency of using a probiotic drug *Prolam* in the combined feeds for broiler chickens.

**Key words:** poultry farming, broilers, probiotic, survival rate.

**Ivin A.M. – Points and build features of young replacement pigs of the Ukrainian white steppe breed**

The article presents the results of research into the line assessment of descendants of boars-sires of the Ukrainian white steppe breed in age dynamics under the conditions of the breeding farm of the *Prod-Alliance* company in the Chaplyns'kyi district, Kherson region.

**Key words:** young replacement pigs, boars-sires, line assessment, measurements, build indices.

**Maslyuk A. M. – Age dynamics of reproductive characters of Ukrainian white steppe sows**

The paper provides the results of studying the age dynamics of reproductive characters of Ukrainian white steppe sows taking into account the serial number of the farrowing. It shows that the polycarpic effect increases up to the sixth farrowing

and then gradually reduces and remains at the first class level. The greatest litter mass was recorded in the third farrowing, but it somewhat reduced in further farrowings.

**Key words:** pigs, age dynamics, polycarpic effect, milking quality, litter mass.

**Prudchenko D.V., Pentylyuk S.I. – The study of the expediency of combining different supplementss in the feeding of pigs**

The paper presents the results of using an enzyme and probiotic drug *Cellobacterin* in combination with an antimicrobial drug *Bimos* or absorbent *Micosorb* in the rations of sows and piglets. The analysis of the reproductive characters of sows and live weight dynamics of piglets made it possible to determine the conditions and expediency of applying these drugs.

**Key words:** feeding, feed supplements, sows, piglets, sex, productivity.

**Syvak M.A., Pentylyuk S.I. – Adding gluten to the rations of pigs**

The article examines the results of using an enzyme and probiotic drug *Cellobacterin* in combination with an antimicrobial drug *Bimos* or absorbent *Micosorb* in the rations of young pigs and boars. The evaluation of productivity characters of animals allowed determining specific features of their growth under the influence of the feeding factor.

**Key words:** feeding, feed supplements, sows, piglets, sex, productivity.

**Suchocka T, Pentilyuk S - Features the influence of amino acid supplements Liprot on productivity of sows and piglets**

This paper presents the results of amino acid supplements LIPROT and its impact on the quality of reproductive sows and piglets live weight dynamics. Estimation of productivity of the animals allowed to determine the feasibility of using the developed formulation of protein-mineral-vitamin supplements.

**Keywords:** feeding, food additives, sows, piglets, productivity.

**Zabashta M.M., Golovko O.M., Polezhayeva O.A., Moskalenko E.A. – Ecological aspects of meat raw material production for making products of children's and functional nutrition**

The paper assesses the ecological safety of meat raw material for making products for children's and functional nutrition, and determines that environmentally unsafe in raw material zones are not only toxic substances of anthropogenic origin, but also biological objects (anti-nutritive substances, spores and toxins of microscopic fungi). This causes a decrease in all zootechnical and clinical indices of growth and development of farm animals as well as in the quality of meat raw material.

**Key words:** meat raw material, children's and functional nutrition, ecological safety.

**Konovalov V.S. - Unrealized possibilities of large-scale selection under the assessment of genetic risks in cattle breeding of Ukraine**

The study makes a retrospective and comparative analysis of the monitoring of mutation processes in selection. It provides a detailed description of the organization of genetic monitoring in populations.

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**Key words:** genetics, mutations, international list, genetic load, pathogenetics, cytogenetic control.

**Vdovychenko Yu.V., Omel'chenko L.O., Naidyonova V.O. – Ecological aspects of establishing a cattle breeding industry in the steppe zone of Ukraine**

The article presents the results of studying the use of the gene pool of southern beef cattle for establishing hybrid herds and breeding beef cattle under the conditions of organic production. It shows that pasture fattening of hybrid animals provides a growth rate of 944-1046 g; they are also resistant to diseases and extreme environmental conditions. The economic effect of keeping and fattening hybrid cattle amounts to 1920-2059 UAH/head per year; a significant ecological effect is also observed.

**Key words:** southern beef cattle, genotype, hybrid herds, organic production, growth energy, ecologically pure beef, environmental effect.

**Pylypenko Yu.V., Pentylyuk R.S. – Specific features of establishing stable artificial hydroecosystems in small water reservoirs**

Based on the case study of small water reservoirs, the paper proposes a system of compensatory water protection measures for the stabilization and improvement of the ecological condition of artificial hydroecosystems. It substantiates the procedure of water quality management through a system of water protection measures. Special attention is paid to the biological components including purposeful formation of bio-ameliorative ichthyocenoses.

**Key words:** environmental protection, ecology, water reservoirs, fish breeding.

**Rozputniy O.I., Pertsyovyi I.V., Herasymenko V.Yu. – The evaluation of  $^{137}\text{Cs}$  and  $^{90}\text{Sr}$  accumulation in cow's milk and meat on radioactively contaminated forest-steppe territories in the southern part of the Kyiv region after the Chrenobyl nuclear catastrophe**

The article evaluates the ecology of milk and beef production on radioactively contaminated forest-steppe territories in the southern part of the Kyiv region (case study of the Bila Tserkva district). It investigates the activity of radionuclides  $^{137}\text{Cs}$  i  $^{90}\text{Sr}$  in feeds, cow's milk, muscle and bone tissue of male calves reared on pig breeding farms *Nadiya* and *Ivanivs'ke* in the zone of radioactive contamination, and in the research and production center affiliated with the Bila Tserkva National Agricultural University situated in the presumably clean area.

The study calculates the coefficients of  $^{137}\text{Cs}$  and  $^{90}\text{Sr}$  transition into milk and beef and shows that these products obtained on radioactively contaminated forest-steppe territories meet the criteria of radioactive safety according to  $^{137}\text{Cs}$  i  $^{90}\text{Sr}$  activity.

The research conducted confirms that on radioactively contaminated forest-steppe territories of Ukraine milk and beef can be produced without any limitations.

**Key words:** milk production, radionuclides  $^{137}\text{Cs}$  i  $^{90}\text{Sr}$ , radioactive contamination of livestock products

**Sobol' O.M. – Ecological and adaptive characteristics of mares of the Orlov trotting breed under the conditions of private farms**

The study assesses specific features of the manifestation of the main ecological and adaptive characteristics of mares of the Orlov trotting breed under the conditions of private farms of the Kharkov region in comparison with mares of local selection. The differences in such parameters as build, seasonal live weight changes, and the effect of natural and economic factors are insignificant. Orlov trotting mares show lower pairing indices (- 31.0%), have a higher conception (+24.1%) and foal (+ 7.5%) rate.

**Key words:** horses, adaptation, Orlov trotting breed, local selection, measurements, live weight, reproductive rate.

**Kyyanovs'kyi O.M., Vybornov A.V., Grinkevych L.Z. – The impact of electromagnetic radiation on the temperature in the nests of bee colonies and on the flying activity of workers**

The study compares the flying activity of bees under the conditions of electromagnetic radiation (temperature in the nests of bee colonies before and after treatment; flying activity of workers at 10, 12, 14 and 16 o'clock) and without radiation. It shows an increase in the temperature in the nest by 3-5 °C, and flying activity activation.

**Key words:** bee-keeping, flying activity, electromagnetic radiation.

**Kyyanovs'kyi O.M., Vybornov A.V., Grinkevych L.Z. - The impact of electromagnetic radiation on the productivity of bee queens**

The paper determines behavioral responses of bees to the action of the low-frequency electromagnetic field, and identifies the impact of electromagnetic radiation on the average daily productivity of queens. The electromagnetic field with a frequency of about 500 Hz caused excitement in bees that manifested itself in the temperature rise in the nest of bee colonies.

**Key words:** bee-keeping, electromagnetic radiation, temperature, productivity.

**Shkarapata Y.E., Didenko S. V., Pylypenko Yu.V., Kozar I.M., Lemeza I.S. – The spark-erosion effect on water in the process of its preparation**

The study attempts to assess the possibility of purifying the water of closed systems of water supply for processing plants and district heating systems using a modern alternative method of spark-erosion coagulation.

The results obtained show that the application of spark-erosion coagulation on an industrial scale, efficient operation modes for specific water supply systems can be an effective method of purifying the circulating water of processing plants of corrosion-aggressive and contaminating substances and hardness salts.

**Key words:** spark-erosion treatment, coagulation, hardness salts, corrosion aggressiveness.

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**Shkarapata Y.E., Didenko S. V., Lemeza I.S., Dzyuba V.P., Lazer P.N. – Research into the biostimulating effect of the microwave electromagnetic field**

The paper looks into the biostimulating effect of the microwave electromagnetic field (EMF) on the biological energy of seeds of new sunflower varieties and hybrids that are being widely adapted to the conditions of agricultural enterprises in southern Ukraine.

The studies show that the presowing microwave treatment of sunflower seeds can increase their yielding capacity by 7 - 28%.

The method proposed is economical, ecologically friendly, simple in use, and can be expediently applied in agribusinesses.

**Key words:** *electromagnetic field (EMF), seed, ecologically clean products.*

**Shekk P.V., Kryukova M.I. – The formation of ichthyofauna of the Khadzhybey estuary**

The study analyzes changes in the qualitative composition of the ichthyofauna of the Khadzhybey estuary and Paliyev bay that have occurred under the influence of abiotic factors over the past years. Based on comprehensive monitoring, it characterizes the current state of ichthyofauna of the Khadzhybey estuary. The article provides recommendations to increase biodiversity, and fish production formation in the estuary at present.

**Key words:** Khadzhybey estuary, ichthyofauna, fish productivity, acclimatization.

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## ПОЛОЖЕННЯ ПРО ФАХОВЕ НАУКОВЕ ВИДАННЯ «ТАВРІЙСЬКИЙ НАУКОВИЙ ВІСНИК»

Науковий журнал видається за рішенням науково-координаційної ради Херсонської області Південного центру Національної Академії наук України, вченої ради Херсонського державного аграрного університету та Президії Української Академії Аграрних наук з 1996 року. Зареєстрований у ВАК України в 1997 році «Сільськогосподарські науки», перереєстрацію пройшов у червні 1999 року (постанова президії ВАК № 1-05/7), у лютому 2000 року (№ 2-02/2), додатково «Економіка в сільському господарстві», у червні 2007 року (№ 1-05/6) додатково «Іхтіологія» та у травні 2010 року «Сільськогосподарські науки» (№ 1-05/3). Свідоцтво про державну реєстрацію КВ № 13534-2508 ПР від 10.12.2007 року.

Журнал публікує нові теоретичні, практичні, аналітичні, узагальнюючі, постановочні та науково-методичні статті з актуальних питань аграрної науки. Основні фахові напрямки: землеробство, рослинництво, овочівництво та баштанництво; тваринництво, кормо виробництво, збереження та переробка с.-г. продукції; меліорація і родючість ґрунтів; іхтіологія та аквакультура; регіональна економіка АПК і розміщення продуктивних сил, економіка природокористування і охорона навколишнього середовища; підприємництво, менеджмент, маркетинг, правове забезпечення галузей АПК, економіко-математичне моделювання.

Видання журналу здійснюється за рахунок відшкодувань витрат установами, які входять до системи УВНК при Херсонському державному аграрному університеті, окремих юридичних і фізичних осіб. Мова журналу – українська. **Стандарт видання – міжнародний.** Періодичність видання – 4 випуски на рік. Обсяг видання – 20-27 умовних друкованих аркушів. Тираж – 300 примірників.

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