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USE OF FEED "ALLER AQUA" IN FEEDING OF RAINBOW TROUT IN PRIVATE "WEST FISH COMPANY"

Trout industry is the most productive direction of the coldwater aquaculture. Costs highly specialized feed for growing trout reach 70% of the total cost of the fish, so the features of feeding, nutritional feed and cultivation technology is relevant and of interest to manufacturers.

The materials of the article the analysis of periodic research reports on prospects of feed «Aller Aqua» in the diet of rainbow trout. Overview conceptual experience of increasing the volume of production of this important sector of agricultural production as the breeding and rearing of trout.

Today on the Ukrainian market sales volume of feed for trout is a leading foreign firms: Aller Aqua, Biomar, Skretting and others. The quality of the manufactured products of domestic manufacturers often inferior to the requirements of the feed for trout, as domestic production is not always withstand competition. Therefore, at the present rate of trout industry as a promising field of fish farming, and the corresponding demand for feed for valuable fish species such high dependence on imports, now greatly reduces the volume of cold-water aquaculture cultivation sites that accordingly obliges producers special animal feed to improve their quality.

The basis of our research is tasked with optimizing normalized using feeding trout feed «Aller Aqua" and results analysis and comparative characteristics of growing trout using Ukrainian feed manufacturers.

Purpose is to clarify the nature of the impact of feed «Aller Aqua» and physiological metabolism, growth, development, reproduction and obtaining marketable products rainbow trout that could be the basis for conclusions about the appropriateness and use of feed rules «Aller Aqua», and the possibility of alternative feed means in terms of economy.

Key words: rainbow trout feed Aller aqua, fishing industry, high-performance feed, technology of cultivation, feed for trout, metabolism, diet, rate of growth, productive action.

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PRODUCTIVE AND ENERGETIC EVALUATION OF GROWING CORN AND SOYA MIXTURE FOR SILAGE

The crop yield of green mass of corn and soya mixtures during the wax ripeness of corn grain of the variety “Dniprovskа 310” and the full ripening of soya grain of the variety “Podilskа – 1” grown on the agricultural backgrounds without fertilizers and (NPK)₄₅ has been determined during the scientific and research experiment. The seeding rate of corn and soya in the mono specific crops was 25 kg/ha and 80 kg/ha, respectively, but in three mixtures – corn 25 kg/ha, soya 20 kg/ha, 40 kg/ha and 60 kg/ha, that was, respectively, 25%, 50% and 75% of the seeding rate of soya in the mono specific crops. The use of mineral fertilizers provided the increase in the yield of corn and soya mixtures for the above options by 2000 kg/ha, 3700 kg/ha and 3000 kg/ha, respectively. The highest crop yield of green mass – 40400 kg/ha was produced by the option with mineral fertilizers and the seeding rate: corn - 25 kg/ha and 40 kg/ha, it exceeded the mono specific crop of corn by 2200 kg or 5,8%.

At the mixed sowing of corn and soya the content of protein in the dry matter of crop yield of the mixture on the agricultural background without fertilizers increased 1,30-1,61 times but on the agricultural background with fertilizers – 1,49-1,69 times as compared with the mono specific crop of corn and the content of fat increased 1,17-1,67 times and 1,07-1,37 times, respectively. The use of corn and soya mixtures had a positive impact on the main energetic performances of their growing as compared with mono specific sowing of corn. The yield from 1 ha of gross and metabolizable energy increase, respectively, by 12,4-10,7% and 10,3-11,5%, the energy consumption of 100 kilograms of protein decreased nearly twice.

The replacement of corn silage by corn and soya one in the composition of feed mixtures for dairy cows promoted the increase in their daily milk yields by 3,0 kg or 11,3% and fat in milk – by 0,2 % at the absolute favorable performances of energy consumption for milk production.

Key words: corn, soya, mixed crop, energy consumption, milk, milk fat.

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THE FEATURES OF EXTERNAL FORMATION OF MEAT HEIFERS USING DIFFERENT FEEDING LEVELS

The high efficiency of the sector in Ukraine can be achieved only by intensifying of meat production and breeding of large meat breeds. Significant importing volumes are inappropriate due to high expenses, increased requirements to feeding and maintenance of livestock. Basing on this data, Ukrainian scientists have invented programs for breeding domestic species with high meat productivity and good adaptability to local climatic conditions. The first result of this work has been the creation and approval of the Ukrainian, Volyn, Znamenskaya interbreed type of Polissya meat breeds.

It is known, that one of the elements, helping to improve breed, is young-stock breeding, taking into account the characteristics of ontogenesis. Directional rearing of the young-stock beef breed shall provide not only live weight gain, but also creation of the relevant conditions, when animal genotype will be demonstrated to the fullest extent possible. To increase production of livestock products, it is necessary to organize physiologically proper animal nutrition, well-balanced by every measure.

The practice of the beef cattle breeding selection shows, that growth and development of heifer replacement defines the future desirable conformation type in adulthood. Heifer early maturation reduces non-productive period of breeding from birth to calving, speeds up the process of animal stock reproduction.

The paper shows, that under various intensity of heifer breeding there is a difference in developing conformation. Animals, being under high and moderate intensive rearing, were characterized with largeness and broad body. The study undertook illustrates good physiological maturity, body weight and linear growth of heifer of breeding age, thereby creating foundation for the further production performance of full-grown cows. Thus, intensive rearing 1,64 and 1,75 provides body weight as 385 kg at the age of 15-16 months, that enables to reduce age for breeding and calving by 7-8 months, to speed up the animal stock turnover and increase economical efficiency of beef cattle breeding. Moreover, intensive rearing and early breeding did not have an adverse effect on the body conformation peculiarities of first-calf heifers.

Keywords: repair heifers, linear evaluation, measurements, indexes constitution, the intensity of cultivation.

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***EFFICIENCY BVMD "ENERVIK" FOR PHASE FEEDING YOUNG PIGS
SMALLINGREDIENTS GRAIN DIET***

It is shown that feeding young pigs while growing for meat, with BVMD "Enervik" with carnitine, in amount 50g/t, promotes average daily gain in 85g or 12,5 % in 127 days of the general period of the experiment. The reduce of feed volume for 1 kg of growth is 0,53 EKO or 11,3%.

The carnitine dose in feed in amount 100g/t in composition of the BVMD, the average daily gain increases in 46g or 6,8%, while reducing feed costs for 1kg of growth in 0,34 EKO or 6,52%.

In terms of separate feeding phases the highest indexes of the average daily growth were obtained in the last period of growing in live weight 65 – 110 kg, which exactly is 882±15g with the carnitine dose 50g/t of feed and 882±13g with the dose 100g/t, and 779±17g in control. The economy for spreading feed for 1kg of growth is 11,58% and 5,13%.

Marked results which were obtained while performing the scientific and economical experiment in three analogue groups of young pigs of big white breed, 11 stocks in each. The animals were growth with the differentiation in feeding within such phases: 14 – 20kg (egalitarian period), 20 – 35 kg, 35 – 65kg and 65 – 110kg. At these phases the animals were feeding with the middlings of barley and wheat, enriched with BVMD "Enervik" starter, grower and finisher. In controlled group carnitine wasn't feeded, in the second and third in accordance 50 and 100g/t in mixture of grain. With the results of production test the effectiveness of new BVMD "Enervik" is expressed by the payback 2,71 UAH of profit in each invested gryvnnya, with the increasing average daily growth in 8,58% in difference with the ration without carnitine.

Key words: young pigs, BVMD "Enervik", carnitine, phase feeding, ration with two ingredients, productivity, effectiveness.

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***MILK PRODUCTIVITY OF THE COWS FED BY ALFALTA SOILAGE MADE BY ROLL
TECHNOLOGY WITH VARIOUS CONSERVATIVE AGENTS***

The results of technological experiments to determine the quality indicators and dry matters losses while preserving alfalfa soilage made by roll technology using the mineral conservative agent

“Universil” and bacterial-enzyme preparation “Litosyl plus” were presented; the productive action of researched feeds for milking cows was determined.

The researches proved that using of conservative agent “Litosyl plus” positively affected on the progress of fermentation processes; as a result we had the increasing of lactic acid from 44.9% to 82.96%, the acetic acid reducing and butyric acid absence; but the control group had butyric acid. The hydrolytic cleavage of protein has reduced under the action of preparation; it causes the increasing of dry matter contents by 1.8%, protein dry matter contents by 4.86%. The ammonia nitrogen was minimal, 1.28%. The fiber content has decreased to 28.46% under the action of cellulolytic enzyme complex; it is a component of bacterial-enzyme preparation “Litosyl plus”; as a result we have got the silage with high energy nutritional content; it has been 9.05 MJ of metabolizable energy kilogram of dry matter.

The conservation of raw materials was made due to the action of complex salts when the mineral preparation “Universil” was used; these salts were formed by binding ammonia with micronutrients of mineral conservative agent. As result there is not the acidification of feed; the ammonia nitrogen content is 6.5% of total nitrogen; the silage without conservative agent had 15.46% of ammonia nitrogen.

The content of crude protein in dry matter of silage has increased by 2.89% while the content of nitrogen free extract reduced by 3.19%. The energy nutritional value of silage obtained using mineral conservative agent “Universil” was 8.91 MJ of metabolizable energy; it was by 0.29 MJ higher than in control group, but it was by 0.14 MJ lower than in silage made with bacterial-enzyme preparation.

Feeding by alfalfa silage made by roll technology with the usage of bacterial-enzyme preparation “Litosyl plus” (4 grams per ton) caused the increasing of cows’ milk productivity by 13.54 % than in control group; and by 6.16 % than in researched group; these group received silage made with mineral conservative agent “Universil”. There was an increase in the average content of fat, protein and skimmed milk residue.

When the silage with conservative agent “Litosyl plus” was fed the amount of feed per kilogram of milk were lower by 1.06 and 0.46 MJ of metabolizable energy than in control group and group fed by silage with mineral conservative agent.

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CORRECTION OF PROTEIN METABOLISM OF HIGHLY PRODUCTIVE COWS USING CULTURE FLUID OF FUSARIUM SAMBICIUM FUNGUS

The aim of our research was to study the correction of protein metabolism in highly productive cows when using dietary biologically active supplement “Mico Bio-CIT”, developed on the basis of the culture fluid of *Fusarium Sambicium* fungi.

Study of efficiency of feed additive based on the culture fluid of *Fusarium sambicium* fungus was carried out with livestock of highly productive cows with milk yield over 7000 kg per lactation during milking at the branch of RDUP “ZhodinoAgroPlemElita” of Smolevichi district, Minsk region.

It was determined in the studies that after a month of cows watering with biologically active additive “Mico Bio-CIT” in the amount of 0.25 l in both the first and the second half of milking, the stabilization of a number of metabolic changes in the body was noted. The biochemical composition of blood according to the level of protein in cow during the first milking half after additive implementation, was characterized by an increase in the number of transport proteins albumin in the course of lactation, during the second half of milking the percentage correlation of protein fractions tended to increase the level of albumins.

It was determined that feeding of cows with the tested supplement had a regulating effect on the formation of urea in the liver, which ensured the reduction of losses of indigested protein. By the end of the milking period the level of urea in blood of cows consuming additive was less pronounced than in the control, which substantiated stabilization of protein synthesis function of cows' body.

Watering with the supplement had a stimulating effect on synthesis of creatinine, the level of which in comparison with the lactation flow increased in the blood of cows in the first half of milking. The increase of creatinine level in blood of cows with the additive implementation in the second half of milking largely ensured the supply of energy resources for the further lactation.

Introduction to of “Mico Bio-CIT” supplement in diet had a pronounced effect on the activity of blood aminotransferase, which ensured decrease in activity of AST to the specification limit against the background of high intensity of metabolic processes. It was determined that activity of ALT in the first half of milking increased with the use of supplement, while against the background of metabolism decrease in cows during the second half of milking by the end watering with the supplement, decrease of ALT levels at a sufficiently high rate in the control was determined.

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***EFFECTIVE BREEDING OF A LAYING HEN WITH DIFFERENT TYPES OF
PRESSCAKES OR OILCAKES***

The important aspect of full feeding of birds is providing them with sufficient amount and appropriate quality of protein. In Ukraine in accordance with the data provided by Ministry of Agricultural Policy the lack of protein is about 25% which leads to overspending of feeds by 30-35%, reduces productivity by 25-30%, reduces effectiveness of animal breeding. The solution of the feed protein problem due to its traditional sources is very important. Despite achievements of scientific and technical progress in different areas, there is a warning that the use of such feeds as mustard, rape, linseed and other cakes can contain anti-nutritious and noxious substances. The emergence of new seed varieties used to produce these products and technological advancements used to get oils make it possible to get relatively cheap and harmless fodders.

We have made four experiments aimed to examine the replacement of a barley grain with mustard cake, the replacement of sunflower cake with mustard, cucurbits, rape and linseed cakes in the combination fodders for laying hens.

The first experiment proved that the use of mustard oilcake both separately at the rate of 4-6% and in combination with the enzymatic supplement Maceraza is reasonable from the physiological point of view as no harmful effect on metabolism and quality of products obtained was identified. Though, from the zootechnic and economic points of view the use of such supplements is not ineffective.

The second experiment showed that from the physiological, zootechnic and economic points of view it is advisable to include mustard oilcake into the ration of laying hens at the rate of 4% of the mass of compound feed together with the enzymatic preparation ALLZYME SSF at the rate 200 g per 1 ton of compound feed.

The use of cucurbits cake helped to increase protein content in compound feed, provided the proper rise of digestibility of organic material by 3,09% and its components. In this case there was an increase of amino acids availability, the best one was related to nitrogen retention in an egg and body of a bird, improvement of absorption of calcium and phosphorus.

The use of cucurbits cake helped not only to increase egg-laying capacity by 7,3%, but increase of egg mass by 7,0% ($P \geq 0,999$) because of definite increase in weight of shell, yolk and white.

The third experiment showed that it is the most efficient to introduce 4% of rape cake together with the enzymatic supplement Maceraza into the feeds for laying hens.

The fourth experiment proved that introducing of 4% of linseed cake and the enzymatic supplement Maceraza is the most efficient of all from different points of view.

Summarising the results of all the experiments it should be underlined that the most effective is the replacement of 4% of sunflower cake with the same quantity of mustard, rape and linseed oilcakes including the simultaneous introduction of enzyme preparations. As well the effective one is the introduction of 6% of cucurbits oilcakes. Such quantities are reasonable from physiological, zootechnic and economic points of view.

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COMPARATIVE EVALUATION OF PRODUCTIVE ACTION CANNED AND DRY GRAIN SORGHUM IN THE FEEDING OF HIGH PRODUCTIVE DAIRY COWS

The comparative assessment productive action canned hay flour Galega orientalis of wet and dry grain sorghum by groups - periods on high productive cows with milk yields over 7000 liters of milk in the previous lactation.

Experimental trials has find out that preserved in the big beg meal of Galega orientalis hay and wet grain sorghum at dose of 2.7% by weight of additional feed for feeding to basic diet containing 50 kg of mixed grass green mass of 10 kg canned beet pulp, 80 g sodium salt, 3.5 kg of wheat brands. In the accounting periods in addition to the basic ration of canned fed 3.0 kg and 2.75 kg of dry grain sorghum. This ration ensures productivity of cows at 30 liters of milk, fat base 3.4%, which is 16.9% higher yields egalitarian period and contributed an equivalent physical-

chemical parameters of milk and reduce the cost of this production by 4% compared with feeding by the dry grain sorghum.

It was found that during experimental research on high productive cows, forage peas unhermetic wet grain sorghum still have structure of organoleptic characteristics the mold is not found, the contents of organic acids was 1.4%, the level of lactic acid about 65% to 32% acetic in the absence of butyric acid pH is 4.5, hay flour from *Galega orientalis* as a biological preservative provides directed synthesis of lactic and acetic acid, which creates a satisfactory aerobic stability of canned grain and sorghum in the summer period and use of it in the feeding of high productive cows.

Chemical analysis showed that the composition of dry matter in a completely preserved grain sorghum contains more crude protein, crude fat and crude ash under 5.6; 51.9; 33.9% and crude fat and nitrogen free extract 10.4 and 8.1% less than dry grain sorghum. In marked by changes in the chemical composition of grain sorghum influenced by the introduction of 2.7% by weight of flour *Galega orientalis* hay.

For the fatty acid composition of milk of cows fed canned and dry grain sorghum, significant differences were found, but the content in the composition of milk fat polyunsaturated fatty acids decreased 34% compared to the content in milk cows in comparative period. Marked by changes caused by the fatty acid composition of breast compensatory response of cows to maintain physiologically optimal consistency of milk fat.

Keywords: wet grain sorghum, *Galega orientalis*, high-productive cows, the aerobic stability of feed, biological preservative, productivity, milk.

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USE OF FEED ADDITIVES ON THE PALM FAT BASE IN FEEDING OF LAYING HENS

Modern industrial poultry farming is a high-tech industry of agriculture, which directs to obtain a large number of products at the lowest cost. To ensure a high level of productivity in the poultry farms they use intensive housing and feeding technology.

The modern system of rationing feeding enables the need to ensure the birds in the major nutrients and obtain high productivity due to economical use of feeds. Implementation of the genetic potential of productivity in modern poultry crosses is accompanied by constant demands to improve energy nutritional value of animal feed. Unfortunately, the reserves of increase of energy and protein nutrition of basic components of animal feed at the expense of traditional crops, maize, barley, wheat are nearly exhausted. And only the manipulation of these components will not provide solution to the problem of energetic nutrition of feed mixture. In addition, the growing demand of food grains in the world leaves less and less room for the use of such grain for animal feed.

The aim of the work was to study the efficiency of the use of dry vegetable oils, namely palm fat, in the diet of poultry, as well as to establish the optimal dose of administration into feed of laying hens of egg productive direction. To achieve this goal scientific and economic experiment was held in a private production company "Agrocenter" of Dnipropetrovsk region.

For the experiment, we selected four groups of chickens-analogues of the cross "Hajseks Brown" 50 goals in each group at the second phase of their productivity.

The poultry was kept in 3-tiered cages of BKN-3A type. All groups received Complete feed over the study period, which lasted 120 days.

The native literature does not have sufficient information yet about the effectiveness of the inclusion of dry vegetable feed fats in the fodder for animals and birds. Among the new and not yet sufficiently studied feed additives, which private company "Pro-Fat" (Dnepropetrovsk) produces on the basis of dry vegetable fats (palm and lauric) are feed additives such as vitamin and aminoacid-mineral fat complex (VAMFC), protein and fat concentrate (PFC), protein and vitamin supplement (PVS). These additives are a source of nutrients and biologically active substances. The high content of fat and protein in the supplements indicates the possibility of replenishing the diet and positive impact on poultry productivity. VAMFC is made on the basis of palm oil – 30%, and soybean meal – 55% protein-fat complex – 18% palm oil and 82% sunflower meal, protein-vitamin supplement – 10% palm oil and 68% soybean meal.

Productivity of studied poultry for the period of the experiment was equal among the groups (amount of eggs.): I (control) – 3921; II – 4306; III – 4069; IV – 4126. Thus, for the entire period of the scientific and economic experiment the productivity of egg-laying hens in relation to the control group increased: in II^d group by 9,8%; in III^d by 3,8%, in the IVth by 5,2%. And they received from them for the initial layer, respectively, by 7,7 pc.; 3,0; 4,1 pc. more compared to the control.

Introduction to the diets of studied groups those feed additives revealed that the cost of feed per 10 pcs. eggs in the I-th group was 2,14 kg of feed, in the II-d group by 9,7% less than in the III-d - by 3,9%, in the IV – 5,4% less in relation to the control group.

Analysis of indicators of eggs quality from the hens of experimental groups, which are shown in Table 5, showed that the mass of eggs from laying hens in the III-d and the IV-th experimental groups was 67,1-66,9 g, and was by 2,9-2,6% higher compared with the control group. At the same time, the reduce of the eggs mass in poultry from the II-d experimental group 2,3% ($P < 0,95$) in unreliable difference compared with the control, took part, in our opinion, due to a significant increase in their egg production, namely, 9,8%.

Thus, the inclusion into the feed for laying hens the feed additives based on vegetable fats instead of soybean meal and extruded soybean contributed to a better productive use of nutrients, increase egg production by 2,8-9,8%. It is also a positive impact on the quality indicators of eggs and allowed to increase feed conversion for 10 pcs. eggs from 2,14 kg to 1,9-2,03 kg.

A prospect for further research is to study the impact of the use of feed additives on the basis of dry vegetable fats on the fractional composition of fatty acids.

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FODDER MIXTURE FOR FEEDING OF POLYGENETIC HERD OF COWS IN THE CONDITIONS OF INDUSTRIAL TECHNOLOGY OF MILK PRODUCTION

In the article materials of analysis of full ration feed mixture and her actual food value are expounded for feeding of lactating cows of different genetic origin in the second 100 days of lactation on a large industrial complex on the production of milk.

It is set that feed mixture structured enough. Rough forage occupying in a general structure 12% is represented by two kinds of straw and hay of the Sudanese grass. Straw of peas is introduced 2,15 kg, and wheat - almost half less – 1,05 kg. In 1,3 times more than the total amount of straw are introduced the hay of Sudan grass – 2,85 kg.

Nourishing enough hay lage from the leguminous grass of alfalfa (20,19 kg) and corn silo (6,52 kg) is entered in a ration. On the whole on the stake of juicy foddors there is 37,6% of day's ration. High-energy foddors are represented by concentrated fodder and constitute 43,8%. Basis they are made by the mixed fodder, day's doses that is not exceeded by 3,84 kg.

The composition of concentrated feeds includes wheat bran and sunflower meal, the mass of which in the mixture is 1,05 kg each. For protein replenishment is introduced soybean meal at the level of 1,59 kg. Concentrated feed includes waste from processing of plant products, in particular, dry corn bard, the mass of which in the mixture is 0,75 kg. For providing of optimal the sugar-protein relation molasses sugar-beet (1,67 kg) is added.

General mass of feed mixture makes 42,2 kg on every lactating animal. The dry substance of mixture at the level of 24,52 kg makes 3,91 kg on 100 kg of living mass of cows. In the feed mix per one feed unit, an average of 154,9 grams of crude protein, 98,4 grams of sugar, and 112,96 grams of starch, which is 1,15 times higher than that of sugars. The dry matter is provided by the crude cellulose at the level of 22,9 %, which is 289,86 g per each feed unit.

A large value for a mineral exchange has sufficient content of calcium and phosphorus in a ration. From normative data phosphorus of ration is provided at the level of a 97,3 g, and calcium - presents a 251,2 g, that is more by 2,58 times. There are 517,84 mgs of carotene in feed mixture, 11,52 and 4789,52 thousand MO of vitamin of A and D accordingly.

However, the calculation food value of all feed mixture answers her truth value not always. The conducted chemical analysis of feed mixture showed that a nutritional value of unit of mixture was 0,43 unit of feed , and all ration is not exceeded by 18,19 feed units. The actual index of nutritional value of ration below on 6,49% than normative facts.

It is also set that the energy value of unit of feed mixture is at the level of 4,99 MJ, and all ration is not exceeded by 213,12 MJ. The true energy value the mixture of the feed is inferior to the calculated value by 6,10%.

Key words: cows, feeding, feed mixture, feed quality

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***PROBIOTIC FEED ADDITIVES "PROPIG plv" ACTION OM THE BODY'S METABOLISM
AND THE INTENSITY OF REPAIRING PIGS GROWTH***

It should be noted, that one of the actual directions of improving the efficiency of nutrient absorption of forage there is an additional entry in the structure of rations of probiotic feed additives, which have positive effect on the development of beneficial micro flora of the gastrointestinal tract, which is very important for this kind of animals like pigs. This type of animal can consume a variety of food, as plant and animal origin, and has a favorable organism to the influence of pathogenic and opportunistic pathogenic microorganisms, causing indigestion.

To solve this problem it was carried out a scientific and economic research on repairing pigs of Large White Breed. Researches were carried out in conditions of VCA "Pravda" Dubynskyj district of Rivne region on four groups of breeding pigs, chosen on the basis analogies 10 heads in each scheme, under the scheme, which included feeding with probiotic feed additives "PROPIHplv" on the background of concentrated type of pigs feeding on the basis of 2,3,4 g / head a day in experimental groups. In the ration of control group, feed additives were absent.

It was studied the action of probiotic feed additives "PROPIHplv" on the functional state of the organism of pedigree young pigs with the definition of digestibility and the assimilation of main nutrients, as well as the intensity of their growth and development. The duration of the basic research period of the 152nd day.

As the analysis of the results of our studies have shown, energetic and protein nutritional rations of repairing pigs from experimental and control group was practically the same, adding to the diet of different amounts of feed additive caused the differences by average daily increments in a period of growth from 2.5 to 9 – month of age and exceeded the analogies of control group by 3.5%. In this connection it was important to find out exactly how the increase of probiotic feed additives in the diet to 4g h/d affected the digestibility of nutrients and indirectly stimulated the growth of research groups of repairing pigs.

In exchange (balance) experiment, which was held at the 16 heads of pigs (4 heads of each group), chosen at the age of 7 months, have studied the digestibility of ration nutrients for different amounts of probiotic feed additives in it.

Near the digestibility of nutrients for repairing young pigs especially importance is the effectiveness of using feed protein in the body, because this mainly depends on the intensity of growth and development of animals. In our studies it is noted the improvement of digestibility of crude protein. However, relatively high digestibility is no guarantee of highly effective its use in the body, because digestible protein as a result of actions of various factors can not sufficiently assimilated. Considering that only nitrogen is included to the part of the protein then about extent of his absorption and postponement in the body can be seen in terms of balance experience. Conducting studies have shown that the inclusion of probiotic feed additives into the composition of the rations of experimental pigs showed its influence not only on digestibility of nitrogen, but indicators of its assimilation in the organisms of pigs from the research groups.

For repairing young pigs, especially during its intensive growth, especially are important not only energy and nutritional organic matter, but also mineral elements which are closely connected with the metabolic processes in the body. Considering the wide range of biological interactions of mineral elements we thought it appropriate to clarify character of influence of investigated factors on the balance of calcium and phosphorus, as the most important elements for growing animals.

Analysis of the results showed that in practically the same consumption by experimental animals, as calcium and phosphorus, excretion of these elements with excrement and the postponement in the body of animals had their differences. In animal from the research groups is marked, compared to control, a higher balance as calcium and phosphorus.

The obvious of positive impact of the investigated factor on the exchange of nutrients in the body of laboratory animals displayed the intensity of their growth and development.

Hence, getting results give reason to assert that the dose of 4 g/h daily leads to highest tendency to improvement the absorption of calcium and phosphorus in an organism of repairing pigs and also the intensity of growth and development.

Conclusion: getting results of research regarding the use of probiotic feed additive "PROPIH" in the feeding of repairing pigs give grounds to argue about the feasibility of putting in rations for the optimal dose of 3-4 grams h/day on the background of the concentrate type of feeding.

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THE ROLE AND EXPERIENCE IN THE USE OF FODDER MELONS FEEDING FUR

Animals that are bred in captivity, animal feed necessary. Digestive tract they had adapted to the digestion of plant foods. The basis of the feed fur animals up animal products - meat animals, dairy and fish feed, they accounted for 70% of total calories. Since plant foods often use grain and flour. In order to balance the diet of fur animals accepted include waste technical production: meal, flakes, bran. Promising feeding fur animals in a group of rich food: vegetables, root vegetables, melons, wild and cultivated herbs. They are relatively cheap, high-performance and well eaten by animals. Vegetables fed fresh or canned form. They are useful to give the young the last 1,5-2 months before slaughter and the herd during pregnancy and lactation in the number 1-1,5% of the caloric content of food. Root inclusion in diets high in fat or protein dry feed increases the amount of forage mass and promotes better digestion and eating it. Cottage beasts autumn vegetables protects hair from brown tones of color.

In the farming of feed melon unfairly forgotten. The purpose of our study was to examine the performance of young trade silver-black foxes for partial replacement diets Dirty and crushed corn fodder pumpkins combined with apple pomace.

The experiment was conducted in a private fur farms. The animals are not separated by sex, were selected by the method of analogues and distributed into 2 groups of 10 goals each. In egalitarian animals during research groups gradually transferred to the diets of pumpkins. For this

research animals every day of 1-1.5 g Dirty replaced 1-1.5 g pumpkin varieties Stofutovy that before assembly Forage mixture crushed.

The analysis of commodity diets of young foxes showed that the energy value of the diet was less experimental than in the control, resulting in an increase in the value portion of 9.76 g Study of economic efficiency in feeding calves trademark silver-black foxes local succulent fodder showed that replacement maize middling apple pomace feed pumpkins and causes a reduction of feed, thereby reducing production costs to 11.19 USD. / pcs., increase revenue and profitability. Increased revenue and profitability in the experimental group is because of trade young experimental group was obtained top quality products: the length of skins was higher than the control by 6.4 cm, area - on 2,37 dm, quality assessment index - 5,08%, resulting in increased cost to 44.8 UAH. / pcs.

Thus, the introduction of the diets of young silver-black foxes feed pumpkin combined with apple pomace reduce caloric intake and increase the value portion of feed, thereby reducing caloric physiological Forage mixture during the fattening of animals, improves quality skins of foxes and profitability of their production.

Further studies of such a productive farming for unconventional, but cheap and widespread in Ukraine juicy feed as fodder pumpkins will be directed to the establishment of scientifically based standards in the administration of rations fox different color types and gender and age groups. It is promising for feeding livestock processed pumpkin seed, oil and meal from it. Therefore, research efficiency in feeding foxes will have relevance.

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INFLUENCE OF METAL CHELATE BASED PREMIXES ON HIGH PRODUCTIVE COWS MILK CHEMICAL COMPOSITION

The aim of our research was to determine the influence Cobalt mixed ligand complex, which eliminates Cobalt deficiency in the diet by 100, 85, 70, 55 and 40% in combination with Copper sulfate, Zinc and sodium selenite on high productive cows milk chemical composition during the lactation.

Scientific and economic research on the effects of different doses of Cobalt mixed ligand complex was held in "Terezyne" enterprise, Kiev region for Holstein breed dairy cows of German selection. Five groups of cows, ten animals each, were formed on the basis of counterparts to conduct the research.

The experimental group cows were fed the same rations during the preparatory and research periods. The difference in feeding was that the control group cows were fed with the preparatory period premix containing Cobalt, Zinc and Copper sulfates and sodium selenite which covered lack of Cobalt, Zinc and copper by 100% and with selenium content of 0,3 mg / kg of dry matter (DM).

Cobalt mixed ligand complex dosis covering the lack of this element by 85, 70, 55 and 40% were added to the feed concentrate.

Increased dry matter content by 0,06-0,35%, fat – by 0,01-0,02%, protein - by 0,01-0,05%, lactose – by 0,06-0,33% and reduced by 0,02-0,06% ash content were revealed to occur in the milk of high productive Holstein breed cows of the experimental groups, as compared with the control, under the influence of lower dosis of Cobalt mixed ligand complex.

Tendencies to change DFMR and sodium content in the milk under covering Cobalt deficiency with using its mixed ligand complex has been revealed. DFMR content under removing Cobalt deficiency correction by 85, 70, 55 and 40 % in the cows ration increased by 0,05; 0,32; 0,31 (P<0,05) and 0,22% as compared with 100% Cobalt deficiency covering; sodium content increased by 0,002; 0,005; 0,007 (P<0,05) and 0,007% (P<0,05) respectively. Using Cobalt mixed ligand complex in the ration of highly productive Holstein breed cows did not affect the content of Calcium, Phosphorus, Magnesium, Ferum, Manganese, Copper and Zinc in the milk. These elements in the cows milk had no significant relation with the level of Cobalt in the ration and were within the standard limits.

As for Cobalt and vitamin B₁₂ content in milk, the accumulation of these components correlated not only with the amount of Cobalt, but with the ration quality as well. Cobalt deficiency covering by 70% due to its mixed ligand complex caused the highest concentration of Cobalt in milk (3,84 mg/l), which was 2,4% higher compared to the control, vitamin B₁₂ level was 1,35 mg/l or 20,1% (P>0,05).

Thus, comparing the chemical composition of milk obtained under using feed concentrate with Cobalt mixed ligand complex in the cows rations, which eliminates Cobalt shortage by 70%, with the similar figures under using Cobalt mixed ligand complex which covers the shortage by 100%, gives grounds to choosing lower standards for Cobalt mixed ligand complex.

Keywords: high performance cows, premix, minerals, Cobalt mixed ligand complex Copper and Zinc sulfate salts elements, milk chemical composition

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INFLUENCE OF BIOLOGICALLY ACTIVE SUBSTANCES OF AQUEOUS EXTRACT FROM THE VEGETATIVE MASS OF SOY ON DIGESTIBILITY

Very important in animal husbandry is the full feeding of animals, which is not possible without the introduction of feed mixtures and mixed fodders of enzymes, vitamins and other biologically active substances.

It is known that the glycosides of soy isoflavones are practically unable to induce an estrogenic response of cells. The estrogen activity of aglycons is slightly higher. However, the greatest contribution to the estrogenic effect of soy is made by the ekvol - the product of the further transformation of daidzein. In structure, it most closely resembles estradiol.

Using modern methods, studies were carried out to determine the biologically active substances in the green mass of soya Vityaz-50. A chromatograph of hydroalcoholic extraction showed no less than 14 substances of a phenolic nature.

Taking into account the above, we continued scientific research into the productive effect of biologically active substances of phenolic nature from the vegetative mass of soybeans, including their effect on the hydrolytic cleavage of organic feed substances in the body of piglets.

The results of the studies allow us to state that the addition of the extract from the vegetative mass of soya to the ration of pigs better influences the digestibility of nutrients.

Water extract from the vegetative mass of soy is characterized by high biological activity due to the concentration in it of biologically active substances, especially flavonoids, isoflavonoids, oxycinnamic acids and glycosides of quercetin, which is important in feeding pigs, in the context of increasing the growth of their live weight in connection With better digestibility of nutrients.

Key words: piglets, digestibility, biologically active substances, extract, soy.

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BALANCE OF MINERAR ELEMENTS IN BROILER CHICKENS BODIES

On the ground of previous investigations of broiler chickens mineral elements provision the deficit of zinc and manganese in mixed fodders with the content of barley grain in the amount of 39%, grain wastes of wheat – 35%, soybean cake – 20% and mineral supplement – 6% (chalk, tricalcium phosphate) was established.

The aim of the research is to study the balancing action of mixed fodder, enriched with the developed supplement containing zinc and manganese in the course of conducting the balance experiment on broiler chickens.

The object of the research was mineral supplement containing 37.2 mg/kg of zinc (in the form of salt it is 46.64 mg/kg) and 120.9 mg/kg of manganese (in the form of salt – 252.9 mg/kg) and was fed as a component of a mixed fodder (barley grain – 39%, wheat grain wastes – 35%, soybean cake 20 and mineral supplement – 6% (chalk, tricalcium phosphate)). Due to the actual nutrition value of fodders (upon the results of the researches of the Podillia Institute of Fodders and Agriculture) the given recipe corresponds the need of broiler chickens and contains: exchange energy – 1232 kJ, raw protein – 21%, raw fiber – 3,4%, calcium – 1,5%, phosphorus – 0,8%, natrium – 0,3%, iron – 80 mg, manganese – 60 mg, zinc – 40 mg, copper – 8 mg.

The balance experiment was conducted at the research farm “Bokhonytske” of Podillia Institute of Agriculture and Fodders of NAAS of Ukraine on broiler chicken cross “Kobb-500”.

The mixed fodder used in the balance experiment contained about 1.5% of calcium, i.e. corresponded to the norm. Upon the conducted calculations the poultry was to consume 2.2g of calcium, but the balance showed, that the poultry consumed more of that element – 2.82 g. With the feces 54.3% of the consumed calcium was lost, 46% of the element took part in metabolism, another 46% were kept in the poultry’s body. Thus with 1.0g of daily need of calcium they received

1.29 g, so the need was completely satisfied from the mixed fodder components.

According to the normative documentation the mixed fodder for broiler chickens must contain not less than 0.7-0.8% of phosphorus, but its balance showed, that the poultry received lower amount of it. And despite the low loss of it with feces – 10.6%, what indicates the high level of adoption of it, the need in it was satisfied only on 91.6%. It is largely connected with the quality of tricalcium phosphate.

Daily need of broiler chickens in zinc is 7.0 mg. The balance of that element showed, that the poultry adopted it in the body in the amount of 7.37 mg. Thus the introduced supplement fully provided the need of broiler chickens in zinc. It also should be mentioned that zinc had the highest level of assimilation in the chickens' bodies – 84.8% out of the consumed.

The broiler chickens received only 1.942 mg of manganese from the mixed fodder elements with the daily need of 10.0 mg. Due to the introduced supplement containing 120.9 mg/kg manganese, the balance of it was positive and chickens' bodies adopted it in the amount of 10.87 mg per day, what was 8.7 mg higher than the need. The percentage of the adopted manganese was 62.3.

Thus, the balance of microelements in broiler chickens bodies showed, that the elements of the mixed fodder fully, on 100%, satisfy the need in calcium and on 91.6% - in phosphorus. Due to the introduction of the mineral supplement into the mixed fodder containing manganese and zinc, the broiler chickens were satisfied with biogenic elements up to the need.

Key words: broiler chicken, mineral Supplement, balance, and minerals.

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THE QUALITATIVE CHARACTERISTICS OF PIG MEAT UNDER THE ACTION OF FEED ADDITIVE "BETAIN"

The scientific experiment was conducted at Ukrainian-Holland Ltd. "Servolyuks geneticists" of Orativ district Vinnitsia region.

In order to level the energy of piglets' growth we have had an egalitarian period; it lasted for 15 days.

The control group during the egalitarian and basic period consumed the basic diet (BD); it is a complete feed of «Trouw Nutrition International» company. The researched groups were additionally fed by various doses of feed additive "Betain".

"Betain" (96% trimethyllysine) is a natural amino acid preparation of plant origin with a wide range of biological effects, osmoprotector, hepatoprotector and donor of methyl groups, it has a powerful effect on the livelihoods and productivity.

The goal of the research was to research the influence of feed additive "Betain" on the meat quality of hybrid pigs F1.

It was proved that consumption of feed additive by hybrid pigs increases the protein contents by 5.5%; the total humidity by 0.4% and connected humidity by 1.4%. However, the level of fat has decreased by 50.0%, marbling by 25.8%, caloric by 12.3% and ash by 2.14%.

It was proved that feeding pigs by researched preparation caused the increasing of arginine by 1.7%, methionine by 0.44%, histidine by 0.61% threonine by 0.44%, valine by 1.18%, isoleucine by 1.01%, leucine by 1.1%, lysine by 0.25%, phenylalanine by 0.73%, aspartic acid by 1.33%, glutamine acid by 0.99%, alanine by 2.02%, proline by 3.99%, serine by 0.3%, tyrosine by 1.1%, cysteine by 0.5% and glycine by 1.0%.

Key words: hybrid pigs, feeding, feed additive, mixed fodder, meat quality, amino acids.

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BBK 45.4

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THE USE OF OPTIMIZED DIET FEEDING COWS

It is displayed that in the conditions of the economy for every 1 kg of concentrated feed eaten by dairy cows 1.21 kg of milk is obtained. It is believed that the use of concentrated feed is profitable if the cow produces from 1 kg of concentrated feed at least 1.5 kg of milk. Cows that are kept in the household eat daily from 18 kg to 21 kg of dry matter and rations used on the farm are counted on dry matter in amount of 25.5 kg, which causes considerable residues of feed the feed table. Also in rations contain excess amount of crude protein, which is 1415.6 g. Excessive intake of protein, which is cleaved in the rumen, leads to excessive ammonia formation, which is converted in the liver into urea and excreted in urine. Analysis of intake of easily digestible carbohydrates in to the rations of the animals showed the exceeding of the standards by 1.7 times. When a large amount of starch and sugar enters in to rumen, its microflora begins to digest structural carbohydrates and roughages worse and the problem violation of rumen digestion arises

With the aim of improving of the physiological state of the cows in dairy herd and efficiency of dairy cattle breeding in the conditions of the economy optimized rations, made with regard to their optimal structure are offered. Optimal intake of dry matter by cows in different periods of lactation are calculated, targeted recipes of feed concentrates, are made. The ratio between soluble and insoluble protein in the rumen is calculated, and the optimum amount of easily digestible carbohydrates in the dry matter is provided.

Decrease of the concentrates content in the structure of rations from 56.8% to 45.1-35.0% under optimal nutrient content will save these valuable feed and reduce the excess of protein and easily digestible carbohydrates in the rations of animals, which will help to receive from 2.74 to 2.77 kg of milk for each kilogram of feed and increase the productivity of dairy cows un to 6,000 kg of milk.

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THE OBJECTIVITY OF THE ASSESSMENT OF THE DEVELOPMENT OF PIGS WITH THE LIVE WEIGHT AND BODY LENGTH

To identify opportunities for pig industry must constantly monitor sows and boars body length and body weight due to age periods. This measure, without determining interpedigree and inbred differences will help to correct the direction of selection and determine its prospects. The aim of research was to establish interpedigree and inbred differences on body weight and body length boars and sows and objective evaluation of pigs only on two grounds.

Analysis of major live weight hogs breeding farms in Ukraine made it possible to establish significant volatility indicator not only among the 12 existing species but also within a breed.

The lowest body weight at the age of 24 months were characterized boars of duroc – 182 kg and the highest Landrace breed – 390 kg. Boars large white and landrace breeds that are most numerous in Ukraine stood out much more than other breeds live weight scale variation within species, respectively, 149 and 140 kg. That is, these rocks are herd boars live weight of which ranges from 195 kg to 380 kg (large white rock) and 250-390 kg (landrace). Substantial variability study also features typical for boars duroc breed that within herds varied from 182 kg to 320 kg (R = 138 kg). Boars other species, namely poltava meat, pietrain, ukrainian meat and red bilopoyasoyi were more aligned body weight, manifested in a much smaller compared to the large white breed and Landrace, rates varying characteristics. A similar trend of slight differences between boars found for live weight and breed in welsh and ukrainian steppe white held only two breeding herds. It should be noted that in each of the breeds of pigs, other than welsh, and a large black and welsh are herd sires for where body weight do not meet the elite class instructions appraisal pigs, or vice versa – far exceed it.

Among sows available for 12 species live weight most varied representatives of poltava meaty breed (R=96 kg), large white breed (R=92kg) and landrace (R=81 kg). In general, the lowest live weight for 5-10 days after the first farrowing had cancer poltava meaty breed – 131 kg, and the biggest – 242 kg of large white breed. Undoubtedly, a comparative evaluation of sows on body weight after the first farrowing is not entirely objective since the age of crates in different stages and different breeds.

Monitoring boars and sows of 12 pig breeds available length body indicates a slightly lower variability characteristics compared to body weight. Undoubtedly, the length of the body of pigs in the process of growth is changing as rapidly as the live weight reaching sexual maturity and animals, particularly sows, body measurements increased more slowly than body weight. Among the species studied boars smallest and longest body at the age of 24 months were representatives of large white breed accordingly 158 sm and 205 sm (R=47 sm), that the breed is considerable genetic variability characteristics, which allow for selection in the desired direction

The possibility of improving the genetic potential of offspring for meat and indicators show signs of body length in the best breeding farms breeding boars and Landrace breeds pietrain, respectively, 203 sm and 193 sm. Although the rocks are the same herd where boars for the studied traits do not conform to the elite class. By the way, in addition to the above two species did not meet the eligibility requirements for the length of the trunk notable sires and individual herds of

large white breed duroc, poltava meat and red bilopoyasoyi.

The scope of variation in body length sows existing breeds fluctuated from 6sm to the ukrainian steppe white breed up to 40 sm in a large white rock. The greatest not consolidated on this basis females found in rocks Landrace and Large white. It should also be noted that in pietrain rocks and white is large herds where the body length after the first farrowing sows is 145 and 146 cm, respectively, the lowest in the industry. The longest refer to sow breeds Landrace and Wales, the upper limit indicator which is, respectively, 190 and 184 cm. But again, no clear terms of first farrowing, sows because comparative assessment for this indicator relative.

Overall, the results of monitoring boars and sows of 12 pig breeds in breeding farms Ukraine on body weight and body length give reason to conclude that significant volatility indicators, and what the larger the breed, the amplitude considerably larger signs. The presence of species of herds, the animals which can be classified as universal and beef tallow directly or performance features eliminates the waste of pigs and refer them to one of three groups in the appraisal and differentiation timber maternal and paternal forms.

Confirm substantial difference indicators of boars and sows and aggregate data analysis in pig breeding farms in areas excluding them available to the rocks. Not taking note of areas that have a small number of breeding farms (1-3) breeding pigs of different breeds, and only focus on those with 4 or more statuses breeding farms, you can specify that the live weight of hogs within 182-390 kg and 131-287 kg sows. That is, the range of variation of live weight hogs breeding farms in different regions of Ukraine is 208 kg, and sows – 156 kg.

Similarly, the difference between the performance of animals in the best and worst farms along the length of the trunk boars and females are 47 and 45 cm, respectively. These data once again confirm the different entities related to the breeding of animals and the formation of their high genetic potential for development, indirectly encouraging owners of industrial enterprises to import breeding material from the best pork producing countries.

In the end, should emphasize the need to revise the Instruction appraisal of the position indicators pigs live weight and body length, which is currently somewhat objective because of the presence of a significant number of animals rocks of foreign origin. Whereas live weight and body length pigs cannot objectively reflect the exterior of animals and serve as criteria for their selection, develop a modern system of selection according to international standards

Key words: pigs, breed, body length, body weight, the extent of variability of the signs of competitiveness of the pigs breeding, adjustment of the requirements of the evaluation of pigs

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INTRODUCTION TO FACILITATE MAINTENANCE OF WILD BIRDS AND POPULARIZATION OF ITS MEAT

The article describes the importance of maintaining biodiversity of wild birds in Georgia. From this point of view, their introduction and artificial propagation are considered, which is one of the effective methods for maintaining their numbers, intensification of hunting farms. It is known that the introduction of foreign, exotic birds is not acceptable, because they does not enrich the species composition of certain areas, but often endanger their biodiversity, conservation of which is the first priority objective of many scientists in the world. In recent times, special attention has been given to the Colchic pheasant, grouse, lyurus, duck, in Georgia, which are not only certain links in a long chain of biocenosis of specific areas, but also important hunting and industrial birds, whose meat quality often exceeds to poultry meat. In recent years, private and state farms have been appeared in the country, where the breeding and introduction of these birds are successfully implemented.

Key words: biodiversity, introduction, breeding, wild bird, meat quality.

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BIODIVERSITY OF ANIMALS AND HUNTING FAUNA OF GEORGIA

The article presents materials about the biodiversity of animals and hunting fauna of the country, describes Georgia's participation in international conventions relating to the protection of the world gene pool of fauna, among which is considered the Bern Convention; According to this convention 125 species of flora and fauna and 27 habitats are protected. Particular attention is given to endemic threatening disappearance. Among them are both invertebrates and vertebrates. There are big numbers of invertebrate species in high mountains of Greater Caucasus, Kolchic and Borjomi mountains; Iori valley, the southern lowlands of the Meskheta Range. As for vertebrates, it should be noted that endemics occur both among fish and among reptiles, birds and mammals. Considerable attention is also required by the introduced species of animals, which in most cases are the causes of the destruction of habitats and loss of local valuable species.

Key words: biodiversity, endemics, introduction, hunting fauna, international conventions, habitat

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PRODUCTIVE QUALITIES OF THE ABERDEEN-ANGUS X BLACK-AND-WHITE AND CHAROLAIS CALVES GROWN IN THE SYSTEM OF BEEF SKOTARSTVA "COW-CALF"

Animals' meat productivity of a particular breed is determined by morphological and physiological characteristics, which are formed and developed under the influence of heredity and the conditions of animals feeding and keeping during their breeding.

The cattle of Charolais and Aberdeen-Angus breeds are widely used for industrial crossing with dairy cows and dual-purpose breeds. Crossbred calves inherit a high rate of growth, the carcass yield and a higher yield of lean meat. Therefore, the meat of calves derived from beef cattle and their hybrids, grown according to the "cow-calf" system is of great interest. The goal of this experiment was to study the effect of genotypic factors on the productive qualities of beef calves.

In order to study the meat productivity of Aberdeen-Angus young bulls x black-and-motley hybrids and Charolais pure breeds, the control slaughter of calves at the age of 6.5-7 months was conducted. The first control group included Aberdeen-Angus young bulls x black-and-motley hybrids grown at the Agro-industrial Cooperative "Lasitsk" of Pinsk district, Brest region. The control slaughter group consisted of 15 calves, 9 of them were boned. The second group included Charolais young bulls grown on the "Pedigree farm enterprise "Druzhba" of Kobrin district. The control slaughter group consisted of 5 calves.

When studying the influence of breeds on the productive qualities of Aberdeen-Angus young bulls x black-and-motley hybrids and Charolais pure breeds grown according to the "cow-calf" system, it was found that the Charolais pure bred young bulls also predominate by the main slaughter indicators: the pair carcass weight – by 41.6 kg or 42.9% ($P < 0,001$), the carcass yield and the slaughter yield – by 13.8% ($P < 0,001$) and 13.6% ($P < 0,001$) respectively.

When studying the quality of meat is an important place to physical-chemical study of muscle tissue. The standard for determining the quality of meat an animal is present and the longissimus dorsi, as it consists essentially of one of muscle tissue. The most valuable part of the meat proteins, which in the bulk of a full-fledged, high digestibility (beef – 85%).

Data obtained by chemical analysis of the longissimus muscle of the back indicate that the contents of water and protein had the advantage bulls Charolais breed has made a difference in the 0.2 and 0.3%, respectively. Significant differences are not installed. To study the development of the internal organs at slaughter calves were considered separately, the weight of heart, liver, kidneys, lungs and spleen. Mass of internal organs of Charolais was higher compared to crossbred calves. The mass of the heart is the difference amounted to 0.2 kg or 22.2%, lightweight – 0.4 kg or 28.6%, liver – 0.7 kg, or 28%, kidneys – 0.1 kg or 20%, spleen – 0.2 kg, or 50%.

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PHENOTYPIC CONSOLIDATION OF INTENSITY OF GROWTH BY YOUNG ONES OF DAIRY BREEDS

Research work were conducted in herds of cattle by Holstein, Ukrainian Black-and-White and Red-and-White dairy breeds in TD "Dolynske" Chaplinka district, Kherson region.

The material for the study were the data by live weight at birth, in 6-, 12-, and 18 months age of heifers by Holstein (n=24), Ukrainian Black-and-White (n=33) and Red-and-White (n=42) dairy breeds.

The absolute increase and relative intensity of growth were calculated for assess the growth of animals.

Phenotypic consolidation ratio was determined by formulas of J. P. Polupan (1996).

99 heifers of Holstein, Ukrainian Black-and-White and Red-and-White dairy breeds were selected for research.

Research work have established that the heifers of Ukrainian Black-and-White breed are the best of the live weight indicator in age: at birth, 12 and 18 months, and the heifers of Holstein breed – at 6 months of age. And exaggeration of maximum performance above the average herd in each age category amounted from 5,4% to 9,3% ($P < 0,01$). The heifers of Ukrainian Red-and-White breed were characterized by lower rates in all age categories, which yielded by average herd on 4,1-12,1%.

The calculation of absolute growth and relative intensity of growth were conducted for evaluation the growth of research animals.

Results of the study were indicated that the heifers of Holstein breed characterized by the highest average growth in milk period, the heifers of Ukrainian Black-and-White breed – in the second half of year, during the whole year and a one and a half year, and the heifers of Ukrainian Red-and-White breed – in period from 12 to 18 months of age. The heifers of Ukrainian Red-and-White breed were grew most intensive then other in milk period for the whole year, third part of year and total of 18 months. The animals of Ukrainian Black-and-White breed were the best only in the second half of year.

Comparing the changeability (σ) and variability (C_v) of live weight in terms of research breeds we can see increasing and reducing their values in depending on genotypic group. Therefore, it was necessary to calculate the degree of phenotypic consolidation of live weight of heifers by Holstein, Ukrainian Black-and-White and Red-and-White dairy breeds.

Research work has established that the degree of consolidation the selected herd of Holstein, Ukrainian Black-and-White and Red-and-White dairy breeds by live weight are varies in different ranges. Holstein heifers are consolidate from 0,01 to 0,26; Ukrainian Black-and-White animals from 0,12 to 0,27; Ukrainian Red-and-White heifers – from -0,13 to 0,31.

Analyzing the each breed in terms of age groups may be noted that Holstein heifers are most consolidated at the average level ($K_1=0,26$; $K_2=0,26$) in the 12 months of age. The animals of Ukrainian Black-and-White dairy breed are show the average degree of consolidation ($K_1=0,24$; $K_2=0,25$) at the end of the milk period and ($K_1=0,23$; $K_2=0,27$) at 18 months of age. Regarding the heifers of Ukrainian Red-and-White dairy breed should be noted the best consolidation in the herd ($K_1=0,31$; $K_2=0,22$) on live weight at birth and the absence of consolidation ($K_1=-0,08 \dots 0,01$; $K_2=-0,08 \dots -0,06$) in following age periods.

In general, it should be noted that heifers of Ukrainian Black-and-White dairy breed showed the average degree of consolidation in 6 and 18 months of age and Holstein – in 12 months of age. Animals of Ukrainian Red-and-White dairy breed showed the absence of consolidation by live weight in all important growth periods.

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***MATHEMATICAL MODELING OF HEIFERS DIFFERENT TYPES OF FORMING BODY
AND FOLLOWMILK PRODUCTIVITY***

Common usage of genetic-mathematical methods and information systems for improvement of accuracy of animal breeding value identification is one of the reserves of selection work intensification.

Our purpose is the comparison of heifers' growth curve and first-born cows' lactation curve, and establishes the identity for changes of growth intensity and index of growth strain, and the character of changes of monthly milk yield curve.

Mathematical simulation of different breeds heifers' growth curves and their lactation curves (as a cows) in relation to calving order was practiced with the help of T.Bridges model.

The factors of growth curves dynamics point to the fact that representatives of Red Steppe cows with fast type of organism formation had less level of growing capacity recession and type of relative growth rate recession in comparison with different breeds and types same age cows.

Indicators of these values were almost the same with Ukrainian Red Dairy cows and Ukrainian Red-Dapple Cows with slow and fast rate of increase. These animals reached finish sizes faster till the age of maturation with fast inhibition of growth process and development in the end of ontogeny – 12-24 months. Red Steppe cattle proved to be slower with before-mentioned growth factor. Same deal with the cows with slow intensity of organism formation apart from their genetic belonging.

The comparison of parameters Δt , H_p , I_p , I_H gives us foundation to take up the position about great impact of age period that were analyzed by characteristic of dairy cattle growth and development processes.

During the comparison of parameters of the dynamic of heifers' growth curve and these first-born cows lactation curve were found high equivalence between the nature of growth intensity value changes and growth strain index of fast growth intensity Red-Dapple Cows representatives.

Increasing of parameters Δt or H_p leads to equal characteristics of monthly dairy yield curve. The increase of young cattle growth equability will testify about decrease of these animals yield characteristic. Clear trend with these parameters of growth curve and lactation curve wasn't found among two other breeds representatives, although the highest yield is typical for the animals with the highest value of Δt i H_p of growth curve. Correlation analysis confirms these data.

Therefore, usage of values of growth curve dynamic guarantees the possibility of cows' milk productivity probable forecast formation. Value of the growth recession energy and the type of growth relative rate recession apparently associates with productivity that gives us basis for practical application of these methods.

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ADAPTABILITY FIRSTBORN OF THEIR EMBRYONIC DEVELOPMENT

The article presents the results of research performance adaptive capacity of cows Ukrainian black and white dairy cattle with different duration of uterine development.

Research has established that duration of uterine heifers greatly affect their growth and live weight at the age of 6, 12 and 18 months. Firstborn short period of development unparalleled vysokovirohidno dominated middle and extended period of uterine development at 295 kg (6,5%, $P>0,999$) and 681 kg (14,9%, $P>0,999$), respectively. A similar trend continued and the number of milk fat, where the difference was made up vysokovirohidnoyu and 10.8 kg (6,2%, $P>0,99$) and 25,1 kg (14,5%, $P>0,999$). For fat milk firstborn in all three research groups significant differences were observed.

The duration of uterine affected the performance of body temperature, respiratory rate movements, heart rate and index adaptation. These figures are not the same throughout the year, but answered a reference rate.

In subjects firstborn body temperature was higher in summer and autumn and varied from $39,10\pm 0,034^{\circ}\text{C}$ to $39,49\pm 0,423^{\circ}\text{C}$. In the winter and spring months, the difference was not significant and was within the margin of error.

A similar trend is observed for respiratory rate, the value of which depends on the intensity of metabolism in the body. Increasing the number of respiratory movements of $19,44\pm 0,431$ beats/min. observed in cows with uterine short period of autumn to $19,60\pm 0,431$ beats/min. in summer.

Increasing the number of respiratory movements in cows with short summer period of embryonic development suggests greater stability and better development of the cooling system, which is not only on the skin surface, but the surface of the airways.

Thus, these animals have a better development of pulmonary and cardiovascular systems, which increases the intensity of ventilation and therefore more efficient evaporation from moist surfaces of the upper respiratory tract, and tongue, mouth and nasal cavity.

The pulse rate reflects the heart and the condition of the arterial vessel wall, and its research is essential to determine the condition of the body throughout the year. The total increase rate in cows all summer research groups from $78,12\pm 0,077$ beats/min. to $78,61\pm 0,033$ beats/min. shows the influence of environmental factors such as an increase in temperature and thermoregulation mechanism enabled.

In experimental animals, the mixed performance for coefficient adaptation. In winter, most cows were adapted to the medium and the extended period of embryonic development, spring and summer – a cow with a short period of uterine development.

Key words: adaptability, uterine development, productivity, physiological parameters, body weight.

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MICROCLIMATE PARAMETERS IN VARIOUS METHODS TO GROW THE YOUNGSTERS' OF SMALL CATTLE

Improvement of youngsters growing technology is one of the main tasks in the stockbreeding development. A special importance belongs to the building microclimate which is the most significant factor of environment and its correlation with animal comfort among the variety of youngsters keeping.

From the one hand, changes of some environmental factors cause an unavoidable reaction in animals that can lead to unfavorable effects (metabolism disorders, productivity decrease etc.). So, under the unfavorable conditions of microclimate the productivity has been decreased on 20-30% and more, feed costs have been increased per one unit of product (12-17%). Animals, especially youngsters, lose their resistance to the contagious and non-contagious diseases, high reject in the result of decrease and forced slaughter have been observed.

Influence of environment on the youngsters of small cattle has been noticed in the first days of their life by changing normal physiological and metabolic processes in the organism, since the microclimate effects on the hormones formation, water balance, carbohydrate balance and also A and D vitamins efficiency.

In this manner, to study the aspects of microclimate parameters formation in the building for youngsters keeping is important in the estimation of animal growing method in milky period.

To study microclimate formation in the building under the influence of various methods of youngsters keeping and the search for the optimal method of kids keeping in the milky period have been the objective in our research.

There have been chosen 30 goats of Zaaneen breed to form 3 groups per 10 goats according to the age, breed, live-weight and the terms of insemination.

Kids of the 1-st control group have been grown with the help of free suckling; kids of the 2-nd experimental group have been grown on the regime suckling (in a day time the kids have been placed with the dams and in the night time they have been taken from the dams and returned after the morning milking); kids of the 3-rd group have been taken away immediately after their birth and grown with the help of hand-feeding (from the moment of birth and to 3 days the kids have been kept in the individual cages and then in the section for the artificial growing).

Control of microclimate parameters (relative humidity, temperature, air velocity, concentration of harmful gases, bacterial contamination) has been made in the building according to the accepted method of hygienic practice five times for two days.

Dynamics of microclimate parameters in a building depends on the kids growing method in the milky period has been proved in our research.

There has also been defined that hygienic conditions to be formed in the building for animal keeping with various suckling methods didn't satisfied the requirements set for sheep-breeding and goat-breeding enterprises by DRTD.

However, kids growing on their own and with hand-feeding in the milky period are the most efficient from the point of view of hygienic norms. That is, the favorable conditions effect

positively on the behavior, growth and development of youngsters.

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ASSOCIATION OF QUANTITATIVE TRAITS OF PERFORMANCE OF MATERNAL BREEDS OF PIGS ACCORDING TO SET OF MOLECULAR GENETIC MARKERS

The aim of our research was to determine the patterns of inheritance of qualitative traits of pigs performance of maternal breeds according to set of molecular genetic markers.

The following tasks were solved for reaching this aim:

- study of selection and genetic parameters of reproductive traits of maternal breeds of animals;
- genetic testing of sows of maternal breeds by the main gene markers;
- study of polymorphism of ESR, EPOR, ESR F18 and RYR1 genes, and their effect on reproductive traits of animals.
- analysis of gene markers polymorphism for performance traits in association with quantitative traits of performance of maternal breeds of pigs.
- determine patterns of inheritance of quantitative traits of pigs of maternal breeds according to set of molecular genetic markers.

The research work was carried out at KSUP “SGC “Zadneprovsky”, KSUP “Plemzavod “Lenino”, OJSC “SGC “Zapadniy” with populations of highly productive purebred breeds of pigs: Belarusian Large White, Belarusian black-motley and Belarusian plant type of Yorkshire breed of pigs.

The following works were carried out during the research work:

- estimation of reproductive traits of sows in terms of: multiple pregnancy, weight of piglets in 21 days, number of piglets at weaning and litter weight at weaning;;
- determination of breeding and genetic parameters of reproductive traits of maternal breeds of animals;
- evaluation of maternal breeds of animal in terms of set of traits features: self productivity, genotype – using the DNA testing method for the genetic structure of breeds determining effect of genes markers on performance traits;
- estimation of meat, fattening and slaughter qualities of young animals.
- biometric processing of materials for researches was carried out by methods of variation statistics.

As a result of researches conducted, the following patterns of inheritance of quantitative traits of maternal breeds of pigs according to set of molecular genetic markers were determined:

1. Application of molecular genetic markers (ESR, RYR1, EPOR, ECR F18) in breeding sows of maternal breeds, determining performance traits, allow improving quantitative traits of animals performance: multiple pregnancy – by 2.2-12.7% and safety of piglets at weaning – by 1.3-19.9 p.p.

2. The developed genetic profiles of pigs of maternal breeds, which reflect the frequency of alleles of molecular genetic markers of performance traits, enable to predict their quantitative performance traits with high accuracy.

3. The developed ranking criteria of boars allow to objectively evaluate the manufacturer and use its effectively in terms of selection of parental pairs.

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MILK PRODUCTION AND FLOW LACTATION OF COWS OF UKRANIAN BLACK-AND-WHITE AND RED-AND-WHITE DAIRY BREEDS IN THE CONDITIONS OF NON-FIXING HOUSING

The comparative analysis of the essential indexes of milk production and flow lactation of first-calf cows of Ukrainian black-and-white and red-and-white dairy breeds in the conditions of modern dairy complex has been conducted at the "Ivnytsia" LLC in Andrushivskiy district, Zhytomyr region. The complex uses the year-round non fixing cubicle housing system for keeping dairy cattle. The yield for average cow is 4900-6400 kg per year. It has been established that the first-calf cows of Ukrainian black-and-white dairy breed have the advantage over the red-and-white cows of same age in view of their yield per 305 days of lactation (4306 kg to 4166; $d=+140$ kg; $P \leq 0,05$) and coefficient of the lactation permanence (89,8% to 86,4; $d=+3,4\%$; $P \leq 0,05$), their lactation curve has a flat, stable character. In this case the first-calf cows of red-and-white breed at the same milk protein percentage (3,27-3,28%) have milk fat preference (4,33% to 4,29; $d=+0,04\%$; $R \leq 0,05$). It has been showed that cows of both breeds increase the milk yield well — 30 days of lactation gave 11,2-11,5% of milk yield for 305 days, 60 days — 23,2-23,4%, 90 days — 34,6-34,9% (more than $\frac{1}{3}$). The maximum yield (16,2-16,9 kg) is observed at 1-3 months of lactation, minimal (10,3-11,2 kg) — at 9-10th. The difference in average daily milk yield between the first and tenth months of lactation is 5,1-5,4 kg, the average monthly yield is decreased in 1,5 times. The coefficient of daily milk yield variation is increased almost straight during the lactation period: from 13,6 to 22,5% for cows of black and white breed, from 15,4 to 24,4% — for red and white. The dynamics of fat and protein during the lactation period is comparable to cows of both breeds — their content is growing rapidly after reduction at 2-3 months, peaking in the late lactation period. Thus, the butterfat percentage increases faster (on 0,44-0,64%) than milk protein percentage (on 0,17-0,20%). The variability of fat and protein content in milk of examined cows does not dependent on the lactation period. The variation coefficient of butterfat percentage differs by lactation months within 4,1-6,3%, the milk protein percentage — 2,6-4,4%, thus, the last feature is more stable.

Keywords: Ukrainian black-and-white dairy breed, Ukrainian red-and-white dairy breed, milk production, flow of lactation, lactation curve, fat and protein content.

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SELECTION AND GENETIC PARAMETERS OF MILK YIELD THE HOLSTEIN BREED

Dairy cattle selection is aimed at enhancing productive quality and adaptability in various technological and climatic conditions. The most competitive among all breeds of cattle milk productivity of Holstein breed. The study of parameters of selection traits of animals of the Holstein breed, imported from Germany in the agriculture-intensive technology of milk production is relevant.

Found that cows of Holstein breed in new technological and climatic conditions realize their genetic potential milk production. Groups of cows-mothers (And gap) that are distributed according to the level of yield obtained with the daughter of productivity is higher compared to the first two groups (<8553 and 8554-9372), with the exception of the fat content in milk. The difference between the mothers and daughters of these groups on yield, protein content, quantity of milk fat and protein amounted to 1722 kg ($P>0,999$); 0,04% ($P>0,999$); 54,7 kg ($P>0,999$); 53,1 kg ($P>0,999$) and 138 kg; 0,08% ($P>0,999$); 2.8 kg; 14.3 kg, respectively

Breeding signs have daughters (gap II) are characterized by coefficients of variation of high to medium. They have Cv ranges from 14.6% to 18.0%. The inheritance of milk yield of Holstein cows in different groups, divided by total milk yield of mothers. Large values of the coefficients of inheritance are characterized by signs of "hope", "the protein content in milk and quantity of milk protein" in the group of animals <8553 ($h^2=0.54$, the $h^2=0.32$ and $h^2=0,58$). However, the degree of inheritance of fat content in the milk sample are higher than other traits ($h^2=0,34$, $P>0,999$). The presence of coefficients of inheritance of different degree in the animals of the Holstein breed pointed a massive selection of cows for signs of milk production of mothers.

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**THE QUALITY OF THE MEAT OF YOUNG PIGS UNDER DIFFERENT HOUSING
CONDITIONS**

With the use of alternative, cheaper ways as keeping pigs, other than fattening qualities at present more attention is paid to consumers as indicators of meat, the study is the subject of many literature sources. But most national publications devoted exposure genotypic factors on quantitative and qualitative performance indicators pig meat and today is poorly understood effects on these parameters alternative technologies in terms of pig Ukraine.

In the scientific and economic experiment in terms of "Dzerzhinets" Krinichansky region Dnepropetrovsk region comparison of sebaceous meat quality of pigs and chemical composition of the longest back muscle under different conditions of their detention during feeding.

Feeding conditions were identical for both groups of animals in accordance with existing regulations. Type of feed - concentrate.

Fattening pigs in the control group took place in the premises of the major part of the regulated microclimate in traditional stalls in solid concrete floor with straw bedding using a variable, on 20 goals each, plenty of feeding.

In the second group, this process took place in light tent structures on deep straw bedding constant without artificial maintenance of microclimate, with free access to the feeders.

When the animals ante live weight of 100 kg held control slaughter pigs Globinskiy myasokombinati. To determine the morphological composition of carcasses separated right to cut and then determine the content of meat, fat and bones.

As a result of studies found that one way of keeping that studied contributed to the manifestation of a sufficiently high level of performance of the studied population. The processes of maturation in the longest muscle in the back of the carcasses of pigs of both groups were stable in the normal range. Some higher-fat, energy value diameter fibers different muscle tissue of pigs which is maintained under alternative conditions on deep straw bedding.

Carcasses of pigs are kept stable by large groups for the use of deep sand and straw bedding were higher by 2.2% meat content and 1.5% lower content of fat in the carcass.

Porcine alternative method for keeping them stood out as the best moisture-containing capacity, intense color and higher acidity.

Lower by 2.08% moisture, 2.13% lower in protein and higher at 0.88% fat and 8.58 higher in calories. energy value differed meat of animals which are kept by alternative technologies.

Somewhat higher diameter fibers of different muscle pigs kept on a bed of straw, thereby increasing the area of muscle cells.

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INTERRELATION OF INDIVIDUAL ELEMENTS OF BEHAVIOR AND MILK PRODUCTIVITY OF DAIRY COWS

The paper presents the research results which show a direct link between the productivity of cows and their behavior. This fact has to be considered while forming the groups because the cows with higher productivity (5 and 6 thousand kg of milk per lactation) spend more time for feed intake.

The study was conducted at three farms among the cows of Ukrainian black-speckled dairy

breed in the third lactation with different levels of milk productivity: 4 thousand kg of milk per lactation – the first experimental group, 5 thousand kg – the second one and 6 thousand kg – the third one.

The indicator of variability of milk yield per lactation was average (8.6%; 6.8%; 5.4%) in the cows of all experimental groups. The average daily yield in the cows of the first experimental group was 13.9 kg that is by 22.3% less ($P < 0.001$) than that of the second one and by 32.9% less ($P < 0.001$) than the yield of the third group. The variability of the following indicator was average in the groups.

The degree of influence in the behavior of individual elements on the average yield of cows as well as the yield per lactation is defined in terms of the correlation coefficient. It is established that the average yield and the yield per lactation in all experimental groups is positively correlated with such an element of behavior as the duration of feed intake with a high degree of positive correlative dependence ($r=0.80-0.86$ at $P>0.05$ and $P<0.01$, respectively). Therefore, the duration of cows' feed intake increases every time the productivity is higher.

As for the other elements, the interrelation between “yield – the duration of rest by standing up” in the cows of the second experimental group and “yield – the duration of walking” differs by its negative average correlation coefficient ($r=-0.66$ and $r=-0.74$ at $P>0.05$, respectively). This is because the first group of cows rested more lying ($r=-0,69$ at $P>0,05$ respectively), while the cows of the second and the third experimental groups walked more at the pastures and rested lying less.

In addition, the cows of the second and the third experimental groups had their negative average degree of correlation coefficient between the characteristics “average daily yield – the duration of rest by standing up” ($r=-0.34$ and $r=-0.44$). That is because the animals' behavior in these experimental groups differed by the fact that the cows rested more by standing up and walking.

Keywords: cows, behavior, milk productivity, yield, average yield, time and motion observations, interrelation, correlation.

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QUALITY MEAT CHARACTERISTIC TAKEN FROM ANIMALS OF ZNAMIANSKA TYPE OF POLISSYA MEAT BREED

Results about researches of quality meat characteristic taken from animals of Znamianska type of Polissya meat breed have been presented in the article. Organoleptic meat estimation certifies that color, smell and its consistency corresponds to the demands of highly qualitative raw.

Research results of water-retaining capability in the longest spinal muscle showed that the higher water-retaining indices were in animals kept on pasture 76,8% against 74,9% in animals which were kept in confinement system conditions. It has been noticed that water-retaining indices were lower on 1,3-1,5% in animals at the age of 15 months than in animals at the age of 18 months. Water-retaining indices of triceps muscle capability were 75,7% and 73,8% at the age of 18 months

accordingly to pasture and confinement keeping. The tendency to the change of water-retaining capability has been preserved with the age.

During frying the moisture losses were higher in bulls kept confined and their meat had lower water-retaining capability. It has been noticed a slight increase of this index with the age.

Active acidity (pH) can be considered as one of the main quality meat indices. High (pH) indices lead to the increase of water-retaining meat capability which is important in sausage production. Optimal pH parameters are 5,3-6,5 (NOR) in 24 hours after slaughter and fridge preservation. If meat pH is less than 5,3 it will be considered as exudative meat (PSE), meat pH is higher than 6,5 it will certify about such defect as dry, agglutinative meat.

It has been established in our research that only 1,2% contained PSE features from the total amount of samples though the difference between pasture and confined keeping was not authentic. Such defect occurs only in summer conditions.

There have been much more such samples of meat with high pH. Animals kept on pasture had index 10,7% and confined – 11,3% without seasonal influence.

The data certify that bulls' meat of Znamianska type of Polissya meat breed regardless of growing technology has been differed as for high quality characteristics. Breeding of Znamianska cattle at industry complexes with pasture or confined keeping systems will allow supplying processing industry and retail with highly qualitative beef.

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PROSPECTS AND CRITERIA OF HORSE-BREEDING IN UKRAINE

Analyzing the state of horse breeding in Ukraine we can affirm that this branch of animal husbandry has been changing considerably for the last years; its state, appointment and directions of development have been changing.

Ukraine had 700,000 heads of horses 15 or 16 years ago, such countries as Germany, Romania and Poland have the same horse population; nowadays the horse population in Ukraine is about 300,000 heads; unfortunately there is also a decrease tendency nowadays.

There were 738,000 heads of horses in Ukraine in 1990. There were 756,000 heads of horses, 11 state stud farms, 4 racecourses, 132 tribal horse farms, equestrian sports complexes, schools and clubs in Ukraine at the end of 1995.

The number of horses was the same for the first ten years of independence. However, domestic horse breeding was reduced by 55% from 2000 to 2015. The horse population was 316,800 head at the end of 2015. The distribution of horses' number on farms with different forms of ownership has also changed. There were 700,900 horses heads at agricultural societies in 1990; there were 23,800 horses heads at agricultural societies in 2014. The individual farms had 293,000 horses heads in 2014; in 1990 they had 37.500 heads.

The problem of stabilization of domestic and foreign markets of pedigree horses is very actual nowadays because of modern unstable economic conditions; these markets should be formed by breeding subjects.

The domestic horse breeding gets to the economic impasse, because competitive breeding

and horse custom products needs investment funds, the retained profit from racecourses, sports competitions and sales doesn't cover the inputs; that's why we have inobservance with technical requirements, quality deterioration, reducing the horses' number, unprofitable sale of valuable gene pool overseas etc.

Key words: agricultural production, horse-breeding, the number of horses, livestock breeding, horse farms, race track, schools, clubs, breeding, sports, sales, profits, technological requirements, the gene pool

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MATERNAL CHARACTERISTICS OF MEAT BREED COWS

A great attention is paid to the selection of meat cows in breeding of Aberdeen Angus and Charollais breeds. To study the maternal characteristics of cows is one of the aspects in the work with breeds.

The maternal characteristics are the base for breeding of healthy and productive progenies. Their manifestations influence directly on the efficiency of meat cattle breeding.

The system of behavioral reactions and indices which facilitates the birth of healthy calf, safety of animal yield and normal suckling duration has been understood as maternal characteristics.

The study of live-weight and maternal characteristics of Aberdeen Angus and Charollais cows of native origin has been the objective in our research.

The experiments have been conducted with Aberdeen Angus and Charollais cows of native origin. There have been formed 3 groups of cows per 10 cows of each breed. The experiments have been conducted on full-grown cows (3-rd calving and older). The groups have been formed depending on the live-weight with the difference of 50 kg. The cows of Aberdeen Angus and Charollais breeds have been characterized by good maternal qualities.

Maternal characteristics have been studied by observation and recording of gestation activity in Aberdeen Angus and Charollais cows of native origin.

Analysis of licking duration showed that maternal instinct has been better defined in Aberdeen Angus cows with live-weight 551-600 kg and Charollais cows with live-weight 551-600 and 601-650 kg.

The period of calf rising to feet is one of the important parameters included to the estimation of maternal qualities. The higher index, the worse is well-being of calf.

Healthy and strong calves rise quickly to their feet and prevail over the other animals with the similar keeping conditions. The amount of colostrum consumption in the first days of calf's life characterizes the mothers' and calves' behavior to be one of the main indices. The importance of this factor can't be overestimated.

If maternal instinct is developed insufficiently in the cows, the calf will not get the required amount of colostrum and the most important enzymes and proteins taking part in the formation of immunity in newborn calves on the first days of life.

Analysis of results showed that Aberdeen Angus and Charollais breeds have been characterized by heterogeneity in live-weight to be influenced on cows' maternal characteristics. The maternal instinct is better defined in cows with live-weight 551-600 kg and 601-650 kg that is the optimal criterion for the further improvement of Aberdeen Angus and Charollais breeds.

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ASSESSMENT OF REPRODUCTION QUALITIES OF BREEDING PIGS WITH THE USE OF DIFFERENT GENOTYPES

The article shows the analysis of research of reproduction qualities of breeding pigs with the use of modern assessment methods by an integrated index: prolificacy, milking capacity, average weight of a baby pig upon weaning, weight of a nest upon weaning, offspring survival, reproducible qualities, restricted features (I), and study of effects of terminal hogs (OptiMus Rattlerow Segers and Hypor Maxter) on reproduction qualities of breeding pigs. The study has been conducted in the environment of DP "Natsional Plus" as part of Private Enterprise "Natsional" in Dnipropetrovsk region in 2015 where modern pig reproduction techniques are used. Among all study groups, the best results have been shown by pigs of group IV with reproducible qualities integrated indicator of 111.15 points and index I of 44.20 points

Modern pig production is a highly developed industry of livestock farming with a huge production potential. In the world, livestock farming plays a basic role for provision of people with food and manufactures with raw materials. The world's practice and experience of many countries is manifested, in particular, under the conditions of population growth and increased demand for meat per capita. The choice of breeding pig qualities assessment methods is closely related to the level of efficiency of growing and selection in the pig farming and with the progress of innovative technologies and sciences. All known methods to assess reproduction qualities have emerged historically at different times and have been developed on the basis of knowledge and necessities of that time. The level of reproduction qualities of breeding pigs is highly determined by the efficiency of breeding and livestock farms, since it predicts the volumes of breeding of rearing stock and pig population for fattening.

As follows from research of scientists and practicing stock breeders, large attention is given to the improvement of breeding pig reproduction qualities assessment methods, it is important to use new breeding qualities assessment methods in order to widely use biological features of breeding pigs.

Key words: reproduction, index, terminal hog, breeding pig, assessment genotype

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***LIFETIME COWS OF THE UKRAINIAN BLACK-AND-WHITE DAIRY BREED
DEPENDING ON THE LEVEL ASSESSMENT OF LINEAR TRAITS OF EXTERIOR***

In the aspect of studying lifespan of dairy cattle, depending on the exterior type indicators were evaluated cows of the Ukrainian Black-and-White Dairy breed, by the method of linear classification. Such descriptive traits of exterior, which characterize the overall body structure firstborn of the experimental herd were investigated: chest width, body depth, angularity, the fatness, position and rump width. According to the research established the impact scores for growth of descriptive linear traits of body structure on the lifetime of cows. The degree of variability in the relationship between estimation of these traits and lifetime of animals depended on the specific point of the body structure.

Between the chest width and the lifetime of cows established curvilinear relationship. Animals, with 3-5 scores for chest width had a high lifetime, with the variability 2242-2525 days. With increasing estimate of the average value five scores, term life of cows decreased from 2282 (6 scores) to 1981 days (9 scores).

Animals with a deep body, in 7-9 scores for growth of trait, had the highest lifetime: 2498-2536 days. The difference in life expectancy between cows estimated at 7 scores compared to groups of animals with 1 score is 464 days ($P < 0,01$).

Relationship between estimates for rump angle and lifetime of cows has a curvilinear nature. Animals with an optimal five scores had the highest lifetime – 2534 days, whereas with an increase and decrease of assessment the number of life days decreased. The difference in lifetime between cows estimated in 5 scores compared with the group of animals in 6-9 scores, is 47-323 days, the difference is statistically significant at $P < 0,05-0,01$.

The lifetime of cows is depending on the score level of rump width. Cows with the highest estimate of trait in 9 scores were used in 549 days longer compared to animals in one score ($P < 0,01$).

The highest degree of fatness is negatively related with lifetime of cows of the experimental herd, whereas animals with lower score for this trait, on the contrary, live and are used for much longer.

The highest average lifetime of animals with 5 scores for fatness was 2514 days. Cows with sufficient lifespan in 1-6 scores with variability 2387-2448 days, are within unreliable difference (61 days). A significant reduction in lifetime observed in cows with 6-9 scores. They are significantly worse compared with group of animals with a 1 to 5 scores, difference in favor of the latter was 527-702 ($P < 0,01-0,001$).

So, should be noted that each of the estimated descriptive traits influences the duration of lifetime with different variability within each particular trait.

Reliable influence was found of the development of linear traits for cows lifetime of experimental herd. To improve the duration of use cows in selection should be consider exterior profiles of sires in the degree of development linear type traits of daughters that affect life expectancy.

Key words: Ukrainian Back-and-White Dairy breed, linear type traits, lifetime

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THE INFLUENCE OF CONDITIONS OF KEEPING COWS ON THE PARAMETERS OF THE MICROCLIMATE AIR IN LIVESTOCK BUILDINGS AND MORE ENERGY

For years of reforming of agrarian sector of Ukraine the flow-shop system of milk production in most dairy enterprises ceased to operate. This was mainly due to a significant reduction in the number of cows. In such circumstances, the optimum content of cows is impossible. Took place the transfer of the calving cows in stalls, where cows are permanently kept, housed calves in cows, this leads to a proliferation in cows breast disease, violated regulations, sanitary-hygienic parameters of a microclimate in cold, dirty and wet areas.

Preventive measures are needed to ensure the hygienic conditions of the cows, standardized feeding, veterinary-sanitary measures and the like.

It is advisable to conduct systematic monitoring of feeding technology of cows placing results in the relevant documentation: assessment of the diets of nutrients, control of eating feeds, evaluation of feeds, according to the milk yield of a given diet, feeding regime and technology of feed preparation, control over the execution schedule, monitoring of sanitary days, the control of metabolism.

Studies of the microclimate indices of microclimate, on average, according to the acceptable standards for the maintenance of the experimental groups of cows, regardless of the ways their content, and energy value of milk from cows that were kept without a leash and was more at 914,5 76,21 MJ or kWh. electricity per cow (for the second lactation) and 1454,9 121,24 MJ or kWh. (the third lactation).

The condition of a favorable microclimate indoors animal is its compliance with the physiological state of the organism, and therefore physical properties and chemical composition of the air environment – abiotic factors are not constant and subject to wide fluctuations to which the animal can adapt only to a certain extent.

It is the use of heat exchangers will improve animal welfare and enhance their productivity.

Key words: cows, content, leash, micro-climate, energy, temperature, humidity.

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APPLICATION OF HONEY IN WELLNES FOOD

The focus of science on the continuous improvement of ecology and structure of nutrition determines the relevance of finding ways to enrich the ingredients of products. As a consequence, the study of natural products such as bee honey in combination with herbal teas, which carriers of different biologically and physiologically active substances is a promising direction of research in apitherapy. The aim of the research is to establish antioxidant activity and physico-chemical properties of the wellness tea *Sambucus nigra* L. with natural honey. Research was carried out in the laboratory of the Institute of Biodiversity Conservation and Biosafety of the Slovak University of Agriculture in Nitra. The next equipment was used: analyzer sensION + PH1 Portable pH Meter, shaker LT 2 spektrometrometr Genesis 200. The samples of honey were collected from bee colonies of local populations in different regions of Ukraine during the summer 2016. The biological value of wellness tea *Sambucus nigra* L. with the addition of honey increases due to changes in its physical and chemical properties. It was experimentally confirmed the increase in antioxidant activity of tea *Sambucus nigra* L. as a result of addition of honey of different botanical origin: sunflower by 98%, white acacia – 97%, grasses – 96%, coriander – 92%, rape – 84% under control. The highest antioxidant activity in the tea was established with the addition of honey of Echium (72.09 units). Antioxidant activity of the tea with honey differs within one species depending on the natural-climatic zones of production. Honey of a different botanical origin does not equally affect the physicochemical properties of tea *Sambucus nigra* L.: acidity increased (9.7%); electrical conductivity was in the range of 673.62 to 724.44 mS/cm; total mineralization increased by 9.6%, 11.4 and 17.9% with the addition of sunflower, acacia and grasses honey respectively.

Keywords: honey, *Sambucus nigra* L., antioxidant activity, pH, electrical conductivity, physicochemical properties

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WATER ENVIRONMENT AND FORAGE CONDITION OF SANDRAKS RESERVOIR

It was researched that active water reaction of reservoir (pH) and the amount of dissolved oxygen are normal, but the amount of dissolved oxygen are rather high.

Numbers of calcium and magnesium ions are respectively 62-70 mg/l and 27-34 mg/l. Analysis of hydrochemical parameters has proved that water of reservoir meet the fisheries standards and is suitable for the cultivation of marketable fish.

Phytoplankton is represented by 54 species of algae, which include 6 freshwater groups. The basis of its species composition is diatom.

Average number and biomass of algae in the reservoir was 9391 thousand cells per liter and 4.120 grams per m³. The dominant role in phytoplankton biomass belongs to Euglena algae, 1.564 grams per m³.

Zooplankton is characterized by qualitative diversity; its structure consists of 32 species and taxa of other ranks. The number of species in some areas ranged from 27 to 30, it indicates a great similarity zooplankton fauna throughout the waters of the reservoir. Such species as *Asplanchna sieboldi*, *Keratella quadrata* dominated among rotifers biomass. The average number and biomass of organisms were 1826 individuals per m³ and 1.488 grams per m³.

The poorest quantitatively zooplankton was fixed at the top of the reservoir; in the middle and dam part of the general population and biomass zooplankton group were significantly higher (respectively 1.6-1.2 number and biomass 4.3-3.7 times) than at the top. Rotifers dominated by biomass among the major taxonomic groups, accounting for 59-65% of the total biomass.

Extremely high level of secondary production and high nutritional value of zooplankton food make it number one for many aquatic animals, including fish, such as adult fish and youth of all species. Average number and biomass of benthos was 280 individuals per m³ and 5.184 grams per m². The maximum quantity of benthos was marked on muddy sand in the middle reservoir and dam areas (under 5.840 grams per m² and 9.072 grams per m²).

The prevalence of high-forage benthos in chironomid larvae, other insects and oligochaetes is an evidence of highly developed forage. Visually the reservoir has significant reserves of higher aquatic vegetation, particularly in the upper part.

Macrophytes are dominated by the representatives of surface vegetation: reed ordinary, *Typha latifolia*, lake cane and others. *Bothrops alternatus*, coastal water flooded meadow plants dominate among the floating and submerged higher plants.

Overgrown pond area in its upper part is 50 to 75%, in the middle of the surface macrophytes located on the coastline completely or at intervals, but with the floating and submerged plants overgrown area is approximately 15-20%. Total area overgrown reservoir is generally 25-35%.

The forage of reservoir was at very high productive level, especially phytoplankton (4.12 grams per m³), benthic (5.184 grams per m²) and higher aquatic vegetation. The latter allows the universe and growing in white carp polyculture, partially spotted carp, co-brine and grass carp.

Keywords: water environment, forage, reservoir, aquatic, fisheries regulations, hydrochemical parameters, phytoplankton, algae, zooplankton.