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INTENSITY OF FATTENING PIGS WITH DIFFERENT CONTENT OF LYSINE IN THE PROTEIN FEED RATIOS

Studies were conducted on pigs in fattening calves SFG "Star" with Malinka Pohrebyschanskoho region Vinnitsia region. It was formed 2 groups of 15 pigs (large white breed Landrace x) by the principle of group-based counterparts animal live weight, age, articles, breed, nutritional status, and health. The farm produced feed from feed wheat, barley and extruded soy. Fattening conducted for the period from 35-45 kg body weight daily davanka feed was 1.8 kg, 45-55 kg respectively from 2.0 kg to 55-65 kg - 2.5 kg to 65-75 kg - 2.5 kg. The structure was to feed 40% of feed wheat and 45% barley and 15% extruded soybean. Fattening from 75 to 110 kg was carried out on the fodder containing 10% extruded soybeans, an increase of 5% barley. Study Group for the same period received fattening feed, with the introduction of its 3% mineral and biological additives instead of 3% barley. Lysine content of the protein in the fodder control group of pigs was 4.1% up to 75 kg live weight, and from 75-110 kg live weight the content of lysine was 3.8%, while the experimental group, these figures were 5.9% 75 kg and 75-110 kg respectively of 5.7%.

Feeding the animals was carried out according to established standards, maintenance group were indoors for rearing and fattening of pigs. Handed Forage mixture (feed) in racks in a dry form loose once in a few days. Access to water the animals were free. Accounting consumed feed was conducted after each sub-feeding, and they were 7, the definition of gross and average daily rate (g), the cost of feed for 1 kg increase in body weight (kg) k. Units. Metabolizable energy (MJ), lysine (g) methionine with cystine (g).

Productive performance zernosumishi (feed) with different content of lysine in crude protein strongly suggests that lysine content at 3,8-4,1% in the diet provides the average increase in body weight of young pigs. Increase of lysine in the protein to 5,7-5,9% is crucial to obtain high average daily increases within 800-900 g Parallel to this, it should be noted that these gains are achieved at lower cost crude protein and metabolizable energy per 1 kg increase live weight pigs.

1 kg zernosumishi (feed) for pigs in the control group contained 142-152 grams of crude protein and lysine 5,4-6,2 g, whereas according to research 7,9-8,8 138-149 g and g. The cost of feed for 1 kg increase in the control group were 3 to 5.1 kg, and in research from 2.4 to 3.9 kg. Costs of lysine in the control group from 11.2 to 18.8 g, and research from 15.8 to 27.7 hours in the same comparison of costs 24,1-46,5 MJ metabolizable energy in the control group and the experimental 23,4-45,1 MJ.

Fattening young pigs in the control group for the research period of 120 days has reached an average live weight of 110 kg and research for 93 days. The difference in 27 days convincingly argues important role of balancing rations for growing pigs on the content of lysine in the protein level 5,7-5,9%.

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THE PRODUCTIVE CHARACTERISTICS OF HYBRID PIGLETS AT GROWING WHEN USING BETAININE

The results of studies of the productive characteristics of hybrid piglets at growing with the addition of different amount of the feed additive betaine into the diet are given.

The research was conducted on the pig farm Ltd "Servolux-Genetics", Orativ district, Vinnytsia region on four groups-analogues of hybrid piglets, with 17 pigs each. The average age of piglets at the weaning was 24.2 days.

During the equalizing period the productive characteristics of animals in research groups were close to the animals in the control group, their average daily gains range of 248-250 g and the absolute gain is from 71.6 to 72.3 kg. However, the introduction of betaine into the diet in the amount of 1 kg per 1 ton of feed increased the consumption of feed by 4.18% in the third research group of animals. It is established that when using the feed additive betaine in the pigs' diet, the highest characteristics of growth were observed in the third research group of animals, where the average daily gain was 743 g and the absolute one - 378.8 kg.

Throughout the period of research the piglets' survival was 100%.

The optimal amount of betaine for feeding piglets at growing is established. It is 1 kg per 1 ton of feed.

The results of research have proved that the biological efficiency of feed can be significantly increased when adding the betaine's optimal amount of 1 kg per 1 ton of feed into the basic diet. The consumption of feed in the third research group of animals is increased by 4.18 % when adding the optimal amount of betaine into the basic diet. When feeding with betaine, the highest characteristics of average daily and absolute gains were observed in the third research group of animals. They were 743 g and 378.8 kg respectively.

When feeding with betaine, the fourth research group of animals had the lowest characteristics of feed costs per 1 kg. The conversion was 1.60.

The use of betaine in the diet of piglets has no negative impact on their growth and development that reflects the absolute survival of animals in all groups.

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EFFICIENCY OF THE USAGE OF BVMD "ENERVIK" AT GROWING PIGS ON MEAT

It is shown that the usage of BVMD " Enervik " with L- of carnitine in feeding young pigs, in an amount 50 grams per tone of mixed fodder, assists to increase the average augmentation for

85 g, or 12,57%; before-slaughter and slaughter mass for 9,0% and 16,2%; and outcomes of carcass for 19,4 and 6,4%. Also improves water-retaining ability of muscular fabric, its nitrous part and calorie content, at the same time unreliably reduces its tenderness indexes and marbleness that correlates with reduction of the outcomes of fat in a carcass.

BVMD "Enervik" in a ration to the young pigs predetermines the increase of coefficients of digestible of nutritives, especially raw cellulose and fat (for 11,9 and 6,1%), and also the content in blood of red corpuscles, thrombocytes, haemoglobin, coloured index general squirrel, aalbumins and glucose, substantially influences on content of calcium, phosphorus and iron.

Investigated BVMD "Enervik" has high recoupmnt – on the invested hryvnya get 2,71 hryvnyas of income, at a level of profitability 27,1%.

The marked results are got as a result of carrying out a scientifically-economic test on three groups-analogues to the young pigs of large white breed, 11 livestock in each. Animals were grown for 127 days, beginning from living weight from 20 kg to 110 kg. The Control group got BVMD without carnitine, and the researched – with L-carnitine - 50 and 100 grams per tone of the mixed fodder.

The background of feeding of pigs provided the receiving of average increases for of 127 days of basic period of research 761 and 722 in researched groups, against 676 in control.

Keywords: young pigs, BVMD "Enervik", L- of carnitine, feeding, efficiency, digestibility, blood.

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THE USE OF PROTEIN-VITAMIN MINERAL SUPPLEMENT "MINAKTYVIT" IN THE FEEDING OF YOUNG PIGS

One of the main conditions to increase the productivity of pigs is to ensure their complete feeding. But in modern conditions of reforming of Ukraine's agrarian sector it is difficult to ensure the quality of animal ration balanced for the necessary nutrients and biologically active substances. Therefore, one way to increase the use of feed nutrients by animals is to enrich their rations with feed supplements of different nature.

Protein-vitamin mineral supplements that can balance the lack of certain substances in the diet are increasingly used today. The quality of meat is influenced by many factors. Feeding is the main of them. Therefore, a number of farms use protein-vitamin-mineral supplements with a certain set of enzymes in the feeding of pigs. Their action releases remote feed nutrients, increases their digestibility and the productivity of animals.

The aim of research was to study the impact of feeding with protein-vitamin mineral supplement "Minaktyvit" on fattening and meat-lard characteristics of young pigs.

The research was conducted on two groups-analogues of young pigs of large white breed with 10 pigs each. Weaned piglets at the age of 28 days were fed with the protein-vitamin mineral supplement "Minaktyvit" – starter in the amount of 25% of grain feed (33 days), while young pigs in growing were given the protein-vitamin mineral supplement "Minaktyvit" – grower in the

amount of 15% (50 days) and those in fattening the protein-vitamin mineral supplement “Minaktyvit” – finisher in the amount of 10% (62 days). The control group received protein-vitamin mineral supplement. At the end of growing with the live weight of 100-110 kg a control slaughter was carried out and samples of muscle tissue and blood for laboratory tests were picked out.

Studies have shown that feeding of young pigs with the protein-vitamin mineral supplement “Minaktyvit” has a positive productive effect. Also it should be noted that animals of the experimental group were more active and consumed feed better.

A new protein-vitamin mineral supplement increases the average daily gains by 95 g or 15.68%, while their level is 701 g in the experimental group of animals and 606 g in the control group and also reduces the cost of feed per 1 kg of gains by 0.73 of power feed unit or 13.57%.

The studied supplement increases slaughter weight by 15.57 kg (19.12%), carcass weight by 14.24 kg (21.7%) and the average thickness of bacon by 2.5 mm (8.33%). A tendency to increase the weight of by-products is also noted.

The use of protein-vitamin mineral supplement “Minaktyvit” in the diets of young pigs has a positive impact on the physical and chemical characteristics of muscle tissue. Its water-retaining ability, tenderness, protein and calorie content are improving.

When consuming the protein-vitamin mineral supplement “Minaktyvit” an increase in the content of both nonessential and essential amino acids such as lysine, methionine, leucine, alanine and histidine is observed in the muscle tissue.

Introduction of protein-vitamin mineral supplement “Minaktyvit” into the diet has no probable impact on haematological indicators of young pigs, but only has a tendency to increase the content of forming elements.

Key words: young pigs, protein-vitamin mineral supplement “Minaktyvit”, feeding, productivity, the quality of production, amino acids, blood.

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PERFORMANCE AND HEMATOLOGICAL INDICES OF YOUNG PIGS AT FEEDING BVMD "INTERMIKS"

The increase in pork production, especially on small farms and individual farms associated with finding ways to improve performance at a limited number of animals grain ingredients in diets. Mainly it middlings barley, wheat and corn. For this purpose, protein-vitamin-mineral supplements (BVMD), which are based on the latest scientific achievements in cooperation with experts in animal husbandry. The main goal of this collaboration - to create such complements to diets that would ensure rapid growth and efficient feed through assimilation optimally balanced nutrients and bioactive substances. In the market of feed and feed additives products offered numerous companies with reference to relevant permits - orders, standards, specifications or interim guidance on their use. However, some pork producers with some mistrustful of universalization of the use of additives in animal feed. Therefore, more and more becomes a trend to develop BVMD or premix fodder with regard to specific households a certain area or region, and the genotype of animals. Current recommendations for feeding pigs normalized 2012 provides for the needs of pigs in energy, protein, minerals and vitamins. On average, these rations for thirty balansuyutsya batteries, most of

which is composed BVMD. The new BVMD include Intermiks VS-15%, manufactured at the production facilities of "Interahroteh." This is a Ukrainian company that develops and produces premixes composition BVMD high quality for virtually all technological groups of farm animals under the name "Intermiks." Feeding young pigs grown for meat, BVMD Intermiks new VS-15% increases in increments averaging 32-67 g, or at 4.15-8.69%, while the level of 803-838 (against 771 g in control). The cost of feed for 1 kg of growth decreased to 0.21-0.37 power feeding units, or at 5.39-9.5%. In accordance young blood increases hemoglobin and phosphorus. Also, there is a tendency to increase the yields of red blood cells, protein, calcium and iron. Scientific information obtained as a result of scientific and economic experiment on three groups-analogues young pigs of large white breed, on 12 goals each. In the main period of the experiment the animals of the second group consumed BVMD Intermiks VS-15% - hrouer-finisher, third-Intermiks VS-15% -finisher. Dirty diet consisted of barley and wheat, containing 2.97 IVF and 283 g of digestible protein. It was fully equipped with basic nutrients and biologically active substances. The ratio of amino acids to limited and crude protein and methionine + cystine and tryptophan dry matter, energy-protein ratio (in MJ / JV) answered the norm.

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FEEDING EFFICIENCY PREMIX INTERMIKS YOUNG PIGS IN GROWING MEAT

It is shown that the use in feeding young pigs premixes Intermiks increases average daily growth increments for the period from 20 to 110kh live weight 37-141h or on 5,5-21,0 %, while reducing energy costs feed units per 1 kg increase in 4,3-17,9 %. The highest average daily gain of young pigs were in the final phase of feeding (65-110kh) - 796 and 873h in research groups, -15,9 to 5,7 % above the reference level .

The consumption of premixes Intermiks slaughter weight increased by 16,6kh (19,65%), carcass weight on 14,67kh (21,16%), offal at 14,02 kg (25%). Growing zhyrovidkladennya in ink pidshkiryanoho average thickness of bacon increased by 4,6-19,5% weight of internal fat to 22,8%. Being improved muscular tissue parameters - pH, intensity of color, marbling and calorie content. In terms of water-holding capacity significant difference between groups does not exist. Fat digestibility is increased by 22,12%, fiber and nitrogen free extract in 1,13-1,7% nitrogen retention in the body at 4,5-5,5%.

Using premyksa Intermix proyzvodstvennyh in terms obuslovlyvaet an increase srednesutochnnyh pryrostov at 91h , or 16,1 % and obespechuyvaet okupaemost in quantity 1,67 hrnpriblyly one hryvnia costs. As togda in scientific terms hozyaystvennoho experience otdacha sostavljaet 3,15 uah 1 usd costs.

Data polucheny results as a result of conducting scientific - Experience in hozyaystvennoho trejo group - young pigs analogues Major Belo porody, 12 heads in kazhdoy. The first group byla kontrolnoj. After 15 sutochnoho uravnytelnoho period, the second group animals phases for feeding 20-35 kg poluchaly in ratsyone premyks Intermix PV- 1,25% for phases 35-65kh - Intermix Sun -

1% and in the phase 65-110kh -Intermix BC 1% . Young зtyh the third group at the same phase feeding poluchal respectively: Intermix PV- 4%, 3% Intermix VS and VS Intermix – 2,5%. Living with fire-proof compounds achievements 100-110kh byl wires kontrolnyy uboy and otobranly obraztsy myshechnoy tissue and blood for laboratornyh research.

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USE PVMS "INTERMIKS" WHEN GROWING CALVES

The main task of feeding young cattle should be directed to the fact that through the rational use of feed for maximum, genetically determined performance while maintaining health and subsequent reproductive function. For this growth developed appropriate plans and schemes of feeding calves from birth to 6 months of age.

Feeding calves PVMS "Intermik calf" in the amount of 30% of the diet of grain during the 6-month period of cultivation increases averaging 58 g increments, or by 8.43% ($P<0.05$) compared to calves that consumed PVMS "Yevroprot calf" 25 and 20%. According absolute increases were increased and the difference which prevailed at the end of the experiment the first group, the figure of 10.1 kg ($P<0.01$).

The cost of feed for 1 kg increase in the consumption PVMS "Intermik calf" at 0.42 feed. units., or 7,94% decreased and amounted to 4.87 feed. units., while the first group they accounted for 5.29 feed. units.

Change increments in growing calves months indicate that during the first two months after birth, average daily gain of calves second group were increased by an average of 74 grams, or 11.7% compared with similar data controls. From 2 to 4 months the increase amounted to 66h, or 10%, from 4 to 6 months - 32 grams, or 4.5%. These data reflect age-related decrease in the relative intensity of growth as an existing fact. A similar nature have also changes the absolute increase in body weight.

Hematologic findings suggest that of all the studied parameters in experimental group of animals was likely increase of red blood cells by 10.9% ($P<0.05$), hemoglobin of 10.7% ($P<0.05$), eosinophils and phosphorus ($P<0.05$). There is a tendency to increase the number of neutrophils (6.0%), platelets (10.7%) and reduction of leukocytes (at 6.38%), lymphocytes (9.7%), albumin (18.7 %), calcium (at 4.08%). Most of these changes are within the parameters of physiological norm.

The resulting weight and linear growth parameters of the animals took place at an optimal level of nutrition. For the six-month period of growth each animal has consumed 300 kg of milk, 82.2 kg of barley Dirty, Dirty wheat 79.04 kg, 69.66 kg PVMS, 926.5 kg of hay and hay grasses and legumes. In total this amounts to 654.36 feed. units. and 72.89 kg of digestible protein, which is 3.63 feed. units. and 405 g of digestible protein down a day with milk.

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EFFECT OF FEEDING A NEW PREBIOTIC PREPARATION ON THE PERFORMANCE OF YOUNG RABBITS

High performance of rabbits depends on complete and balanced nutrition. However, attention should be paid to the processes in the intestine of animals. The bulk of pathogenic microflorae, which get into rabbit's intestine, do not cause diseases or animal death. They are harmful for the rabbit's body as they get attached to the walls of the intestine; they both damage their integrity and reduce the area of nutrient absorption. Until recently, this problem has been solved only by the method of using antibiotics in the composition of animal feeds.

Recently, natural biologically active substances that normalize digestive processes in the body effectively adjusting qualitative and quantitative microflora composition in the digestive tract of animals have been introduced more widely as a safe alternative to antibiotics.

Prebiolact-Cr is one of the new feed additives having a prebiotic effect. It has been developed by the staff of the scientific biotechnological company "BTU Center", Ladyzhyn, Vinnitsa region, Ukraine.

The experiment was conducted in four groups of young rabbits selected by the principle of analogues with 25 rabbits in each group. Rabbits of the modern meat hybrid HYPLUS were the material for the scientific experiment.

As a result of researches, it has been established that feeding Prebiolact-Cr to fattening young rabbits has no significant effect on the preservation of the rabbit population. Feed additive Prebiolact-Cr added to the diets of young rabbits in the doses of 1.5, 2.0 and 2.5 g per rabbit daily contributed to live weight gains on average by 1.11, 3.7 and 2.5%. Prebiolact-Cr dose of 2.0 g per rabbit daily is considered to be optimal for feeding fattening young rabbits.

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DIGESTION AND METABOLISM IN PREGNANT SOWS AT FEEDING PVMA INTERMIKS

It is shown that feeding sows PVMA Intermiks PS 7.5% from fertilization to 85 days gestating, then Intermiks LS-20% – before farrowing (as of the last ten days before farrowing) has no relevant effect on changing the coefficients of digestibility of nutrients of rations, causing only tends to increase digestibility of crude fiber 5.2% organic matter to 1.86%, crude protein at 1.02%.

The balance of nitrogen in the sow was positive. Nitrogen retention as adopted by its quantity and digested when consumed PVMA Intermiks was at 2,03-2,6% higher than in the control.

In terms of metabolism of calcium and phosphorus significant difference between the groups is not obtained. There is only a tendency to increase. Thus, the content of calcium in the experimental group sows increased by 8,77-7,43% and phosphorus at 2,23-1,76% respectively from the accepted and digested their number.

Studies performed on two groups-analogues gestation sows of large white breed, fed complete feed (control group) and new PVMA Intermiks PS-7.5% and Intermiks LS-20% (experimental group). This was used balance method, under which sows before farrowing were kept in individual cages and accounted for eight days consumed feed, feces and urine color.

Animals are fully equipped nutrients and biologically active substances according to recommended standards.

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THE EFFECIENCY AND STATE OF PIGS INGESTIONS UNDER THE ACTION OF FEED ADDITIVE

Enzyme preparations, premixes, protein, vitamin and mineral additives manufactured in many countries all over the world are widely used for farm animals feeding. Their efficiency greatly depends on diet compound, the functional state of digestive organs, and system of keeping.

The aim of our work was to research the influence of complex three component enzyme preparation and feed additive CFA-10 using different by nutritional value diets on efficiency and state of pigs digestive organs.

The efficiency of three component enzyme preparation usage at the various diets by nutrition value was proved; the efficiency of protein and vitamin feed additive CFA-10 usage for pigs fattening was also proved; their influence on the efficiency and state of ingestions was also researched.

The average daily growth of the third group of pigs was higher by 14,1%, of the second group animals' growth was higher by 13,9%, the forth group animals' growth was higher by 12,6% than the average daily growth of the pigs controlled group; but the pigs of the forth group has the lower average daily growth than the pigs of the third group by 1,3 %.

The increasing of the thickness of the stomach wall by thickening the mucous membranes and muscle was observed when the three component enzyme preparation (0,11% from concentrated feed weight) and feed additive CFA-10 (10% from the weight of grain feeds) were combined. The functional activity of liver and pancreas increases under the action of these feed additives.

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HAEMATOLOGICAL INDEXES of CHICKENS-BROILERS are FOR the USE of PROBIOTIC

A study of morphological and biochemical indexes of blood of chickens-broilers is undertaken for the use of the investigated addition of probiotic "Entero-active" on the basis of lactics of sort of Lactobacillus and Enterococcus.

The experiment was conducted at the research farm of Vinnytsia national agrarian university. Four groups of day-old chickens-broilers of Ross 308 cross were selected according to conventional methods; each group had 50 heads. The experiment was conducted during 42 days; the basic period was 32 days, the comparative one was 7 days. The researched poultry was kept at battery cages under the high sanitary conditions, including light and temperature, the chickens were fed according to the experiment scheme. The additional use of middle dose of feed addition in feeding of chickens-broilers assists a tendency to the increase of content general a squirrel on the 3,5%. For the consumption of addition of probiotic broilers with the mixed fodder are fix the increase of level of alanine aminotransferase (ALT) and aspartate aminotransferase (AST). Use in broiler diets minimum dose of probiotics increases levels of bilirubin in 44.8%, 12,5% cholesterol, glucose 17,3% and creatinine 36,8%. Under act of probiotic content of haemoglobin increases for a bird on the 14,0% amount of leucocytes of 16,0% action of probiotic a positive tendency is set to the increase of content of segmented neutrophils and lymphocytes for broilers on by the 1,3%. The study found that probiotic supplement improves metabolism by strengthening the respiratory function of blood and increases the protective functions of the body. Thus, the general picture of blood found that broiler chickens, which in addition to the feed consumed probiotic supplements, significant changes in the morphological and biochemical indices of blood and the negative impact of probiotic organism birds were observed. It was established that the optimum dose administration in broiler complete feed probiotic supplements are in amount: 0,25% in 1-10 days age, 0,1% at 11-28 days age, 0,05% in the 29-42 age daily weight feed for broiler chickens.

Keywords: broiler chickens, probiotics, feeding rabbits, hematological parameters.

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***PRODUCTIVITY AND CONVERSION OF FEED FOR PIGS FATTENING WHEN USING
THE ADSORBENT OF NEW GENERATION "FUNGINORM"***

The article presents the results of experimental studies of pigs growing energy fattening when added to a basal diet of the experimental adsorbent mycotoxins new generation "Funginorm" in different doses, indicates an increase in body weight, average daily gain, decreased feed conversion and a stable increase in average daily gain and feed conversion ratio in fattening pigs.

At this time, among the used feed additives and adsorbents is under study and mycotoxin adsorbent new generation "Funginorm". This adsorbent does not contain live yeast cells, genetically modified foods and organisms. At recommended doses, "Funginorm" not toxic. a new generation of adsorbent is compatible with all the ingredients of feed, medicines and feed additives. There are no contraindications established.

Thus, the average gain in fattening pigs in the first and second experimental groups treated with the adsorbent mycotoxins new generation "Funginorm" at a dose of 1.0 g/kg and 2.0 g/kg of feed was higher than in the control group 9.5 % and 15.1 % respectively.

Using guinea pigs in rations for fattening of adsorbent in doses of 1.0-3.0 g/kg of feed conversion and reduced feed increased feed conversion rate of 6.8 – 15.3 % compared with the control group.

In order to prevent, reduce the action of mycotoxins in feeds and enhance the productive performance, we recommend the use in diets of fattening pigs adsorbent new generation "Funginorm" in doses of 1.0-3.0 g/kg of feed.

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INFLUENCE OF SELENIUM SUPPLEMENTATION IN FODDER ON THE DEVELOPMENT OF THE DIGESTIVE SYSTEM IN GEESE THAT ARE GROWN FOR MEAT

The complete feeding plays an important role among numerous elements of the technological process, providing poultry's high activity and maximum expression of their genetic potential. Scientists in the field of livestock production confirm that whatever high breeding qualities the poultry have they remain unfulfilled without properly organized feeding.

There is need for additional studies because of the absence of publications concerning the effect of different levels of selenium in the diet on the development of the gastrointestinal tract in geese reared for meat.

The purpose of research is to study the effect of different doses of selenium added into combined feed on the development of the gastrointestinal tract in geese reared for meat.

Research was conducted on geese of Gorky breed. Groups-analogues of young daily geese were formed for the scientific and economic experiment. It was taken into account their live weight, origin and physiological state. Poultry's feeding lasted the period of growing (75 days) and included dry complete combined feed according to existing regulations.

Sodium selenite of classification "Pure" (Specifications 6-09-17-209-88), with coefficient 2.20 of conversion into salt was used as a source of selenium.

Young poultry were grown on deep litter, with free access to food and water, in compliance with the technical parameters of stocking density, microclimate and lighting in accordance with existing regulations.

The control slaughter of geese (3 heads of each group) and complete dismantling of their anatomical carcasses were conducted in accordance with conventional methods after scientific and

economic experiment.

It is known that the growth and development of poultry are closely related to the development of their digestive system where the eaten food is converted into substances suitable for assimilation in the body. The comparison of the live weight of geese in experimental groups with the indicators of intestine and muscular stomach development confirms this and suggests that their digestive organs were developed better and operated more actively over a period of growing.

Thus, the introduction of selenium at studied doses into the feed for geese positively influenced the development of the digestive tract of young animals. In particular, it increased the weight and the total length of the whole intestine and its parts, as well as the weight of muscular stomach. The goslings, which feed was enriched with selenium at the rate of 0.4 and 0.5 mg / kg had better indicators of the development of their digestive system.

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SPERMPRODUCTIVITY OF BOARS OF DANISH AND FRENCH BREEDING

The paper examines spermproductivity of Yorkshire, Landrace and Duroc boar breeds of Danish breeding and synthetic Maxter line of French breeding. It is established that Danish Yorkshire boar breeds proved to be better by ejaculate mass. Duroc boar breeds were characterized by the lowest ejaculate mass.

The highest concentration of sperm cells in 1 ml of ejaculate was observed in Duroc boars that prevailed by this indicator over their analogues of French Pjetren, Danish Landrace, and boars of synthetic Maxter line of Danish Yorkshire ($P > 0.999$).

The activity of sperm cells in boars of the examined genotypes was 7.2-8.1 points. It appeared to be the highest in Danish Yorkshire.

Danish Yorkshire boars appeared to be the best by the number of spermdoses per ejaculate dominating significantly ($P > 0.999$) over other animals of the studied genotypes. Among the latter, the highest spermdoses were obtained from ejaculates of boar breeds of French Pjetren and synthetic Maxter line. The lowest number of spermdoses was obtained from ejaculates of Danish Drock and Landrace.

It is established that sperm mass negatively with an average power correlates with the concentration of sperm cells in the ejaculate of boars of all genotypes. Almost all animals, except for Pjetren boars, showed no correlative relationship between ejaculate mass and activity of sperm cells, while a close positive relationship was revealed between sperm mass and spermdose number in animals of all genotypes.

Thus, it is determined that spermproductivity of boars of Danish and French breeding in terms of Ukraine is quite high depending on the animal genotypes. Under conditions of the industrial complex they had different interdependence of spermproductivity indicators that were examined depending on the genotype.

UCC 631.11: 636.083: 620.953: 614.9

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THE SECURITY OF PASTORAL ENTERPRISES OF SMALL POWER ENERGY FOR COMPLIANCE WITH SANITARY STANDARDS

It is established that the content of 321 head of cattle on the farm of low power it is possible to completely manufacture to convert to alternative source of energy from excreta and residual energy of products to obtain additional 757698,5 kW / hour. electrical energy, and 114369,6 liters' of liquid fuel.

Get from animal products and waste products, of which alternative energy sources, serving the needs of humanity in energy, and excrement can get energy through digestion process biogas is a flammable gas, which includes about 65 % methane, which has a calorific value of 21 MJ / m³, but the lack of financing and state support does not allow the production to do it.

It should be noted that every animal has a zone of thermal neutrality under which the body temperature responds to environmental factors and receipt of goods. The conditions affect the comfort of the animals rest, and the balance feeding on the receipt of live weight gain, milk yield, maintain homeostasis, heat transfer processes and emissions.

The efficiency of livestock production with low power plants depends on a number of factors: technological, organizational, economic, environmental, breeding and genetics, veterinary and sanitary

The efficiency of livestock production with low power plants depends on a number of factors, of which productivity of the animals takes priority. Now the introduction of energy saving technologies in cattle breeding require detailed justification and public support.

Given that the livestock enterprise small power comprise three renovated buildings 12×72 m, the area is 2592 m² is spent on lighting 155 kW of power for a day or 558 MJ of energy.

Heating the room in winter when the accumulation of thermal energy – 102528 MJ and considering that one cycle of the biogas plant spend 15% of energy or 15379 MJ. Residual energy for technological needs will be 87149 MJ.

The amount of residual energy products, heat, 15% for heating – 1489650 MJ, metabolic processes (30 %) – 2979300 MJ.

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REPRODUCTIVE FUNCTION LACTATING COWS OF SCHWYZ BREED WITH HORMONAL CORRECTION OF OVULATION

The article presents research materials of reproductive function of Schwyz breed cows of different ecological origin during the second lactation with hormonal correction of ovulation in conditions of exploitation at the industrial complex in the steppe zone of Ukraine.

It was found that a relatively low index of insemination of cows are characterized Schwyz breed of III (control) group, for which the weather and climatic conditions of the steppe zone is a place of environmental origin. This index is an average of 2,83 units. In these severe conditions significantly higher rate of insemination index marked Schwyz cows of group II, the Austrian environmental origin in which it is above the value of analog III (control) group at 13,98% ($P<0,001$) and is at the level of 3,29 units. High indicator of quantity inseminations per one fertilization is characteristic for the experimental group I Schwyz cow Austrian ecogenesis, in which the index of insemination is 3,80 units. This value is more than the indicator of analogues of II group at 13,42% ($P<0,001$) and control cows Schwyz breed III group – by 25,53% ($P<0,001$). Thus, the best reproductive capacity marked animal of III (control) groups in which the average coefficient is 0,93 units. At that, at analogues of I and II groups the coefficient reproductive capacity below 5,68% ($P<0,001$), and in the animals in of I group – by 6,90% ($P<0,001$) and is respectively 0,87 and 0,88 units.

It is proved that the main indicators of reproductive ability depend on the technological parameters of the animals. Longest second lactation cows in Schwyz cows of I and II groups, in which indicator is close to the average respectively 353,4 and 354,4 days, which exceeds the normal value (305 days) at 13,7-13,9%. The second lactation in cows of III (control) group lasts an average of 332,9 days, which is less than the analogues I and II group, respectively, at 6,16 and 6,46% ($P<0,001$). A service period of I group animals averaged 153,4 days, and Group II cows – 134,4 days, a decrease of 14,14% ($P<0,001$). The relatively short period, the cows of Schwyz III (control) groups in which it does not exceed 112,9 days, which is less than the analogues group II at 19,04% ($P<0,001$), and the value of cows in I group – at 35,87% ($P<0,001$). Period between calving in cows of I and II groups are respectively is 418,9 and 415,9 days. At that, in cows of Schwyz breed of III (control) group that period does not exceed 392,7 days that more norm only at 7,05%, and inferior to a value analogues of I and II groups respectively by 6,67 and 5,91% ($P<0,001$).

Cows Schwyz breed local introductions have satisfactory reproductive function. At that, in Schwyz cows Austrian environmental origin continues a period of adaptation to the new conditions of detention, so the insemination index, coefficient reproductive capacity and service period are several elongated.

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THE COMPARISON EVALUATION OF RAISING AND MEAT CHARACTERISTICS OF BROILER CROSSES “ROSS-308” AND “KOB-500”

Ukrainian poultry industry is one of the most intensive and dynamic branches of agricultural production, it has an opportunity to increase considerably the production of diet dense products. To protect the interests of home poultry producers is a strategic priority of social and economical development of Ukraine under market conditions. The poultry production is a problematic branch of agriculture, but it develops very quickly at the same time. The main problems faced by the industry nowadays are to create favorable conditions for increasing efficiency of poultry industry in general,

to provide the production with high quality foods, to withstand competition at the home market and to find the ways out to the foreign one.

Vinnitsia poultry factory is a powerful enterprise situated not far from town of Ladyzhyn, Vinnitsia region. The poultry factory is the largest in Ukraine, besides it is the most powerful in Europe by the volumes of meat production. It should be mentioned that enterprise uses modern technologies for chicken broilers raising and production of free range chicken meat. Production capacity of Vinnitsia poultry factory is 440 thousand ton of meat per year.

Microclimate parameters of sections for researched group were similar to norms recommended by VNTP-AIC-04.05, it gives the opportunity to receive the high live weight on genetic inclinations broiler chickens crosses "Ross - 308" and "Kobb - 500".

The chicken productivity of cross "Kobb - 500" was higher; its average daily growth were higher than the average daily growth of cross "Ross - 308" by 5.3 %. The safety of chickens was $98.48 \pm 2.4\%$ ("Kobb - 500") and 97.24 % ("Ross - 308"), feed costs do not exceed 1.85 kg per kg of growth.

The usage of developed lighting program had a positive impact on growing broiler chickens, the 40-days chicken has the live weight 2400 g ("Kobb - 500") and their counterparts of cross "Ross - 308" were lower by 4.17 %.

The wing output is 11.0% from the carcass weight of 1.8 kg; if carcass weight is more than 1.8 kg the wing output is 10.9%. The output of the back is 40.6% versus 40.8%; the front of the carcass is 47.0% vs. 46.6%; loss in the development is 1.4% versus 1.7%.

The level of profitability is higher when the improved regime of lighting is used; it was 52.86% for cross "Ross-308" and 60.34% for cross "Kobb-500".

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OBTAINING OF ALTERNATIVE SOURCES OF ENERGY UNDER REGULAR KEEPING OF YOUNG CATTLE

Scientific substantiation for obtaining of alternative sources of energy under regular keeping of non-breed bullcalves of Ukrainian black-speckled dairy breed is not only relevant, but it also enables to reach a new level, taking into account the energy of live weight and feed and studying the metabolism in animals.

The purpose of research is scientific substantiation for obtaining energy power sources under regular leashed and unleashed keeping of dairy bullcalves at fattening from 15 to 18 months of age.

The object of research is non-breed bullcalves of Ukrainian black-speckled dairy breed, keeping, gas exchange and fattening.

It was established that regular unleashed keeping of bullcalves of Ukrainian black-speckled dairy breed prevailed over the leashed one in live weight by 20.6% at 15 months of age and by 21% at the age of 18 months. The research of pulmonary gas exchange in bullcalves at 15 months of age showed less loss of feed energy by 5.34% of respiratory rate under unleashed keeping. The costs of feed per 1 kg of live weight gain were 7.61 of feed units under unleashed keeping. That is by 13.8%

less than under the leashed one. The labor costs per 1 kg of live weight gain were by 38.9% less under unleashed keeping compared to the leashed one. The level of profitability of beef production under regular keeping of bullcalves of Ukrainian black-speckled dairy breed is by 21.11% higher than under the leashed one. The energy value of live weight in the bullcalves at 18 months of age reared and fattened unleashed is by 21.0% more than under the leashed keeping. The energy value of fattening gain was 27.6% higher under unleashed keeping compared with the leashed one. The additional income is by 1333.4 UAH more, that is equivalent to 111 kW / hr of electricity.

Keywords: bull calves, live weight, gain, gas exchange, keeping, leash, energy value, efficiency.

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ENERGY VALUE AND EFFICIENCY OF MILK PRODUCTION IN THE COWS OF UKRAINIAN BLACK-AND-MOTLEY AND RED-AND-MOTLEY DAIRY BREEDS

The article studies the energy value and the efficiency of milk production in the cows of Ukrainian black-and-motley and red-and-motley dairy breeds. The subject of the study was the energy value of milk under different productivity on the basis of cows' feeding, keeping and breeding.

Experimental groups of cows were selected for the research on the basis of pairs-analogues with 10 cows. It was taken into account their lactations, that is 3 animals of the 1st lactation, 3 animals of the 2nd lactation, 3 animals of the 3^d lactation, 3 animals of the 4th lactation and 3 animals of the 5th lactation.

The average daily milk yields of cows conformed to the classical scheme of lactation curve where the yield was increasing during 2-3 months of lactation and gradually falling to its end. Analyzing the fat content in milk we observed oscillations with the highest fat content in January, when animals consumed dry feed, as well as silage and haylage mixture. The lowest fat content in the cows of Ukrainian black-and-motley dairy breed was during 7-9 months of lactation – 3.51-3.55%, while in the cows of Ukrainian red-and-motley dairy breed during 2-3 months (February and March) – 3.72-3.74%.

The research has established that the amount of heat energy depends on the yields of individual animals and the fat content in milk. The average milk yield in the cows of Ukrainian black-and-motley dairy breed was 4306.2 kg, that is by 13.7% more than the yield in the cows of Ukrainian red-and-motley dairy breed. The assessment of milk energy value has shown that the cows of Ukrainian black-and-motley dairy breed gave 10.9% (1273.15 micro joules) of milk energy more than the cows of Ukrainian red-and-motley dairy breed. It is equivalent to the amount of 106.09 kilowatt of electricity or 16 liters of liquid fuel.

When increasing the intensity of milk production by increasing the milk yield in cows of Ukrainian black-and-motley dairy breed by 13.7%, the profit increased by 60.9% and the profitability by 5.7%, compared to the Ukrainian red-and-motley dairy breed.

The indicator of income and energy saving factor showed that energy efficiency was 81.3% higher in the cows of Ukrainian black-and-motley dairy breed and amounted 3.19 units.

Keywords: milk, breed, Ukrainian black-and-motley dairy breed, Ukrainian red-and-motley dairy breed, energy value, efficiency, milk yield, fat content.

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SELECTION OF COWS FOR MILK FAT AND EFFICIENCY OF ITS HERITABILITY BY HEIFERS

In modern conditions of intensive livestock production and the introduction of new technologies the demands for productive qualities of animals have significantly increased. But the question of milk fat and its heritability by heifers has not studied enough. One of the reasons for this state in breeding is absence of new approaches to large-scale selection in livestock production. So the search of effective recommendations for the complex deciding of questions concerning the conditions of keeping and feeding of cows and their heifers, as well as setting the efficiency of milk fat heritability are important.

The purpose of research is to study the methods of selection of cows for milk fat and efficiency of its heritability in terms of private agricultural enterprise “Agrofirma Batkivshchyna”, the town of Stryzhavka, Vinnytsia district.

Using the method of groups-analogues the selection of cows of Ukrainian black-speckled dairy breed in the first, second and third lactations was conducted. Their yield for 305 days of lactation, as well as the percentage of milk fat and the amount of butterfat have been found. The origin of cows is from parents (bull-sires) of the same line. The heifers after the first calving were selected from experimental cows and assessed according to the same indicators.

In order to determine the efficiency of selection for milk fat four groups of animals with 10 heads in each group were selected from the herd of cows of Ukrainian black-speckled dairy breed. The cows with better productivity were selected into the first group, while those with poor productivity into the second group. The third group included heifers from the cows with better productivity and the fourth one those from the cows with poor productivity.

The feeding of cows is done under the standards and the availability of fodder on the farm. The silage type of feeding is used, the section of cows is not carried out, and the shortage of protein in feed units is observed in summer diets.

The research has established that the intensity of selection depends on the productivity of breeding cows and the efficient selection of bull-sires. The preference should be given to pure breeding, which allows to keep cows' and bull-sires' features, including milk fat, in many generations.

The heifers of better cows selected by the amount of milk fat, dominated those of poor cows in milk yield of the first lactation by 247 kg or 3.85%, in the amount of milk fat by 8 kg or 3.5%; in

milk yield of the second lactation by 82 kg or 1.3%, in the amount of milk fat by 6 kg or 2.6%; in milk yield of the third lactation by 29 kg or 2%, in the amount of milk fat by 12 kg or 5%.

When selecting the cows for the amount of milk fat the productivity is 30.07% in heifers from better cows and 27.6% in those from poor ones. Milk production increases both in cows and their heifers.

Therefore, it is advisable to conduct a complex selection of cows with high milk yields and milk fat at the agricultural enterprises. It enables their heifers to obtain 10% of milk fat more than those whose cows had no effective genetic indicators.

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ALTERNATIVE SOURCES OF ENERGY, WHILE ENSURING THERMAL BALANCE FOR COMFORTABLE CONDITIONS OF LIFE OF ANIMALS IN THE ROOM

It is established that the combination of technology feeding young cattle of Ukrainian black-speckled dairy breed and normalized feeding has a high economic effect in loose housing calves profitability of 67.7%, which leads compared to tethered to more alternative energy (electricity) live weight 21,17 kWh from each Chapter of the growth – 25,89 kWh and energy savings and reducing costs of feed per 1 kg increase of 2.12 kWh, cost of labor per head is 1.32 kW/hour. for the fattening period.

Providing animals with comfortable conditions of life requires substantial energy resources. One of the ways to reduce the cost of energy resources is the rational use of heat that emit animals. Therefore, it is necessary to install the required amount of heat coming into the room from the animals. Based on the fact that in each case it is necessary to determine the balance of heat that comes from animals and the heat that is lost through the walls, floor, Windows, ceiling and so on.

Constantly at the state level, sought ways of increasing to productivity agricultural animal to restore livestock production to the level of 2000. Among the many factors that must immediately be calculated is hygienic research. It is important to achieve effective management of animal husbandry by creating a comfortable environment for the animals. Support to the livestock buildings, heat balance, is the basis of life of animals. Therefore, it is necessary to use biological and methodological approaches to drawing up the heat balance with consideration of biological processes in animals.

The formation of welfare for animals and people's safety is ensured by energy and information technology. Without taking into account the economic efficiency of the ways of keeping animals is not possible to solve the comfort of life of animals in the premises and to install alternative sources of energy.

Conducted research using the areas, the amount of ventilation and the frequency in rooms for young cattle under different conditions. Apply economic and energy efficiency, taking into account the level of the heat balance established for fattening on a repair bull-calves of Ukrainian black-speckled dairy breed at different ways of content.

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ADDITIONAL SOURCES OF ENERGY IN LIVESTOCK ENTERPRISES OF SMALL CAPACITY FOR COMPLIANCE WITH VETERINARY AND SANITARY REQUIREMENTS

It is established that from 10 cows received a higher performance – 157,8 GJ and the largest amount of manure – 197.1 tons a year, and the level obtained alternative source of energy more mares by 18%, sheep by 30%, goats – 40%, at the level of the energy value of cows – 47%, mares – 29, sheep – 17, and goats – 7%.

Expect from the production of quality and safe livestock products for the implementation of innovative technological solutions.

Currently, the global economy has overwhelmed the financial and economic crisis, which is associated with deep technological changes in the world economic system as a whole and not only its financial architecture.

Now, we can conclude that the economic crisis is not spontaneous, and the cyclical phenomenon, which corresponds to the phase of fall of the so-called global development cycle. Development of technological structure is related to the formation in developed countries, a new paradigm of lifestyle and business in society, the establishment of ecological-economic balance of interests between national governments, citizens, small and medium enterprises and multinational companies.

Get from animal products and waste products, from which the alternative source of energy serving the needs of humanity in energy. Of excrement are produced by digestion, biogas is a flammable gas, which includes about 65 % methane, which is the calorific value of 21 MJ / m³. But it should be noted that each animal has its zone of thermal neutrality under which the body temperature responds to environmental factors and affects the production amount. The conditions of detention have an impact on the comfort of the animals rest, and the level of feeding received sufficient nutrients to the body.

It is established that from 10 cows received highest performance and the greatest quantity of manure – 197.1 tons a year, and the level obtained alternative source of energy more mares by 18%, sheep by 30%, goats by 40%.

Obtained alternative source of energy year cycle of production from cows – 157,8 GJ, which is more than from mares 59.9 per GJ or 37.9 per cent, sheep – 103,0 GJ or 65.2%, from goat – 133.8 U.S. GJ or was 84.8%.

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ENSURE HYGIENIC CONDITIONS FOR PRODUCTION OF LIVESTOCK PRODUCTS AND PRODUCTION OF ALTERNATIVE ENERGY SOURCES

Found that when feeding calves Ukrainian black and white dairy cattle in free stall, opens up possibilities to alternative sources of energy equivalent of electricity in the amount of 25,89 kWh. from each animal through live weight gain and 32,14 kW/hour. electricity due to the greater yield of slaughter weight.

Search sustainable use of genetic dispositions on a repair young growth of large horned livestock of the Ukrainian black-white dairy cattle to increase of efficiency of rational use of traditional energy sources and more alternative sources of energy in the form of the energy value of live weight and growth during the fattening period.

Thus, the growth rate of animals initially, in the next period somewhat increased and then again reduced In all age periods for the growth of young cattle it is necessary to provide the appropriate amount of energy food and living conditions.

The deteriorating conditions of feeding and maintenance of animals led to a significant decrease in livestock and productivity. One of the ways of improving the efficiency of livestock production is a focused directional increase in population and use of energy efficiently. It is established that a significant number of livestock enterprises has ceased to act for the unprofitability of livestock products. At the forefront of resource-saving technologies of production of animal husbandry that allow animals to not only effective, high quality and competitive products, but also to ensure the process of using alternative sources of energy. Thus, ensuring hygienic conditions in accordance with the life processes of animals allows the rational use of production potentials.

At the same time, the problems that arise when reforming agricultural enterprises require urgent solutions. An integrated approach to the creation of comfortable conditions for the animals will allow in a short period of time to restore the livestock industry in Ukraine.

In the modern conditions of the livestock industry in the first place, producers need to ensure that the regulatory framework that will allow us to produce animal products at the level of world standards with a minimum of energy resources and to produce alternative sources of energy.

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MODERN PRODUCTION TECHNOLOGIES OF FERMENTED DAIRY PRODUCTS WITH THE USE OF THERMOSTATIC EQUIPMENT WITHIN LLC "LUSTDORF", AS A GUARANTEE PART OF FOOD SAFETY OF VINNYTSIA REGION

Modern technologies of the dairy industry help to ensure food safety for the population,

because the consumption of dairy products in Ukraine, although it has declined, traditionally holds the leadership. Sour cream is one of the dairy products, which is often included in the grocery basket of Ukrainians, so we will speak about it.

Since September 2015 the company "Lustdorf" started production of thermostatic sour cream TM "Selyanska", 15% and 20% of fat, in a convenient, unique packaging for the Ukrainian market – Tetra Top, capacity 200 g, with the new self-developed technology. In addition, the company is the official internship base for college students and the development of modern technologies of specialists LLC "Lustdorf", held with the active participation of students and teachers.

Usually sour cream is produced according to the general technological scheme - fermentation of pre-normalized, pasteurized or sterilized cream. Also according to the method of production, it may distinguish thermostatic (classic) and reservoir sour cream. Companies use both these technologies of production at the plant.

For the production of thermostatic sour cream TM "Selyanska" is used French sourdough of company "BIOTEC", which was specially developed by request of LLC "Lustdorf" and contains only two of the above mentioned cultures of microorganisms, *Streptococcus salivarius* subsp. *Thermophilus* and *Lactococcus lactis* subsp. *Lactis*, which provide the thick structure of the product, pleasant taste and aroma, without lumps and the cost below 30% of the analogs. In addition it is produced from cream of high quality which come through ultra-high temperature treatment (UHT-treatment) at temperature 137°C for 3-4 seconds. It is known that this method allows preserving the natural properties of the product and minimizes microbial contents of the product. Another advantage of the use of containers as a thermostat for the fermentation of sour cream, which had previously carried out transportation of dairy products, is that their technical characteristics allow to maintain the inside temperature between 20°C and +40°C, and economy of the purchase of thermostats is noticeable.

It must be said that in conditions of severe economy, production of quality products requires innovative approaches of both technologists and technicians of food production.

Conclusions. In conditions of in conditions of severe economy, production of quality products requires innovative approaches of both technologists and technicians of food production. Professional competence of modern specialists, engineers and mechanics is not formed without their participation in the modernization of equipment, improvement of existing technological processes and development of new one.

Till the year 2020 annual sales of organic products in the world could reach \$ 100 billion. Prices of high-quality natural products are 10-15% higher, but the demand for them is constantly increasing. Therefore, enterprises which do not regret the money for modernization of production and work together with scientists of the industry have a chance to survive in the severe competition.