



**Zeszyty Naukowe
Akademii Rolniczej we Wrocławiu
ZOOTECHNIKA, 2004, LII, Nr 502**

ISSN 0867-7964
ISSN 0137-2017



ABSTRACTS

TI: TRANSPORTATION EFFECT ON AFRICAN CATFISH (*CLARIAS GARIEPINUS* BURCHELL 1822) STOCK MATERIAL

AU: Adamek J.W.¹, Irnazarow I.¹, Pilarczyk A.^{1,2}, Żelazny H.²

AD: ¹ Institute of Ichthyobiology and Aquaculture of PAS at Gołysz

² University of Bielsko-Biala

LA: Polish

AB: The objective of this study was to determine physiological responses of African catfish to transportation stress. The procedure included loading and 8 hrs simulation of transportation, at density of 300 g·l⁻¹. Blood samples were collected before transport and at the 4 and 8 hrs of transportation. Blood samples were analyzed for hematocrite, haemoglobin, methaemoglobin, glucose and plasma cortisol. During the simulated transportation changes of physico-chemical water parameters were recorded as well. Obtained results show that transportation at experimental condition didn't disturb homeostasis of African catfish stocks, thus shouldn't cause negative effect in their future rearing.

DE: african catfish, transportation, stress

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 13–17.

TI: THE EFFECTIVENESS OF CALVES REARING DEPENDING ON THE MAINTENANCE SYSTEM.

AU: Adamski M.¹, Kupczyński R.², Zachwieja A.¹

AD: ¹ Department of Cattle Breeding and Milk Production, Agricultural University in Wrocław

² Department of Animal Hygiene and Ichtiology, Agricultural University of Wrocław

LA: Polish

AB: The aim of the work was to analyse the chosen growth and development parameters of calves in a first few months of their life according to the feeding and rearing system. Studies were conducted on the group of 70 calves, crossbreeds of cb breed with the high proportion of Hf genes. Calves, starting from the birth, were chosen by analogues method taking the sex and rearing system into consideration: farm A – traditional rearing in a room, farm B – cold rearing (in boxes with a paddock), farm C – traditional rearing in a cowshed. The size of daily gains and obtained body weights were analysed from the birth till the 6th month. In the last day of investigation the zoometric measurements were made. Diseases occurrences were noted. Higher daily gains and larger thorax circumference were stated for calves keeping in boxes with paddock, where the differential solid forage was early introduced to their diet. Differences were more obvious in the case of young bulls. The frequency of diseases was significantly lower in cold rearing of calves, especially when considering respiratory system diseases.

DE: calves, daily gains, zoometrics measurements

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 19–26.

TI: ANALYSIS OF THE CORRELATION BETWEEN BODY CONDITION OF DAIRY COWS AND CHOSEN PARAMETERS OF REPRODUCTION

AU: Adamski M., Świerkowski K.

AD: Department of Cattle Breeding and Milk Production, Agricultural University in Wrocław

LA: Polish

AB: The subject of the research was the parturition period in a herd of dairy cows cb breed with a significant participation of hb, with the milk yield over 6000 kg. In the analysed herd one can observe a number of relations between reproduction parameters and the changing cows condition (BCS). The high level of the number of insemination procedures essential for fertilization was noted (2, 63) what can show an insufficient preparation of reproductive tract for the embryo implantation. The condition during calving (average 3,34 points) shows good energetic delivery allowing for the achieving of the high yield and minimising the risk of metabolic diseases. The sufficient cows reproduction is the main determinant of the profitability of production in dairy cattle herds.

DE: condition, reproduction, dairy cows

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 27–33.

- TI: EFFECT OF BODY WEIGHT AND AGE OF HENS ON HATCH RESULTS OF SUBCARPATIAN NATIVE FOWLS FROM FARM HOUSEHOLD FLOCK
- AU: Andres K.¹, Lis M.W.², Niedziółka J.W.², Podgórní Z.²
- AD: ¹Department of Small Animals Breeding, Agricultural University of Cracow
²Department of Animal Hygiene and Breeding Environment, Agricultural University of Cracow
- LA: Polish
- AB: The effect of body weight (BW) and age of hens on hatch results of Subcarpatian native fowls from farm household flock was investigated. It was found that the lowest hatchability was in the lightest group about BW <1000 g (40.00%) and the heaviest group about BW >2900 g (48.64%) pullets. The hatchability of eggs from hens two years old and older was dependent on BW ($r=0.935$). Moreover it was found that time of hatch prolonged together with the increase of BW ($y = 0,0075x + 489,46$) and it was no depended on age of birds.
- DE: body weight, age of hens, farm household, hatch
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 35–40.
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- TI: INFLUENCE OF HERBAL ADDITIVES TAKES TO FEED ON SELECTED BIOCHEMICAL SERUM PARAMETERS IN BOARS
- AU: Mirosław Baranowski, Maciej Gajęcki, Kazimierz Obremski
- AD: Division of Veterinary Prevention and Feed Hygiene, Department of Veterinary Health Protection, Faculty of Veterinary Medicine, University of Warmia and Mazury in Olsztyn
- LA: Polish
- AB: Herbs, herbal-mix and their extract are applying to animals feeding for the sake stabilize action on metabolism, digestion and immunomodulation action. Herbal additives are using to threatment and prevention. The aim of this study was determination the influence of takes to feed herbal-mix (35 g·animal⁻¹) and alcoholic herbals extract (5 ml·animal⁻¹) on selected biochemical parameters boers periphery blood. The herbal-mix and alcoholic herbals extract stabilization examination parameters.
- DE: boars, herbs, biochemical parameters
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 41–46.
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- TI: THE EFFECT OF N-FERTILIZATION AND SILAGE ADDITIVES ON CHEMICAL COMPOSITION, QUALITY AND AEROBIC STABILITY OF TRITICALE SILAGES
- AU: Bodarski R., Krzywicki S., Pasternak A.
- AD: Department of Animal Nutrition and Feed Quality, Agricultural University of Wrocław
- LA: Polish
- AB: The experimental material were silages from triticale cultivated without or with N-fertilization at dose 100 kg·ha⁻¹ (1st experimental factor). The silages were made without any additive (control group), with Neubacid-Sil P-liquid additive and with Neubacid-Sil C-liquid additive (2nd experimental factor). The chemical composition, quality and aerobic stability of silages were determined as well as the losses of dry matter and protein during their preservation were calculated. Silages without N-fertilization were characterized by lower protein content and slightly worse quality in comparison with triticale fertilized with nitrogen. The addition of silage preservatives had positive effect on composition and quality of silages as well as decreased the losses of dry matter and protein during preservation. The most aerobic stable silages were triticale with Neubacid-Sil C-liquid additive.
- DE: triticale silages, N-fertilization, silage additives, chemical composition, quality, aerobic stability
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 47–53.
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- TI: EFFECT OF METABOLIC DISEASES ON VARIABILITY OF COMPOSITION AND TECHNOLOGICAL PARAMETERS OF COW'S MILK
- AU: Bohdanowicz-Zaula M., Szulc T., Pawelska-Góral M., Hajduk K.
- AD: Department of Cattle Breeding and Milk Production, Agricultural University of Wrocław
- LA: Polish
- AB: The aim of study was to determine the effect of metabolic diseases on variability of composition and technological parameters of cow's milk. Blood and milk samples were collected from 60 cows in 2nd and 3rd lactation until third weeks after calving. On the base of blood analyses, cows were divided on 6 groups. In milk samples, basic milk composition and casein, urine content, total bacterial count, somatic cell count, active and titrable acidity, density, resistance and ethanol stability were determined. The not significant differences of milk composition and technological parameters depending on metabolic diseases were established.
- DE: milk composition, technological parameters of milk, metabolic diseases
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 55–60.
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- TI: THE THERMAL DESTRUCTION OF *SALMONELLA SENFTENBERG* W₇₇₅ IN THE PROCESS OF SEWAGE SLUDGE COMPOSTING

- AU: Budzińska K.
 AD: Department of Animal Hygiene and Microbiological Environment, Academy of Technology and Agriculture in Bydgoszcz
 LA: Polish
 AB: The aim of the research was to evaluate the effectiveness of elimination of *Salmonella senftenberg* W₇₇₅ from sewage sludge subject in the process of pile composting. In chosen spots of a pile indicative bacteria samples were placed. The analysis of regression made it possible to determine the pace of elimination and theoretical maximum life span of the indicative bacteria in the process of sewage sludge composting. The pace of thermal destruction of *Salmonella senftenberg* cells in the upper layer of 1.84 log·a⁻¹ week to 1.54 log·a⁻¹ week. The pace of elimination depends on the location of a sample in a pile. The total elimination of *Salmonella senftenberg* was achieved in the outer layer of the pile after five weeks of research. The temperature of the pile turned out to have an essential influence on the reduction.
 DE: *Salmonella*, sewage sludge, survival, composting
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 61–67.
- TI: THE INFLUENCE OF THE SOURCE OF SULPHUR ON ITS INTAKE BY SHEEP
 AU: Chládek G., Kuchtlík J., Zapletal D.
 AD: Department of Animal Breeding, Mendel University of Agriculture and Forestry, Brno, Czech Republic
 LA: English
 AB: The intake of sulphur offered in different forms was observed in ten ewes of Merino breed during one year. Four sources of sulphur were used: ammonium sulphate, sodium sulphate, calcium sulphate and sulphur. The effect of season (spring, summer, autumn and winter) and a phase of reproduction cycle (gestation, lactation, barren period) on the consumption of various sulphur sources were analysed. Significant differences in the intake of sulphur were found in summer, winter (both $p < 0.01$) and autumn ($p < 0.05$) and non-significant differences in spring. A phase of reproduction also affected the intake of sulphur; significant differences were found during gestation, barren period (both $p < 0.01$) and lactation ($p < 0.05$).
 DE: ewes, sulphur intake, reproduction, season
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 69–74.
- TI: CHANGES IN GROWTH CURVE OF PHARAOH QUAIL (*COTURNIX COTURNIX PHARAOH*) CAUSED BY SHORT EXPOSURES TO STATIC HIGH FIELD DURING INCUBATION
 AU: Dobrowolski W.
 AD: Department of Animal Anatomy, Agricultural University of Szczecin,
 LA: Polish
 AB: The aim of this study was to learn about the effect of short-lasting impacts of static high magnetic field on fertile avian eggs through drawing growth curves of the hatched chicks. Eggs in groups 40 each were exposed to static magnetic field of induction 225 mT for two hours at the putative critical moments of embryogenesis, i.e. in 3, 5, and 14 days of incubation. Constant conditions of incubation, hatching, and raising were applied. The chicks were weighed every other day. The growth curves for the chicks hatched from the eggs subjected to exposures on the third day of incubation indicates a response to the applied "shock" in the form of accelerated growth rate from 10 days of age on for the entire further period of observation.
 DE: static magnetic field, Pharaoh quail, growth curve
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 75–81.
- TI: LIGHT EFFECT ON HATCHABILITY OF QUAIL EGGS AND REARING PARAMETERS OF HATCHED CHICKS
 AU: Gwara T.
 AD: Department of Poultry Breeding, Agricultural University of Wrocław
 LA: Polish
 AB: The aim of study was to determine the effect of white light with infrared (bulb light) white without infrared and lack of light on quail eggs hatchability, and the rearing performances of hatched chicks. Fertile quail eggs illuminated in the experimental groups and not illuminated in the control group were used in the experiment. Lower number of death embryos, unhatched chicks, weak and crippled chick from illuminated eggs was ascertained. Hatching from both illuminated groups was accelerated by two days. During rearing period (6 weeks) chicks hatched from illuminated eggs characterized by higher body weight and growth rate and lower feed consumption per bird comparing with not illuminated group.
 DE: quail, egg lighting, hatching, rearing
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 83–89.

- TI: EVALUATION OF THE REPRODUCTIVE POTENCY OF GREENLEG PARTRIDGE CHICKEN DERIVED FROM GENE POOL RESERVOIR FLOCK ADOPTED FOR ECOLOGICAL FARM IN BARYCZ VALLEY LANDSCAPE PARK
- AU: Gwara T.¹, Florjanowicz J.¹, Centkiewicz M.², Ciasioń A.²
- AD: ¹Department of Poultry Breeding, Agricultural University of Wrocław
- LA: Polish
- AB: Partridge in ecological farm in Witoszyce, near Góra. Owners of the farm in co-operation with Lower Silesian Foundation for Sustainable Development joined "Programme for preserving the primitive chicken breed Greenleg Partridge. Biodiversity and development of country regions." In 2002-2003 first two parent flocks of Greenleg Partridge were created in Poland. The aim of study was to characterise the reproductive flock of local chicken breed Greenleg and in the effect of this programme realisation. The breeding material – strain Z-11 originated from Experimental Farm of Zootechnical Institute (IZ) in Chorzelów and registered in Main Book G/Kn/Z-11. During chick rearing and production period proper environmental conditions were provided with particular care of run and pasture, as well as, pasture composition. During production period (370 days) high laying rate – 239 eggs/hen was obtained with average egg weight 55.6 g. Hatchability results did not differ from levels typical for Greenleg Partridge, elaborated by IZ in Chorzelów.
- DE: chickens, Greenleg Partridge, reproduction, ecology
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 91–98.
- TI: THE POSSIBILITY OF MODELLING THE QUALITY OF ANIMAL ORIGIN FOOD PRODUCTS THROUGH THE ANIMAL NUTRITION
- AU: Jamroz D.
- AD: Department of Animal Nutrition and Feed Quality, Agricultural University of Wrocław
- LA: Polish
- AB: Elaboration constitutes the short information on the possibilities of the modelling the chemical composition of meat, milk and eggs through the special programming of animal nutrition as well as increasing of the functional features of human food through the enrichment of nutritive products with substances called as nutraceuticals – biologically active substances favourable to the human's health.
- DE: animal nutrition, animal origin products quality
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 99–105.
- TI: THE INFLUENCE OF OXIDIZING MIXTURES ON ELIMINATION OF EHEC IN SEWAGE SLUDGE
- AU: Jurek A., Budzińska K.
- AD: Department of Animal Hygiene and Microbiological Environment, Academy of Technology and Agriculture in Bydgoszcz
- LA: Polish
- AB: The aim of the experiment was to evaluate the effectiveness of Fenton's system: iron (II) sulphate and 30% solution of H₂O₂ with respect to its elimination of indicative bacteria of Escherichia coli (EHEC) from sewage sludge in a municipal sewage treatment plant. The experiment carried out showed that the best effect of achieving the highest level of hygiene with respect to indicative bacteria was obtained in the system using both 2.78 g FeSO₄ and 13.5 ml H₂O₂. Within the system the bacteria were reduced by 100% after 1 hour as well as after 24 hours.
- DE: sewage sludge, hydrogen peroxide, Fenton's system, EHEC
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 107–113
- TI: POSSIBLE METHODS OF MODIFICATION OF BEEF BY FEEDING PARAMETERS
- AU: Kinal S.
- AD: Department of Animal Nutrition and Feed Quality, Agricultural University of Wrocław
- LA: Polish
- AB: This study is a survey focused on possibilities of improvement of the nutritional, dietetic and sensoric value of beef by means of modification of feeding. Modification of dietetic values of animal products, including beef, is related to the method of animal management, application of various feed types and feed supplements, increase of meat tissue in beef carcass and reduction of its fatness. It is also possible to modify the nutritional values of meat by increasing essential polyunsaturated fatty acids and coupled dienes of linoleic acid (CLA) as well as the sensoric quality of meat, which may contribute to a positive impact of beef on human health improvement.
- DE: cattle, meat, feed, feed supplements, nutritional, dietetic and sensoric value
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 115–123.

- TI: THE EFFECT OF REARING AND FEEDING METHODS ON FATTENING PERFORMANCE
 AU: Kozera W.
 AD: Department of Pig Breeding, University of Warmia and Mazury in Olsztyn
 LA: Polish
 AB: The effect of outdoor and indoor rearing system and CCM silage feeding on fattening results were studied. The experiment was carried out on 80 crossbred fatteners divided into 4 group of 20 animals. The fatteners were kept in straw-bedded pens. Half of groups were reared conventionally indoors, while the remainder were reared in pens with a outdoor paddock. One group reared indoors and one outdoor were fed using exclusively balanced mixture (15,7% crude protein) while the remainder were fed using balanced mixture and extra CCM silage. The feeding and rearing methods applied have a significant effect on average daily weight gain of experimental pigs.
 DE: fattening pigs, housing, outdoor, silage, CCM
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 126–130.
- TI: IMPACT OF SELECTED COPPER CONCENTRATIONS IN THE WATER ENVIRONMENT ON YOUNG CARPS (*CYPRINUS CARPIO* L.)
 AU: Kowalska-Górska M.
 AD: Faculty of Limnology and Fishery, Agricultural University of Wrocław
 LA: Polish
 AB: Copper is a microelement necessary for correct growth and development. Copper concentrations in ponds have been found to range from 0.008 to 0.535 mg·dm⁻³ (Łysak *et al.*, 1990). However, high concentrations, amounting to 10 mg·kg⁻¹, have been recorded for waters near KGHM [one of the world's largest producers of copper and silver] plants (Świdorska-Bróż, 1993). Such figures significantly exceed the official permissible levels for the metal (Rozp. Min. Środ., 2004). All toxins are most harmful to young animals. That is why the study was conducted using carps at age 0+ (hatch and autumn fry). After the application of copper at 0.01, 0.10, 1.00 and 10.00 mg·dm⁻³ carp hatch was found to be more sensitive to Cu as compared to carp fry. Cu concentrations were higher in gills, hepatopancreas and muscles, but they were small and statistically insignificant in muscles.
 DE: copper, carp, bioaccumulation
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 131–136.
- TI: BEHAVIOUR OF WRZOSÓWKA SHEEP IN THE SITUATION OF SIMULATED DISTRESS ON THE PASTURE
 AU: Kruszyński W., Zwolińska-Bartczak I.
 AD: Department of Genetics and Animal Breeding, Agricultural University of Wrocław
 LA: Polish
 AB: Behaviour of lambs and ewes in the situation of simulated loss of visual contact (with kept aural contact) between young and mother on the highland pasture was analysed. Research was carried out on 10 ewes and 11 lambs of Wrzosówka breed observed in the first three months of lambs life. The time needed for finding of ewes' herd by a lamb, a manner of lamb moving during the search, vocalisation, vocal response of the dam and vocal reaction of the all herd and also reaction of a lamb on the curtain (preventing visual contact) were analysed. Lack of a visual contact caused an increase of sound signal intensity in group of lambs as well as of ewes. Number of ewes answering those signals reduced every month of investigation. The variety of response from the herd increased with lambs age.
 DE: sheep, behaviour, distress, ewe, lamb
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 137–142.
- TI: BEHAVIOUR OF POLISH MERINO EWES AND LAMBS ON THE PASTURE
 AU: Kruszyński W., Zwolińska-Bartczak I.
 AD: Department of Genetics and Animal Breeding, Agricultural University of Wrocław
 LA: Polish
 AB: Observations of simulated „getting lost” of lamb on the highland pasture were conducted. Research was carried out on 10 ewes and 10 lambs of Polish Merino breed. Behaviour of lambs in the first three months of their life in the condition of prevented visual and aural contact with the ewes' herd was analysed. The time needed for finding of ewes' herd by a lamb, a manner of lamb moving during the search, vocalisation, vocal response of the dam and vocal reaction of the all herd. Observed results showed the clear increase of lamb self-dependence at age more than the second month. Three months old individuals presented longer time of approach to the herd, attempts of independent area exploration and distinct reduction of calling mother. Lambs which attached to the herd reacted on vocal signals of absent lambs.
 DE: sheep, behaviour, ewe, lamb
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 143–148.

- TI: USE OF REGRESSION EQUATIONS FOR ESTIMATING OF USEFULNESS TO ENSILAGE OF GRASS-CLOVER MIXTURES
- AU: Krzywiecki S., Pasternak A., Bodarski R.
- AD: Department of Animal Nutrition and Feed Quality, Agricultural University of Wrocław
- LA: Polish
- AB: Relationship between red clovers content in grass – clover mixtures and their ensilability parameters was determined and equation of regress too estimate WSC, protein, BC, and FC content in green forage on percentage share red clover in mixtures was derived. In case of every tested parameters polynomial regression equations with best precision described their dependence on content red clover in mixtures. Possibility estimation minimal dry mater content in green crop necessary too ensiled it in dependence on percentage share red clover in the mixtures were affirmed. These researches show that when content red clover in the mixtures is on the level 22% then pre-wilting isn't necessary.
- DE: grass-clover mixtures, usefulness to ensilage, regressions equation
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 149–154.
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- TI: SENSIBILITY OF JAPANESE QUAIL (*COTURNIX COTURNIX JAPONICA*) EMBRYOS ON ADDITIONAL MAGNETIC FIELD (50 Hz) IN RELATION TO LENGTH OF EGGS STORAGE TIME
PART 1. EFFECT ON HATCHABILITY AND EMBRYO DEFECTS
- AU: Lis M.W., Niedziółka J.W., Pawlak K., Roman T.
- AD: Department of Animal Hygiene and Breeding Environment, Agricultural University of Cracow
- LA: Polish
- AB: The influence of additional magnetic fields (AMF) 50 Hz, B = 10 μ T on hatchability and damages of embryos was investigated. The decrease of hatchability during elongation of storage time of eggs was only observed in control incubator. It was effected by increase embryos mortality particularly during first 6 days of incubation. The results of hatch was better in groups exposed on AMF. The increase of damages of embryos exposed on AMF was not observed.
- DE: magnetic field, Japanese quail, storage of eggs, hatchability
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 155–160.
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- TI: SENSIBILITY OF JAPANESE QUAIL (*COTURNIX COTURNIX JAPONICA*) EMBRYOS ON ADDITIONAL MAGNETIC FIELD (50 Hz) IN RELATION TO LENGTH OF EGGS STORAGE TIME
PART 2. EFFECT ON COURSE AND SYNCHRONIZATION OF HATCHING
- AU: Lis M.W., Niedziółka J.W., Pawlak K., Roman T.
- AD: Department of Animal Hygiene and Breeding Environment, Agricultural University of Cracow
- LA: Polish
- AB: The influence of additional magnetic field (AMF) 50 Hz, 10 μ T on course of hatching jJapanese quails in relation to length of storage time was investigated. Prolongation of storage time slowed down hatching quails chicks and decreased the degree of hatching synchronization. However there was observed strong effect of AMF. The hatching time was shorted by 9 hours and the degree of hatching synchronization increase if embryos had been exposed on AMF.
- DE: magnetic fieds
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 161–165.
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- TI: FARM BUILDINGS USED FOR FOOD PRODUCTION HAVING SPECIFIC WARM AND HUMIDITY CONDITIONS THE HABITAT FOR THE DEVELOPMENT OF MICROORGANISMS THAT ARE DANGEROUS FOR FOOD SAFETY
- AU: Machnicka A., Żelazny H.
- AD: University of Bielsko-Biala
- LA: Polish
- AB: The measurements of thermal assembly were taken in a few farm buildings related to animal food production. In all investigated buildings measured air temperatures oscillated in the range of value advantageous for development of harmful bacteria. The possibility of mould growth was connected with the values of relative air humidity. Achieved microbiological analysis smear test results, curried out on the walls of one fattening house proved and confirmed favourable habitat for the growth and development of microorganisms.
- DE: thermoclimate, microorganisms, animals, food, farm building
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 167–172.
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- TI: THE EXTENSIVENESS AND INTENSIVENESS OF PARASITE INVASIONS IN SELECTED HERDS OF COWS
- AU: Michalska M., Budzińska K.

- AD: Department of Animal Hygiene and Microbiological Environment, Academy of Technology and Agriculture in Bydgoszcz
- LA: Polish
- AB: The aim of the research was to evaluate the condition and dynamics of changes in vermination of cattle. The research was carried out in three farmsteads in Kujawsko-Pomorskie province. The faeces samples were taken every month from 20 cows in each farmstead and they were tested by means of Willis-Schlafa's flotation method and decantation method according to Zarnowski, Josztowa and MsMaster. The tests have shown the presence of nematodes of stomach and intestines, the extensiveness of which ranges from 20 to 100 %. and intensiveness – from 99,5. to 730 eggs in 1g faeces sample. Eimeria protozoons, the extensiveness of which ranges from 19 to 48% and intensiveness – from 40 to 162 eggs in 1g faeces sample. No invasion of Moniesia taenia and distoma was confirmed. On the basis of the research carried out it was established that nematodes of stomach and intestines are a threat to the cattle in Kujawsko-Pomorskie province.
- DE: cattle, nematodes of stomach and intestines, *Eimeria sp.*
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 173–178.
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- TI: THE EXAMPLE OF TECHNOLOGICAL SOLUTION WHICH GUARANTEE COWS WELFARE
- AU: Nawrocki L.¹, Winnicki S.^{1,2}, Głowicka R.³, Myczko A.¹, Tomala A.², Kowalski K.², Dembowski K.⁴
- AD: ¹ Institute for Building, Mechanisation and Electrification of Agriculture, Branch in Poznań
² Department of Zoohygiene and Veterinary Prevention, Agricultural Academy in Poznań
³ Department of Computer Science, University School of Physical Education in Poznań
⁴ Delaval Poland
- LA: Polish
- AB: The aim of the study was to determine influence of the implemented dairy-cattle maintenance technology on their well-being. It was concluded that by providing the cows with very comfortable housing conditions, health of udders could be improved, as could hygienic milk quality. This translates, as shown in the study, into profitability. The employed technology meets the standards of the best available techniques for dairy cattle.
- DE: cattle, dairy cows, welfare, maintenance technique
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 179–185.
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- TI: THE INFLUENCE OF STOCKING DENSITY ON THE PERFORMANCE OF PIGS AND WELFARE
- AU: Novak P.¹, Paseka A.², Bernardy J.¹, Odehnal J.³, Slegerova S.¹, Novak L.¹
- AD: ¹ University of Veterinary and Pharmaceutical Sciences, Brno
² Private veterinary practitioner, Prague
³ Plebo, Brno
- LA: Polish
- AB: The objective of this research was to determine the effect of group size on pig performance. A field study was carried out during 15 months. The building had 52 pens in total, which housed grower pigs to 35–38 kg body weight. During the first 8 months the average number of animals was 726. During the time of most significant decrease of performance in months 9 and 10 the average number went up to 751 animals. A reduction in total feed intake was observed during months 9, 10 and 11 and the average consumption of compound feed per animal and day dropped to 1.68, 1.32 and 1.09 kg. Consequently the weight gain decreased to 615, 535 and 505 g, respectively. The example showed the negative influence of overstocking of grower pigs on the essential performance indicators, such as weight gain, compound feed consumption per feeding day and feed conversion. The number of animals in pens should be decided on the basis of stocking density which influence positively performance. The size of the lying area for this particular age group and this particular building should be between 0.48 and 0.51 sq m per animal.
- DE: pigs, welfare, space allowance, efficiency
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 187–199.
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- TI: THE IMPACT OF VOLATILE AIR POLLUTANTS ON SOME REPRODUCTION INDICES OF BLUE FOXES (*ALOPEX LAGOPUS*)
- AU: Nowakowicz-Dębek B.¹, Zoń A.², Saba L.¹, Mazur A.¹
- AD: ¹ Department of Animal and Environmental Hygiene, University of Agriculture in Lublin
² Experimental Institution of Zootechnics Institute in Chorzele
- LA: Polish
- AB: In the female group kept in the closed space, a clearly lower percentage of infertile females was recorded with more numerous litters. The puppy falls over the raising period spent with mothers were low and maintained at the similar level in the both studied groups. Among the examined males, 40% did not make a single jump. The investigations carried out have not indicated an explicit negative influence of the gaseous pollutants on reproduction indices abatement.
- DE: air pollutants, reproduction indices, blue foxes

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 201–206.

TI: RELATIONS BETWEEN REARING PARAMETERS AND GENETIC POLYMORPHIC FORMS OF SOMATOTROPIN, LEPTIN AND MIOSTATIN HORMONES OF CALVES CHL AND LIM BREEDS

AU: Nowopolska-Szczyglewska A.¹, Dobicki A.¹, Frankowski R.², Bohdanowicz-Zazula M.¹

AD: ¹Department of Cattle Breeding and Milk Production, Agricultural University of Wrocław

²Breeding Farm Radan-1, Dębinka

LA: Polish

AB: The aim of study was to determine relations between rearing parameters and genetic polymorphic forms of bGH, LEP and MSTN of beef calves. The highest body weight had CHL calves with genotype bGH-VV. Calves with genotype LEP – BB had the lowest body weight at birth, but in 210th day after calving their bodies weight were as well (282,67 kg) and came up to genotypes LEP – AA and LEP – AB (286,1 kg and 286,6 kg respectively).

DE: cattle, calves, Charolaise, Limousine, polymorphism, bGH, LEP, MSTN

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 207–212.

TI: INFLUENCE OF ZEARELENONE ON SELECTED ENZYMES ACTIVITY IN PIGS PERIPHERY BLOOD

AU: Obremski K., Zielonka Ł., Zwierzchowski W., Gajęcki M.

AD: Division of Veterinary Prevention and Feed Hygiene University of Warmia and Mazury in Olsztyn

LA: Polish

AB: Clinical form of pigs zearalenone mycotoxicosis characterize vulva oedema and reddening, disturbances in fertility and piglets splayleg. During section we can see decrease mass of ovaries, enlargement uterus and mammary gland. The aim of this study was determination the influence of single dose of ZEA (1,0 and 1,5 mg ZEA. kg⁻¹ feed) on AST, ALT and ALP activity in pigs. Increase enzymes activity suggested that single *per os* dose of ZEA will be taken a cause of liver dysfunction.

DE: biochemical parameters, pigs, zearalenone

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 213–219.

TI: MICROCLIMATE OF HEN HOUSE PATERNAL FLOCK OF ROSA LINE

AU: Pawlak K.¹, Tombarkiewicz B.¹, Niedziółka J.¹, Lis M.¹, Iwaniec M.²

AD: ¹Department of Animal Hygiene and Environmental, University of Agriculture in Kraków

²Laboratory of Structural Acoustics and Intelligent Material; AGH University of Science and Technology in Kraków

LA: Polish

AB: The studies were conducted in hen house with 5000 layer. The aim of the present study was checking macroclimate factors and the range of animal stench. Studies have shown that such microclimate factors as cooling power and temperature (summer), relative humidity and velocity of air flow (winter) and range of noise (all year) were higher than the admissible. Based on the resultants obtained by ozone method it can be stated than the range of animal stench from hen house was estimated at 300 m.

DE: hen house, microclimate; noise, ozone

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 221–226.

TI: BIOACCUMULATION OF MERCURY IN TISSUES OF FISH FROM WOJNOWSKIE LAKES

AU: Polechoński R., Dobicki W., Pokorny P.

AD: Department of Limnology and Fishery, Agricultural University of Wrocław

LA: Polish

AB: Bioaccumulation of mercury in kidneys, muscles, gills and livers was the aim of investigations in fishes from Wojnowskie Lakes. A comparison of mercury concentration was carried out in organs of predatory fish (pike perch) and non-predatory fish (bream). Fishes were caught in nets annually in years 1997–2002.

Tissues of pike perch showed higher concentrations of mercury, lower - breams. Highest concentrations of mercury were detected in muscles. The content of mercury in fishes did not exceed admissible values in Poland and European Union.

DE: mercury, fish, bioaccumulation

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 227–232.

TI: THE EFFECT OF MANAGEMENT CONDITIONS ON SOMATIC CELL COUNT IN THE COW'S MILK

AU: Sitkowska B., Mroczkowski S.

AD: Department of Genetics and Principles of Animal Breeding, University of Technology and Agriculture in Bydgoszcz

LA: Polish

- AB: The research was carried out basing on breeding documentation which covered 4335 milk yield trails for cows of the OHZ Osiećiny (Kujawy and Pomorze Province). The cows were milk-utilised over 1997–2002. In 2000 cowshed was modernized, it's became loose barn, from that moment environment condition was higher. The numerical data were verified statistically with variance analysis of the GLM procedure, incorporating the effect of herd, father, lactation, month and year of test, interaction between herd and year of test. The effect of the factors studied on milk performance, its chemical composition and the somatic cell count were mostly highly significant. Somatic cell count was lower after modernization than before but different wasn't statistical significant and depending from management conditions.
- DE: management conditions, somatic cell, cowshed, milk yield trials
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 233–239.
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- TI: THE INFLUENCE OF HYDROGEN PEROXIDE ON THE INACTIVATION OF EGGS OF *ASCARIS SUUM*
- AU: Szejniuk B.¹, Żak S.²
- AD: ¹ Department of Animal Hygiene and Mikrobiological Environment, Academy of Technology and Agriculture in Bydgoszcz
² Department of Chemistry and Environmental Protection, Academy of Technology and Agriculture in Bydgoszcz
- LA: Polish
- AB: The aim of the study was to estimate the effect of various doses of hydrogen peroxide and the time of exposure on the invasiveness of the eggs of *Ascaris suum* introduced into sewage sludge. The investigation has shown that the eggs of *Ascaris suum* present in sewage sludge are marked by a high level of resistance to the disinfectant. It was proved that the addition of hydrogen peroxide solution of 0,5 – 3,0% to raw sewage sludge does not cause the total elimination of the living eggs of *Ascaris suum*. The longer time of exposure of the invasive eggs of *Ascaris suum* to the action of hydrogen peroxide results in the higher level of their elimination from the environment. The number of invasive eggs of the investigated nematodes was reduced proportionally to the increasing dose of hydrogen peroxide. The quicker elimination rate of the investigated larvae was indicated for the higher dose of the disinfectant used.
- DE: inactivation of eggs of *Ascaris suum*, hydrogen peroxide, higienization, sewage sludge
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 241–247.
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- TI: CHANGES OF CHEMICAL AND AMINO ACID COMPOSITION OF FODDER GALEGA (*GALEGA ORIENTALIS* LAM.) AND RUMINAL EFFECTIVE DEGRADABILITY OF DRY MATTER AND PROTEIN OF THIS FEED DURING VEGATIVE SEASON
- AU: Szyszkowska A.¹, Bodarski R.¹, Sowiński J.², Krzywicki S.¹
- AD: ¹ Department of Animal Nutrition and Feed Quality, Agricultural University of Wrocław
² Department of Crop Production, Agricultural University of Wrocław
- LA: Polish
- AB: Green matter from fodder galega was obtained from the cuts: 2nd (regrowth at 4, 8 and 12 week) and 3rd (regrowth at 4 and 8 weeks). Simultaneously with delay of the harvest time the content of both crude protein and ash in plants decreased from 293.3 to 164.8 and from 78 to 51.5 g/kg DM, respectively. In the same time the amount of crude fibre, NDF and ADF increased at ranges of 254 up to 349.9 and 559 to 649 and from 319 up to 407 g/kg DM respectively. The term of the 2nd and 3rd cuts affects the effective degradability of dry matter and protein in the rumen. It could be stated that simultaneously with the harvest delay the effective degradation of dry matter and crude protein tends to be lower, at 79.2 to 53.7 and at 90.89 to 64.14 % respectively.
- DE: fodder galega, chemical and amino acid composition, ruminal effective degradability of dry matter and protein
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 249–254.
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- TI: HAPTOGLOBIN CONCENTRATION IN BLOOD SERUM OF COW AND SHEEP AS A MARKER OF ANIMAL'S WELFARE
- AU: Tietze M., Chlebna E., Bryl M., Hunc D.
- AD: Department of Animal and Environmental Hygiene, University of Agriculture in Lublin
- LA: Polish
- AB: The aim of paper was to evaluate the sheep and cow's welfare on a basis of haptoglobin level in blood serum. Blood serum from 100 cows and 120 sheep was the material for tests. Haptoglobin concentration (Hp, mg·ml⁻¹) was determined by means of radial immuno-diffusion technique. Haptoglobin level was 0.379 mg·ml⁻¹ at cows with oscillation ranged 0.005–2.302 mg·ml⁻¹ and variability coefficient 155.93%. Mean Hp concentration at sheep's blood serum was 0.518 mg·ml⁻¹ at minimum value of 0.048 mg·ml⁻¹ and maximum 3.421 mg·ml⁻¹ (variability coefficient 147.29%).
- DE: acute-phase proteins, haptoglobin, blood serum, welfare
- SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 255–259.

- TI: QUALITY MANAGEMENT IN FORD PRODUCTION IN THE ASPECT OF HEALTH SAFETY
 AU: Trziszka T.¹, Dobrzański Z.²
 AD: ¹ Department of Animal Products Technology, Agricultural University of Wrocław
² Department of Animal Hygiene and Environment, Agricultural University of Wrocław
 LA: Polish
 AB: Since its accession to the European Union, Poland has had to comply with the Community legal regulations concerning the monitoring of food production chain and the management of food quality and health safety. Successful production and distribution of food products, their innovative character, competitive qualities and safety are possible when quality and safety management systems, such as GMP/GHP, HACCP, ISO 9000:2000 standards, QACP and TQM, are integrated. The present study discusses the issues of quality management in food production with regard to the above systems.
 DE: food products, legal EU regulations, food production chain
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 261–267.
- TI: CHARACTERISATION OF CHOSEN STRESS REACTION INDICATORS DURING TRANSPORTATION AND ADAPTATION OF RUMINANTS
 AU: Urban-Chmiel R.
 AD: Department of Preventive Veterinary. Institute of Infectious and Invasive Diseases. University of Agriculture, Lublin
 LA: Polish
 AB: Transportation and adaptation stress to new environment are the main stressful factors, predisposing to diseases and higher mortality of livestock animals. The one of the basic indicator of stress reaction in animals is the analysis of plasma cortisol concentration, as a negative influence of environmental factors on organism. The blood cortisol concentration and 11.17 DOA in faeces obtained from cattle and sheep after the transportation were significant higher ($p \leq 0,05$), in comparison to results obtained before the transportation. During adaptation period of animals for new environment the significant higher values ($p \leq 0,05$) of cortisol concentration and 11.17 DOA in 9th and 14th day after the transportation were observed. The analysis of correlation between cortisol and metabolite concentration in bovine and sheep faeces showed statistical significant, positive values ($p < 0,05$) in both animal species. The obtained results suggest a significant influence of transport and adaptation stress of ruminants on homeostatic mechanism, which is exposed by increasing level of adrenal steroid hormones. The increase of 11.17 DOA level in faeces showed significant correlation between blood cortisol level. These results suggest an important possibilities of animal welfare analysis in different housing systems without addition of manipulation stress.
 DE: transport stress, cortisol, 11.17 DOA
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 269–274.
- TI: THE EFFECT OF PROTEIN LEVEL IN DIETS ON CHANGES OF ALLOMETRIC PARAMETERS OF DIGESTIVE TRACT IN CHICKENS
 AU: Wartecki T., Jamroz D.
 AD: Department of Animal Nutrition and Feed Quality, Agricultural University of Wrocław
 LA: Polish
 AB: In the three trials the reactions of young chickens (1-28 days) in allometric parameters of digestive system under differentiated protein content in mixtures were analysed. The concentration of crude protein in mixtures of each experimental group was: I – in starter 220 g·kg⁻¹ (200g in grover), II – 200 g (180 g in grover) and III – 185 g (175 g). The four exogenous pure amino acids: lys, meth, thr and try were added to each mixtures and balanced in groups II and III to amount given to diet I. The experiments were differed with grain type and level in mixtures. In all mixtures the main protein sources was soys bean meal (Glycine Max. 46,5% CP). Metabolizable energy density was similar in all starter feed about 12,5 MJ·kg⁻¹ and in grover 13,1 MJ·kg⁻¹. The premix used in mixtures starter/grover was without feed antibiotic, enzymes and amino acids, content only coccidiostatic. The length and weight of duodenum, small intestine and weight of gizzards, were estimated in 1, 3, 5, 7, 14 and 28 days of life in similar periods the body weight was estimated. The breast muscles and abdominal fat weight in body mass was registered in 14. and 28. days of life. The reduction level of crude protein in mixtures decreased body weight of chickens in 14. and 28. days of life ($p \leq 0,05$). Similar effect was observed in decrease of both gizzards weight, especially in 5, 7, 14 and 28 days ($p \leq 0,05$). The allometric parameters of duodenum was increased with reduction level of crude protein in mixtures in whole period ($p \leq 0,05$). But these parameters for small intestine was decreased to 3rd days of life and after the 7th days to 28. was increased ($P < 0,05$). The reduction level of crude protein with pure amino acids supplementation, especially lysine, has influenced the weight of breast muscles (increased tendency) and abdominal fat content in 4th weeks old chickens.
 DE: chickens, crude protein, length and weight of intestine
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 275–281.

- TI: ANIMAL INFECTIONS ON LARGE COMMERCIAL FARMS WITH RESPECT TO FOOD SAFETY
 AU: Wieliczko A.
 AD: Department of Eepizootiology and Veterinary Administration with Clinic of Infectious Diseases
 LA: Polish
 AB: Production of animals on large commercial farms favours spreading of infectious diseases. An important factor responsible for rapid expansion of the diseases within a herd is direct contact of diseased animals or vectors with normal animals and transmission of microbes by biological vectors or mechanical transmitters (mice, rats, insects, vehicles, personnel). Mutual contact of people and animals as well as consumption of infected meat or meat products is dangerous to human health. The paper presents several zoonoses and food-borne diseases threatening industrialized societies in the 21st century, i.e. vCJD, HPAI, campylobacteriosis and salmonellosis.
 DE: animal infectious diseases, zoonoses, food-borne diseases
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 283–291.
- TI: THIN LITTER BEDDING AND CATTLE WELL-BEING
 AU: Winnicki S.^{1,2}, Nawrocki L.¹, Głowicka R.³, Myczko A.¹, Tomala A.²
 AD: ¹ Institute for Building, Mechanisation and Electrification of Agriculture, Branch in Poznań
² Department of Zoohygiene and Veterinary Prevention, Agricultural Academy in Poznań
³ Department of Komputer Science, University School of Physical Education in Poznań
 LA: Polish
 AB: The aim of the study was to examine free-stall maintenance system on thin litter bedding without separate resting area, and to determine its impact on well-being of dairy cows. The studied technology was observed to meet no standards of cleanliness, nor to prevent body injuries, and consequently to put at risk udder health conditions, and to decrease milk hygienic quality. Also, beginning with the fourth lactation the technology was shown to affect significant reduction in milk productivity.
 DE: cow, maintenance system, well-being, thin litter bedding, milk hygienic quality
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 293–299.
- TI: THE MEAT QUALITY OF YOUNG PIGEONS MEAT RACES AND THEIR CROSSBRED
 AU: Zieleziński M., Pawlina E., Janik-Dubowiecka A.
 AD: Department of Genetics and Animal Breeding
 LA: Polish
 AB: The purpose of the present study was an analysis of growth of young meat pigeons: king, strasser, wrocławski mięsny (meaty) and crossbred F₁ and chemical composition of carcasses. The highest content of body weight (628,5g) and protein (19,2%) was characteristic for strasser x king, the lowest (553,9g and 17,63%) for wrocławski mięsny x king.
 DE: meat pigeons, chemical compositions, meat quality, growth
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 301–306.
- TI: ESTIMATION OF MINK REPRODUCTION INDICES AT VARIOUS TYPES OF THE KITTENING HOUSES AND FEEDING CONDITIONS
 AU: Zoń A.¹, Bis-Wencel H.², Kopczewski A.³, Mazur A.²
 AD: ¹ The Experimental Station of the Institute of Zootechnics, Chorzew
² The University of Agriculture, Lublin
³ The Subdepartment of Veterinary Hygiene, Gdańsk
 LA: Polish
 AB: The investigations aimed at the improvement of mink reproduction indices using various types of kittening houses included in the farm equipment and higher sanitary standard of the feeding conditions. The three mink treatment groups were formed with the analog method. The experimental groups of animals were kept in the cages stocked with 2 different types of kittening houses, the group I being maintained in the traditional type, whereas the groups II and III in a new one. The minks of all the groups were fed the same, a high energy, well balanced feed. The animals of group III were provided with a stabilized feed supplemented by preservative and antioxidant additives. Both factors, a new type of kittening houses and high standard of mink feeding conditions have exerted the significant impact on the improvement of young mink raising indices.
 DE: minks, kittening houses, feeding, reproduction
 SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 307–312.
- TI: EFFECT OF ADDITIONAL CAGE ACCESSORIES ON THE WELFARE OF JUVENILE ARTIC FOXES SHOWING DIFFERENT BEHAVIOURAL PATTERNS
 AU: Zoń A.¹, Bielański P.², Frindt A.³
 AD: ¹ The Experimental Station of the Institute of Zootechnics, Chorzew
² Institute of Zootechnics, Balice

³ The University of Agriculture, Warsaw

LA: Polish

AB: This study was aimed to determine the effect of platforms and wooden blocks in cages on the welfare of juvenile Arctic foxes with different temperament. Three groups of foxes (curious/trustful, aggressive and fearful) were kept in cages with and without extra accessories.

The results showed that in cages with extra accessories, 28.6% foxes from the aggressive group and 20% foxes from the fearful group exhibited the curious/trustful type of behaviour during the autumn, which may indicate improved welfare of the animals.

DE: foxes, cages, welfare

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 313–318.

TI: THE COMPARATIVE ANALYSIS OF COMPLEX OPINION METHODS OF THE THERMOCLIMATE IN FATTENING HOUSES OF SWINE

AU: Żelazny H.

AD: Faculty of Mechanical Engineering, University of Bielsko-Biała

LA: Polish

AB: On the basis of results from researches it was affirmed, that the most useful to complex characterization of the thermoclimate in fattening house is the bioclimate index of de la Farge. It should be however corrected, because in present notation for criterion “thermal optimum” there is preferred too low air temperatures.

DE: building for swine, thermoclimate, measurements

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 319–325.

TI: FORMING OF THE TEMPERATURE OF INTERNAL SURFACES OF WALLS AND BIO-HEAT LOSSES FROM ROOM FOR ANIMALS

AU: Żelazny H.

AD: Faculty of Mechanical Engineering, University of Bielsko-Biała

LA: Polish

AB: The researches of penetration of heat stream, in dependence from temperature of internal surface of wall, were conducted in self-heating pig farm. For both winter, transition period, and summer there were affirmed, in some hours of day, heat losses through casing and in remaining hours the profit of heat from wall to room.

DE: temperature, stream of heat, inventory room

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 327–332.

TI: SPATIAL DIFFERENTIATION OF MICROCLIMATE PARAMETERS IN THE SELF-HEATING INVENTORY BUILDING WITH ELONGATED SHAPE

AU: Żelazny H.

AD: Faculty of Mechanical Engineering, University of Bielsko-Biała

LA: Polish

AB: Researches of the thermal conditions changeability in different parts of the inventory interior were conducted in two-section self-heating pig farm. Measures of microclimate were executed for a one year, once a month within whole day with temporary step 3 hours. There were obtained considerable divergences between particular parameters in measuring points in northern, central and southern parts of rooms for animals. It was found that the largest differences were in determination of the speed of air movement.

DE: building for animals, microclimate

SO: Zesz. Nauk. AR Wroc., Zoot., 2004, LII, Nr 505, 333–339.