

MODIFICATION OF Na^+ AND Ca^{2+} CONTENT BY LEAD ACCUMULATION IN LABORATORY MOUSE

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Four groups of mice were treated with different doses of lead acetate (0.0M; 0.1M; 0.6M; 0.9M) in 1 ml/100g body weight for five days. All mice were killed and liver, kidney, spleen, lungs and brain are recovered. Lead content in kidney was higher than in liver. The experimental data showed the lead accumulation in liver and kidney but also a diminished content of sodium and calcium.

Key words: mouse, lead, acetate, sodium, calcium, liver, kidney and brain

BIOMETRICAL STUDY REGARDING *RANA RIDIBUNDA* FROGS FROM TIMISOARA AREA

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*The paper presents a biometrical study of 25 frogs (17 females and 8 males) belonging to the *Rana* species, from Ghiroda area. After the measurements were done, has resulted that the females have higher body weight ($80,42 \pm 4,42$ g) than the males ($55,37 \pm 2,65$ g). The edible parts weighed as follows: the female's thighs had an average weight of $10,03 \pm 0,64$ g and the male's thigh had $6,87 \pm 0,82$ g.*

Key words: *Rana* genus, measurements, body weight, body length

MORPHOLOGIC STUDY OF THE GENITAL APPARATUS IN LAKE FROGS OF THE GENUS *RANA*

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*We were determined to approach this area of study because of the lack of information concerning the morphologic particularities of the genital apparatus in the lake frogs of the genus *Rana*. The obtained results supply us with new microscopic morphologic knowledge taking under consideration the fact that the genital apparatus was studied both in the hibernation period and that of the coming back to normal activities. We could notice that, during springtime, the seminal tubules lumen is broader. The seminal epithelium structure consists mostly of spermatids and spermatozoa displayed in „tufts”, aspect that justifies the undergoing of an intense spermatogenesis process. In females, there are prevailing during springtime the oocytes with large sizes, surrounded by 2-3 layers of follicle cells. At tubular mucous level there are evidenced processes of hypertrophy (chorion and epithelium).*

Key words: frogs *Rana*, genital apparatus, histology

THE EFFECT OF ACUTE AND CHRONIC ALCOHOLISM ON SOME BLOOD BIOCHEMICAL PARAMETERS IN RATS

I. UNPROTEIC NITROGEN COMPOUNDS

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Our experiment had the main goal the hepatotoxicity action of alcohol, as result of its metabolism. Thus, the acute and chronic intoxication with ethylic alcohol to which animals were exposed under observation, didn't affect the renal function, but significantly diminished the synthesis capacity of urea by the liver ($p = 0.00004$ for E2 than control group and $p = 0.0003$ for E1 group than control group), as well the renal excretion of uric acid ($p = 0.002$ for E1 than group M, $p=0.00003$ for E2 than group M, respectively). The seric creatynine recorded minor modifications in both the group exposed to acute intoxications and the group chronic intoxicated.

Key words: alcohol, urea, creatynine, uric acid, rats

NON-POLLUTING INTEGRATION OF ANIMAL SLURRIES

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Non-polluting integration of animal slurries has become a problem. This paper presents some principles that need to be respected and calculation models for the small and big farms in order to non-polluting integrate the animal slurries. It is also presented an integral model of utilization by correlating the soil requirements, green mass, with the slurries content in nitrogen, phosphorous and potassium.

Key words: non-polluting integration, animal slurries

STUDY OF THE PHYSICAL-CHEMICAL CHARACTERISTICS OF WATERS FROM THE ORNITHOLOGICAL RESERVATION SATCHINEZ RELATED TO THE SELF-PURIFICATION PROCESS DURING THE PREVERNAL AND VERNAL PERIODS

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Water was sampled in March, April and May 2002 from the Ornithological Reservation Satchinez to physically –chemically analyze it in order to appreciate the dynamic of the impurification and self-purification processes of the prevernal and vernal periods. We noticed a higher level of water impurification in the prevernal period, with biogene material. Even though, the self-purification processes intensify due to the climatic conditions' improvement, water remains in a quasipermanent state of impurification because of the specific metabolism of the reservation birds and all the other present species. Data obtained both from the general chemical indicators and the oxidability indicators express a fluctuation of the impurification – self-purification processes generated by the restarting of the local bio-geo-chemical cycles of matter circulation to which all the biocenotic species take part.

Key words: physical-chemical indicators, ornithological reservation, biogene material, impurification - self-purification.

STUDY OF WATER QUALITY FROM THE ORNITHOLOGICAL RESERVATION SATCHINEZ USING THE SAPROBIOLOGIC INDICATORS

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The natural self-purification process was analyzed during the “water blooming” period (March-May) in waters of the Ornithological Reservation Satchinez, Timis County, after the biogene material impurification caused during winter by the local biocenosis metabolism. The salubritization level (self-clearing) of waters was assessed twice a month using the saprobiologic indicators of the Kolkwitz-Marsson saprobic system. During the studied period, the reservation Satchinez was characterized by an active ecological succession, animated by the restarting and development of the biological cycles in plants and animals specific to this humid area. In March and April, waters had an increased level of impurification with saprobiotic characteristics belonging to the polisaprobic and mesosaprobic types. Along with the warming-up of the weather, self-purification processes amplify, leading to a massive decomposing of the biogene substrate accumulated during winter. As a result, in May, reservation waters have oligosaprobic characteristics.

Key words: self-purification, saprobity system, and saprobic organisms.

INTEGRATED USE OF ZEOLITE VOLCANIC TUFFS

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The paper presents a systemic approach of zeolites use, monitoring their behavior during several stages of application using a single dose of natural zeolite, added to the feed for chickens. There have been studied the decrease of ammonia content in the house, the weight gain of chickens, the characteristics of the resulted litter (pH, ammonia and total nitrogen content) and the effects of the application of this litter to several garden vegetables. The results, materialized in the decrease of ammonia content in the houses, the increase of the chicken weight, corroborated with an increase in vegetable yield on the soils treated with zeolitic litter, open the way for an integrated use of zeolites in farming.

Key words: natural zeolites, chickens, litter, ammonia, soil, vegetables

CURRENT METHODS OF ASSESSING THE PRODUCTIVE POTENTIAL OF FORAGES

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The system of feeds and feeding norms assessment in farm animals can provide for composing diets with higher economic efficiency, while also considering the ecological issue of feeding by producing minimal amounts of polluting wastes. The nutritive assessment of forages and the farm animals feed requirements in order to formulate efficient and ecological diets have a dynamic character considering the ongoing process of improving animal's capacity to ingest and use the forages. It must be considered as well, the exogenous factors related to the nature of forages, the technology of forage processing and conservation and the exploitation technologies in general. So, it appears the necessity to develop a novel system for measuring scientifically the process of feed conversion into animal products which, irrespective of the farm animals species and category, includes three major sections: 1) forage assessment, 2) feeding requirements assessment and 3) compose economically efficient but also environmentally friendly diets.

Key words: assessing methods, productive, potential, forages.

RESEARCHES REGARDING THE WATER CONSUMPTION IN PIGS

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The purpose of the paper is to formulate a mathematical model which to assess the amount of water required during one day by growing and fattening pigs. The assessment will use physiological hypotheses. We will not consider now the influences of environmental temperature variation (in the air or the house), the growth technology etc. The basic, physiological, criterion to be used is: the water /dry matter ingested ratio existing at the level of the body chemical composition. Based on the above statement it results that a method of water consumption assessment relays on the assessment of the body water/dry matter ratio and on the assessment of the ingested amounts of dry matter. We will now review the main mathematic formulations published by the field literature, together with an analysis of the mathematics coherence, when needed.

Key words: water, consumption, fattening pigs

SOYBEAN AND SUN-FLOWERS GRAINS EFFECTS ON GROWING PERFORMANCE IN THE FIRST PERIOD (30-60 KG) IN FATTENING PIGS

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In this study there were followed soybean and sun flower grains effects on the evolution of the body weight, gain, ingest and specific consumption in the first growing period (30-60 kg) to 30 hybrids (Large White and Landrace). To the experimental group made up from 15 animals was administrated feed with energetic and protein level of 3280 kcal ME, 14.9% CP (crude protein). To the control group was administrated feed with 3109 kcal ME and 14.9% CP level. By substituting the meal (the soya meal, the sun flower meal) of soybeans ratio by 5% during the first period of fattening (30-60 kg) sunflower grains (5%) the same bioproductive performance are obtained.

Key words: energetic level, soybean, sunflower grains, performance of pigs

THE INFLUENCE OF THE ENERGO-PROTEIN LEVEL IN FOOD ON THE QUALITY OF THE FATTENING SWINE CARCASSES

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The aim of our experiment was to see how the energy–protein level in food influences the carcass quality of fattening swine. In the experiment were used 26 animals. The experimental group that contain 13 animals was feeding with a concentrate mixture with the energy level 3250.7 kcal EM, 15% CP (217), in the first period and 3274.5 kcal EM, 13.09% CP (250) in the second period and at the control group (13 animals) with the level 3056 kcal EM, 16.12% CP (191), in the first period and 3001 kcal EM, 12.5% CP (240) in the second period.. The use of two energy-protein level of (217 and 191) during the first period and (250 respectively 240) during the second period in fattening swine has not influenced significantly the carcasses quality.

Key words: energy-protein level, swine, bioproductive parameters.

EFFECTS OF SUBSTITUTING RAPESEED MEAL OR CANOLA SEEDS FOR SOYBEAN MEAL ON LAYER PERFORMANCE

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A total of 432 Roso SL – 2000 hybrid commercial layers were used in two experiments to determine the effects of replacing soybean meal by rapeseed meal (experiment 1) or canola seeds (experiment 2). All diet formulations were isocaloric, isonitrogenous and had similar amounts of sulphur amino acids, calcium and phosphorus, according to the nutritional requirements recommended for the intensive growth of this poultry category. The results recommend the use of rapeseed and/or canola in commercial layers diets up to 15% of the total diet (replacing 52.38% of the soybean meal or 34.22% of the dietary crude protein) or up to 20% (replacing 30.32% of the soybean meal or 22.45% of the dietary crude protein) as possible plant sources of protein, without significantly affecting laying percentage and egg quality (constituting elements and eggshell thickness).

Key words: commercial layer feeding, soybean meal, canola meal or seeds, performance, egg quality

INFLUENCE OF INCREASING CORN LEVEL IN FOOD DIET ON SOME BIOPHYSICAL PARAMETERS OF THE RUMINAL FLUID

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The effect of corn proportions increase in sheep diet on ruminal fluid pH and viscosity, as well as the effect of different forms of corn processing on the above biophysical parameters were studied in this paper. The ruminal fluid was withdrawn from a ram having a rumen cannula. In this experiment 100% alfalfa hay (M) as base diet and three types of diets with different levels of corn (20%, 40%, 60%). Ruminal viscosity increases were obtained ranging from 1.015mPa·s (M) to 1.1673 mPa·s (20%), 1.4668mPa·s (40%), and 3.3262mPa·s (60%). pH value was also decreased from 7.04 (M) to 6.54 (60%).

Key words: ruminal fluid, viscosity, pH, sheep

PARAMETERS OF RUMINAL DEGRADABILITY OF ALFALFA, BARLEY AND SUDAN GRASS HAYS

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Dry mater and nitrogen degradability of three hays (alfalfa, barley; Sudan grass) were determined by "in sacco" method. Ruminant incubations were performed on 4 dry and non-gestating cows fed at maintenance level. Some methodological aspects are discussed and also the biological importance of degradability parameters is highlighted. Although nitrogen ruminal degradability was similar to tabular values (11%, 2% and 6% difference for the three hays, respectively), degradability parameters issued from the fit of Orskov model are biased, especially for the initial phase of ruminal degradation. It is concluded that for estimation of protein value, current feed evaluation system is to be improved by elimination of approximations and better valorization of nitrogen ruminal degradation kinetics.

Key words: rumen degradability, in sacco, protein value

EVALUATION OF THE NUTRITIVE LEVEL OF THE DAIRY COWS RATIONS IN THE FAMILY FARM FROM TIMIS COUNTY

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The evaluation of nutritional level of fodder rations was done in 86 dairy family farms from which were totalized 28 fodder sorts that were chemical analyzed to establish the nutritional value. After the all 86 fodder rations were drawn up it was established that only in one case the levels of energy and protein were ensured at the requirements necessary for dairy cows those which was established by the weight and milk production. Instead in 85 farms the rations were energetically and protein unbalanced. It is justified the implication of nutritional specialist for the correction of nutritional factors when the milk production is bigger in economical conditions.

Key words: dairy cows, rations, family farm

PERFORMANCES OF HALF BREED BUFFALOE COWS FED BY DIFFERENT ENERGY INTAKE

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Before 1999 the average milk production on total lactation of 1210 kg, with 7.5 % fat, performed by 56.25% metis Murrah, blood was considered as the maximum potential reached by buffalo cows in Romania. This experiment began since 1999 and included two lactation of buffalo heifer in two different treatments. The first treatment included 11 animals, with 56.26 % Murrah blood and the second the same number of animals with 37.5 % Murrah blood. The total number of buffalo cows within Research Station Șercaia was 240 / 211 in 1999 / 2000, and average milk production on total lactation was 1008 ± 30.11 kg in 2000. Feeding by a differentiated ration (different energetic levels) during the first lactations within the first treatment and homogenous ration, during the first two lactation, within the second one, noticeable productive results have been performed. The present study emphasizes a clear higher phenotypical expression in the first treatment proving a high genetic potential in 56.25 % Murrah blood. The necessity to improve nutritive supply (UNL) is obvious, so that high genetic potential should be expressed as phenotype.

Key words: homogenous breeding, energetic levels, genetic capacity

DIGESTIBILITY OF NUTRIENTS FROM FEED RATIONS FOR MINKS WITH DIFFERENT PROPORTIONS OF WHEAT COARSE MEAL

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We studied the digestibility of crude protein, fat and nitrogen-free extract from feed rations for minks with various percentual proportions of wheat coarse meal. Five standard male minks were included into the experiment at the age 12 months. The animals were housed in balance cages. The experiment consisted of three individual stages. The animals were fed the control feed ration that is characterized by the lowest content of wheat coarse meal – 13.7 % at the first stage. At the second stage the content of wheat coarse meal rose to 18.2 % and at the third stage to 26.7 % opposite to the original content. The digestibility coefficient of the studied nutrients decreases with increasing percentual proportion of wheat coarse meal in feed rations for minks: for crude protein from 79.77 to 76.72 %, for fat from 95.32 to 94.25 % and for nitrogen-free extract from 71.76 to 67.34 %. Significant differences in digestibility of nutrients were between the control feed ration and experimental feed rations with the increased proportion of wheat coarse meal, and between the experimental feed rations as well. The digestibility coefficient in wheat coarse meal achieved the value 67.83 % of crude protein, 91.39 % of fat and 54.86 % of nitrogen-free extract. On the basis of our results we recommend 25 % proportion of wheat coarse meal in feed rations for minks as a maximum for the agricultural practice.

Key words: minks, wheat coarse meal, digestibility, crude protein, fat, nitrogen free extract

EFFECT OF FITO-ADDITIVES ON GROWTH INDICES AT YOUNG PIGS

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In the European Union feed-grade antibiotic growth promoters are banned. Fito-additives resulting from medicinal plants and spices represent an alternative for the antibiotic growth promoters in the European market. The experiment runs out 40 days. 24 weaned pigs were allotted randomly in 4 pens. The experimental group (E) of 12 young pigs was divided in to 2 equal groups of 6 pigs and the others 12 young pigs from the control group (C) were also divided in two pens. The established indices for each group were feed intake, body gains evolution and feed conversion ratio. The feed of the experimental group (E) was supplemented with medicinal plants and spices mixture. This mixture was incorporated in the experimental diet at a 3.16% inclusion rate. After 40 days, there was an improvement in the average daily gain of 4.6 percentage points. The feed conversion ratio was lower for the experimental group with 1.3 percentage points.

Key words: young pigs, fito-additives, nutrition

INFLUENCE OF PRESTARTER FORAGE QUALITY ON PIGLETS' PERFORMANCES

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Forage structure has an impact on piglets performances, particularly immediately after weaning and up to the age of 42 days. The existence of pre-digested matters, the high level of lactose and the high level of critical amino-acids (lysine, methionine + cystine, triptophane and threonine) make of the TS 8001 feed an easily digestible one, an easily tolerated one which has no negative effect whatsoever on animals during this period, with good productive performances.

Key words: piglets, pre-starter, lactose, and critical amino acids.

PRODUCTIVE AND ECONOMIC EFFECTS OF USING RICE BRAN AND RICE CRUMBS IN STEER FATTENING

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The experiment studied over 81 days (40d first period, 40d second period) a number of 33 Holstein Friesian steers with 332 kg average initial weight, assigned to 3 groups of 11 steers each. The animals received different compound feed formulations: classical compound feed formulation for the control group, compound feed with rice bran for E1 and with rice crumbs for E2. The basal diet was similar for all three groups and consisted of barley silage supplied at discretion, however in an amount predicted to be consumed. The diets were isocaloric and isoprotein. Overall feed intake and average gains were higher in E2; there were no significant differences between the three groups however, but E1 displayed the best feed efficiency.

Key words: feeding, steers, by-products, rice bran, rice crumbs, barley silage

MATHEMATICAL MODEL OF ANALYSIS OF THE FUNCTIONAL DEPENDENCE CORPORAL GROWTH FUNCTION ON THE COMBINED FODDER CONSUMPTION AT THE BROILERS

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This work presents a mathematical model of analysis of the functional dependence corporal growth (G) function of the ingested combined fodder quantity (F). To determine the mathematical model we used as bibliographical source the dates offered by NRC 1994 concerning the values of the corporal growth and the ingested combined fodder quantities registered at the end of each week in the growth period (1-9) and as mathematical methods the double regression and the method of the smallest squares. The validation of the obtained model was made studying the relative errors between the theoretical values (offered by the model) and the experimental values effectuated on broilers raising in a household system (AαB variants) and in the industrial system on a deep litter (CaD variants).

Key words: broilers, mathematical model

MATHEMATICAL MODEL OF ANALYSIS OF THE FUNCTIONAL DEPENDENCE CORPORAL GROWTH FUNCTION ON ENERGY, PROTEIN, LYSINE, METHIONINE+CISTINE AT THE BROILERS

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This work presents a mathematical model of analysis of the evolution of the corporal growth (G), protein (P), methionine+cystine (M) and lysine (L). The model was obtained the up mentioned variables and using the procedural modeling. The validation of the obtained model was made studying the relative errors between the theoretical values (given by the model) and the experimental values of the four variants. The broilers from A, B variants were in a household system and those in the variants C, D were raised in industrial halls on a deep litter.

Key words: broilers, procedural modeling

HIGH LEVEL OF COPPER IN NONRUMINANT NUTRITION

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Stimulative effect of copper sulphate on pigs and poultry performance and its accumulation in liver are presented in this paper. It was observed, from numerous data found in scientific periodicals, that 125 ppm of copper increases the weight gain of piglets by 22.28%, while the level of 250 ppm increases the weight by 19.53%. The same levels of copper, if applied in rations of fattening pigs, increase the gains by 3.1 and 12.68%, respectively. The copper level of 100 ppm increases the weight gains of broilers by 8.53%. Feed efficiency at the copper level of 125 ppm ranged from 7.65% in piglets to 3.47% in fattening pigs. As for the poultry nutrition this effects is somewhat lower if compared with in fattening pigs, but still economically justified. Feeds rich in copper inevitably lead to its accumulation in body and organs. The 125 ppm level almost doubles content of copper in liver, while the level of 250 ppm makes the concentration of copper higher for about 13 times which is still less than the level of copper in the liver of ruminants. Practically there is no copper in the liver of broilers and this is considered as genetically defined trait. Besides, some authors claim the attitude that nutrition with high levels of copper decreases the level of cholesterol in blood and muscles.

Key words: copper, cumulation, pigs, poultry

L'EFFET DU PRODUIT FOURRAGER PROSIMBIONT C SUR LA MUQUEUSE DU RUMEN DES AGNEAUX DE LAIT

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There have been studied the changes of the ruminal mucous brought about by a feed product administered to suckling lambs, under the form of a paste, in three dosis, at the age of 10, 17 and 24 days. The microscopical images reveal, for the experimental group, the growth, in height, of the ruminal papillae, the hypoplasia of the epithelium, the positive reaction to dedinae phosphatase, the reduction, up to disappearance, of keratinization and the multiplication of the vascular net.

Key words: suckling lambs, feed product, rumen, histology

THE UTILIZATION EFFECT OF CHELATED MICROELEMENTS IN THE SOW ALIMENTATION

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Utilization in producing combined nutrient designated to chelated microelements for swine, obtains the results of higher daily gain, a better health, obtaining a more efficient production, thru bigger intestinal absorption you get bigger quantities of products and at a better quality, reflecting upon the ecological environment faze.

Key words: Big white, conducted reproduction between pure breed animals, chelated microelements, premix

THE MORPHOLOGICAL ARCHITECTURAL CONTRIBUTION OF SOME FORAGE SPECIES BY REALIZATION OF THE LEGUMINOUS BIOMASS PRODUCTION

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The paper distinguishes the importance of plants morphological structure and how to reach a higher point of the vegetation rug in the realization of forage biomass production for temporary lawns. The morphological structures of the production are formed from: 38% leaves, 37% stems, 25% inflorescence. The stage of vegetation on the vegetation rug, the biggest proportion of production (over 50%) is realized in the plants height interval, which is of 10-22 cm.

Key words: temporary lawn, morphological structures

CULTIVATION OF CRIMSON CLOVER IN MIXTURE (*Trifolium incarnatum L.*) WITH DIFFERENT FORAGES SPECIES

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Another experiment has been created in 2001 in order to study the influence of the mixture type and the fertilization with nitrogen upon the production of dry matter. Very insignificant results, statistically speaking, regarding the production of dry matter obtained at the third crop, are noticed at the mixture between the crimson clover and the autumn vetch as well as at the mixture between the crimson clover and the oat. All the three components of the mixtures are species with a low degree of regeneration, this phenomenon is also observed in what regards the floristic structure.

Key words: *Trifolium incarnatum L.*, mixture, nitrogen fertilization, floral composition

THE INFLUENCE OF SOME BIOSTIMULANT SUBSTANCES UPON THE GERMINATION CAPACITIES OF PERENNIALS VEGETABLE SEEDS

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Realization of forage cultures constitutes an important link in the cultivation technology of all the agricultural species. The uniformity of these cultures is determined in the first place by the seed germination capacity and the plant rising, in function of the pedoclimatical conditions and of those of natural technology. From the effected research in this direction, we present the influence of some growth biostimulants, used in general for extraradicular applications in the plants vegetation period, upon seeds subjected to germination. From the effected observations the alfalfa germinating seeds varied from 95.7% at the untreated control group but at the treated variation the percent of germinated grain reached up to 99.3%. At the birdsfoot trefoil seeds was remarked a growth of germination energy from 84.7% at the untreated control group to 93.7% at the variations which were supposed to some treatments with biostimulants substances.

Key words: biostimulant, germination, alfalfa, white clove, birdsfoot trefoil

THE ECHOPHYSIOLOGICAL STUDIES OF BIRDSFOT TREFOIL (*Lotus Corniculatus* L.)

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Birdsfoot trefoil is the most adaptable leguminosarum on various types of climatic conditions and soil: draught, moisture, acid Bladen soils, brackish soils and low fertility soils. In all studied periods we registered both positive and negative correlations, because genotypic and phenotypic differences between same species individuals. Computed correlation in entire vegetation period had positive values from all climate factors that we studied, excepting nebulosity.

Key words: ecophysiology, birdsfoot trefoil

INFLUENCE OF CROSSBREEDING THE ROMANIAN SPOTTED AND RED HOLSTEIN BREEDS ON THE EFFICIENCY OF MILK PRODUCTION OF COWS

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Six hundred and seventy cows, culled until year 2000 were used to study the efficiency of the crossbreeding between Red Holstein (RH) and Romanian Spotted breeds (RS) for milk production. Lifetime milk production of the RH x RS hybrids was 6.2% to 25.7% lower than that of Romanian Spotted cows, mainly due to decreasing the average number of lactations in hybrids from 3.2 to 2.28 - 2.63. The average milk production per lactation was 9% to 21% higher in hybrids than in Romanian Spotted cows. Age of first calving was 1.8 to 4 months lower in hybrids than in purebreds (34.6 months). The length of productive life was 20% to 38% lower and the length of the total life was 16% to 24% lower in hybrids than in RS purebred cows (1500.54 and 2556.79 days, respectively). The productive life index was 0.02 to 0.9 lower in hybrids than in RS cows (0.55). The milk and milk fat yields per day of productive life, of total life and of lactation were significantly higher in hybrids by 20% to 40% than those produced by Romanian Spotted cows in the same periods.

Key words: Romanian Spotted, Red Holstein, dairy cows, crossbreeding

VALUABLE GENETIC STRUCTURES IN CATTLE BREEDS REARED IN CENTRAL AND NORTH-WEST OF THE COUNTRY

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The paper presents the research results concerning the genetic structure of cattle breeds reared in 13 counties from the Central and Northwestern of the country. Based on these, a number of 68 valuable families were established in all 4-reared breeds, and also 14 zootechnical lines were designed. The program elaborated by J.F. Lasley and cited by I. Vintilă was used for lines design and achievement, the technical and organizing frame necessary on each operational level, conditions, and national legislative were also established.

Key words: genetic structures, cattle breeds

VALUABLE BUFFALO FAMILIES FOR MILK PRODUCTION, AND POSSIBILITIES FOR MAKING LINES

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The paper presents the results of research concerning the way of supplying of reproduction material by sire line in Romanian buffalo breed. Based on these, 23 valuable families of half-sibs by sire were identified. The possibilities of making of 5 lines, 2 with Murrah, and 3 pure lines were also studied, using J.F. Lesley methodology. The ways, and means for achieving the objectives are also mentioned.

Key words: Romanian buffalo breed, milk

COMPARATIVE STUDY REGARDING THE FATTENING INDICES AND MUSCLE GROWING DYNAMICS IN ROMANIAN SPOTTED AND ROMANIAN BLACK AND WHITE BREEDS

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Experiments were carried out on 80 Romanian Spotted bulls (RS) and 70 Romanian Black and White bulls (RBW), fattened in intensive system and slaughtered at 6, 9, 12, 15, and 18 months of age. Live weight at slaughter, carcasses weight and killing out percentages were measured. Five muscles were cut out from the carcasses after refrigeration, which is Longissimus dorsi, Biceps brachii, Biceps femoris, Semimembranosus, and Semitendinosus. Due to higher live weight (7-11%) and killing out percentage (2.0-5.5%) carcass weight was higher ($p < 0.01$) in RS than in RBW (9.14-39.77 kg). Weight of all studied muscles increased with age in both breeds. Both muscle weight and its percentage from the whole carcass were 3.54 to 8.04% higher in RS than in RBW for all 5 muscles.

Key words: growth dynamics, muscles, Romanian Spotted, Romanian Black and White, bulls, fattening

INFLUENCE OF SOME ENVIRONMENTAL FACTORS ON BOVINE REPRODUCTION ACTIVITY

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Thirty-six Romanian Black and White heifers, 17-18 months of age, on an average of 380.4 kg, were divided in three equal groups, in order to determine the effect of different temperatures on fecundity. The fecundity rate reached 75% in conditions of thermal neutrality, 33.3% in conditions of diurnal thermal stress (34 °C) and 0% in conditions of continuous high thermal stress (39 °C - 42 °C during the day and 21 °C - 31 °C during the night). Results confirm the depressive effect of high temperatures on reproductive performances. Thermal stress also alters on long term the reproductive function: repeated inseminations, delay of subsequent estrus. The negative correlation between rectal temperature (R.T.) and conception rate is confirmed.

Key words: heifers, thermal stress, conception rate, adaptation

PRODUCTION OF BLACK AND WHITE BULL-CALF MEAT FROM REPUBLIC OF MOLDOVA

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A research has been carried out on production of bull-calves by crossbreeding of Simmental and Black and White (generations I, II and III) in comparison with Simmental bull-calves grown until 18 months of age. Heterosis effect occurred only with bull-calves of the 1st generation. As for crossbreds the share of White and Black genes should not be increased over 75%.

Key words: Black and White, meat production.

EFFECT OF SOME GENETIC AND ENVIRONMENTAL FACTORS ON UDDER MILK - PRODUCING ABILITY IN MARAMUREŞ BROWN BREED

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This study was undertaken to investigate and analyze the effect of some genetic and environmental factors on udder milk ability and to estimate heritability of and phenotypic and genetic correlation udder type traits and mastitis occurrence in Maramureş Brown. Heritability for type traits ranged from .094 (rear udder) and .251 (teat length), whereas for mastitis occurrence heritability was very low (.048). Phenotypic correlation ranged from - .219 (udder depth with mastitis occurrence) and .474 (udder depth with fore udder attachment). Genetic correlation (both negative and positive) is generally higher than phenotypic ones. Mastitis occurrence in Maramureş Brown is strongly negatively correlated with udder depth ($r_p = -.219$; $r_G = -.31$) and slightly with fore udder attachment ($r_p = .104$; $r_G = -.178$). Among environmental factors herd explains from .6% (rear udder) to 20.5% (udder depth). Age explains from 1.7% (mastitis occurrence) to 16% (udder depth).

Key words: udder, linear traits, mastitis

INFLUENCE OF SOME GENETIC AND ENVIRONMENTAL FACTORS ON UDDER MILK-PRODUCING ABILITY IN ROMANIAN SPOTTED BREED

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Present report proposed to study the ratio between genetic and environmental factors in terms of udder type traits and mastitis occurrence, as well as genetic and phenotypic correlation between them. Data included 8 type traits and mastitis occurrence for 481 lactating cows, daughters of 45 sires in 5 herds. Heritability ranged from .098 (teat placement) to .204 (for udder), whereas heritability for mastitis occurrence was .125. Phenotypic correlation ranged from - .20 (teat thickness and placement) to .410 (udder depth and fore udder). Genetic correlation is generally higher than phenotypic ones. Among environmental factors, herd explains from 4.95% (rear udder) to 33.4% (teat length) from total variance. Age explains from 3.6% (rear udder) to 34.5% (udder depth). Genetic factors (sire) explain from 1.65% (udder depth) to 3.85% (rear udder).

Key words: Romanian Spotted, udder, mastitis

INFLUENCE OF SOME FUNCTIONAL PARAMETERS OF MILKING SYSTEM ON SOMATIC CELL COUNT IN MILK

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The present report underlines the influence of functional parameters of milking systems on somatic cell count (SCC) in milk, as well as the importance of regular maintenance and adjustment on maintaining parameters within normal working limits. The research was carried out on 2 types of milking systems (bucket and parlour). On this purpose, milk samples were preserved from each cow within the herd milked by above mentioned milking systems and somatic cell count (SCC) was determined. Significant differences between cows frequencies according to the class of SCC has been achieved. The lowest level of SCC has been registered in the milking system ensuring an affective air reserve of 18.7 liters /minute/ milking unit.

Key words: milking system, vacuum reserve, somatic cell count

RESEARCH ON QUALITY AND MILKING PERFORMANCE OF TWO TYPES OF MILKING LINERS

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The liner is the only one element with milking machine that contacts directly the animal teat. Its shape, volume, rubber quality and working conditions have utmost importance in milking process. In the present study, we propose to analyze the milking performance of two different liners, ones of them, 224 pieces, consisting of a mixture of 60% natural rubber and the second content of neoprene rubber (during 2100 hours of working). The liner that, technically, is functioning, preserved its initial mechanical features, is not deteriorated, but on its surface micro-porosities and micro-breakings appeared is inadequate in time of milk and cow hygiene requirements. Liners consisting of natural and neoprene rubber including also protecting agents are more resistant to fat absorption, require less repairs and present higher resistance (average time of good functioning is 73% longer than of liners consisting of VAC rubber mixture).

Key words: milking system, quality, liners

HAY FEEDING DELAY AND ITS EFFECT ON GROWTH OF CALVES

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Twenty five 2 weeks-old Romanian Black and White calves were used to compare the growth performance and feed consumption when hay was fed later. One group of calves (n=12) received hay from the beginning and the other one (n=13) after 4 weeks of experiment. The other rearing conditions were similar between groups. Concentrates intake was higher in calves not receiving hay from the beginning. Intake was double after 6 weeks of experiment (898.1 vs. 402.9 g/day/calf, $p<0.001$), and 1.5 times higher at the end of milk feeding period (2198.1 vs. 1499.6 g/day/calf, $p<0.01$). Even the hay was given later, at 10 weeks of age the intake was 15% higher than in calves that received hay from the beginning (771.4 vs. 668.6 g/day/calf, $p<0.05$). At 10 weeks of age, both body weight and heart girth were higher in calves that received the hay later (by 5.37 kg and 3.71 cm, respectively). During the experimental period the rate of gain for body weight and heart girth showed differences between the two groups of calves.

Key words: calves, hay feeding, growth, feed consumption

COMPARATIVE STUDY ON DELIVERING METHOD OF THE MILK TO THE CALVES BY USING STAND ALONE 2 KOMBI AUTOMAT AND BUCKETS

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Twenty five 2 weeks-old Romanian Black and White calves were used to compare the growth performance and feed consumption when milk replacer was delivered using a feeding automat or open buckets. One group of calves (n=12) was fed the milk through nipple from an automatic machine and the other one (n=13) from an open bucket. The other rearing conditions were similar between groups. Concentrates intake was higher in calves fed milk from the automatic machine. Intake was double after 6 weeks of age (700.0 vs. 345.0 g/day/calf, $p<0.001$), and 1.5 times higher at the end of milk feeding period (2237.1 vs. 1517.3 g/day/calf, $p<0.01$). There were no significant differences between groups regarding the hay intake. During the experiment the body weight of automat-fed calves was significantly higher than that of bucket-fed calves, by 4.27 kg to 9.14 kg ($p<0.05$). Heart girth had a different growth than body weight. During the experimental period the rate of gain for body weight and heart girth showed differences between the two groups of calves.

Key words: calves, milk feeding, bucket feeding, automatic feeding, growth, feed consumption

RESEARCHES ON CONSUMPTION SPEED OF THE FORAGES ACCORDING TO THEIR NATURE.

1. ADMINISTRATION OF THE RATION IN TWO PORTIONS

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The study was carried out on 9 Romanian Black and White cows in their first one hundred days of lactation that were divided into 3 experimental groups of 3 cows. The aim was to assess the consumption speed of some cold-season specific forages (alfalfa hay, herbs silage, beets and concentrates) according to their feeding order (fibrous-succulents and succulents-fibrous), number of feedings within a portion and between the two portions. The average consumption speed determined was 196.00 g/min for concentrates, 46.88 g/min for alfalfa hay, 200.29 g/min for silage, and 232.52 g/min for beets. The required time for 1 kg of raw forage consumption (minutes and seconds) was 5.06 for concentrates, 21.20 for alfalfa hay, 4.59 for herbs silage and 4.18 for beets.

Key words: Romanian Black and White, consumption speed, nutritional behavior

RESEARCHES ON CONSUMPTION SPEED OF THE FORAGES ACCORDING TO THEIR NATURE.

2. ADMINISTRATION OF THE RATION IN THREE PORTIONS

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In this study we assessed the consumption speed (g/min), as well as the required time for consumption of 1 kg of raw forage for alfalfa hay, herbs silage, beets and concentrates, administered in three portions, to Romanian Black and White cows. The administration order of forages (fibrous-succulents and succulents-fibrous), the number of feeding, and the average consumption speed among the three portions were the experimental variants. The highest consumption speed was registered for herbs silage (235.91 g/min), followed by the beets (231.34 g/min), concentrates (178.19 g/min), and alfalfa hay (46.69 g/min). The required time for consumption of 1 kg of raw forage (minutes and seconds) was 5.37 for concentrates, 21.50 for hay, 4.14 for herbs silage and 4.20 for beets.

Key words: consumption speed, forages, nutritional behavior

INCREASING FOOD CONSUMPTION IN STEERS BY USING SACCHAROMYCES CEREVISIAE GROWTH PROMOTERS

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In this research we tried to find an alternative method of growth and fattening stimulation by using natural growth promoters. It has been used a Romanian yeast culture product made by IBNA Balotești. Increased daily gain and feed consumption was put into evidence by three groups of Romanian Black and White steers at 290 kg body weight (E1, E2) and C (control group). E1 was treated with 25 grams per day and per animal and E2 was treated with 35 grams per day and per animal. The diet varied in two periods. The first one consisted in 52% forages and 48% concentrates, and the second one consisted in 25% forages and 75% concentrates. E1 gained 15.5% more per day and required 11.4% less feed per 1 kg gain than control group, while E2 gained 11.5% per day and required 8.0% less. Better results obtained by the first group in the second period show that 25 g / day / animal is the best dose for production improvement in a concentrate type of feeding.

Key words: growth promoters, fattening

PRELIMINARY RESULTS REGARDING THE MILK SYNTHESIS CAPACITY OF THE G. ENHANCER SIRE'S DAUGHTERS, THROUGH THE DEVIZA LINE

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After mating 19 dairy cows of the Romanian Flechwich breed, heterogenous for production and conformation, with the DEVIZA bull, code 50788, Red Holstein breed, directly descendent of the G. ENHANCER bull, a group of 19 cow-daughters with high quality milk production and conformation resulted. Production average at the first calving was of 4.916 kg with 186 k of fat unlike their mothers, whose production average was for the first calving of 3.795 kg milk with 145 kg of fat.

Key words: crossing, Romanian Flechwich, Red Holstein

PARAMÈTRES PHÉNOTYPIQUES ET GÉNOTIPIQUES DE LA FERTILITÉ CHEZ LES VACHES DE RACE BRUNE

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The study was performed on Brown breed cows belonging to 6 elite farms from different areas of Romania. The following fertility traits were studied: calving interval, open days, number of artificial inseminations per pregnancy, pregnancy length and number of viable calves to the calving number ratio. Means and variability indicators, heritability, and genetic correlations were estimated for the considered traits. In the primiparous, heritability was estimated by half-sibs method, eliminating the herd effect by gathering - for all herds - the daughter intra-sire one-way classifications. In the multiparous, the heritability were estimated by the half-sibs method, inside herd and disregarding herd, eliminating the herd effect by gathering - for all herds - the lactation intra-daughter, daughter-intra-sire two-way hierarchical classifications. The Hazel method (Stahl, Rash, Siler and Vachal, 1973) was used to estimate genetic correlations, by considering daughter-dam pair's intra-herd or intra-herd x lactation.

Key words: fertility, phenotypic, heritability, genetic correlation

LA CONSERVATION DE LA GRISE DE STEPPE, RACE EN COURS DE DISPARITION

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Even that the rare breeds preservation is in the view of the scientific world, by FAO and PNUD, a proper program for investigations and conservations The Romanian Grey Cattle only recently has been initiated. In the Dancu-Iași Research Station a small number of Grey Cattle representative individuals was collected from the field. The nucleus belong to the old Moldavian Grey Cattle variety, with a certain impurification. Now a total 30 herds of all ages are under a program to avoid inbreeding. This rare breed is considered to present a historical, tourist, teaching and, of course, for gene conservation interest.

Key words: conservation, genetic drift

BASIC PRINCIPLES IN HORSE-RIDER RELATIONSHIP

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Humans used the horse for a very long time. Since the horse run in battles to nowadays almost all aspects of riding changed. Five trainers and 12 experimented riders were questioned on their methods of training. Even they are not in the same team and they have different ages most of the results obtained were very closed.

Key words: horse, rider, relationship

BODY MEASUREMENTS ON THE ARDENNES HORSE BREED RAISED IN THE TIMIȘ COUNTY

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Though it plays an important role in the local equine population improvement, a proper attention was not paid to the Ardennes breed. Even though during the last 100 years equine numbers with different origins have been imported, the results obtained have not been the expected ones as raising and developing conditions did not meet the ones necessary to such an improving breed as the Ardennes one. Therefore, after 2-3 generations, there occurred obvious degenerative signs, which led to the animals' reformation.

Key words: horse, Ardennes, body measurements

EVOLUTION OF THE MORPHO-PRODUCTIVE TYPE OF THE ARDENNES HORSE BREED RAISED AT THE IZVIN STUD FARM, THE TIMIȘ COUNTY

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Though it plays an important role in the local equine population improvement in our country, a proper attention was not paid to the Ardennes breed. This paper clearly shows the using the results of a research on the last imported horse number in 1967 from Hungary (60 mares and 6 sires). If, during the first 8 years after importation, the number in the Izvin Stud Farm increased with 338% reaching 308 heads, the lack of proper management resulted in a dramatic decrease of the number, which reached 61 heads in 1998. Ardennes mares were to be transferred to the private sector in the Arad County, an idea that was not accepted by the Ministry of Agriculture. They are trying nowadays to increase the Ardennes number in order to ensure the stallions for public use necessary for public covering of mares in the Banat and Crișana regions.

Key words: horse, Ardennes, body measurements

CORRÉLATIONS ENTRE LES DIFFÉRENTS PARAMÈTRES GÉNÉTIQUES ET LES CARACTÉRISTIQUES DE LA FERTILITÉ DES CAPRINES

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We have effectuated the appreciation of the spermatoc indices' dynamics of the seminal material, taken from different he-goat breeds, to establish which of these breeds has the highest fertility degree, which can be transmitted to the next generations, All the reproductive characteristics and the correlations between them are very important for the appreciation and the genetic amelioration of the endives, We have kept as a selection lot, those males with superior spermatoc indices and with a good and very good suitability for conserving the genetic material, We have eliminated from reproduction all the endives with a spermatoc volume less than 0,5 ml and with a mobility of the spermatozoids, from the brut sperm, less than 70 %.

Keywords: correlations, genetic parameters, spermatoc indices, reproductive characteristics, genetic amelioration, selection, spermatoc volume, the mobility of the spermatozoids, seminal material, brut sperm

POSSIBILITÉS DE CONSERVATION DES RESSOURCES GÉNÉTIQUES SUR LONG TEMP

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In our country, the genetic improvement of the goats is confronting with the necessity of rapid transforming of the populations with inferior productive characteristics, through absorption crossings with he-goats from the breeds specialized for milk and meat production. The artificial fertilization at goats, is a technique capable to improve the evolution of our internal breeds, so that the milk and the meat production and quality to increase. Among the techno components of the genetic resources conserving on long term, a great importance has the gametes' conserving (the aim of our studies), and also the elaboration of a methodology of making a data bank on the computer, in order to create a sperm bank and a gene bank.

Key words: computer, data bank, gene bank, gametes, conserving, genetic resources, goats, absorption crossing, genetic amelioration, internal breeds, specialized breeds

EFFECTS OF ANNUAL WEATHER ON THE SHEEP CARRYING CAPACITIES OF SOME NATURAL GRASSLANDS

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We had examined the effect of annual weather to determine the sheep carrying capacity of drought sensitive, natural grassland associations in Karcag region. On the basis of our data we established that the sheep carrying capacities in a semi-humid year, based on climate index, are significantly higher than the measured values in semi-arid, dry and arid years in the case of the three examined grassland associations. Depending on the annual weather and the fodder yield, the sheep-carrying capacity values were 1.43-3.28 pregnant ewe/ha on the Achilleo-Festucetum pseudovinae grassland association, 1.93-5.02 pregnant ewe/ha on Achilleo-Festucetum pseudovinae poetosum pratensis grassland association and 2.37-5.89 pregnant ewe/ha on Agrostio-Alopecuretum pratensis grassland association.

Key words: annual weather, natural grassland association, sheep-carrying capacity

INVESTIGATIONS IN BODY DEVELOPMENT AND CONFORMATION IN KARABASH SHEEP

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Development and body conformation are important breed traits and indicators of the meat production. Our investigations aim to check the subjective observations and to determine the type of conformation and development of Karabash sheep vs. Tsigai sheep. Karabash sheep are larger than Tsigai sheep in all surveyed traits, which shows that they are hypermetric, while Tsigai sheep are eumetric. The body conformation of Karabash sheep vs. Tsigai sheep was analysed using the relative dimensions (% of the height). The results show that Karabash sheep are taller standing, are taller at croup height and have larger thorax perimeter than Tsigai sheep. All this suggests that Karabash sheep have dolicomorph conformation, while Tsigai sheep have mesomorph conformation.

Key words: Karabash sheep, body development, body conformation

CALCULUS METHOD OF THE GENOTYPICAL AND PHENOTYPICAL PARAMETERS FOR THE QUALITATIVE CHARACTERS IN SHEEP

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The paper presents a calculus method of the genotypical and phenotypical parameters of the qualitative characters in sheep. The method is based on contingency analysis and it is expeditious. The coefficient Pearson must be submitted to a transformation (after this change it takes values between 0 and 1) in order that it can be used as an efficient estimator of heritability and of genotypical and phenotypical correlation coefficients. The heritability coefficient can be estimated calculating the contingency coefficient in a contingency table between the character A from offspring and the character A from parents. Similarly, it can proceed for the other genotypical and phenotypical parameters.

Key words: genotypical and phenotypical correlation, heritability, contingency coefficient

REDEFINING THE GENETIC RELATIONS AMONG THE KARAKUL ECOTYPES BY INFORMATIONAL-STATISTICAL CONCEPTS

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The paper interprets in an integrationist and polyfactorial manner the biological relations among different ecotypes of the Karakul superbreed that live in the most various places of the world concerning the environmental condition and technological breeding factors. These relations are redefined by means of two parameters proceeded from the informational statistics (genetic distance and informational correlation) which use data of biochemical genetics. This way, by means of these two synthetic indicators, the degree of genetic differentiation and similarity among these ecotypes can be more exactly quantified than by the comparative estimative analysis of the genetic structures of the polymorph systems.

Key words: genetic distance, informational correlation, genetic polymorphism, sheep

DES OBSERVATIONS SUR L'ÉLEVAGE DES JEUNES DE RACE TSIGAÉ – TYPE DÉSIRÉ DE LA PARTURITION A 20 JOURS

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The researches were made on a group of 1298 lambs brought forth single and 512 twins lambs. The body weight dynamics in 306 lambs (144 male and 162 female) were established. The lambs were brought forth by females that were at the first parturition. The body weight of lambs at birth is sufficiently high, of 4.51 ± 0.02 kg on single lambs and 3.74 ± 0.02 kg twins' lambs, and this satisfy the standard goal for the needed type Tsigaie sheep. Till 20 days, the average daily weight gain was of 222.9 ± 3.5 g per day in males and 220.1 ± 3.4 g per day in females with maximum 305 and 340g per day accordingly on sexes. The milk production in the sheep bringing forth for the first time in the first 20 days of lactation was 23.3 ± 0.02 kg or 1.16 kg per day that satisfy the nutritional demands of the lambs for the first 20 days of life.

Key words: lambs, Tsigaie, growt

THE INFLUENCE OF THE SEX OF KIDS ON THE YIELD VALUES AND CARCASS LINEAR MEASURES IN THE FATTENED KIDS OF THE DOMESTIC BALKAN GOAT

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The paper presents the investigation of slaughter results, i.e. meat production results, in 96 kids of the domestic Balkan goat (4 herds, 24 animals per herd, 50:50 sex ratio), slaughtered at 90 days of age to determine the differences between the herds investigated and sexes (male kids vs. female ones), pertaining to the quantitative characteristics of meat. Statistical processing of slaughter results was performed on a PC using the LSMLMW program (Harvey, 1990). The average warm carcass dressing percentage including the head and offal for kids from all the herds investigated was 58.19%. The differences established for dressing percentage, warm, cold, and cold with and without head and offal, between the herds investigated and sexes were not statistically significant ($P > 0.05$). The differences in the linear measures determined on the carcasses of the fattened kids were statistically significant ($P < 0.01$), if treated in relation to the herds studied; furthermore, if they are considered in relation to the sex of the kids, the differences in some measures (the width behind the blades, the width of both thighs and the width of the breast) were significant ($P < 0.01$) too. The other variations estimated were statistically justifiable at the level of $P < 0.05$.

Key words: kids, sex of kids, slaughter results

PHENOTYPIC DIFFERENCES BETWEEN TWO TYPES OF TSIGAI BREED OF SHEEP

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Tsigai is breed of sheep, which has been bred in Vojvodina since XVIII century. It is breed with combine productive traits (milk, meat, wool), and with strong construction. This, old type of tsigai in Serbia is known as "Čokanska cigaja". Productive traits and measures of exterior of this type of tsigai are well known. In the second part of last century in Serbia appeared a new type of tsigai, which is phenotypically different from čokanski. We reported here a study of differences of exterior measurements and indices between the two types of tsigai breed of sheep. Measuring of exterior of 147 animals of old type and 101 sheep of new type was done. Generally, it can be concluded that differences in exterior measures could be a consequence of genetic differences between the two types of tsigai sheep. That could be confirmed only by genetical analysis.

Key words: Tsigai sheep, exterior measures, indices

BACTERIOLOGICAL EXAMINATION OF NASAL DRAINS AT SHEEP WITH CLINICAL SIGNS ATTRIBUTED TO OESTROSIS

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From the animals with seromucous and mucopurulent nasal drains have been taken samples of these nasal drains. After 24 hours at 37⁰C these test tubes presented abundant dumps, turbulence and surface characteristic aspects. From these developed cultures have been made Gram colored mounts that have been observed at microscope. The same test tubes were been diluted with liquid sterile medium and pored on Petri plates with sterile nutritive gelosis. These Petri plates were been incubated. There were identified the following bacterial species: Pseudomonas aeruginosa, Corynebacterium pyogenes, Streptococcus pyogenes, Staphylococcus epidermidis, Bacillus cereus, Pasteurella multocida. It is necessary to make treatments with anti-infectious substances for bacterial complications in oestrosis, which can drive even at animals' death.

Key words: sheep, nasal drains, oestrosis, test tube

NECROPSIC EXAMINATION OF OESTROSIS SUSPECTED SHEEP HEADS

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In all the studied period there were slaughtered 473 reformed sheep, 2-7 years old, who presented oestrosis clinical signs, like: apathy, anaemia, uni- or bilaterally seromucous or mucopurulent nasal drains, tahipnoea, cough, hiperthermia. A number of 353 sheep were parasited with 5142 Oestrus ovis larvae. From these larvae 2670 (51.92%), were from first instar, 2003 (38.95) from the second instar and 469 (9.13%) from the third instar. The observed lesions were: nasal mucous membrane and sinuses inflamations covered with abundand mucous and mucopurulent cathar. Was been emphasized the mechanic and irritate-inflammatory action of Oestrus ovis larvae on their hosts.

Key words: sheep, oestrosis, necropsic examination

THE BIOCHEMICAL BLOOD INDICES AT NATURALLY INFESTED WITH *O. OVIS* SHEEP BEFORE AND AFTER THE IVOMEC TREATMENT

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*The research concerning the evolution of the biochemical blood indices at naturally infested with *O. Ovis* sheep, before and after the treatment with Ivomec (0.2 mg/kg, 1% solution) was made on 31 Țurcană sheep aged between 3 – 5 years. On the one hand, from the biochemical point of view, there has been emphasized a decrease of the total proteins, glycemia, albumins, phosphoremia, but on the other hand, an increase of urea, GPT, creatinine has been noticed. The values of the biochemical blood indices show the dysmetabolic and dysfunctional state of the organs involved in the synthesis and excretion of the substances mentioned above.*

Key words: sheep, Ivomec, biochemical parameters

CHEMICAL COMPOSITION OF KARABASH (BLACK HEAD TSIGAI) SHEEP MILK 2. AMINO ACIDS, VITAMIN AND MINERAL CONTENT

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Milk is a food rich in almost all nutrients, particularly essential amino acids, vitamins, enzymes, minerals, having an important anti-toxic action. This paper investigates the amino acids, vitamins and minerals content of Karabash (Black Head Tsigai) sheep milk, with the view of making a morphological and productive profile of the breed needed for its homologation.

Key words: sheep, milk, quality

ÉTUDE SUR L'UTILIZATION DES ESPONGES VAGINALES DE TYPE CHRONOGEST - PMSG SUR LES PERFORMANCES DE REPRODUCTION AUX DIEVRE DE RACE CARPATINE

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Study was done in Montagnologie Cristian-Sibiu Institute on 32 Carpathian breed goats. This breed manifested heat on the end of autumn. The experimental group was hormonal treated with vaginal devices Chronogest + 500 UI OMSG at the beginning of the autumn. After three days from pesarium extraction all goats (100%) were manifested heat. They were artificial inseminated with 0,15 ml fresh semen and frequency of fecundity was 65,6%. The control group were manifested a frequency heat only 14,2% but pregnancy rates were close by experimental group (68%). Through hormonal treatment with vaginal devices + 500 UI PMSG at the beginning of the autumn we can increase high synchronization of heat and lancing at the Charpathian breed goats.

Key Words: vaginal devices, oestrus inductions, Carpathian breed goats.

THE STUDY OF THE QUANTITATIVE AND QUALITATIVE MILK PRODUCTION IN THE TSURCANA SHEEP BREED FROM CÎMPULUNG ARGEȘ AREA BIOTYPE

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In Romania, the present trend in sheep exploitation is concerned with milk production, which is more profitable than meat or wool. The aim of this present paper is to establish the quantitative and qualitative parameters of milk production in the Tsurcana sheep breed, reared in the Cîmpulung area conditions for enhancing the lactogen potential of this biotype through selection method. The experiments have demonstrated that the average milk production over the entire lactation period is good, being about 92.67 liters obtained in 192 days, but which presents a large variability (37.8 - 139.5 liters), which is a good base for selection. The quality of milk is also good below the biologic potential of this breed, the average content of milk fat being 7.17 % and the content of protein matters 5.74%.

Key words: milk production, milk fat, protein matters, lactogen ability

STUDY OF SERUM TRANSFERRINS IN A POPULATION OF KARABASH SHEEP

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For the genetic characterisation of a population of Karabash sheep raised in the experimental farm of the institute, the phenotypes from Tf locus have been identified by electrophoresis and gene and genotype frequency was calculated. Seven genes were observed, a higher frequency being noticed in alleles C - 33.33%, B - 21.05%, M - 17.54% and A - 12.57%. Of the 21 identified types of genotypes, high values were observed for heterozygous BC - 18.71%, CM - 12.86%, BM - 11.69% and AC - 10.53%. The results have been compared with the literature on the domestic Tsigai sheep.

Key words: serum transferrins, electrophoresis, sheep

STUDY CONCERNING THE BUILDING A SHELTER FOR FATTENING LAMBS ON SOIL

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Until 1990 Romania fattened 3-4 millions of lambs on soil per year, with more than 30 kg weight, in more than 80 fattening complexes. At this point, most of the lambs' fattening complexes was suppressed. The West European Trade requires annually more and more fattened lambs offering the highest world prices (2 - 3 USD/kg live weight). After the liquidation of former Agricultural Production Cooperatives (CAP) and after the privatisation of Agricultural Enterprise of State (IAS), a large number of animals' shelters were left unused. Our purpose is to offer through this project an efficient solution for amendment of an animal shelter frequently encountered on the field.

Key words: shelter, fattened lambs

STUDY OF THE CORRELATION BETWEEN THE UDDER MORPHO- PHYSIOLOGICAL CHARACTERISTICS AND MILK PRODUCTION IN GOATS

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The paper intends to determine, based on biometrical measurements, the correlation between the goat udder morpho-physiological characteristics and the milk production of this species, in order to use this correlation into the selection practice, as a method of evaluation of milk production and machine milking capability. The animals subject of the research have been in the same physiological state, were kept in the same environmental conditions, all being from 3 to 6 years old. The biometrical measurements and the recording of individual milk production were made at the same date. It was also aimed the finding out of the udder morphological types existing in the Carpathian breed goats. The Carpathian breed is characterized by a large variability in color, body shape and productivity.

Key words: Carpathian breed, udder dimensions, lactation number, milk production, correlation.

RAISING CHICKENS ON A FREE RANGE SYSTEM 2. BONE PARAMETERS

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Results presented in this paper are part of the research program that includes examination of different free range systems for meat type chickens. Chickens were reared in poultry houses for 3 weeks, and after that they were moved into the poultry house with doors and access to pasture, so they could go out during the whole day. Duration of fattening was 70 days. After the slaughtering, tibia and femur were removed from 20 chickens (10 males and 10 females) and calcium, phosphorus and ash content in bones were determined. Also, bone breaking strength was determined on tibia. Obtained results are presented in the paper and compared with standard broilers from intensive systems.

Key words: chickens, free range system, bone parameters

LA MUE FORCÉE DES POULES REPRODUCTRICES PAR LA MÉTHODE "ADAS" 1. FRÉQUENCE DE LA MUE ET SYMÉTRIE DE LA MUE DES AILES

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Breeder hens (107) were subjected to moulting: 69 at deep litter and 38 in one battery of cages. At the beginning of the experiment, the age of the hens was of 80 weeks. Qualitative and quantitative food restriction, required for forced moulting, lasted 22 days. Investigation for establishment moulting frequency was performed at the end of food restriction and consisted in to counting old and new feathers of wings. In experimentally treatments, moulting frequency was 89% and, respectively, 97%; at same time, the hens of the control treatment were spontaneously moulted in proportion of 9.67%. Comparison of numbers of great feathers lost by left and right wing has emphasized exceptionally symmetry of moulting.

Key words: food restriction, breeder hens, forced moulting, frequency of moulting, symmetry moulting of wing feathers

LA MUE FORCÉE DES POULES REPRODUCTRICES PAR LA MÉTHODE "ADAS". 2. INTENSITÉ DE LA MUE

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Breeder hens (107) were subjected to moulting: 69 at deep litter and 38 in one battery of cages. At the beginning of the experiment, the age of the hens was of 80 weeks. Qualitative and quantitative food restriction, required for forced moulting, was of 22 days. Even at the end of this phase, we have counted the forearms feathers and those of the tops of wings. After establishing the percents of new and old feathers, we have compared the new feathers by treatments (method Pearson) and we have also calculated this number / moulted hen.

Key words: food restriction, breeder hens, forced moulting, moulting intensity for feathers of wings

RAISING CHICKENS ON A FREE RANGE SYSTEM 1. PRODUCTION PARAMETERS AND HEALTH STATUS

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Intensive production of poultry meat is based on rearing commercial hybrids of broiler chickens, which have high growing potential and very good feed conversion ratio. Unfortunately, intensive production of chicken meat led to deterioration of carcass and meat quality. Consumer's demands, especially in developed countries became very high. They care about their health and poultry welfare and they want to buy meat of free range chickens. This fact initiated the research program, which includes examination of different free-range programs for meat type chickens. In this work, raising chickens on limited range system was explored. Chickens were reared in poultry houses for 3 weeks, and after that they were moved into the poultry house with doors and access to pasture. Duration of fattening was 70 days. Average body weight was 2508 g, feed conversion ratio 2.84 and mortality rate was 5%.

Key words: chickens, meat, free range system

THE EFFECT OF ELECTROMAGNETIC ALTERNATIVE FIELD ON THE INDEXES OF INCUBATION AND GROWING GOSLINGS

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The choice of productive and reproductive indexes, which can be improved by the electromagnetic alternative field, is connected with the genetical ability of a species of experimental poultry. The aim of the study was increasing the level of hatchability and the body weight of goslings. For activation was used regime nr. X during 10 minutes, which improved the level of hatchability with 8.15% and decreased the embryonic death with 4.4%. Then was used the same regime nr. X for activation of the eggs, after the investigation was established that the level of microbes on the eggs shell was less with 66.1% compare with the control group. The electromagnetic alternative field with regime nr. Iv increased the maintenance of the experimental goslings with 5.2%. At the end of the growing period was registered the improve of the body weight at the same group with 8.62%, compared with the control group.

Key words: electromagnetic alternative field, hatchability, goslings.

INTENSIVE BREEDING OF BROILERS IN FAMILY FARMS

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Once Romania will enter the U.E., the small and medium farms will become the base for the development of the poultry breeding industry. One of the most important things is the existence of local reproduction centres. These centres need to be the main supplier for one-day-old chicks, food and other materials needed. These centres also have to have the capacity of undertaking all or some of the birds ready for slaughtering. In order to obtain the best performances regarding feeding, watering, ventilation and climate control systems, Bega Tehnomet offers you a new concept : "FULL HOUSE". This concept was created in order to fulfil the requirements of the farmers. This article presents the advantages of producing your own food and cereals. In order to assure a higher success rate, a professional formation is desirable.

Key words: Full House, poultry, and professional.

THE INFLUENCE OF LACTIFERM L-5 AND L-50 PROBIOTICS ON WEIGHT INCREASE IN CHICKENS ISA 15 AND ISA 30

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The present trend in Slovakia is to leave usage of synthetic substances in nutrition as well as in prevention and disease treatment, thus effort to its replace with probiotics is visible in the practice. Probiotics represents a real and effective alternative for antibiotics and chemotherapeutics replacement. Our results showed that Lactiferm L-5 and Lactiferm L-50 could be used for the probiotic effect reinforcement in microorganisms in the whole digestive tract. Addition of Lactiferm L-5 and Lactiferm L-50 enhance better food conversion and weight increase.

Key words: probiotics, Lactiferm, broilers, body weight

RESEARCH ON THE REPRODUCTIVE TRAITS SOWS: 1. THE INFLUENCE OF SOME FACTORS ON DECREASE THE SERVICE PERIOD

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The paper shows influence of some factors on service period (SP) in Landrace and Large White sows. The sample had 21,509 farrowings of 11,106 sows that were born in six-year period. Duration of SP was divided in three classes; the criterion for dividing was the mean and one unit of standard deviation. The univariate screening and multivariate loglinear regression was made. The SP was influenced by following factors: breed ($t=4.28$ at $p < 0.001$), order of farrowing ($F = 67.57$ at $p < 0.001$), age at farrowing ($F = 152.2$ at $p < 0.001$), level of prolificacy ($F = 72.50$ at $p < 0.001$), milking abilities ($F = 9.16$ at $p < 0.001$), length of lactation ($F = 870.12$ at $p < 0.001$), level of air temperature ($F = 20.51$ at $p < 0.001$), relative humidity ($F = 38.88$ at $p < 0.001$) and duration of sun shine ($F = 17.78$ at $p < 0.001$). Landrace sows were 2.27 times more like to short service period comparatively with Large White sows. Comparison with the 2nd farrowing the 1st and the 6th farrowings was more like to SP_s; OR was 3.28 and 2.28, respectively. The sows with lower level of prolificacy comparatively with sows with higher level of prolificacy were 5.42 times more like to SP_s. The sows farrowed during the summer, autumn and winter were 1.39, 1.99 and 1.85 more times likes to short SP than sows farrowed in spring. The sows with higher RH% during the service period were 1.33 more time like to SP_s. The farrowings that had shorter duration of sunshine during service period were 2.12 times more like to SP_s.

Key words: Landrace, Large White, service period, influence factors

RESEARCH ON THE REPRODUCTIVE TRAITS OF SOWS: 1. THE INFLUENCE OF ENVIRONMENTAL FACTORS ON INCREASING PROLIFICACY

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The paper shows some environmental influence factors on increasing prolificacy in Landrace and Large White sows. The sample had 21,509 farrowings of 11,106 sows that were born in six-year period. Prolificacy of both breeds were divided in three classes; the criterion for dividing was the mean and standard deviation of each breed. The univariate screening and multivariate loglinear regression were performed. The prolificacy was influenced by years, month and season of farrowing ($\chi^2 = 292.88$, $\chi^2 = 118.23$ and $\chi^2 = 87.39$ at $p < 0.001$), sum of air temperature ($F = 22.59$ at $p < 0.001$), relative humidity ($F = 18.27$ at $p < 0.001$) and duration of sunshine ($F = 18.86$ at $p < 0.001$) during gestation period. The farrowings in May and September were 1.62 and 1.44 times more like to higher prolificacy (P_H) than November farrowings. Also the mating in November, October and December were 1.33-1.32 more time like to P_H than February matings. Lower temperature during gestation period was 1.36 times more like to P_H .

Key words: Large White, Landrace, prolificacy, environmental factors

THE INFLUENCE OF PRODUCT ERGOSAN ON A FEW BLOOD PARAMETERS IN PIGLETS

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Using Ergosan in immune prevention of swine salmonellosis and infectious pleuropneumonia, research was made on piglets, 55-60 days, each lot containing 15 animals. Ergosan was been administered 0.05‰ in the water, 3 days before and after vaccination. For the immune prevention of the 2 diseases we used: Pneumosuivac, against infectious pleuropneumonia and Salmovac, against salmonellosis. The immune stimulating effect of Ergosan was monitored based on haematologic parameters. In all vaccinated lots, after 60 days, the number of leucocytes was 1.34 and 1.36 times higher than initially. The lymphocytes percentage after 60 days was 1.48 and 1.59 times higher than initially, prior to the first vaccination. In vaccinated lots who received Ergosan, the number of leucocytes and percentage of lymphocytes was higher after the second vaccination than in the vaccinated lots.

Key words: piglets, Ergosan, haematological parameters

PROFITABILITY AND LARD THICKNESS LEVELS AT SLAUGHTERING IN COMMERCIALY BRED SEMI-PRECOCIOUSLY AND PRECOCIOUSLY WEANED HOGS

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Slaughtering two lots of commercially bred hogs at the age of 175 days showed that, though in the first lot average weight was of 94.5 kg and in the second one of 93.0 kg, slaughtering profitability was the same (79.85%). Lard layers – lumbar (3.0 cm), abdominal (2.0 cm), and dorsal one (3.2 cm) – were thicker in the lot weaned at 35 days than in the lot weaned at 28 days – lumbar layer 2.8 cm, abdominal layer 1.9 cm, and dorsal layer 3.1 cm.

Key words: commercial hogs, slaughtering profitability, and lard layer thickness

THE STUDY READING THE BIO-PRODUCTIVE EFFECT OF PDFM PROBIOTIC ON SUCKLING PIGLETS

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The experiment was done on a 42 suckling piglets divide in two equal groups - C and E. From three to three days to the group E were given 0.25 g PDFM Probiotic injected (per os), for 42 days during the experiment. From this experiment we drew the following conclusions: the probiotic PDFM used improved growing rate, reduced mortality and we obtained a supplementary benefit than the other group to whom we have not used prbiotics.

Key words: suckling piglets, probiotic, bio-effect

RESEARCHES REGARDING THE BIO-PRODUCTIVE OF PDFM ON WEANED PIGLETS

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In this experiment, 32 piglets weaned at around 42 days of age were allotted into two equal treatment groups: C and E. The group C received a basal diet and the group E received the same diet supplemented with 0.5 % PDFM probiotic for 35 days throughout the experiment. Piglets that received probiotics had a higher growth speed, and realized a higher food intake with a lower feed consumption and a higher benefit than piglets that did not receive probiotics.

Key words: weaned piglets, probiotic, bio-productive effect

ULTRA-SOUND EQUIPMENT TO DETERMINE THE FAT LAYER ON ALIVE PIG

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Was elaborated an ultrasound equipment AGS – 01, destined to determine the fat layer and also to appreciate the degree of pigs usage for slaughter. Ultra-sound equipment AGS-10 with its technical and exploitations characteristics is useful to determinate the thickness of the fat layer on live animal. The precision of the measurement is quite high (± 1 mm) and being used in farm of selections can contribute to the increasing of the meat productivity. The weigh and the size of the equipment make it easy to use.

Key words: ultra-sound, fat layer, pig meat production, testing

SPRING AND AUTUMN FISH COMMUNITY IN THE HANDLOVKA STREAM

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In this paper the spring and autumn fish populations in the three localities in the middle part of Handlovka stream were monitored. In the monitored localities a total 8 fish species belonging to 5 families were recorded. The highest individual dominance was recorded in spring by brown trout (43.60 %), and in autumn by stone loach (60.04 %). The lowest individual dominance was recorded in roach (0.58 %), grayling (0.20 %) and carpathian sculpin (0.20 %). The highest mass dominance showed brown trout (53.66–75.79 %), lowest roach (0.91 %), minnow (0.76 %), grayling (0.18 %) and carpathian sculpin (0.11 %). Diversity index in spring and autumn: 0.8454–1.7751, 0.4516–1.9382, respectively. Equitability index in spring and autumn: 0.6867–0.8454, 0.2849–0.7498, respectively. Estimated abundance and biomass for individual locality per ha and km were evaluated.

Key words: Handlovka stream, fish, fish community, diversity, abundance, biomass

DYNAMICS OF GROWING IN IMPORTED RAINBOW TROUT AS COMPARED TO INDIGENOUS SPECIES REARED IN TROUT BASINS

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The way of rearing of rainbow trout imported as spawn with embryo was studied in dynamics as compared to indigenous rainbow trout, and "fountain" trout from Remeți trout basin, of Bihor County. Results emphasized both opportunity and actuality of the imported improved biologic material, which realizes superior production performances as compared to indigenous population reared in the same conditions. Because the imports are recently performed, much more studies are necessary in order to observe besides the accumulation of body weight, also the value of reproduction indices, as compared to the performances of indigenous species.

Key words: salmonide, rainbow trout, spawn

ASPECTS OF YOUNG EMBRYOS DEVELOPMENT IN *DANIO RERIO* SPECIES

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Early embryo development was studied in ten clutches of hundreds of embryos that were incubated in 40 ml Nunk culture dishes, at optimum density (1 embryo/4 ml.) and development temperature (28.5°C). From the moment of spawning, for 5 hours, we continuously monitorised morphological aspects of embryos and their developmental stage was established. Our results emphasized the most important changes that occur in eggs in the first 5 hours after fertilization, that have a great importance in recognition of embryonic developmental stage especially for embryo-manipulation.

Key words: zebrafish, young embryo, development

FEATURES OF LONG-TERM DEVELOPMENT OF THE CARP CULTURE IN THE MARKET ECONOMY FROM ROMANIA

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There were analyzed the biotechnological possibilities of improving the common carp culture in economically efficient farms. The biological and economical requirement in the case of using intensive and super-intensive carp farming in the conditions of the market economy in Romania were also analyzed and the technological requirements to realize high fish-meat productions with low costs.

Key words: long-term development, carp farming, market economy, culturing biotechnology

STUDY ON IMPROVING THE PREPARATION PROCEDURE TO OBTAIN MITOTIC FIGURES AND A GOOD MITOTIC INDEX USING DIRECT PREPARATION OF PROLIFERATING TISSUES AT COMMON CARP

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Mitotic figures were obtained at common carp using direct preparation of the kidney haemopoetic cells, gill epithelium cells, scale epithelium cells and whole body triturates. The best conditions for the colchicine and hypotonic pretreatment, the fixation and staining treatment were established in order to obtain well spread chromosome figures. It was tried to improve the mitotic index by using different kinds of tissue and colchicine treatment according with the size of the analyzed fish. There were analyzed individuals from two common carp breeds and 4 natural populations, the obtained results being rather similar.

Key words: mitotic figures, proliferating tissue, chromosome preparation, air-dried technique, common carp

STUDY ON THE INFLUENCE OF CLIMATIC FACTORS FROM THE ȘIȘEȘTI AREA ON HARVESTED POLLEN AMOUNT BY BEE FAMILIES

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In this paper we studied the influence of climatic factors (atmospheric temperature and relative humidity) from the Șișești area, Mehedinți County, on the harvested pollen amounts by ten bee families. In both experimental periods, for all bee families, the atmospheric temperature was negatively correlated with the harvested pollen amount, and the relative humidity was positively correlated with it. Strong multiple correlations among atmospheric temperature, relative humidity and the amount of harvested pollen were established in the period of 5-14 May and 30th of May – 8th of June 1999 at all day hours when determination were made.

Key words: bee, climatic factors, pollen

STUDY ON FOREST MELLIFEROUS PLANTS FROM THE ORAVIȚA AREA

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This paper is presenting a study on forest melliferous plants from the Oravița area in the period of May 2002 and April 2003, on 17.909 hectares of forestry, belonging to Oravita Forest Department. It has been noticed the presence of melliferous trees (spruce, fir, pine, douglas, larch, beech, oak, Dumarst oak, false acacia, sycamore maple tree, ash, cherry tree, lime, poplar, willows), of melliferous shrubs (horn, hazel nut tree, hawthorn, raspberry, blackberry) and of melliferous forest herbal plants (snowdrop, violet, periwinkle, dead nettle, lungwort, wild garlic, chicory, bog-berry). After the data has been analyzed, it resulted that on the studied area, 9000 bee families can be reared.

Key words: bee, melliferous plants, forest

STUDY OF THE MEMBRANE MEAT PRODUCTS INTEGRITY

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In this experiment it has been studied the nutritive value of some membrane meat products (beef and pork) and the modification of some quality parameters according with the time of storage period and the meat product factory.

Key words: membrane meat products, fat, proteins

THE NUTRITIVE VALUE OF BEEF

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In this present paper we have aimed to study the nutritive value of the beef meat. The study was done between October 2002 - March 2003 in Timișoara City. For the nutritive value at every sample was determinate the dry matter, the protein, the fat, mineral substances and it was calculated the water content. Also, for the correct nutritive value estimation, were calculated some parameters (utility value energetic index, plasticity index, energetic value, plasticity value, nutritive value). The nutritive value of he beefs samples that were analyzed was superior (0.145) comparatively with the calculated values according with the data from specialty literature referred at pork meat (0.114) and beef (0.103). The growth of the nutritive value of beef meat is due to superior energetic value that was given by the high content in fat and the lower water content.

Key words: nutritive value, beef meat

THE NUTRITIVE VALUE OF THE CANNED PORK AND BEEF

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The goal of this research was the comparative study of the nutritive value of canned pork and canned beef. There were examined 4 groups of canned pork and 4 groups of canned beef. For each sample the dry matter, the protein, the fat and mineral substances were determined and the humidity content was calculated. For the correct nutritive value estimation of the products, some parameters were calculated too. The nutritive value of canned pork was higher (0.234) in comparison with the similar beef product (0.085). The enhanced nutritive value of the canned pork is due to the increased energetic level, given by the high content in fat and by the low water content.

Key words: nutritive value, canned pork, canned beef

STUDY OF THE EFFICIENCY OF MILK PRODUCTION AT THE VLADILACT DAIRY COW FARM

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This work presents the study of the evolution of efficiency in a five year period at a farm with 180 dairy cows. Fundamental methods were used for this study: documentation, analysis, synthesis, comparison in a long period of time using specific economic indicators. The rate of efficiency decreased in the analyzed period with 4,4 times having a very good level between 1997-1998 and a good level in the first three analysed years. The farm activity was also profitable due to the fact that the farm produced all categories of necessary fodders at an inferior cost in comparison with the average market prices.

Key words: dairy cows, efficiency.

STUDY OF LABOUR PRODUCTIVITY AT VLADILACT DAIRY COWS FARM

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This work presents a study concerning the evolution of the work productivity in a five year period in a farm with 180 milk cows. Fundamental methods were used for this study: documentation, analysis, synthesis, comparison in a longer period of time using specific economic indicators. The average consumption of days man per foddered cow decreased with 1% in the analysed period due to the reduction of the number of days man. The average milk production man per day increased with 5%. In the considering farm work productivity has an average level.

Key Words: milk cow, work productivity.

STUDY OF THE DEMAND OF CONSUMPTION FOR AGRO-FOOD PRODUCTS ACCORDING TO THE POPULATION INCOMES

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This paper presents a study of the demand for agro-food products, according to the population incomes. The elasticity coefficients of demand for agro-food products were computed according to the population income in dynamic and static profile, taking in consideration the pecuniary incomes and the expenditures of food consumption for the population contents in different classes of incomes, between 1999-2000 period.

Key words: pecuniary income, expenditures for food consumption, coefficient of demand elasticity

HEREDITY GENETIC STUDY OF PLUMAGE COLOUR AT JAPANESE QUAIL BREED IN ROMANIA

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Variety of plumage colors at Japanese Quails is determinate by interaction between 25 pair of genes. These genes are situated on autosomes and sex chromosomes. In case of Japanese Quail bred in Romania we find all phenotypes of plumage color (brown, agouti, silver, yellow, white). We have find very often the silver phenotype (B/b^+) and dominant gene for base pigment dilution (Dil/dil^+).

Key words: quail, plumage color, genetics

STUDY OF GENETIC INFLUENCE ON THE RESULTS OF EMBRYOS RECOVERED FROM DONOR COWS

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The embryo transfer does not influence later reproductive activity of donor cows. The embryo performance of donor cows is influenced positively and negatively by genetic factors. Thus donor cows or the family of the donor cows which doesn't respond at superovulatory treatment, or we can't recover from them embryos, must be eliminated from donor group because they participate to 31% of those which have an negative response at this treatment.

Key words: embryo, donor cow, genetics

UTILIZATION OF THE UNIFIED MODELING LANGUAGE IN THE CATTLE REPRODUCTION MANAGEMENT

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The Unified Modeling Language (UML) is a language used for process modeling. UML used many diagram types for describing static and dynamic behavior of the objects. In this paper, UML is used to model the cattle reproduction management, component part of the informatic system. For modeling, UML uses three categories of diagrams divided into three categories which represent static application structure, different aspects of dynamic behavior, and ways you can organize and manage your application models. For a good understanding between the utilization and the software developments, it is recommended to use the Unified Modeling Language for the process modeling which constitutes object of informatic system.

Key words: UML, process modeling, informatics system, the cattle reproduction management

ESTRUS INDUCTION AND SYNCHRONIZATION IN COWS WITH SYNTHETIC ANALOGUES OF PgF₂α

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Estrus synchronization is a biotechnological method used for grouped artificial insemination at a large number of cows. Estrus synchronization was done using Cloprostenol- a synthetic analogue of PgF₂α, in 500 μg dose. At females with known estral cycle was done a single administration in 5th – 16th day of cycle, and at those with unknown cycle were injected two doses in 14 days period. Heat rates were between 78 – 83.9 %, and the period in which heats appeared after administration was 72 hours. Fecundity percentage was 46.2 – 55.5 %, which are in physiological borders.

Key words: cow, estrus synchronization, Cloprostenol

EMBRYOTRANSFER AND RELATED TECHNIQUES IN THE SWINE: A REVIEW OF OUR RESULTS

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During the past 12 years, we are investigated early embryo transplantation and related techniques, such as: pubertal estrus and ovulation induction, synchronization of estrus and ovulation in the adult gilts, superovulation induction, collection, IVM and IVF of follicular oocytes, AI-timing in the gilts and sows. It was concluded that adequate biotechnological methods application could result in successful control and regulation of swine reproductive function.

Key words: embryotransfer, biotechnology, reproduction, swine.

INVESTIGATING THE EFFECT OF DIFFERENT SPERM DEPOSITING PLACES IN ARTIFICIAL INSEMINATIONS OVER FERTILIZATION RATES

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The aim of paper was to establish if profound insemination into uterine horn, corresponding to the ovary, which had provided maturation of the follicle, leads to the increase of fertilization rate. The results were compared with those derived from classical techniques which require inseminated by classical procedures. As the result, 29 of them became pregnant after the first insemination (45.3%). In case of profound uterine horn insemination of 67 cows and heifers, pregnancy was registered in 31 (46.3%). We have concluded that profound uterine horn insemination doesn't increase the rate of fertilization considerably. In addition of that, nonclassical procedure requires good skilled operator to identify the ovary with matured follicle.

Key Words: cow, artificial insemination, uterine horn, fertilization

INFLUENCE OF THE GENETIC STRUCTURE ON THE “BREADTH” DEVELOPMENT OF THE HYBRID CHICKEN EMBRYOS AT THE OPTIC AND AUDITORY VESICLES LEVEL FROM 30 TO 50 DAYS OF INCUBATION

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In the literature, there is less discussed in what extent the methods that modify the genetic structure of a population for a certain character has an impact on the hyperplasia of the tissues during the embryogenesis. The aim of this paper was to study in what extent the different genetic structure, meaning the heterozygosity status in the first and second hybrid generation, is influencing the breadth development of the chicken embryos at the optic and auditory vesicles level between the 30th and 50th hour of incubation. Experiments were carried out on two representative groups of simple bilinear hybrids NH and double tetra-linear hybrids Cy_1Cy_2NH . The results sustain the idea that cephalic processus, and optic and auditory vesicles become visible earlier, and the differentiation and cell replication processes are more vigorous in hybrids with higher heterozygosity than in those with lower heterozygosity.

Key words: hybrid, heterozygosity, genetic structure

STUDY ON THE HYBRID VIGOR IN EARLY EMBRYOGENESIS OF THE COMMERCIAL CHICKEN BROILER HYBRIDS

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The quality of the hybrids and the advantages of the crossbreeding for the genetic improvement of the animal populations require continuous investigations in this field. This paper propose to discuss in what extent the heterozygosity status in the first and second generation will influence the development in length of the Gallus domesticus embryos during the first 60 hours of incubation. The experiments were carried out on two representative groups of bilinear simple hybrids NH and tetra/linear double hybrids Cy_1Cy_2NH . Results show that the development of the hybrid embryos belonging to different genetic groups is taking place according to a undulatory curve, who's positive and negative loops are not superposed.

Key words: heterozygosity, embryogenesis, hybrid vigor

RESEARCHES REGARDING THE PRODUCTION OF ZEBRAFISH (*Danio rerio*) CHIMERAS BY MEANS OF BLASTOMERES TRANSPLANT

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Researches were carried on zebrafish embryos from two lines: Standard (pigmented) and b4 (albino). After three hours from fertilization, the eggs from the pigmented line were removed from their chorion and blastomeres from these embryos (donor) were introduced into blastodisc of albino embryos (recipients) at midblastula stage. The Hank's medium was the most suitable for sustaining the development of manipulated embryos. The results of chimerization procedure obtained in our laboratory conditions suggest that some problems occurred in the transplantation moment because no manipulated embryos reached to the hatching period, even some embryos (21.74%) were viable after 12 hours from manipulation moment.

Key words: zebrafish, embryo, chimera, blastomeres transplant

RESEARCHES REGARDING REPRODUCTION OF BROOK TROUT (*Salvelinus fontinalis*) IN OUT OF BREEDING SEASON

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Twenty-five females and 25 males of 4 years old brook trouts were used in experiments. Brook trouts from experimental group were maintained in condition of 16 hours with artificial lighting and 8 hours of dark in a day, for a period of 2 months. Then the lighting program was reduced weekly with a half an hour until photoperiod was 8 hours of light and 16 hours of dark. Trouts from control group were maintained in ponds with natural photoperiod. Macroscopically and microscopically observations of gonads emphasized great differences between the two groups, experimental one being in an advanced stage of development. Our results emphasized that changing of lighting length directly influenced breeding in brook trout, and with a properly lighting program out of breeding fry generation of brook trout can be produced.

Key words: brook trout, out of breeding season, reproduction, photoperiod

EFFECTS OF SUPPLEMENTATION IVF MEDIUM WITH FETAL CALF SERUM (FCS) AND BOVINE ALBUMIN SERUM (BSA) ON FIRST CLEAVAGE BOVINE EMBRYOS

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The effects of fetal calf serum (FCS) and serum albumin (BSA) on the development of bovine embryos was investigated. Bovine zygotes were produced in vitro in a culture medium SOF (synthetic oviductal fluid). The results of this experiment show that supplementation with 5% FCS in medium SOF; 10% FCS on the first day in a culture medium SOF and 10% FCS on the 4 day in a culture medium SOF. The quality of blastocysts was assessed by counting their mean number of cells at day 8. Blastocysts produced in mSOF had significantly more cells when 10% FCS on the 4 day in a culture medium SOF were added during culture. The mean time of appearance of two-cell, three-four-cell and five-eight-cell stages was similar in mSOF +5% FCS and in mSOF + 10% FCS on the first day in a culture medium. In conclusion, the present study shows that the addition of fetal calf serum to SOF medium after the first cleavage stages accelerates of development, improves blastocysts yield and increases the number of cells in the blastocysts.

Key words: bovine embryos, FCS, BSA, first cleavages

IN VIVO AND IN VITRO EFFECTS OF DEOXYNIVALENOL ON THE IMMUNE SYSTEM OF WEANED PIGLETS

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Deoxynivalenol (DON) is a mycotoxin produced by Fusarium fungus, causing vomiting, feed refused and a general bad state in both farm and laboratory intoxicated animals. The effects of deoxynivalenol on lymphocyte proliferation in pig were studied in vitro using the technique of ³H] timidine incorporation. The mytogen response decreased significantly starting with the dose of $10^{-2}M$ DON, while inhibition of proliferation is dose dependent. In high concentrations ($10^{-4}M$ and $10^{-5}M$), deoxynivalenol induced almost complete suppression of cell proliferation. RNAm expression for the inflammatory cytokines was investigated in the ileon and colon of piglets treated with 750ppb DON, Both for the colon and for the ileon, RNAm expression for inflammatory cytokines revealed a superinduction of beta IL-1 and IL-6 synthesis, while for the other inflammatory cytokines, TNF alfa, IL-12 and IL-18, no difference was observed. The alteration of the immune junctions due to DON ingestion depressed the resistance to infectious diseases, the efficiency of medicated treatments and vaccination, which affected adversely the profits.

Key words: piglet, cell proliferation, cytokines, deoxynivalenol

SPERM EVALUATION WITH THE *MIKRO SWIM UP* METHOD

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Semen samples frozen from three bull AI candidates were compared using a version of Swim up called Micro Swim up developed in our laboratory. The concentration, the viability, and the acrosome status of the sperm in the supernatant were studied in the function of time in 60 min. The new method proved to be appropriate to detect differences between sperm samples.

Key words: *S. cerevisiae*, single cell protein, yeast biomass

HAPLOIDY IN COMMON CARP – BIOTECHNOLOGICAL OPORTUNITIES

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Haploidy can become an efficient biotechnological tool in obtaining homozygous unisexual fish. Haploid common carps can be obtained using fertilization of normal gametes with by irradiation genetic inactivated gametes. The obtained haploid gynogenetic or androgenetic offspring have all genes expressed in their phenotype. If they survive until sexual maturity and produce fertile haploid gametes they can be used in biotechnological events in order to obtain diploid homozygous fish. The experimental obtained haploid gynogenetic common carp (5,87% from the fertilized eggs) did not survive until adulthood. The androgenetic ones (82,22% from the fingerlings), have no haploid genome. Both haploid forms did not express until now their utility in inbreeding biotechnologies.

Key words: haploidy, common carp, irradiation, biotechnology, gynogenesis, androgenesis

RESULTS CONCERNING REPRODUCTION AND PRODUCTION IN EMBRIOTRANSFER WITH HEIFER RECEPTORS

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A number of 20 Black and White heifers were formed as receptors for an embriotransfer trial. Out of them 17 heifers received embryos and 9 heifers became pregnant. All of them have born normal calves. Heifers were synchronized using prostaglandin or “Crestar”- Intervet implant. The calf body weight at birth has been, as a mean, 39.4±2.0 for 7 H-F calves and 22 kg each for 2 Jersey female calves. The length of pregnancy has measured 278.7±7 days. The daily body gain of heifers during pregnancy weighted 384.3±32.2 g. The daily gain of heifers was not correlated with the weight of heifers when transfer was performed, but it has a negative correlation with the body weight of the born calf. The weight of calf at birth is mostly determined genetically.

Key words: heifer receptor, reproduction, production, ET

VALUES OF SOME MACRO-ELEMENTS IN THE BLOOD SERUM IN DIFFERENT PERIODS OF PREGNANCY AT SOWS

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Sows blood content in macro-elements at different periods of gestation varies in relation to each element, as follows: calcium values constantly increase in the 1st and 2nd months reaching its maximum value in 60 days, then it keeps constant during the 3rd month, and decreases during the last month (8.8 mg%). Unlike calcium, magnesium decreases starting with the debut of the gestation, reaching its minimal value during the 3rd month (1.2 mg%), to reach, towards the last period of gestation, the value it had at the very beginning. Natrium levels keep relatively constant during the gestation (135-138 mEq/l) except for the beginning of the gestation (125 mEq/l), while chlorine levels slowly increase during the period of gestation. A variable evolution was in the case of potassium, which reached its minimal value at the beginning of the gestation period, its maximum level in 60 days, after which it continually decreased up to the end of the gestation.

Key words: sow, macro-elements (Ca, Mg, Na, Cl), pregnancy

THE CONTENT IN ESTROGENS AND PROGESTERONE OF BLOOD DURING DIFFERENT PERIODS OF GESTATION IN SOWS

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The results concerning the blood content in beta estradiol have a great variability, with a minimal value of 10 pg/ml during the 1st month of gestation, then an increase of about 10 times during the 2nd month, when it reaches its average value of 101 pg/ml. In sows in the 3rd month of gestation, the level of estrogens is of 36.1 pg/ml, very close to the peak of the estrum – 40 pg/ml. During the month before delivery one can notice a steady increase of the estrogen that reaches 141.4 pg/ml. Serum values of progesterone are during the 1st month of gestation of 33.05 ng/ml, and during the 2nd month of 18.35 ng/ml, correlating with an increase of estrogen levels. During the 3rd month, the progesterone level is of 36.40 mg/ml, reaching 21.68 ng/ml during the last period of the gestation.

Key words: sow, gametogenesis, progesterone, estrogen, and gestation

SALT TOLERANCE IN YEAST, A MODEL SYSTEM FOR PLANTS

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*The utilization of the yeast *Saccharomyces cerevisiae* as a model system in the field of salt stress can provide a novel perspective for salt tolerance genetic engineering studies to transgenic plants. The paper presents a simple and rapid microcalorimetry technique for screening of the salt tolerance yeast strains and for the study of the inhibitory action of the salt on yeast growth. In the first stage we performed a natural selection and tested 28 yeast strains to establish their ability to grow in saline conditions. The best results were obtained with 10 strains. The strains *S. cerevisiae* V₃ and V₃₄ were used for the study of the inhibitory action of salt on yeast growth with microcalorimetry method. Significance of the results, advantages and limits of the procedure are also discussed.*

Key words: salt tolerance in yeast, model for plants, calorimetry technique

IMMOBILISATION OF PROTEASES ON INORGANIC SUPPORTS

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Alcalase, an industrial serine-proteinase obtained from a genetically modified strain of Bacillus licheniformis, was immobilised by physical bonding on five inorganic supports: Purolyte, alumina, zeolite, celite and silica xerogel. The best results were obtained for silica xerogel, celite and zeolites. These supports may be used in a combined method, of enzyme entrapped in silica using the sol-gel route and deposited on inorganic support, to avoid the inherent diffusional problems.

Key words: Alcalase, physical bonding, inorganic supports, Purolyte, alumina, zeolite, celite, silica xerogel, bentonite

SELECTION AND TRIAL IN LABORATORY CONDITIONS OF SOME SINGLE CELL PROTEIN HIGH PRODUCING YEAST STRAINS

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A number of four Saccharomyces cerevisiae yeast strains were tested for proteinic biomass production capacity in accessible and cheap media. Two of the strains (S. cerevisiae UV-1 and S. cerevisiae UV-2) were obtained following a mutagenesis process in the Industrial Microbiology Laboratory, FZB – Timișoara and two are yeast strains tested in probiotic type products (S. cerevisiae 1026 – Alltech and S. cerevisiae CMIT₅ - Konclin). Proteinic biomass biosynthesis process was made in laboratory conditions in a thermostatic shaker at 30 °C, 180 rpm. The yeast cells accumulation was establish through spectrophotometry and through colony counts on YEPD agar plates method.

Key words: S. cerevisiae, single cell protein, yeast biomass

SELECTION OF SOME AMYLOLYTIC ENZYMES PRODUCING BACTERIAL STRAINS RELATED TO THEIR ENZYMATIC ACTIVITY IN LABORATORY CONDITIONS

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Five Bacillus strains were tested for amylolytic activity in laboratory conditions. The strains were cultivated in a laboratory thermostatic shaker at 37 °C, 180 r.p.m. agitation. Three of the stains are transformants of Bacillus subtilis amy⁻ with chromosomal DNA from Bacillus globigii amy⁺. The highest amylolytic activity was obtained with B. globigii amy⁺ and the produced amylase was isolated and characterized.

Key words: amylolytic microorganisms, Bacillus

THE INTERACTION BETWEEN THE *RHIZOBIUM* GENUS BACTERIA AND THE *GLOMUS INTRARADICES* FUNGUS

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*Starting from an in vitro model, we have studied the rapports and the interactions between the symbionts Glomus intraradices and three species of Rhizobium, which are present in the nodulation of some species of vegetables. Between these symbionts there is a mutual synergic rapport, which has influence on the reciprocal stimulation of the cellular divisions, of the bacterial and fungi cellular divisions, which stimulate the developement of the hyphal system in the fungi case. The correlations of the growth rhythm of the Glomus intraradices fungus with the different species of Rhizobium sp. have been positive and significant. Thus, with the studied ecotypes, the growth rhythms have been correlated significantly positive, having the following correlation values: $r = 0.890$ (*Rhizobium trifolii*), $r = 0.819$ (*Rhizobium meliloti*), and $r = 0.769$ (*Rhizobium loti*).*

Key words: interaction, correlation value, *Glomus intraradices*, *Rhizobium sp.*,

ISOLATION AND CLONING OF NITROGEN FIXING BACTERIA OF *RHIZOBIUM* TYPE AT SOME SPECIES OF FODDER PLANTS

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We present in this article the method for aseptic isolation and in vitro breeding of nitrogen fixative bacteria for the Rhizobium meliloti species: Rhizobium loti and Rhizobium trifoli. The culture medium CZPA supplemented with mineral salts stimulates the rate of cellular division, diminishing the period of multiplication from 36 – 48 hours to 12 – 14 hours.

Key words: fixation, *Rhizobium sp.*, nitrogen, symbiosis

SCIENTIFIC REFERENCING OF INTERNET-BASED RESOURCES

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Scientific referencing of Internet-based resources is a new domain in Romania. Internet, as a source of scientific information, has a large number of opponents in our country. But, if the information is coming from a verified scientific source, such as the website of a University, Library, Ministry etc. can be valuable and it certainly circulates with the highest speed. Because some of the people involve in teaching and research at the universities are already using Internet as a reliable reference rules had to be made about editing Internet sources as bibliography. The purpose of this paper is to offer a few models of editing such documents as reference.

Key words: Internet, referencing

INTERNET-BASED RESSOURCES IN ANIMAL SCIENCE AND VETERINARY MEDICINE

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Internet-based resources in animal science and veterinary medicine can offer to the researches in domain an unlimited source of information. The verified scientific data: WebPages, databases, sites of universities libraries, faculties of veterinary medicine and animal science, professional associations, scientific publications can give an amazing virtual library. The purpose of this paper is to done Web addresses, links for Internet-based resources in the domain. At this moment, this listing is already changed, but it offers information that can help the researches in the domain of the animal health.

Key words: Internet, resources, animal science, veterinary medicine