

**Lucrări științifice**  
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**Lucrări științifice**  
**Seria Zootehnie**  
**Volum 51 (13)**

**ANIMAL SCIENCES EXTENSION EDUCATION INFORMS PUBLIC  
POLICY**

**M. RUSSELL, M. SCHUTZ**

*The United States Land Grant University system is the result of federal legislation from 1862 through 1914 which established a relationship between the federal government and the states to coordinate teaching, research and extension that reaches into all 3000 counties in the United States. Purdue University serves as an example of one of 90 Land Grant Universities in the U.S. More than 38,000 students from all 50 states and the District of Columbia, three territories, residents abroad, and 130 other nations study at the West Lafayette Campus, and more than 29,000 are enrolled at other campuses and locations. Purdue impacts the lives of residents in all 92 Indiana counties through its Cooperative Extension Service offices, eight agricultural research centers that span the state, and through thousands of educational and community events and direct contacts each year. Through direct interactions with stakeholders representing private production, state and county-level organizations and agencies we determine the needs of the state. Our educational plans also respond to issues identified in the State of Indiana's and Purdue University's strategic plans. Faculty members in Animal Sciences serve as extension specialists to support the county extension educators and we offer examples of how the Department of Animal Sciences and its collaborators bring science and technologies education to the public policy making. Examples include milk quality and required labeling, EPA and IDEM regulations for Confined Animal Feeding Operations, use of cereal grains and forages for fuels and animal feeding, land use and zoning, animal wellbeing requirements related to animal production, transportation, and harvesting methods. Techniques used to affect the process include applied research and extension methods and assisting large industry corporations who seek input in constructing animal production and processing quality audits and purchasing agreement expected production practices. The ultimate goals of these planned programs are: advancing Indiana's economic prosperity, enhancing educational and learning opportunities, and improving the quality of life.*

**Key words:** education, science, animals, economic, University plans

**POPULATION AND LABOUR FORCE IN THE IASI COUNTY  
AGRICULTURE**

**Ramona ALEXA-AIRINEI, M. DASCĂLESCU**

*The population is defined as a community of people that live on a certain geographical area. From the socio-demographic point of view, the population can be described as a social subsystem which has in view the number of the inhabitants, density, the structure on age and sex, births and deaths, feminization, migration and others.*

*The specific of a society is given by the size of the population and its characteristics (demographic, socio-economic and training). It is important the knowledge of the population structure on age and sex, the level of training, the degree of occupation, the activity domain, in order to adapt the policies of development to the present society.*

*Population has an important role in economy. It actions as a consumer of products and services on the one hand and generator of physical and intellectual work, in quality on the other hand, in quality of human resource, the labour force serves in order to put forward the financial resources and exploitation capital in agriculture, decisively influencing the production results.*

*One of the main indicators that characterize human resources is the population density. This is an element of great variability in space, being a result of geographical, historical, economic and social conditions specific to each zone.*

*At the Iași, county level the number of the population at July 1<sup>st</sup>, 2006 was of 824083 persons. In comparison with past year 2005, there is an increase with 10140 persons more than at July 1<sup>st</sup>, 2005.*

*Regarding the population repartition on habitation areas of the total of the population, in 1990, 48,8% lived in the urban area and 51,2 % in the rural area, and in 2005, 47,3% of the population lived in the urban area and 52,7% in the rural area.*

*The number of persons employed within the economy of Iasi County dropped as value total nominal value, being with -53,7 thousand persons lower in 2004 than in 1992, reaching this year the lowest value in the last 5 years. It is interesting to mention the fact that on the general background of diminution of population employed in economics, the commerce registers the highest growth, with +14,4 thousand persons while in agriculture there are registered high diminutions of 47,8 thousand of persons. One significant part of this number is due to the migration of labour force abroad.*

**Key words:** Population, economy, labour force, persons employed

## **MATHEMATICS AND BIOLOGY INTERDISCIPLINARY ASPECTS**

**D. M. ANDREI, Laurenția CĂLIN**

*Mathematics is one of the fundamental patterns for human thinking. For a long time now, mathematics has been building methods, theories which connects it to other studying objects, being the basis for experimental and social sciences, an instrument that can be successfully applied to all possible sciences and approaches.*

*In the present paper, we introduce some interdisciplinary elements, with reference to mathematical terms used in various biological fields such as Anatomy, Cytology, Genetics and Ecology.*

**Key words:** Mathematics, Anatomy, Cytology, Genetics, Ecology

## **STUDIES REGARDING THE CAPITALISATION OF THE TOURIST AND AGRO-TOURIST POTENTIAL OF BACAU COUNTY**

**Șt. BREZULEANU**

*The tourist potential of a territory is defined by the ensemble of natural, economic, cultural-historical elements that stand for just as many opportunities of tourist capitalisation, but only single tourism functionality, thus constituting a premise for the development of the tourist activity per se. A territory is of interest under the aspect of its tourist potential, in that it displays natural tourist and anthrop resources, whose capitalisation may generate some tourist activity and may circumscribe it to the domestic and international tourist circuit.*

*Located in the Eastern part of Romania, in the very heart of Moldavia, Bacau county is blessed with a special natural heritage that harmoniously combines meadows, hills and mountains, rivers and lakes. The varied and picturesque relief, numerous art and historic monuments, stately homes, natural parks and spas turn Bacau into one of the most attractive tourist destinations of Romania.*

**Key words:** tourist potential, Moldova, Bacau, development

## **LOTKA-VOLTERRA MODEL FOR TWO SPECIES IN COMPETITION**

**II. BURDUJAN**

*Multispecies mathematical models in ecology are analyzed. A particular interest is paid to the two-species models in competition. The corresponding mathematical model consists of a special quadratic dynamical system in plan, the so-called Lotka-Volterra system, containing six parameters. Since their use in real situations implies necessarily to estimate these parameters, it becomes important to make firstly a classification of such dynamical systems. We shall apply some specific algebraic techniques to analyze these models.*

**Key words:** mathematical models, Lotka-Volterra system



# **SURVEY ON DEVELOPMENT AND DIVERSIFICATION OF ECONOMIC ACTIVITIES FOR GENERATING MULTIPLE ACTIVITIES AND ALTERNATIVE INCOME BY IMPLEMENTING MEASURE 3.4 OF SAPARD PROGRAM IN SOME ANIMAL HUSBANDRY FARMS FROM NORTH-EAST 1<sup>st</sup> REGION**

*A. CHIRAN, Anca COSOVANU, Elena GÎNDU*

*The present survey presents the influence of the measure 3.4 of S.A.P.A.R.D Program on the development and diversification of the economic activities for generating some multiple activities and alternative income, in some animal husbandry farms from North-East 1st region.*

*The survey was carried out within the Regional Payment Center for Rural Development and Fishery and focused on the underlining in virtue of a system of specific indicators of the most important outputs of the animal husbandry farms (fishy, apicultural, snail farming) that benefited from investments by SAPARD Program.*

*The survey showed that this field was insufficiently exploited because of the farmers' lack of trust in the promotion of new activities, of less favorable natural conditions and of a less performant management and marketing in the promoting and improvement of the products obtained in conditions of economic efficiency.*

**Key words:** SAPARD Program, measure 3.4, animal husbandry farms

## **RESEARCHES ON THE ACTIVITY OF TOTAL AMYLASE - AN ENZYME INVOLVED IN THE MOBILIZATION OF RESERVE SUBSTANCES - IN SOME GRAMINACEAE SPECIES**

*Elena CIORNEA, Gabriela VASILE*

*The investigations were devoted to the activity of total amylase, an enzyme involved in the mobilization of the reserve substances in some graminaceae species: Panicum miliaceum (millet), Setaria pumila (bristle grass), Festuca pratensis (hair grass) and Sorghum sudanense (Sudan grass). At the same time, the germinative capacity of the caryopses under study was determined, alongwith the optimum pH conditions of the amylolytic activity.*

*The caryopses have been treated with 3% oxygenated water, for the removal of the possible pathogenic germs or of some substances that might have influenced the germination process, and then let to soak for 24 hours. Germination of caryopses was made at room temperature, in Petri boxes lined inside with filtering paper wetted with distilled water, samples taking over being performed at intervals of 24 hours, for 10 days.*

*The enzymatic activity was determined by the Noelting-Brenfeld method and as the substrate of amylase is the starch, the concentration of this polysaccharide has been evaluated, for each series of samples, by the polarimetric method. Also, for evidencing enzyme's specific activity, the concentration of proteins was dosed by the Bradford method, finally the results being processed statistically.*

*The obtained data, agreeing with those provided by literature, show that the total amylasic activity in germinated caryopses of millet, bristle grass, hair grass and Sudan grass is maximum for a pH interval ranging between 5.5 - 6.5.*

*Along the 10 days of the germination process, the total amylasic activity shows a Gauss-type dynamics in all species taken into study, certain differences being registered as to the moment in which the maximum activity is attained. Thus, in Panicum miliaceum, the maximum specific activity of total amylases was registered at 120 hours of the germination process, in Setaria pumila and Festuca pratensis - at 144 hours, and in Sorghum sudanense - at 168 germination hours, respectively, along with a correlation between the enzymatic activity and the ratio of substrate mobilization.*

**Key words:** enzymatic activity, Panicum miliaceum, Setaria pumila, Festuca pratensi, Sorghum sudanense

# ON THE DYNAMICS OF THE ACTIVITY OF TOTAL AMYLASE IN VARIOUS ORGANS OF *PANICUM MILIACEUM* AND *SORGHUM SUDANENSE* – A COMPARATIVE STUDY

*Elena CIORNEA, Gabriela VASILE*

*The paper develops a comparative analysis on the dynamics of the total amylasic activity in various organs (root, embryonic grain and leaf) in two gramineae species - Panicum miliaceum (millet) and Sorghum sudanense (Sudan grass). Determination of enzymatic activity, as well as dosing of the soluble proteins (for the calculation of specific activity) in the respective supernatants involved - each - three parallel samples, the results obtained representing the mean value of these repetitions.*

*The activity of amylases was determined by the Noelting - Brenfeld method, based on the reduction of the free maltose resulted from the enzymatic hydrolysis of starch, with 3, 5 - dinitrosalicylic acid, which is accompanied by the formation of an orange-colored 3-amino-5-nitrosalicylic acid, evidenced colorimetrically at 540 nm. At the same time, the concentration of proteins has been dosed by the Bradford method, for determining the specific activity of the enzyme, followed - in a final step - by the statistical processing of the results obtained.*

*In millet grains, after 168 hours of germination, the activity of the enzyme is almost imperceptible (8.007 - 10.808  $\mu\text{M}$  maltose/g, which is the result of the starch reserve exhaustion, representing one third of the activity grasped in the roots and the one - seventeenth part, respectively, from that of the whole plant.*

*The results of the experimental investigations evidenced the fact that, for both species under study, the amylolytic activity is considerably higher at the leaf level, a possible explanation referring to the role played by the foliar tissue - that of "central residence" of the substances metabolism.*

*As to the protein concentration and specific activity in the extracts from the analyzed samples, one may observed that in both species they follow the same curve, in Sorghum sudanense the values obtained being, nevertheless, higher (0.405 - 2.026  $\mu\text{M}$  maltose/mg protein in the roots, 0.730 - 1.507  $\mu\text{M}$  maltose/mg protein in the grain and 3.008 - 12.958  $\mu\text{M}$  maltose/mg protein in the leaves).*

**Key words:** *Panicum miliaceum, Sorghum sudanense, amylasic activity, soluble proteins, metabolism*

## E-LEARNING TECHNOLOGIES IMPROVE TEACHING OF NATURAL SCIENCES AND ECONOMY TO STUDENTS IN AGRICULTURE

*N. COJOCARU, M. CĂLIN, Cecilia POP, C. CHIRUȚĂ*

*The curricula in different specialties of Agriculture (Agronomy, Horticulture, Animal Husbandry etc.) include courses in natural sciences and economics. Previous expertise shows that teaching disciplines like Physics or Economics is quite difficult, as the core knowledge of students in agricultural sciences is remote from those areas, and their skills in dealing with the respective concepts are not always very strong. Nowadays, e-learning technologies are considered to be among the most efficient ways to improve the quality of teaching and studying. There are more and more e-learning applications in service. The paper presents an e-learning approach for two university courses: one in Biophysics, addressed to first year students in Agronomy and Animal Husbandry, and another one in the Science of Commodities, addressed to M.Sc. students in Quality Management of Agrifood Products. They are part of a more complex e-learning service under development within a Grid Computing project that was initiated by five universities of Iasi, Romania. This project is aimed to ensure a powerful distributed and integrated computational resource to the partners and to create a collaborative research environment for people acting in various scientific branches. The e-learning service for agricultural sciences is one of the tasks that The University of Agricultural Sciences and Veterinary Medicine of Iasi are developing as project partner. This service would be enriched with more and more modules to cover a larger spectrum of topics in agricultural sciences and veterinary medicine and to provide a modern and efficient learning environment for all types of educational frameworks.*

**Key words:** *e-learning technologies, Physics, Economics*

# THE CONTENT OF BIOLOGICALLY ACTIVE SUBSTANCES OF PROPOLIS

*Tatiana DABIJA, N. EREMI*

*The problem concerning the establishment of the composition of the biologic active substances from the propolis composition, especially in the aggravated ecological environment is very actual. Accordingly to that, the aim of the experiment was to study the propolis biologic active substances in different areas and periods of collecting in Republic of Moldova. There was taken the samples from collected propolis from each area (South, Centre, North) in spring time (April - May), autumn (August-September) and there was established the composition of the biologic active substances (micro-, macroelements and heavy metals).*

*The experimental results showed that in the studied propolis the average of the dry matter at the temperature of 65<sup>0</sup>C was- 98,81%, but at the temperature of 105<sup>0</sup>C it was – 96,73%. The average of beginning water in the propolis is - 1,19%, hygroscopic average– 2,08%, and total – 3,27%.*

*There was established that the quantity of studied microelements in the collected propolis in spring time was 53,3 mg/kg in Central area and 133,8 mg/kg in South area. There was the higher amount of Zn – 70,9 and Mn – 11,5 mg/kg. At the same time in the collected propolis the amount of Cu was between 2,18 – 13,7 mg/kg, Co – 0,5 – 1,0 mg/kg, and Cr – 0,6 – 5,4 mg/kg.*

*The total quantity of studied microelements increased by 41,81 mg/kg, where Co increased by 1,09, times Mn – 1,34, Cu – 1,36, Zn – 1,46 and Cr – 2,53 times.*

*The total amount of macroelements in collected propolis during spring time was 5244,6 mg/kg, but in autumn time it was 3921,25 mg/kg. The higher amount had the level of Co, which varied between 1000 – 4270 mg/kg in spring time and 1130 - 1990 mg/kg in autumn time.*

*It is necessary to mention that the quantity of some elements in autumn time increased: Mg – 1,69 times, Fe – 1,28 times, but the content of Ca, Na, K and F phosphates felt down.*

*The average of ash fraction in spring time consisted – 1,53%, and in autumn time – 2,29%.*

*It was established that the total amount of heavy metals in collected propolis from different areas of Republic of Moldova in spring time vary between 46,5mg/kg – 120,9mg/kg, and in autumn time it has been increased by 1,37 times, the average being 114,4mg/kg.*

*The most part in heavy metals had Zn, its quantity in collected propolis vary between 39,1 -153,0 mg/kg, Pl 1,85 – 8,33mg/kg and Cu 2,18 – 15,7mg/kg.*

*There was found a small amount of Cd which vary between 0,11 – 0,36mg/kg.*

*The problem of the ecological situation in whole world is getting worth, and concerning to that, the question of improving the sanitary quality of bees products has to be studied.*

*The quantity of macro-, and microelements and heavy metals in propolis is not the same in different areas of Republic and different times of active season and it mostly depends of the plants species from which it has been collected.*

**Key words:** *propolis, microelements, macroelements, heavy metals*

## THE DEVELOPMENT OF LIVESTOCK BREEDING IN THE AGRO-ECONOMIC AREA OF GALATI

*Fl.-M. DIMA, A. CHIRAN, Elena GÎNDU*

*The agro-economic area of Galati includes the territories of 8 localities, with an agricultural surface of 5.8 thousand ha, representing 14.73% of the total agricultural surface of Galati County.*

*The researched area offers favorable conditions for livestock breeding, so that, comparatively to the year 2002, the number of animals increased (except for birds), reaching in present a total of 8,818 cattle, of which 5,938 cows and calves, 6,990 swine, 14,529 sheep and goats, 5,193 beehives etc.*

*The animal production also recorded a positive evolution, so that in 2006, in direct correlation with the year 2002, the increase substantiated in 210 tons of meat, 31,119 hl. dairy cattle and sheep milk, 50 tons of honey etc.*

*The production results obtained especially in the last 2 years of the period subjected for analysis (2002-2006) are a consequence of the implementation of the National Support Program for Animal Husbandry (acc. HG 785/2005 and 1288/2006) “The sustainable development of animal husbandry and of the efficiency of the animal production field, as well as the lucrativeness of aquaculture in Romania”.*

*In this context, the authors wish to highlight the main coordinates of animal husbandry development in the agro-economic area of Galati: the size of animal farms, the number of animals, the crops, the animal production and its destination, investments etc.*

**Key words:** *region, development, livestock breeding*

## GEOSYNTHETIC FIBBERS IN CONSTRUCTIONS

*C. LEONTE, Doina LEONTE, A. GRUBER*

*Employ an ample documentation of speciality, in work it analysis fonctions and role the syntetic fibers in constructions, in comparison which on classic materials.*

*In trace investigation conclusion that the syntetic fibers because of, the fonctiones and the special characteristics, together with the advantages imosed their use in differet constructions works especially,: railway bed (for the slopes, banks, barrages and dams consolidation), drainages, roads, earthwork for railroad, ecological garbage containers.*

**Key words:** *Ssyntetic fibers, railway bed, drainages, earthwork for railroad, ecological garbage containers*

## ECOLOGICAL ALTERNATIVES TO ENHANCE ENVIRONMENT CONDITIONS IN ZOOTECHNICAL UNITS

*Doina LEONTE, Vasilica ONOFREI*

*Nowadays, an important problem for both agriculture and population is the dejections administration and integration in the efficient agricultural circuit. The purpose of this paper is to show the efficiency of the active biological products on prophylactics actions used on zootehnic sector, comparative polluted consequence of decontaminations of chemical nature. As a studying material it was utilized the Kopros product, produced by BIOMA company.*

*Treating zoo technical dejections by using the ecological product KOPROS means the reduction of ammonia emanations, fighting larva and insects, insuring optimal conditions for the animals' growth and development and finally, and implying a simultaneous humification process.*

*Conclusively, the achievement of ecological agricultural products in conditions of high productivity and superior organoleptic qualities, allows an efficient environment protection, by complete removal or assimilation of factors harmful to the soil, the waters, the plants and animals, and above all, harmful to the human being.*

**Key words:** *decontamination, toxic, incorrosive, environing, remanent*

## SIZES OF THE RURAL TOURISM AND OF AGRO-TOURISM ON EUROPEAN LEVEL

*Mirela Salvia MITULESCU*

*The rural tourism and the agro-tourism have had a different evolution from one European country to another. The developed countries created their own national programs to support the development of these branches of tourism.*

*Since the development of this activity started in the 80's, the number of participating farms doubled in countries such as Italy, France and Great Britain. The number of agro-tourist farms exceeds 600.000; the percentage of the farms which offer tourist services is 8% in Western Germany, 4% in Holland and 2% in France and Italy. Austria exceeds the percentage of 10% due to its 300.000 farms, and in Sweden and Switzerland the percentage of the farms that offer tourist services is 20%.*

*The promotion of the rural tourism and agro-tourism ranges among the political, economic and financial objectives of the European Union, mainly due to the positive effects which the development of these sectors may generate at economic and social level in the European villages.*

**Key words:** *rural tourism, development, farms, tourist services*

## PRESENT SITUATION OF THE RURAL TOURISM IN ROMANIA

*Mirela Salvia MITULESCU*

*Over the last years, in Romania, rural tourism has known an increasing evolution. The main types of structures of rural tourism are halting places, motels, guesthouses, campings, holiday villages. In 2007, the offer for rural tourism is represented at the level of 8 development regions. These regions are heterogeneous regarding the touristic potential and development.*

*The development of rural tourism has an important influence on economy. In addition to economical aspects, the rural tourism has also a social and cultural component, by developing communication relations between tourists and natives, by taking part to the education of young tourists regarding the cultural-instructive role and widening the sphere of human knowledge regarding rural environment.*

**Key words:** rural tourism, social and cultural component, economy

## **THE EXPERIENCE OF GERMANY AND CROATIA IN THE RURAL TOURISM AND AGROTURISM**

*Mirela Salvia MITULESCU*

*In Germany, the only form of accommodation in the rural environment is the habitation for tourists within the agricultural farm. There are approximately 20.000 agricultural exploitations that possess accommodation rooms within the farms, and on lands the number of rooms made available for the tourists rise to 440.000.*

*In Croatia, the majority of the family farms is small; have between 1 and 5 ha compared to the farms available in the neighboring countries. The family farms that begin the tourist activity reduce the agricultural production. This is a drawback which drew the attention and for which one tries to identify viable solutions for solving certain possible problems that may occur.*

**Key words:** rural tourism, family farms, Germany, Croatia

## **THE INFLUENCE OF FRENCH ON THE GERMAN AND ROMANIAN ANIMAL HUSBANDRY LANGUAGE (POULTRY BREEDING)**

*Maria MORARU, Elena PETREA, R.A. MORARU*

*The specialized foreign terms and expressions are, often, a clue for the history of the concerned field, the place/the land where one certain theory appeared, where it has been discovered or it has been done something in connection with the discussed field, the approached phenomena etc. In the present paper the authors are trying to investigate with help of some linguistic instruments from a incontestable value, some proves of the massive influence of the French language in the sphere of a poultry language, one higher influence than that of the English, at least for a certain period. The authors aims to cataloguing a few specific Romanian and German terms of French origin, reflected by Romanian and German specialty literature concerning poultry and included in the first German-Romanian Poultry Dictionary, 1997, Iasi. Thus, it must be mentioned that the most part of this terms are in connection with the exterior examination of the animal, with breeding technologies, types of fodder, animal foddering or with the structure of egg, the physiologic processes which are place in the egg, with the hunting, etc., also with all the sub-fields of the poultry breeding. The authors are considering that those elements are a proof that the French poultry had one great influence upon the development of this branch of the animal husbandry in Romania.*

**Key words:** Romanian terms, German terms, French terms, animal husbandry

## **ASPECTS REGARDING THE ORIGIN OF SOME ZOOTECHNICAL TERMS IN THE ROMANIAN LANGUAGE AS WELL AS IN OTHER INDO-EUROPEAN LANGUAGES.**

### **II. SLAVIC ELEMENTS**

*Maria MORARU, Roxana MIHALACHE, R.A. MORARU*

*The specialized foreign terms and expressions are, often, a clue for the history of the concerned field, of the place / the land where a certain theory appeared, where something has been discovered or it has been done related to the discussed field or the approached phenomena etc. In the present paper, the authors are trying to investigate with the help of some linguistic instruments of incontestable value, some proves of the*

massive influence of the French language in the sphere of the poultry language, noticed as a higher influence than the English one, at least for a certain period of time. The authors aim to catalogue few specific Romanian and German terms of French origine, reflected by the Romanian and German specialty literature concerning poultry and included in the first German-Romanian Poultry Dictionary, 1997, Iași. Through the following foreign elements in the Romanian special terminology, the authors ascertain the existence of some French words such as *eleveuză*, *anvizajare*, *volieră*, *ecloziune*, *furaj* etc., which are, in their most part, no more perceived as foreign elements by the Romanian people; others, like *eleveuză*, *anvizajare*, *volieră*., show their real origin not only to persons who know several foreign languages. Thus it must be mentioned that the most part of these terms are related to the external examination of the animal, breeding technologies, types of fodder or with the egg's structure, with the physiologic processes which occur in egg, with the hunting, etc., and also with all the sub-fields of the poultry breeding. The authors are considering that these elements represent a proof that the French poultry had one great influence upon the development of this branch of the animal husbandry in Romania.

**Key words:** Romanian terms, German terms, French terms, animal husbandry

## CONNECTIVE PHYSIOLOGICAL IMPLICATIONS IN HEPATO-CELLULAR AFFECTIONS

*Anca-Mirela PAȘPARAN, C. MISĂILĂ*

The paper analyzes the recovery rhythm of hematological insufficiency after the application of an anti-hepatic treatment on a batch of patients suffering from hepatocell affections (all from the Districtual Hospital of Botosani), as a function of the seriousness of the iron-deficiency hypochromic anemia recorded in the moment of their hospitalization. Determinations have been made, both in the moment of hospitalization and after the treatment, on 3 groups, of 10 patients each as follows: patients affected by a mild (A), moderate (B) and severe anemia (C), respectively, on calculating: the hemoglobin concentration (g Hgb/dL blood), the hematocyte (Hct %), the number of red blood cells ( $\times 10^6/\mu\text{L}$ ), along with the values of the erythrocytary constants: mean corpuscular volume – MCV ( $\mu\text{m}^3/\text{erythrocyte}$ ); mean corpuscular hemoglobin – MCH (pg Hgb/erythrocyte); mean corpuscular hemoglobin concentration – MCHC (g Hgb/dL erythrocyte amount).

A general hematological failure, evidenced by 26 - 51% lower values of the Hgb concentrations, by 19 - 45% lower values of Hct and by 25 - 46% lower number of red blood cells, respectively, was registered in the moment of patient's hospitalization.

After the treatment, the failure was partially brought to a normal state, in all the three variants, the Hgb concentration attaining levels representing 8 - 33% of the normal values, while the Hct concentration and the number of red blood cells come to represent 5 - 31% and, respectively, 17 - 36% of the normal. The recovery of the hemoglobin is 21% more active than that from the Hct level and 39%, more active, respectively, than that of the number of red blood cells. Instead, the recovery of Hgb, Hct and MCHC proceeds independently on the initial degree of anemia seriousness, which is not the case of the red blood cells number, when the recovery is more active in the variants with moderate and severe anemia, where about 10 - 13% of the initial failure is re-established, comparatively with the mild anemia variant, when the recovery is only of 8.2%.

**Key words:** hematological insufficiency, anti-hepatic treatment, anemia

## HEMATOLOGICAL MODIFICATIONS IN HEPATIC CIRRHOSIS ASSOCIATED WITH ANEMIA

*Anca-Mirela PAȘPARAN, C. MISĂILĂ*

The paper analyzes the connective hematological modifications in 3 groups of 10 patients, each suffering from cirrhosis (namely, mild, moderate and severe anemia), treated at the Botosani County Hospital, between April - September 2006. The seriousness of the anemy was evaluated in the beginning of the hospitalization period together with the re-establishment of the hematological failure as the result of the anti-cirrhosis treatment applied, which involved determination of the main indices here involved: hemoglobin, the hematocyte, the number of red blood cells, the number of thrombocytes, as well as the derived erythrocytary constants.

*In the beginning of the hospitalization period, the average values of the hemoglobin represented 35 - 75% of the normal level, while, those of the Hct 39 - 82%. In the same moment, the thrombocytary failure was much more severe than the erythrocytary one, the initial number of red cells representing 37 - 70% of the average normal values, while that of the thrombocytes was of only 25 - 57%.*

*The post-treatment recovery is active in all the three variants. The levels of Hgb, Hct and red blood cells number are re-established, in the severe anemy variant, in a more active, compensating manner, comparatively with the cases of mild and moderate anemy. The initial thrombocytary failure is, however, more severe, so that the recover of the thrombocytes is occurring more slowly, comparatively with that of the red blood cells, in cirrhosis.*

**Key words:** cirrhosis, hemoglobin hematocryte, red blood cells, thrombocytes

## **NORMOLIPIDIC PORK MEAT – A POSSIBLE WAY TO AMELIORATE THE RISK FACTORS TO THE PORK MEAT HUMAN CONSUMERS**

**Cornelia PENCEA, R. LICHIARDOPOL, I. SURDU,  
Veronica HEBEAN, Aurora CIOCÎRLAN**

*Lipids' quality, the ratio of saturated over unsaturated fatty acids and the apport of cholesterol play an important role in atherosclerosis disease development and progression and subsequently in cardiovascular illnesses.*

*It is a known fact that saturated fatty acids influence blood cholesterol content, while unsaturated acids are PG's and Tx's precursors, as involved in cardiovascular diseases. It must not to be forgotten that a raised dietary level of polyunsaturated fatty acids entails an equivalent apport of antioxidants, especially E vitamin. Serious lipo-peroxidation processes are thus avoided in organism, circumventing blood vessel degradation, atheromatous plaque and thrombosis development.*

*Our main focus regarding this project was supported by all above mentioned information, intending to evaluate short term effect in experimentally modified pork meat (augmented fraction of saturated over unsaturated fatty acids, plus an enhanced content in antioxidant) towards lipidic, proteic and glucidic metabolism, in human subjects, with or without diabetes mellitus or diagnosed dislipidemia.*

*For this project were used 40 human subjects( with or without diabetes mellitus, 25 women and 15 men), whom were clinical and biochemical monitorized for short term (one month). The subjects were randomically splited in 2 equal groups (2 x 20), depending on the type of meat gave it to be consumed during the monitoring period. The first group ( 8 men and 12 women, 10 persons with diabetes mellitus- 4 men included) consumed "normal pork meat" and was named as "benchmark group", while the second group (9 persons with diabetes mellitus- 4 men included) consumed "experimental pork meat" and was named "experimental group". The diagnosed patients with diabetes mellitus had, in average, an illness history of 7 years, for the first group, and 11.22 years, for the second group,. During this 30 days study, the patients received a daily pork meat quantity of 200 grams.*

*At the end of 1 month of monitoring the "benchmark group", it was observed at the diabetes mellitus (DM) patients, as well as at non-diabetes mellitus (NDM) patients, a slightly increase in medium value for serical cholesterolemia, (190.63 vs 208.45 for DM patients and 191.67 vs 207.68 for NDM), without support from other lipidic parameters.*

*At the end of 1 month of monitoring the "experimental group", it was noted a decrease in medium values of cholesterolemia (197.78 vs 182.63 in DM and 221 vs 206.6 in NDM patients) and of LDL-cholesterol (124.23 vs 104.7 in DM and 152 vs 145.36 in NDM patients). Same sense variation of triglyceridemia (133.06 vs 114.86) accompanied these kind of modifications at DM patients, although they maintained the same diet, same physical exam and, if required, same hipolipemiant dosage, during the whole surveying time.*

*It can be concluded, based on obtained data, that patients consuming experimental meat had a slightly improvement in the lipidic profile, independently of the rate of glycemic control at DMs, without negative effects towards other metabolisms.*

**Key words:** pork meat, fatty acids, cholesterol, risk factors

# MANAGEMENT OF PROCESSES WITHIN THE EUROPEAN REGULATIONS ON QUALITY

**Cecilia POP**

*The paper goal was to debate the main aspects which consist into the basis of the process approach according European norms and as under the perspective of the excellence, as a target to be reached through quality.*

*The processes and their management represent the central attractive and interesting point within an organization. A desired result is achieved more efficiently when activities and related resources are managed as a process.*

*The method "process based approaching", for design of a quality management system, should be have next steps: defining the objectives of the organization's processes; defining a process that will achieve specific objectives (strategic processes, operative processes and support processes); establishing clear responsibility, authority and accountability for managing the process; determining the stages in the process necessary to achieve the results; determining the activities required to accomplish each process stage; identifying the inputs and outputs of the process; taking action to eliminate the cause of nonconforming inputs or outputs; measuring process outputs, efficiency and effectiveness.*

*In conclusion, all these processes having a strong impact on any organization competitiveness could to be controlled through the implementation of the ISO 9001 system procedures. The implementation of the system procedures, as required by the standard (e.g. documents checking, non-conform product checking, internal audit etc.) and of the operational procedures (e.g. personnel training, design-development, customer satisfaction evaluation etc.), assures the achievement of a high efficiency within the accomplishment of the management functions.*

**Key words:** *Quality management, Process approach, Continual improvement*

## ECOLOGICAL DATA REGARDING SOME PARASITOID SPECIES WHICH ARE CONTROLLING THE *PLUTELLA XYLOSTELLA* L. POPULATIONS

**A. PRELIPCEAN, Gh. MUSTAȚĂ**

*Plutella xylostella or diamond back moth is a destructive pest of Brassicaceae crops. The species has a highly adaptability potential to chemical control. The present study is describing the interrelations between the moth parasitoid species. Tracking the parasitoid biocenosis dynamical evolution, I observed *Plutella xylostella*'s populations, the parasitoids efficiency in controlling the pest and the established trophical relations. 30 years ago the primary parasitoids efficiency in limiting diamond back moth was 80 to 90 %. Today, the researches are confirming that the parasitization levels have dropped to 66,8%. From the probes gathered in different cabbage crops, obtained parasitoids, determination of the biological material and data centralisation, I obtained important informations regarding the actual situation of this pest. From the total of 29 parasitoids species, 19 were primary parasitoids and 9 acted as hyperparasitoids (secondary parasitoids). The main parasitoid species are *Diadegma semiclausum*, *Diadegma fenestrata* and *Cotesia plutellae*.*

**Key words:** *biological control, Plutella xylostella, parasitoids, ecology*

## DIAGNOSTIC STUDY REGARDING THE DEVELOPMENT OF THE RURAL LOCALITIES FROM VRANCEA DEPRESSION

**Mihaela-Loredana RUSU, I.V. CIUREA**

*The research carried out proposes the analysis of the rural space of Vrancea Depression by the opportunities and threats of region. The aim of the scientific demarche is the rural development of the region in view of complying with the demands imposed by the European Union. It was studied the territorial administrative units from Vrancea Depression, used specific indicators for the characterization of the rural space. The information sources were the applied fields within the city halls of Vrancea county and the direct*



investigations from the field. We used existent statistical data for every commune. The total surface of land of the communes from Vrancea Depression is of 121,621.86 ha of which 95% represents the surface outside the commune and 5% represents the surface within the commune. Analysed the inhabitants of the communes of Vrancea Depression who is 28,709 of inhabitants, it resulted structure according to the communes as follows: Bîrsești - 6,55%, Jitia - 6,22%, Năruja - 6,92%, Negrileşti - 12,40%, Nereju - 15,46%, Nistorești - 9,11%, Păulești - 7,84%, Spulber - 5,22%, Soveja - 9,73%, Tulnici - 10,28%, Vrîncioaia - 10,27%. The SWOT analysis used in the scientific demarche pointed out the fact that the region is prevalent agricultural with an extremely important woody fund for the national wealth. Vrancea Depression hold an important natural tourist potential who it is preferred by tourists for rural tourism and agricultural tourism. Reduced access to grants with non-reimbursable credits, to activities carried out in the rural environment, the cause being represented by the reduced access to information.

**Key words:** Vrancea Depression, rural tourism, agricultural, tourist potential

## **THERMOGRAPHIC EXAMINATION FOR DETECTING THERMAL IRREGULARITIES IN AGRICULTURAL BUILDINGS ENVELOPES**

**Ioana TANASESCU, Marcela SIRBU**

The paper presents optimized inspection of the heat insulation properties of building envelopes ensured by combining thermo graphic express diagnostics, heat transfer and air exchange measurements in existing buildings and mathematical modeling of their heat balance. A special database of information about micro-climate conditions in agricultural buildings in the 6-th North-West Region of Romania has been created within the research project CEEEX Nr.6108/2005 "Data base integrate application for adapting and restructuring of Natural and Artificial Environment Protection Factors in Agricultural and Animal Breeding Farms". The researches for inside environmental conditions were performed during 2005-2008, a period when the climate in our country was very mild during winter, a fact that determined the main micro-environment recorded parameters in the studied cases to be, generally, in the permissible limits by the current regulations.

**Key words:** animal welfare, environmental conditions, thermo graphic examination.

## **ASPECTS REGARDING THE MORPHOLOGY OF THE REPRODUCTIVE APPARATUS OF THE DOMESTIC QUAIL (COTURNIX COTURNIX JAPONICA) (BIBLIOGRAPHICAL STUDY)**

**Anca TEUȘAN, V. TEUȘAN, A. PRELIPCEAN**

Today, people are looking for new avian species that can be breed for their production of meat and eggs because there is an accentuated need for food caused by the continuous growth of population number. One of these species is the domestic quail (*Coturnix coturnix japonica*) wich is breed especially for its production of eggs. For a better understanding of the egg development mechanism, different biological aspects of reproductive male and female apparatus is necessary. Regarding the differences between domestic quails reproductive apparatus and the other species reproductive organs there are some peculiar aspects that can be mentionated. Thereby, the male's testicles are about 3,91 % of its weight, while the female reproductive apparatus represents 6 – 7 % of its alive weight. The female's mature gonads weigh 4 – 4,5 grams that represents 3,1 – 3,3 % of its alive mass.

**Key words:** morphology, reproductive apparatus, quail, coturnix

## **STUDY REGARDING THE LABELLING OF SOME SUGARLIKE PRODUCTS (CHOCOLATE) COMMERCIALIZED ON THE MARKET OF IAȘI CITY**

**Anca TEUȘAN, Cecilia POP**

The label represents a important instrument of the market by intervening in the producer – consumer communication through the esential informations provided regarding that product. The regulations regarding the labelling and marking of some products made of cocoa and chocolate consists of Order no. 335/2003 published in Monitorul Oficial number 661 from 18/09/2003, H.G. No. 511/07.04.2004, etc. There are some

producers that do not respect the labelling laws. For example, in the present study, Romanian brands like Baton, Galactic, Rom-Authentic, Primola Zoo and Făgăraș do not have on their label any nutritional informations, although the labelling law shows that nutritional values are obligatory. The brand Primola Zoo does not have on its label any informations about the storage conditions. There are also labels (Milka M-joy brand) that respects the legislation, offering all the necessary informations, clear and readable printed. According to the present study, the consumer has certain preferences when he is looking through the informational message on the label. He is interested in the product brand (24,11 %), minimal durability date (18,82 %), ingredients list (11,76 %) and nutritive values.

**Key words:** labeling laws, chocolate, durability date

## RESEARCHES REGARDING THE STRUCTURE AND ULTRASTRUCTURE OF SILVER FOX (*VULPES VULPES FULVA*) OVARIES

V. TEUȘAN, Anca TEUȘAN, R.M. RADU-RUSU

In order to accomplish some studies regarding the gonads structure of the silver fox (*Vulpes vulpes fulva*), there have been harvested ovaries from a group of 16 to 18 months of age individuals, being in reproductive rest. The gathered pieces have been processed using the paraffin sectioning technique acquiring 20 histological blades. These have been studied using a binocular photonic microscope MC<sub>3</sub> type, previously calibrated. Histological and cytometric assessments have been done in the microscopic field, the medium diameter of the ovarian follicles has been of 552 μ; of ovocytes 76,6 μ, and 19,23 μ for the ovocyte nucleus. The polyovocitar aspect of the ovarian follicles at this species was also revealed.

**Key words:** silver fox, ovary, ovocyte, ovarian follicles

## FIGURATIVE ELEMENTS STUDY AND HEMATOLOGICAL VALUES AT *RATTUS NORVEGICUS* SPECIES

V. TEUȘAN, R.M. RADU-RUSU, Anca TEUȘAN

Vascular blood samples have been harvested from a couple of individuals of *Rattus norvegicus*. A series of hematological values have been determined by studying the prepared smears using a MC<sub>3</sub> type binocular photometrical microscope, previously calibrated. Some cytometry determinations have been carried on using an ocular micrometer (in the microscopic field) on the main figurative elements level. We obtained the following results: amount of red cells =  $6821 \times 10^3/\text{mm}^3$  blood; total white cells number =  $7845/\text{mm}^3$ ; red blood corpuscle diameter =  $7.14\mu$  and white cells diameter =  $12.97\mu$ ; platelets amount =  $239 \times 10^3/\text{mm}^3$  blood; hemoglobin quantity = 13.7g/dl; hematocrit = 43.5%; glycemia = 117.9mg/dl; total cholesterol quantity = 68.9 mg/dl; VEM= $64.25\mu^3$ ; HEM= $21.57\text{pg}$  and CHEM = 31.23 g/dl.

**Key words:** *Rattus norvegicus*, blood, red blood cells, glycemia.

## INTERCULTURAL EDUCATION OF AGRICULTURAL STUDENTS FROM THE VIEWPOINT OF THE EUROPEAN INTEGRATION

Carmen-Olguța BREZULEANU

The education evolution is connected by the culture evolution, by the system of representation and values that are offered in society. Agricultural education from Iasi, uses these values as instruments which are helping to enrich the students spirit, their universe of knowledge.

In the context of accession to UE, the actual Romanian model of agricultural education must be redefined and to take into account the extraordinary dynamical of mutual knowledge. Thus, the universities must train the young people in the spirit of intercultural education.

**Key words:** Education, agronomical universities, European countries

# METHODOLOGIES USED TO ASSESS THE DEVELOPMENT OF RURAL AND AGRI-TOURISM IN THE NE OF ROMANIA

**Șt. BREZULEANU, Carmen Olguța BREZULEANU, R.A. MORARU**

*The North Eastern administrative rural area presents the territorial peculiarities of no less than 463 communes and 2445 villages from Bacău, Botoșani, Iași, Neamț, Suceava and Vaslui counties that host a number of 2,171,838 inhabitants, accounting for 56,6% of the total area population.*

*The rural area of the North Eastern region is a relatively autonomous universe, whose analysis may be approached endogenously or exogenously. A number of methods may be used in order to assess the rural tourism and agro-tourism phenomenon and their management in the North Eastern Region, namely statistic monograph, selective enquiry, statistic report, polls, extrapolation, correlation, projection and questionnaire.*

*The analysis will resort to simple table methods, statistic procedures, regression and factorial analysis. There are cases in which researchers fail for not taking into account such problems, for there is the risk that the data they have collected does not fit the analysis technique designed to lead to a certain type of results.*

**Key words:** rural tourism, development, assessment methods, NE of Romania

## THE FINANCIAL STABILITY ANALYSIS THROUGH THE RATES AT S.C. VASCAR S.A. VASLUI

**Z. BULIGA, Gabriela IGNAT**

*Any enterprise that guides itself on the market economy's principles must carry out its activity following its main objective – the extension of the enterprise value in circumstances of profitability. An enterprise activity must generate positive effects that lead to the providing of the activity continuity, which means that it has to be balanced.*

*The central objective of the company's activity supposes a permanent optimal employment of its capital, a careful and close sizing of the funds needs and the obtaining on time and in the necessary amount of resources that are the most advantageous for the enterprise. This desideratum concurs with the requirement of the financial balance.*

**Key words:** financial stability, actives, passives, debts rates, solvency

## THE ANALYSIS OF THE FINANCIAL-BOOK-KEEPING RESULTS RELYING ON THE PROFIT AND LOSS ACCOUNT AT S.C. GALMOPAN S.A

**Z. BULIGA, Gabriela IGNAT**

*In order to achieve the accountancy roles of informing, decision and control, the information generated by the accounts and the book-keeping reckonings, following the actual accountancy works, should be periodically synthesized in relevant and suggestive synthesis documents, approachable not only by the specialists, but also by those who are interested in the patrimonial unit administration, as an investor, a manager, a bank, a creditor, fiscality and other economic and social structures. These synthesis documents represent the main subject of the financial book-keeping, because they reproduce an accurate image of the patrimonial situation, the results and the financial situation of the enterprise.*

*The book-keeping balance is considered to be the document that describes an enterprise position at a certain moment, indicating the extent of the result. However, the presence of another book-keeping modelling instrument that can explain the way that the result is formed and allows to draw out some conclusions over the enterprise activity performances, appears to be necessary. This instrument is the second structure of the financial situations – the profit and loss account.*

**Key words:** exercise output, added value, gross profit, net profitability

## **THE CORRELATION BETWEEN THE MILK ELECTRIC CONDUCTIVITY AND THE SODIUM CHLORIDE CONTENT**

**Rodica CĂPRIȚĂ, A. CĂPRIȚĂ**

*The electrical conductivity (EC) of a solution is a measure its ability to conduct electric current. It is a property attributable to presence of ions in the solution. Milk electric conductivity is affected mostly by its mineral composition. Conductivity is a nonselective measurement, any charged ion contributing to the total conductivity. The goal of the study was to establish the correlations between this physical parameter and some inorganic milk components. The experimental data revealed no correlation between electric conductivity and Ca and K, and positive correlation between electric conductivity and Cl and Na.*

**Key words:** milk, electric conductivity, sodium chloride

## **BIOCHEMICAL STUDY ON THE TOTAL PROTEIN AND PROTEIN FRACTIONS IN THE BLOOD SERUM OF BROILER CHICKENS**

**Rodica CĂPRIȚĂ, A. CĂPRIȚĂ**

*The high basal metabolism and the high body temperature determine great energetic demands in chickens. These induce both lower blood protein values and albumin/globulin ratio in comparison with the mammals. The albumin/globulin ratio is important to determine whether there is an overproduction or underproduction of gamma-globulin. The goal of the study was to investigate the correlation between the plasma protein, the albumin concentration and the albumins/globulins ratio in chickens. The absolute increase of albumin is very rare because the albumin is used as substrate for globulin production. The mechanism could be explained by the maintenance of the colloid-osmotic pressure.*

**Key words:** chickens, plasma protein, albumin concentration, albumins/globulins ratio

## **OBSERVATIONS ON THE BIOCHEMICAL BEHAVIOUR OF CERTAIN STRAINS OF YERSINIA ENTEROCOLITICA**

**M. CONDREA**

*Using biochemical tests, we investigated 60 strains of yersinia enterocolitica from pigs (44), taurines (5) and dogs (11).*

*No matter the incubation temperature, all the studied strains decomposed the following secondary layers (1% concentration), making the environment more acid: L-arabinose, glucose, galactose, manose, L-sorbose, laevulose, saccharose, maltose, D-trehalose, starch, glycerol, sorbitol, inositol, manitol.*

*The strains of yersinia enterocolitica studied didn't modify the following secondary layers (1% concentration): L-ramnose, melibiose, D-rafinose, dextrin, inulin, D-adanitol, dulcitol. They didn't decompose either sodium manolat, phenylalanine, lysinehe, arginine.*

*From the secondary layers (tests) studied we think that the following ones are especially important for identifying and biotyping yersinia enterocolitica: saccharose, D-terchalose, D-sorbitol, D-ramnose D-rafinose, melibiose, D-xilose, salicylic acid, esculin, ornitin, as well as the production of indol, Voges-Proskauer reaction, use of sodium citrate as an only source of carbon, the presence of lecithinase, the type of lactose metabolisation.*

**Key words:** yersinia enterocolitica - biochemical behaviour

## **THE RESOURCES AND PRODUCTION FACTORS IN THE HILLY AREA OF THE IAȘI COUNTY**

**M. DĂSCĂLESCU, Ramona ALEXA-AIRINEI**

*In agriculture, the production process is on directly action of many natural, biological, physical, financial and human factors. The optimization of the binomial relation agricultural production-natural factors can be made by an advisedly approach and finalization of the division into zones process of the agricultural production. The problem of utilization of the material resources in agricultural production process must be approached differently. (1)*

*The intensification of the agricultural production had determined, now and in the future, the rising of the used material resources number. The level of the agricultural production is directly dependent by the way that these resources are used. How the production resources are generators of expenses, is raised the problem of the optimization of the way that their are allocated and joined in the process of agricultural production, in some way to assure the growth of the production in parallel with the decrease of product unit expensive.*

*There can the present paper wish to identify the hilly area of Iași county and the main natural, human, land, technical-physical and financial resources of the area.*

*On the surface of Iași county is interfered the areas of excessive temperate continental climate in east, with moderate expressively in west side. These characteristics are local influenced by the relief configuration, the variation of vegetation and hydrographic reservoirs. A hotter climate is specific to high plain area that is the same with the studied area. He is characterized by the average annual temperature of 9.4 Celsius degree, and an lower precipitation regime (under 500 mm). In west side of county, the average annual temperature decrease at 9.1-8.6 Celsius degree, and the precipitations grow at 565mm.-580 mm.*

*Regarding the population, in hilly area there are only 29.06 percent of the county amount, from this 49.41 percent are represented by woman. This area contain 52.6 percent of total county area, from that 66.77 percent is represented by the agricultural land.*

**Key words:** resources, hilly area, agricultural production

## **ASPECTS CONCERNING FINANCIAL BEHAVIOUR OF POPULATION IN THE CENTRAL AND EASTERN EUROPEAN COUNTRIES**

**D. DONOȘĂ, Raluca Elena RADU**

*The actual period is very interesting for financial intermediary institutions concerning the financial behaviour of the household. Thus, in the context of overall economic growth and wages in the entire Central and Eastern Europe it has been recorded a growth in real estate investments, financial assets and stock exchange transactions. Based on these analysis it is considered a further trend for the next period of time. Overall in the region economical growth remained at 4 % with one exception: Hungary which is paying the price of a necessary fiscal correction. Strong economic growth has determined an increase of the household income, the wages registering strong increase in average. Although is covering the consuming and real estates investments, the accumulation of new financial savings has continued in a fast pace. Financial market experienced another year of strong profits, stock market increasing with an average of 38 % year by year because of the external demand expansion. There were strong revenues despite of lowering the growth of volatility. Once again, financial wealth growth was stimulated by the accumulation of new savings both in the compulsory and voluntary pension systems. From total growth registered, approximately 20 % is due to the contribution to the pension funds. As a result of these factors, household financial wealth of CEE has grown for the third year in a row, reaching approximately 600 billion euros which means an increase of 14%. Household financial wealth continued to represent only 57% from GDP, comparing with 206% level in the euro area.*

**Key words:** eastern European countries, population, financial behaviour, GDP, FX loans

## **ASPECTS OF HOUSEHOLDS' FINANCIAL WEALTH IN ROMANIA**

**D. DONOSA, Șt. GAVRIL**

*The pace of financial wealth accumulation continued to be sustained as a fact of the favourable macro-conditions generated by a wealth effect because of very strong stock market performance. On this background, increasing asset holding by household was accompanied by a faster expansion of the level of the indebtedness, leading to a reduction of net wealth rate over GDP. The rate of financial wealth accumulation was sustained but high demand for both consumer and mortgages loans is negatively affecting the evolution of net wealth over GDP lowering it. Despite of the dominance of traditional savings products, it is anticipated an increased potential of investments funds and of pension reform system. The risks generated by the population are growing and also the incomes, financial assets becoming more liquid and the credit concentration and the rate of credit repayment delaying is diminishing. But the population financial risk remains high, though the value of the real estate assets holdings has raised solely because of the price but not of the quantity, financial assets being more liquid, and the risk evolution is mixed, financial liabilities presenting a superior risk profile. The risks of population indebtedness is due to consuming goods*

loans for longer terms. Because of these evolutions the value of the assets from loans is depreciating more faster than loan repayment, negatively affecting the population wealth. Concerning the population rate of indebtedness speaking in terms of dynamic this has generated two main risks: debt service has raised with a very rapid pace and the position of net creditor of the population has significantly lowered. The most promising segment remains long term vehicles and in particular pension funds. It is expected that assets managed by pension funds to increase in the next years. Retail loans growth was impressive in 2006 expanding for the last two years by more than three times in absolute terms.

**Key words:** GDP, FX risk, financial household income, wealth

## **DILEMMAS IN DESIGNING PERFORMANCE APPRAISAL SYSTEMS**

**C-tin IATCO, Gabriela IGNAT**

*Investment in human resources represents an essential condition for sustaining the competitiveness of any organisation.*

*In a context of ever-changing circumstances, the company success is dependent, to a great extent, on the view that the personnel and especially the manager have of the idea of efficiency by utilising available resources to their maximum potential. The appraisal of professional performance consists of the process of determining the manner and the extent to which employees fulfil their duties and responsibilities related to the job they occupy compared with the established standards, and communicating the findings to employees<sup>1</sup>.*

*A more detailed definition regards the performance appraisal system as the whole range of methods, techniques and procedures which help to quantify the individual or the group contribution and relate to the company performance. It also includes the design of the programmes that assist the appraisal process.*

*The way in which the appraisal is conducted and the concrete manner of tracking the effects (feedback) exercise considerable influence on the organisational environment. Performance appraisal subsequently provides an opportunity to assess the progress of the entity under consideration, this being the only way to verify whether the organisation is on the right track to achieve its objectives.*

**Key words:** appraisal system, organisational system, objectives, modelling technique

## **PERFORMANCE-RELATED PAY AND SKILL AND COMPETENCY-BASED PAY**

**C-tin IATCO, Gabriela IGNAT**

*Performance-related pay is the process of providing a financial reward or one that is measurable in financial terms, in direct relation to individual performance, or that of the group or the organisation.<sup>2</sup> Pay related to performance is not the requisite consequence of the latter; practice has indeed demonstrated that in many entities its results are not used for management purposes.*

*For example, in an English university, one of the objectives of performance appraisal is to identify the need for development of the teaching and administrative staff, the results of performance appraisal not being taken into consideration when salaries are calculated. The focus is basically on whether pay is adequately justified and whether it can lead to improved performance.*

**Key words:** pay, performance, skills, competence, team

## **RESEARCHES ABOUT THE BLOOD BIOCHEMICAL CONSTANTS MODIFICATION AT RABBIT DEPENDING ON AGE**

**Roxana LAZĂR, P.C. BOIȘTEANU, M. LAZĂR**

*With rabbits patients, as in other species, analysing blood and urine samples can be useful and informative, although interpretation of the results is some times challenging.*

*The present study summarizes the interpretation of laboratory results from rabbits. Haematological parameters can yield information about the red cell population and leukocyte response to stress and pathogens. Biochemistry evaluation can be used to investigate liver, kidney, and other organ function, and urinalysis results may yield additional information about kidney function and electrolyte imbalances.*

<sup>1</sup> A. Rotaru, A. Prodan: Managementul resurselor umane, Editura Sedcom Libris, Iași, 1998, page 195.

<sup>2</sup> M. Armstrong, H. Murlis, **Reward Management**, Kogan Page, London, 1996, pg. 247.

*This study was effected on a number of 12 rabbits. Food diet was made for each category of rabbits that were taken in study, and there was made haematological (WBC, RBC, HGB, HCT, PLT, MCV, MCH, MCHC) and biochemical (glucose, cholesterol, triglycerides, urea, creatinine, total proteins, amylase, alkaline phosphatase, calcium, iron, magnesium, ALT, AST) determinations.*

*The obtained results belong to a research program from which are presented partial results of young rabbits in comparison with pregnant dams.*

**Key words:** rabbits, haematological and biochemical values.

## **STUDY ON THE USE OF BIOLOGICALLY ACTIVE PRODUCTS FOR THE DECONTAMINATION AND DISINSECTION OF SWINE RAISING SHEDS**

***Doina LEONTE, Vasilica ONOFREI, C. LEONTE, A. GRUBER***

*The use of chemical products as main preventive mean in the sector of animals-growth has as immediate effect the pollution of residual waters, but also the abatement of the period of equipment exploitation caused by these substances' corrosiveness.*

*An alternative to chemical decontaminated mean is represented by active biological products which are composed by anaerobe and aerobic micro-organisms. These products can also be applied when animals are presented having remarkable effects on the reduction of organic substances, ammonia emanation and the elimination of insects from shelters. The present paper brings in the effects of using this product in halls of pigs-keeping.*

*The use of biologically active products in prophylactic actions from zootechnical field presents the great advantage of ensuring a healthy and safe raising environment for animals, in conditions that do not pollute the environment, by the reduction of ammonia nitrogen with about 90%, by the removal of organic crust with about 72% and by the reduction of insects in sheds.*

*Conclusively, by applying biologically active products, one gains an important control over the pathogenic agents responsible for different endemic diseases in zootechnical field.*

**Key words:** decontamination, toxic, incorrosive, environing, remanent

## **ARGUMENTS REGARDING THE UTOPIC CHARACTER OF PLATO'S REPUBLIC**

***Roxana MIHALACHE***

*The study had as starting point the controversies which appeared during the centuries regarding the utopic character of Plato's Republic. The paper presents the opinions of different authors who deny totally (E. Barker- Plato wanted his work to influence the historical reality in which he lived by creating a new public opinion in order to change the declining position of the Athenian society.) or partially (Flashar) the utopic character of the work; they both consider that the Republic is not an utopia because of the lack of the unattainable element. There have also been identified the opinions of some researchers (A. M. Battezzatore, E. Bloch, L. Bertelli) who present the some partially convincing arguments regarding the Republic's belonging to the utopic literary trend such as: the lack of the word utopia in Greek does not exclude the presence of a suitable concept, there is no gap between the model and practical reality determined by the utopic construction, it was written in order to draw the attention of the Athenians on the consequences that could appear if the Spartan ideals presented in the Republic came true, it is the paradox of the an utopia of the ruling class.*

*After studying the text carefully, there have been found other arguments meant to support the idea that Plato's work is utopic. One example is Plato's statement from Chapter IX, 592ab, that "there is no perfect state in any other place on earth" and another one which refers to the content of the works Timaios and Critias which give the mythical-historical support of the utopic proposals elaborated in the Republic: the use of Atlantis's myth and of the old Athens, the miraculous elements but which do not render the work totally untrue etc.*

**Key words:** Plato's republic, Utopia, Timaios, Critias

# THE AGRICULTURAL COOPERATION IN GERMANY AFTER REUNIFICATION

**R.-A. MORARU, D. DONOȘĂ,  
Șt. BREZULEANU, G. UNGUREANU**

*The aim of researches consists in the analysis and presentation of the development of the cooperative movement after reunification, pointing out the fact that, in comparison with Romania, the former agricultural cooperatives of production from the eastern Lands have been not broken up, but successfully transformed into cooperatives based on democratic principles.*

*In order to reach this aim, the authors studied a rich bibliographic material from the German speciality literature, being selected informations concerning: the organisational structure of the cooperative agricultural sector, cooperative types, concerned activity sectors and the trends appeared in their working, their economic results, the dynamic in the members' number, the cooperatives' place on the market of agricultural products. The statistical data about the main indicators of the German agricultural cooperatives covered the period 1990 – 2005, also being presented the structure of the exploitations from the agriculture in the former German Democratic Republic, before reunification.*

*On the Germany's territory has been formed a cooperative agricultural sector with three levels including: primary cooperatives, unions of cooperatives and central offices, and cooperative national federations. Their activity has been focused towards the down-stream and the upstream of the proper agricultural production: collecting, processing and trading of agricultural products, supply with agricultural inputs, granting of credits etc. In the eastern Lands, after 1945 these have been replaced by the so-called "landwirtschaftliche Produktionsgenossenschaften" (LPGs), which were agricultural production cooperatives of „kolkhoz” type, established through the wellknown proces of forced colectivisation that occurred in the most of the former comunist states. After reunification, being strongly supported by the German State (financially and administratively), the eastern German former agricultural cooperatives of production have been restructurated on the basis of the authentic democratic principles of cooperation, continuing to work and to integrate, beside the other co-operatives of western type, in the German agricultural landscape. They gave birth either to classic cooperatives of western type or the most of them remained active in order to use in common the agricultural land. All the types of German agricultural cooperatives suffered a strong concentration process, through merging, fact that determined their decrease in number, in parallel with the decrease in their members. However, this process positively influenced the level of the cooperatives' incomes, the most profitable being the cooperative slaughter-houses and dairies. On the German market of agricultural products, the cooperatives have a dominant position, holding 30% to 80% according to product.*

**Key words:** agrarian cooperative, animal production, vegetal production, turnover, Germany

## STUDY ON THE DIMENSIONAL AND MORPHOLOGICAL ELEMENTS OF SOME BREAST AND LIMBS MUSCLES AT COBB-500 HYBRID

**R.M. RADU-RUSU, V. TEUȘAN,  
M.G. USTUROI, I. VACARU-OPRIȘ**

*Several skeletal muscles, considered as representative for the anatomical election area, have been sampled from 42 day old COBB-500 broilers and served as biological material – Pectoralis profundis (PP), Pectoralis superficialis (PS), Biceps brachii (BB), Semimembranosus (SS) and Gastrocnemius medialis (GCM).*

*Dimensional features comprised muscles weight, length, thickness and wideness, while the morphological ones revealed muscular formations spatial shapes, as they are related to the physiological role within the musculoskeletal system.*

*Gravimetric data, calculated as average between values of the pair muscles issued from both genders, have been reported to carcass and anatomic area weight. Thus, breast fillet reached 22.37 from whole carcass (17.95% PS and 4.37% PP), while Pectoralis superficialis formed 60.55% of the anatomic area. Biceps brachialis muscles, as very thin ones, counted only 0.56% from carcass weight and 6.20% from arms mass. Semimembranosus pair, reached just 7.49% from thigh muscles, while the medial twins of calves have been found to participate with 1.02% in entire carcass and with 7.77% in drumsticks formation.*



*Muscles had various shapes, as related to their insertions and role in locomotor mechanics: triangular prism (PS), ellipsoid (PP), spindle (BB), cylindroid (SM), rhomboidal-flabeliform (GCM).*

*Better developed musculature has been found in cockerels carcasses, main differences could be noticed especially for Pectoralis superficialis muscles, having more pronounced convexity in males, while those sampled from females were flatter and slightly wider.*

**Key words:** broiler, breast fillet, limbs muscles, morphology

## **DECISIONAL MANAGEMENT FROM DECISION TO DELEGATION**

**C. SĂLCEANU, Carmen Mihaela NECHITA**

*Making a decision requires intelligence, but, first of all, courage, perceived as the capacity to choose a way and to give up the others, to resist against the multiple psychological, social and institutional stress, which blocks the considered solution. Therefore, the decisional process is inseparable of risk taking, which is more difficult in the public administration field. Frequently, the people in charge of the decisional process are concerned in finding the unique, perfect, invincible SOLUTION, as if the professional life would be a kind of a determined solution quest that we only have to discover. The suitable solution is the one which helps us to acquire. This evidence means that the people who work for public services are those who, together, build up the solutions. One would prefer a "non – perfect" decision, supported by those who initiated it, rather than an excellent decision written on the paper, but an uncalled for one.*

**Key words:** decisional system, subsidiarity, delegation, individual decision

## **ASPECTS OF THE CELLULAR, HORMONAL AND METABOLIC REGULATION OF THE MUSCULAR MASS DEVELOPMENT AT ANIMALS**

**P.C. BOIȘTEANU, Iolanda MĂRGĂRINT,  
Cristina G. RADU-RUSU, Roxana LAZĂR**

*The article describes the control of somatic development and of muscular mass increasing, as well as of the muscular tissue regeneration and homeostasis in adult animals. Muscular mass development (muscular fibers hyperplasia and hypertrophy) is mediated by cellular (activation of the satellite muscle cells) or by classic hormonal mechanisms, or through some metabolically active substances with paracrine/autocrine action.*

**Key words:** muscular mass, cellular, hormonal and metabolic regulation

## **INVOLVEMENT OF SOME PERIPHERAL ORGANS IN ENERGETIC HOMEOSTASIS REGULATION AT ANIMALS**

**P.C. BOIȘTEANU, Iolanda MĂRGĂRINT,  
Cristina G. RADU-RUSU, Roxana LAZĂR**

*The paper presents a synthesis related to the involvement of the extrahepatic peripheral tissues – adipose tissue, pancreas and gastrointestinal tract – in the energetic homeostasis regulation, through the feed intake physiological adaptation at mammals, while body weight remains relatively constant („set point”). There are analyzed those action mechanisms (endocrine, paracrine and/or autocrine) of the biological active compounds secreted by the adipose tissue (adiponectin, leptin, resistin), by pancreas (insulin, pancreatic polypeptide) and by the gastrointestinal tract (ghrelin, peptide YY, oxyntomodulin, cholecystokinin). The neuroendocrine and metabolic correlation are specified, as well as their influence on the energetic balance – through the stimulation or inhibition of feed intake, with consequences on the animals adiposity and body weight.*

**Key words:** energetic homeostasis, adiposity, peripheral tissues, leptin, ghrelin

## **BODY MEASUREMENTS IN MARAMURES BROWN BREED CATTLE AND TESTING OF TWO PROTOCOLS FOR GENOTYPING THE LEPTIN GENE LOCUS**

*Crina Teodora CARŞAI, A. VLAIC, Viorica COSIER, Antonia ODAGIU, Niculina ARMEANA*

*The body measurement of Maramures brown breed and testing two protocols for emphasizing the leptine gene in order to perform associations with some beef production traits within further studies were the aims of our research. The blood DNA extraction was performed according to the protocols proposed by Yves Amigues and Leifers. The body weight is within standards. The analyzed protocols used for leptine gene emphasizing led to satisfactory results, which will enable us to perform further research in order to make associations between this gene and body traits.*

**Key words:** *Maramures brown breed, leptine gene, body traits*

## **HORMONIC CONTROL OF THE REPRODUCTION FUNCTION WITH THE VIEW OF BREEDING AND IMPROVEMENT OF THE KARAKUL SHEEP**

*Elena FECIORU*

*More schemes of hormonal treatment were used on the basis on progestagens, prostaglandins, serumal gonadotropins and gonadorelins. The animal organism answer was had in view applying different hormonal schemes to induce the oestrus synchronization.*

*The results were acceptable. They show that the oestrus and ovulation apparition in the Karakul sheep can be stimulated by oestral cycle blocking, exogenous contribution of progesterone and administration of serumal gonatropins or causing the luteolysis by means of prostaglandins.*

*The average weight at birth of lambs is directly correlated with the twin lamb number and the useful surface of lamb pelts is influenced by the lamb weight at birth.*

*The experimental results are better using hormonal treatment schemes with progesterone and folligon in comparison with those in which the hormonal treatment schemes use estrumate, oestrophan and enzaprost.*

**Key words:** *Karakul sheep, hormones, reproduction, breeding*

## **DESCRIPTION OF THE PHYLOGENETIC RELATIONS IN SMALL RUMINANTS BY MEANS OF THE ISOENZYMES**

*Gh. HRINCA*

*This paper deciphers the genetic relations among different species, genres and breeds of small ruminants: domestic sheep, wild sheep (mouflon, argali, arkali), primitive sheep (aoudad, big horn sheep), native sheep (Kotlen) and goats (domestic goat, Rocky Mountain Goat) by means of some polymorph enzymes (isoenzymes) as: lactate dehydrogenase, NADH-diaphorase, superoxide dismutase, malic enzyme, nucleoside phosphorilase, carbonic anhydrase, catalase, arylesterase and alkaline phosphatase, determined by electrophoresis or spectrophotometry methods.*

*The comparative analyses of the isoenzymatic phenotypes contribute to some phylogenetic explanations of different taxonomic entities of small ruminants concerning similarity or differentiation among them, historical relations among them and their origin.*

**Key words:** *sheep, goat, genetic relations, enzymes*

# STUDY OF PHENOTYPIC CHARACTERS VARIABILITY OF THE EGG AND LARVA FROM THE NATIVE GENETIC STOCK OF THE SILKMOTH BOMBYX MORI L. SP.

*Alexandra MATEI, Magda ANDRONE,  
Agatha POPESCU, C. UNGUREANU*

*This study aims the analysis of phenotypic characters variability within the genetic stock of Bombyx mori sp., in the stages of egg and larva. The biological material has been represented by the 72 races which are the gene stock of silkmoth, grouped by their origin. The silkworm specific experimental technique has been differently applied, by technological and biological development stages. The main phenotypical and quantitative parameters of the races that represent the gene stock of Bombyx mori sp., have the following values: fecundity (230-710 eggs/laying), hatchability (80.6-100%), larval stage duration (26-32 days), larvae weight (4.2-5.7 g), larvae pupation (80.8-96.6%).*

**Key words:** *Bombyx mori L., phenotypic characters, fecundity, hatchability*

## CHANGES IN BOARS SPERMOGRAMM DEPENDING ON SEASON

*Elena MARANDICI, G. DARIE, Vera GRANACI,  
Alisa MORARU, V. HAREA*

*Reproductive function boar, as well as others function of an organism, is in interrelation with factors of an environment which have essential seasonal fluctuations. Change of a season of year influences duration of light day temperature, humidity of air and other parameters. The important factor influencing on reproductive function is the temperature of air. At temperature above 25<sup>0</sup>C the volume ejaculate decreases, increase quantity dead and pathological spermatozoa and Ph does not almost change. It is proved, that the thermal stress has a negative effect on sperm but only during direct influence, but also within 5-6 weeks after elimination of the temperature factor. Decrease in quantity and quality spermoproductions male pigs because of a heat during a true season is established and in our researches volume ejaculate and concentration spermatozoa were the highest during the autumn and winter periods. Studying of demonstrative enzymes – suctionatdeghydroghenaza and citohromoxidaza which are key enzymes and the process of the energy which is formed and are substantially connected with quantities, qualities and also season. Meteorological conditions, etc. the Revealed activity of oxidizing enzymes reflects an intensification of the processes of the energy which is formed that is interfaced to mobility and concentration spermatozoa.*

**Key words:** *Season, Boars, Spermogram, Oxidizing ferments*

## RESEARCHES CONCERNING THE SPERM PRODUCTION ACCORDING TO THE FREQUENCY OF COLLECTING THE SEMINAL MATERIAL AT BOARS

*G. NACU*

*We watched the level of sperm production at a number of 15 boars from the Duroc, the Great White breed and PIC hybrid, according to the rhythm of reproduction using. The collectings were made within an interval of 2, 3, 4 and 6 days.*

*The highest level of the medium daily production of spermatozoids was when it was made a two days collecting (17,0 billions of spermatozoids). The increasing of the interval among collectings lead to the collecting of a medium daily production reduced with 11,76%.*

**Key words:** *boar, sperm production, frequency of the collectings*

# THE STRATEGY OF SHEEP GENETIC IMPROVEMENT AND EXPLOITATION IN ROMANIA

*Gh. NEAȚĂ, C. ȘONEA, M. PETRESCU*

*The main goals in sheep genetic improvement are:- increasing the efficiency of sheep breeding sector by targeting their exploitation towards meat and milk production;- increasing the sheep flock at the national potential level established by the pastures total area;- stimulating the associations in order to improve the young sheep breeding and fattening aiming to provide meat for internal and external market;- increasing the internal meat consumption/inhabitant;- supporting the new slaughter houses founding and organization, and introducing the new equipments in the old ones, according to the EU requirements and standards;- increasing the breeders incomes by marketing their productions;- genetic improvement in order to increase the meat and milk productions;- intensive breeding by natural mating using authorized stock rams;- import of breeding sheep, frozen semen and embryos;- founding of new pilot centers for sheep breeding, genetic improvement;- seasonal grouping of lambing;- training of sheep breeders in order to increase the meat and milk productions;- conservation and support of sheep genetics.*

**Key words:** *sheep, genetic improvement, Tsigai, Merino, Karakul*

## THE CROSSES EFFECT BETWEEN BALTATA ROMANEASCA SIMMENTAL TYPE AND RED HOLSTEIN BREEDS ON SOME CONFORMATION AND MILK PRODUCTION TRAITS

*T. OROIAN, R.G. OROIAN, Simona PASCALAU, N. PASCA*

*This study presents some aspects concerning the conformation and milk production performances between Baltata romaneasca Simmental type and F1 hybrids (Baltata romaneasca x Red Holstain), R1 (75% Baltata romaneasca – 25% Red Holstein). The data were gathered from a total number of 46 cows, belonging to the three genetical structures, being all in the third lactation, from the farm Ernei, SCDB Targu Mures.*

**Key words:** *Baltata romaneasca, Red Holstain, conformation, milk production, crosses effect*

## SOME RESULTS REGARDING THE USE OF RAMS ȚIGAIE WITH BLACKHEAD FROM TELEORMAN IN CROSSBREEDING WITH DIFFERENT ROMANIAN SHEEP BREEDS

*Paula POȘAN, Mirela SUSAN, Angela STOICA, M. SUSAN*

*For a rapid amelioration of sheep population there is used the method of infusion crossbreeding. In order to increase the productive potential of the ewes Țigaie from Brașov there are used rams Țigaie with BlackHead from Teleorman (Carabașă), until F 1. The purpose was to create sheep population with mixt production milk-meat.*

*There was done infusion crossbreeding between ewes Țigaie from Brașov and rams Țigaie with BlackHead from Teleorman and ewes White Țurcană from Gioagiu-Orăștie and rams Țigaie with BlackHead from Teleorman*

*There was analyzed the body weight at birth of lambs from simple and twin gestations and the body weight of lambs at 6, 9, and 12 month*

*There was observed that F 1 crossbred animals had higher value for prolificacy and birth rate. Also the body weight at birth, at 6, 9 and 12 weeks is higher at F 1 crossbred lambs, at simple and also at twin gestation, for both males and females.*

**Key words:** *sheep, crossbreeding, Țigaie, BlackHead, Țurcană*

# I. THE GENE THEORY OF SEXUALITY OF GALINACEAE

**Fl. PRICOP**

*The genetic determinism of sex in genetic recombination of Galinaceae was explained in literature on the chromosomal level by the existence of the male sex, homogametic ZZ, and of the female sex, heterogametic ZW, as well as by the existence of genes within the chromosome Z and by the absence of genes within the chromosome W<sup>1</sup>. In this paper we present the experimental results of direct and reciprocal genetic recombination. The experimental design allows the identification of the dominant sex gene linked to the gene that determines the plumage color in the first generation females. Both these genes are located within the chromosome W. In the same generation the recessive sex gene was identified within the chromosome Z. The second generation was obtained by cross of the males and females of the first generation. In each category of genotypes of the second generation males and females are displayed equally. Three categories of genotypes were produced, namely dominant homozygous, heterozygous and recessive homozygous. The experimental results demonstrate that within the chromosome W both the dominant sex gene and the gene transmitting the plumage color are located. Our results are not in accordance with the hemizygotic theory<sup>1</sup>.*

**Key words:** poultry genetic recombination; genetics of feather color of Galinaceae; day-old chick's sex screening.

## RESEARCHES REGARDING THE DECREASE OF PUERPERAL DISORDERS INCIDENCES AT DAIRY COWS, DIFFERENT METHODS

**Elena RUGINOSU, Mariana SOFRONIE,  
M. PÎNTEA, Șt. CREANGĂ, Iulia COSTEA**

*The experiment had been developed in dairy farm, Black and White Spotted breed from the Research and Development Station in Cattle Breeding from Dancu Iassy, on two groups, 14 heads for each group (an experimental group respectively control group) with the same physiological state: advanced gestation (9<sup>th</sup> month) and puerperal period.*

*The feeding base of animals was identical for those two groups, according to the necessary, with the difference that the experimental group had received vitamins and minerals mixtures, a type for the dry period and others for early lactation period. In postpartum period to the cows of experimental group us had their given the treatments with an imunomodulator, Polidin, 8 ml./ head, in the first day and then it has been repeated to 24 hours and 14 days postpartum, s.c. in association with PGF<sub>2α</sub>, Proliz, 2 ml./ cow, i.m., at the 14 days and 28 days postpartum.*

*The cows from the control group had not benefited of vitamins and minerals mixture nor others treatments for the stimulation of sexual function.*

*The analysis of the results recorded by experimental group shown a decrease of puerperal affections incidence with 7,14 % (7,14 % towards 14,28 %); lower intervals between parturition and first artificial insemination postpartum with 5 days (65 days towards 70 days), interval between parturition and conception with 10 days ( 100 days towards 110 days); higher gestation rates with 7,14 % and 14,28 % for the first artificial insemination (42,85 % towards 35,71 %) and all artificial inseminations, respectively ( 71,42 % towards 57,14 %), comparatively with control group.*

**Keywords:** dairy cows, feeding, reproduction parameters, puerperal disorders

## APPROACH REGARDING THE LEPTIN GENE ISOLATION TECHNIQUES FROM SHEEP ADIPOSE TISSUE

**Claudia Terezia SOCOL, A. VLAIC, Viorica COSIER**

*The isolation of the leptin gene and its amplification is one of the first steps in the laboratory experiments of obtaining the recombinant leptin. An optimized efficient method for the isolation of the ovine leptin gene, having as a starting material RNA extracted from the ovine subcutaneous adipose tissue is described in this paper; the cDNA obtained by reverse transcription is used for the ovine leptin gene amplification by the PCR technique with specific primers which have been designed according to ovine*

leptin gene mRNA encoding sequence(U84247). The PCR product was purified by cutting the 438 bp band from the agarose gel; being used in further cloning experiments in specific vectors for producing the recombinant leptin in *E. coli* host cells.

The necessity of producing recombinant leptin is essential for the possibility of realizing fundamental research works regarding the study of different metabolic pathways, reproductive activity and for solving the problems regarding the pathology of some animal and human systems (circulatory and bony system, genital area affections). The main advantage of obtaining recombinant proteins eliminates the risk of allergic and immunological reactions and the contamination with viruses, present in classical methods of hormones and protein extraction from animal tissues, and also the possibility of realizing this processes in bioreactors, obtaining in this way a time and a space economy, and also a significant financial profit.

The role of leptin in the organism has not yet been well established, researchers having contraries opinions regarding the influence of the oscillating levels of this hormone in the animal organism. The present and the future results of this study can be applied to obtain other proteins of commercial interest for the zootechnic, medical area and for the food and pharmaceutical industry.

**Key words:** Sheep, Adipose tissue, Leptin, Isolation technique

## THE EFFICIENCY OF MICROELEMENT UTILISATION IN THE FEEDING OF BULLS ON THE SPERM PRODUCTION

**Gh. TATARU**

In order to materialize the genetic potential of the body to synthesize quantitatively and qualitatively a certain production it is necessary the animals, concomitantly with the organic nutritive substances (proteins, lipids, glucides), receive also other biologically active substances. Among them the group of mineral elements – microelements, which can be found in fodder in very small quantities, has a very important role.

The researches that have been carried out regarding the content of microelements in the fodder utilized in the feeding for taurins in the conditions of the Republic of Moldova have shown that they are scanty in one or more elements, and that their content in a ration do not answer the animals' necessity.

The purpose of the researches was the study of the impact of microelements on the sperm production in bulls, the Baltata cu Negru breed, the Moldavian type.

After the investigations it was determined that if sulfur salts of Cu, Zn, Mn, Co, and potassium iodide are added to the main rations, the quantity of the sperm fluid increases to 7.71% and the spermatozoon density to 10.79%. It has permitted to obtain supplementary 413 doses of seminal material per bull.

**Key words:** microelements, ejaculates, spermatozoids concentration, bulls

## RESYNCHRONISING OESTRUS AND OVULATION AFTER NOT-PREGNANT DIAGNOSIS AT DAIRY COWS

**M. COLĂ, Florica COLĂ, C. GĂVAN**

Two protocols of resynchronising estrus and ovulation to non-pregnant dairy cows were experimented at SCDA Simnic Craiova. The experiment was performed on cows at first lactation and with more than two lactations.

The females were given medication specific for "HEATSYNCH" and "OVSYNCH" protocols absolutely at random.

The females in estrus after the initial treatment with GnRH were artificially inseminated (AI) in order to increase their conceiving rate. The rest of the females were inseminated at intervals of 65 and 74 hours after PGF<sub>2</sub>α treatment. On the whole, the conceiving rate was almost the same for both females following "HEATSYNCH" protocol and "OVSYNCH" protocol.

**Key words:** estradiol, GnRH, PGF<sub>2</sub>α, resynchronizing estrus and ovulation

Abbreviations: YB = yellow body; A.I. = artificial insemination; E = estradiol; GnRH = gonadotrophiu realeasing hormon; LH = luteinizing hormone; PGF<sub>2</sub>α = P<sub>2</sub>α, prostaglandin.

## **OBSERVATIONS CONCERNING THE INFLUENCE OF ENVIRONMENT FACTORS ON PARTRIDGE POPULATION (*PERDIX PERDIX*) FROM PIȘCHIA HENNERY, FOREST DISTRICT, TIMIȘOARA**

**D. DRONCA**

*In this work we are presently the technology of raising partridges in captivity. We notice, that after hatching the partridge chicken, with a body weight of 7 grams, are raised on sawdust ground, under thermostat at 32 degrees, then following a decrease of one degree, each day plenty of water.*

*The nourishing takes place in the first three weeks with a diet that assures 29% crude protein annual 12 Mj/kg/EM. The content in protein decreases at 22-24% at 5 weeks, then reaches 18% at 6 weeks and achieves 14-15% after 10 weeks.*

*After age of 6 weeks, the chickens are feed in the shelter with possibility of movement during the day.*

*In July-August, the partridges are separated on sex and in February the pairs are coming together and are brought in special caves with shelters for laying eggs.*

*The obtained eggs are gathered and kept at 7-10 degrees, and after that they are incubated at a specific regime for partridges.*

**Key words:** partridge, captivity, endangered species

## **ESTIMATION OF THE SPECIAL COMBINATIVE CAPACITY FOR LIVE BODY GAIN IN A GROUP OF HYBRID RABBIT YOUNG STOCK DURING THE FIRST NURSING PHASE**

**D. DRONCA, N. PĂCALĂ, Mihaela IVANCIA, I. BENCSIK,  
Marioara NICULA, Liliana BOCA**

*Based on 117 rabbit hybrids, divided in two groups (A and B) having different heterozygous degree, the paper intends to demonstrate in which extent the different genetic structure, namely the heterosis effect, influences the weight gain capacity of the rabbits during the suckling period. Results demonstrate the superiority of the interracial double hybrids. There is a good specific combinative capacity between Large Chinchilla and White New Zealand breeds; therefore we recommend these hybrids for semi intensive (extensive) rearing.*

**Key words:** heterozygosis, hybrid vigour, genetic structure

## **REPRODUCTIVE TECHNIQUE APPLIED TO INCREASE THE PROLIFICACY OF RABBIT SPECIES**

**Andrea HETTIG, M. BOTHA, M. ZĂHAN, I. ROMAN**

*The aim of this paper was to evidence the possibility of prolificacy increase at rabbit species without expensive methods, using simple reproduction techniques. For the experiment we use 7 White-Neozeelandez multipare females with a 4.5-5 kg weight and a White-Neozeelandez male with 5 kg. The females were kept in the same microclimate conditions and benefiting the same composition of forage. Confronting the literature we know that the ovulation in rabbit females is produced at 9-10 hours after the mating. Also, the oocytes remain viable and can be fertilized for 6-8 hours and the swimming speed of the spermatozoa is 2-3 mm/minute. We made our experiment following these desiderates. Seven females were mated just once, considering them the control, obtaining in average  $7 \pm 1.71$  offsprings. The females were mated again after 3 weeks, but this time the reproduction technique was the repeated mating. The second mating was done 6 hours after the first, considering this the experimental lot. In the second condition we obtain in average  $9 \pm 2.11$  offsprings. This result shows that this reproductive technique gives better results increasing the numbers of offsprings with 28% comparing to the usual techniques, which is very useful in the intensive breeding systems.*

**Key words:** rabbit, reproduction, prolificacy,

## **THE INFLUENCE OF CYSTEINE, GLYCINE AND METHIONINE ON *IN VITRO* MATURATED SWINE OOCYTES**

*Andrea HETTIG, M. ZĂHAN, Ileana MICLEA, M. BOTHA, I. ROMAN*

*The aim of this paper was to determinate the effect of some amino acids on in vitro maturation process on swine oocytes. A total of 180 oocytes were places in 4 experimental lots in 3 repetitions. The control contains maturation medium without any addition and 45 oocytes. The experimental lots contains cysteine (0.57mM) and lysine (0.50mM), another contains glycine(0.97mM)and methionine(0.55mM).The last contains all the amino acids together with the mentioned measures. These 12 droplets was covered with mineral oil and incubated 42 hours at 37<sup>0</sup> C and in an atmosphere containing 5% CO<sub>2</sub> in air. The most number of maturated oocytes (95.55%) were in the droplet with all the amino acids together, high percentage obtained because of the presence of cysteine and lysine especially of cystein's.*

**Key words:** oocyte, maturation, amino acids, in vitro, pig

## **RESEARCH CONCERNING THE USE OF ANTIOXIDANTS IN THE MATURATION MEDIA OF OOCYTES**

*Ileana MICLEA, V. MICLEA, M. ZĂHAN,  
Andrea HETTIG, I. ROMAN*

*The goal of this study was to establish the influence of certain vitamin C and E concentrations on swine oocyte maturation. Pig oocytes were cultured for 48 hours at 37°C in an atmosphere with 5% CO<sub>2</sub>, in M199 containing several vitamin C (50, 150, 250, 500, 750 mM) and vitamin E (5, 10, 20, 40 and 80 mM) concentrations. The addition of vitamin C to the maturation medium lead to an increase in the number of maturated oocytes, which proved to be significant for 500 mM ( $p < 0,05$ ) and distinctly significant for 50, 750 mM ( $p < 0,01$ ). The addition of vitamin E had a negative effect but that can be ascribed to the solvent used, polietilenglicol ricinoleate.*

**Key words:** Oocytes, Maturation, Antioxidants, ascorbic acid, tocopherols

## **THE SOW AGE INFLUENCE AND FARROWING ORDER ON THE DEVELOPMENT OF THE SUCKLING PIGLETS**

*I. PAȘCA, R. MORAR, Dana PUSTA, T. OROIAN, R. OROIAN,  
Antonia ODAGIU, Claudia BAGITA*

*The main production in swine rearing and fattening unities is meat production. The quality of the reproduction sows, the sows' age that influences the number of the farrowed and weaned piglets, respectively, have very important role in meat production.*

*Our research emphasizes that the number of the farrowed piglets increased in the mean time with sow ageing, but the body weight at parturition decreases in multiparous. This is a disadvantage because the body weight of the piglets at parturition is positively correlated to the piglets' body weight at weaning. Concerning the influence of the farrowing order on the body weight at parturition, results that the first two farrowed piglets have bigger body weight compared to the third. The best developed are those from the middle of parturition.*

**Key words:** sow age, farrowing order, piglets, viability, development

## **OBSERVATIONS REGARDING SOME REPRODUCTIVE PERFORMANCES AT F 1 CROSSBRED FEMALE ȚIGAIE WITH BLACKHEAD FROM TELEORMAN AND WHITE ȚURCANA FROM GIOAGIU-ORĂȘTIE**

*Mirela SUSAN, Paula POȘAN, Angela STOICA, P. TĂPĂLOAGĂ*

*In actual condition of sheep breeding intensivisation, the reproduction rate is a synthetic index to appreciate the profitability of sheep exploitation, in order to increase the animal livestock and their productions.*

*The observations were done in a private sheep farm from Gioagiu-Orăștie region, during 3 years long (2004-2006).*



*The biologic material was represented by ewes White Țurcană from Gioagiu-Orăștie, Țigaie BlackHead from Teleorman and F 1 crossbred animal Țigaie BlackHead from Teleorman x Țurcana from Geoagiu-Orăștie.*

*There was registered the number of mated sheep, delivered sheep and number of lambs. There was calculated and analyzed: fecundity, birth rate and prolificacy.*

*The result shown that F 1 crossbred females are a viable alternative to improve reproductive performances of Țurcana from Geoagiu-Orăștie, in order to obtain a higher number of lambs with high quality, which can be breed with a maximum of income.*

**Key words:** *F 1 crossbred, Țigaie BlackHead, White Țurcana, Fecundity, Prolificacy, Birth rate*

## **ASPECTS REGARDING THE EVOLUTION AND PERSPECTIVE OF THE MEAT MARKET IN ROMANIA, IN THE CONTEXT OF THE INTEGRATION IN THE EUROPEAN UNION**

**Ramona-Vasilica BACTER, C. BACTER,  
I. CHEREJI, Elena GÎNDU, A. CHIRAN**

*After a period of obvious meat market crash in Romania, generated by the drastic drop in the animal stocks in the total production of live meat, but also due to the insufficiency of the possibilities and sources of financing, after the year 2000 comparing to the period 1990-1999, we have witnessed a slight tendency of reinvigoration in the production of local meat, fact which also led to the improvement of the index of self-supply of the demand of meat consumption of the population.*

*The study was achieved in Romania and was based on the analysis of a system of indicators focused on the following aspects: stocks of animals, species; animal production, per species; meat annual consumption per inhabitant; import-export of meat and meat products.*

*The analysis was done during 2000-2005 and had as purpose the familiarization with the features of meat market from Romania after the year, but, especially, during the period after the year 2000.*

*The indicators analyzed have highlighted several trends regarding the evolution of the national market at meat, with obvious differentiations between species. Aspects related to the evolution and structure of Romania's import-export for alive animals, meat and meat products were also revealed, insisting on the inadequate report between import and export, which, in 2006, reached 3,25:1, generating an unbalanced and adverse payment balance.*

*Also, a series of measures regarding the possibilities to extend the meat market and to increase the food safety for meat and meat products were taken, in the context of accession to the EU and Romania's alignment to the technical and legislative regulations of the European Union.*

**Key words:** *Meat market, Consumption, Pork, Beef, Poultry*

## **THE EFFICIENCY OF THE UTILIZATION OF ELEMENTARY SELENIUM ADDITION TO THE RATIONS OF WATER AND FODDER FOR CHICKENS**

**Larisa CAISÎN**

*Almost all off the foddors don't provide necessity in selenium. Micro supplements of selenium salts into chicken's ration favor stimulation of growth. Necessity in producing of mixed food with supplement of selenium for chickens are obvious.*

*In order to study the efficiency of the utilization of selenium addition in the chicken rations we have done a scientific and farm experiment. During the experiment an addition of selenium at the level 0.25mg/kg of dry substance with fodder and water was added to the rations of the chickens in the experimental group. The data on the live mass have shown that the live mass of the chickens in the experimental groups was greater in comparison with that in the control group.*

*In our experiments, in using selenium supplements in mixed food for quick-growing chickens we also got positive results in body mass, spending of foddors and preservation, but it is necessary to continue research.*

**Key words:** *Selenium addition, feed intake, live weight, slaughtering yield, chickens*

## **THE EFFECT OF REPLACING THE ALFALFA MEAL FROM THE COMPOUNDED FEED OF WHITE NEW ZEELAND RABBITS WITH THE ARBOCEL PRODUCT**

**C. COMAN, Elena POPESCU – MICLOȘANU, Cristina PÎRVULEȚ, Dorina PĂTRU, Minodora TUDORACHE**

*Considering the particular nutritive needs of the rabbits for the level of the cellulose into the mix fodder, it was tried to find a new way to satisfies those needs with a low price and a better profitability. In this experiment it was replaced 8% of the alfalfa meal from the compounded feed with the arbocel product. This is a source of celluloses obtained as a wood sub product. At the end of the 4 weeks experiment, resulted that the using of the arbocel product in the mix feed was good for the rabbits production. He reduced the mortality rate by 15%, the weight gain and the specific consumption were meaningful better The final conclusion is that the compounded feed with arbocel can bee used in the alimentation of the rabbits, but it is necessary to repeat the experiment for forded clarifications of all aspects regarding his using.*

**Key words:** Alfalfa meal, Arbocel, New Zealand Rabbit, Body weight, Mortality

## **RESEARCHES CONCERNING GRAZING CAPACITY AND PASTORAL VALUE OF MEADOW FESCUE GRASSLAND FROM SURDUC'S HILLS**

**Carmen Claudia DURAU, Al. MOISUC, I. PĂDEANU**

*This work presents a study on the pastoral value and grazing capacity dynamics of grassland dominated by Festuca pratensis Huds. Vegetation inventory is realized during three years. Even the pastoral value and grazing capacity decrease a year to another, this grassland is framing in category of good pastures from economic forage point of view.*

**Key words:** Grassland, Grazing value, Graminacee, Festuca, Meliferous

## **RESEARCH UPON ORAL ADMINISTRATION OF ORGANIC SELENIUM TO DAIRY COWS**

**N. FLEANCU, I.M. POP**

*The researches related to selenium deficit in soil- plant- animal relation are an important present-day topic at the international level due to the development registered as regards the establishment of the biological role of this oligo-element. Therefore, some tight correlations were established between selenium deficit and the evolution of some diseases at taurines (as well as at some other species), such as: nutritional miodystrophy, dietetic hepatitis, miopathy and dispnea syndrome, abortions, infertility.*

*Moreover, it was noticed that Se has a very important role in maintaining the efficiency of the antioxidant system; as a seleno-cysteine form, Se forms the active centre of seleno-proteins. These proteins are completely functional when the animal organism does not present selenium deficits, but this requires a sufficient administration of this essential element within daily feed. Assuring the biological necessary of Se significantly increases the level of production, the reproduction indices and ameliorates animal health.*

*Taking into account that some geographical regions in Romania present Se deficits, direct selenium supplementation for animals became a must being considered an ordinary practice in breeding animals; still, if we consider the latest researches related to Se, its administration form shall be reconsidered, as nowadays the mostly used form of administration is anorganic. Still, the organic form of administration is recommended in the future, especially as this form was discovered to be very biodisponibility.*

**Key words:** Antioxidants, Organic Se, Vitamin E, Per os, Dairy cows

# INVESTIGATION CONCERNING THE EFFECT OF ADMINISTRATION BioR PREPARATION ON BLOOD LIPIDS METABOLISM IN SIRE BULLS

Vera GRANACI

*The efficiency of microalgal preparation BioR administration in sire's bulls in the bloods lipids metabolism and androgens hormones synthesis was studied. The BioR extract from Spirulina platensis have a more powerful influence on lipids homoeostasis. BioR reduce considerably peroxidation of bloods lipids, the amount of cholesterol and increase the blood concentration of triglycerides and  $\beta$ -lipoproteins. The results of the testosterone quantity show the significantly increase when the BioR is administrated on doses 0,1 and 0,4 ml/ 100 kg bodily weight/day during 10 days.*

**Key words:** *Spirulina platensis, lipid metabolism, triglyceride, cholesterol, bulls*

## FEEDING SOLUTIONS TO IMPROVE PIG MEAT QUALITY

Veronica HEBEAN, Mihaela HĂBEANU, Ionelia ȚĂRANU,  
Daniela MARIN, Mariana ROPOTĂ, Viorica TAMAȘ

*To increase to content of polyunsaturated fatty acids ( $\omega_3$ ) in the meat pig lipids and to avoid the lipid peroxidation processes, the compound feed for fattening-finishing pigs was supplemented Camelina oil and an antioxidant premix obtained from plants (buckthorn meal, flax seeds meal, topinambur flour, kettle). Thirty Large White pigs with an average weight of 67 kg were assigned to 3 groups of 10 pigs each and fed for 42 days three compound feeds formulations: group C received a compound feed made of conventional ingredients (corn, sunflower meal, soybean meal, toasted soybeans); group E1 received a compound feed made of ecological feed ingredients grown in certified ecological farms (corn, sunflower meal obtained by cold pressing, toasted soybeans) supplemented with Camelina oil (containing over 47% linolenic acid) obtained by cold pressing; group E2 received the same compound feed as group E1, supplemented with an antioxidant premix made from plants. The antioxidative activity of the antioxidant premix made from plants was determined by assaying the extracellular synthesis of superoxide anion, which was lower in group E2 than in group E1, and by assaying the content of triglycerides which was significantly lower in E2 than in E1. The fatty acids profile of the pig meat (leg and longissimus dorsi) was assayed; a significant (three fold) increase of linolenic acid ( $\omega_3$ ) was determined in group E2 compared to group C.*

**Key words:** *Feed fatty acids, Antioxidants, Camelina oil, Pork quality*

## EFFECTS OF DIFFERENT DIETARY FAT SOURCES ON GROWTH PERFORMANCES AND CARCASS FATTY ACID COMPOSITION OF BROILER TURKEY

D. MIERLIȚĂ, I. CHEREJI, Cristina MAERESCU

*The research aims to study the effect of the concentration and source of PUFA supplying in turkey chicken BUT Big 6, on production performances and profile of the fatty acids from some tissues (breast, legs and liver), using different fat sources with variable degree of saturation (PF-pig fat, SFO-sunflower oil, SO-soybean oil, FFS-full fat soya). The increase of the PUFA share in the structure of the fats included in turkey chicken feeding led to the significant improvement of the production performances (weight gain, forage intake and degree of fed valuation), and carcass traits (the breast share in carcass structure increased, and fat deposition -decreased). The PUFA concentration in feeding was positively reflected on the profile of the fatty acids from breast, legs and liver structure, and on some blood parameters (decreased the level of the tryglicerides and total cholesterol). The best quality meat, analyzed from the point of view of the influence on humans' health (low fat content, high PUFA share and an optimum n-6/n-3 fatty acids ratio) was recorded in breast meat, when FFS was used were superior to those obtained with SO, concerning the fatty acids from n-3 series, especially, considered deficient in humans nutrition.*

**Key words:** *broiler turkey, fat sources, growth, carcass fatty acid composition*

# “NUTRITIONAL SOFTWARE TO FORMULATE AND EVALUATE HUMAN DIETS –NUTRIMEN”

**I. SURDU, Cornelia PENCEA, R. LICHARDOPOL,  
Gh. BUDAN, Aurora CIOCÎRLAN**

*To elaborate a software application for conception and evaluation, regarding a diet in human consumers, infers to the creation of applicative modules which are acting for: Evaluation of nutritional characteristics for ingredients contained by human diets; Defining a nutritional data base; Calculating a human nutritional requirements, depending on age, physiological status and risk factors; Conception and calculus for the age selected by user, on a diet; Efficiency estimation for a chosen diet, on a particular age, for some risk factors.*

*This software application is an important logistical support to consequently develop a ground research and also an efficient tool for nutritionists and medical doctors, in order to improve the effect of nutrition and to ameliorate their state of healthiness.*

*With the purpose of fulfilling the above mentioned functions, the software for conception and calculus on a diet, involves 3 modules: Evaluation for nutritional values in food; Calculus for nutritional requirements; Conception, calculus and estimation on a diet's efficiency.*

*The first module, which relates to evaluation for nutritional values in human food, contains a data base with specific items for nutritional metabolism in human being. Food supplies are divided on multiple level, generally noted as: Group, Subgroup, Type, Subtype, Product, Subproduct.*

*The main nutrients considered to evaluate nutritional values in human food are: brute energy, total proteins, total nitrogen, aminoacids, total fats, saturated fatty acids, monounsaturated fatty acids, polyunsaturated fatty acids, available carbohydrates, total carbohydrates, saccharides, cellulose, ashes, humidity, vitamins and minerals. The data basis includes two parts: a references data base, including standard values for products with established values, given by the reference materials, and an user data base with complete access regarding adding or correcting data given by the lab tests.*

*The reference data provides evaluation methods for nutrient calculus, conforming to the methods elaborated in cooperation with specialists at IDNBM Bucharest. This module formulates the calculus for nutritional requirements, based on mathematic models, and performs the selection for nutritional requirements from a data base with nutritional specifications.*

*The module for conception, calculus and estimation on a human diet's efficiency permits to set up a meal conforming to nutritional requirements established by the model, physician or user and to establish a degree of fulfillment for nutritional requirements in a diet. An efficiency report shows the lack or excess of nutrients, so the user could take a corrective measure. Diets are calculated in grams for each meal and luncheon.*

**Key words:** *nutritional value, nutritional requirements, diet formulation, evaluation, software*

## RESEARCHES REGARDING QUALITY IMPROVEMENT OF CONSUMPTION EGGS' YOLK BY INTRODUCING SPECIAL FODDER ADDITIVES TO POULTRY NOURISHMENT

**Madlen Lăcrămioara ȘTEFLEA**

*The research has been finished within Avicola Lumina Company Constanta, on a total number of 1000 hens belonging to the commercial hybrid Roso-SL 2000, which have been divided into 5 experimental allotments (Lc, L1 exp, L2 exp, L3 exp and L 4 exp). The feeding has been done using mixed fodder especially for top egg laying, with the specification that in the food used for the experimental allotments different fodder additives have been used for yolk colouring as follows: for L1 exp Oro Glo Layer Dry additive has been use in a doses of 100 g/t; for the L2 exp allotment Klem Glo 5 Dry has been used in a doses of 1 kg/t; for L3 exp allotment a mixture of additives was introduces form by Oro Glo Layer Dry 150 g/t and Klem Glo 5 Dry 1,2 kg/t; for the L4 exp allotment Carophyll Yellow additive has been used in a doses of 35 g/t.*

*After the current experience, it has been noticed that the additives used had no influence on the production of eggs or on the food consumption, but only on the intensity of the yolk colouring, determining an improvement of 91.75 – 121.64 %.*

**Key words:** *yolk, colour, additives, hens, poultry*

## NITRATE/NITRITE RESIDUE LEVELS IN SOME DAIRY COW FEED INGREDIENTS AND THEIR TOXICOLOGICAL SIGNIFICANCE

*Aida ALBU, O. POPESCU, Cecilia POP, I.M. POP*

*Nitrates/nitrites are potentially toxic especially for ruminants as they are used to amend soil from which they are absorbed by plants. If in excess of the plant metabolic needs to build up its aminoacids and proteins, they reach the ruminant digestive tract as such where they are reduced to nitrites. The nitrites are the essential toxic form that cause methemoglobinemia with acute effects or some metabolic disturbances in the long run e. g. hypovitaminosis A, infertility etc.*

*The goal of the present work was to evaluate the nitrate/nitrite residue levels in various dairy cow fodders during one year and to assess their potential toxic effects to the dairy cows.*

*The mean values of the residues ranged from 0.66 to 38.17 mg/kg dry matter for nitrates and from 0.23 to 1.26 mg/kg dry matter for nitrites. The analytical results were significantly lower than those showed in literature to have harmful effects to the dairy cows.*

**Key words:** nitrate/nitrite residues, fodders, dairy cows.

## NITRATE/NITRITE RESIDUES IN FEEDSTUFFS AND BROILER MIXED FEEDS AND THEIR POTENTIAL TOXIC EFFECTS ON ANIMALS

*Aida ALBU, O. POPESCU*

*Too high nitrate/nitrite levels in diets can cause health problems in animals. These problems can be avoided by proper management of feedstuffs and livestock. Toxicological analysis of feedstuffs is thus very important for farmers.*

*The goal of present research was the evaluation of the nitrate/nitrite residue levels in some feedstuffs and chicken broiler mixed feeds.*

*Thirty five samples of starter, grower, finishing feed, corn meal, wheat, soymeal, fullfat soylmeal to determine the residual nitrate-nitrite levels were investigated.*

*Feed samples were harvested according to SR ISO 6498:1999 and analysed according to SR 13175-93 method using a UV-VIS Shimadzu UV mini 1240 spectrophotometer.*

*Mean values of the residues ranged from 1.30 to 2.28 mg/kg dry matter for nitrates and from 0.23 to 1.26 mg/kg dry matter for nitrites. The analytical results were significantly lower than those showed in literature and were under the maximal limits established by the ANSVSA Ord. no. 18/2007 to have harmful effects to broilers and can used without restriction.*

**Key words:** nitrate/nitrite residues, feeds, chicken broilers

## THE QUALITY OF GALEGA–GRASS SILAGES

*Ligita BALEŽENTIENĖ, Sabina MIKULIONIENĖ*

*The biomass of legume fodder galega (*Galega orientalis* L.) has high protein content (14–26%), especially at budding–flowering stages. This crop is suitable for making different sorts of forage: silage, hay, haylage, ground hay etc. Chemical composition of fodder galega is more valuable forage than traditional fodder plants red clover and timothy. For supplying livestock with succulent forage during the year and for producing high quality silage galega mixtures with grasses containing many water–soluble carbohydrates (WSCs) were ensiled. Possibilities to ensile early flowering stage fodder galega' mixtures (1:1) with orchardgrass (*Dactylis glomerata* L.), timothy (*Phleum pratense* L.), wheat–grass (*Elytrigia repens* L.), milk stage maize and sugar beet leaves were studied at Research Station and Training farm of Lithuanian University of Agriculture in 1998–1999. Fresh matter was cut at a length of 12–13 mm, thoroughly pressed and hermetically packed in 3 l jars. All silage kept 6.5 month at (3–5)<sup>0</sup>C under laboratory conditions. 0.3% formaldehyde pitch of carbamide was applied in pure galega and galega–maize (1:1) silages. The chemical composition was determined by standardized methods at Agrochemical laboratory of LAU as well as metabolic energy (ME) and netto energy of lactation (NEL) of DM feeds were calculated. Examined crops and dry matter (DM), pH, neutral detergent fibre (NDF), saccharose and acids of silages were determined*

according Wender forage analysis in 'Tempus' laboratory of Lithuanian Agricultural University. Element concentrations in DM were analysed using near-infrared reflectance (NIR) spectroscopy according to the database of research plants.

The results indicate that quality of pure galega and galega-wheat-grass silages was bad because unbalanced ration of protein and WSCs. It was concluded that fodder galega profitable to ensile with grass component which accumulated not less than 30 % DM.

**Key words:** galega, grass, silage, chemical composition

## THE IMPACT OF DIFFERENT GROWING SYSTEMS ON FORAGES QUALITY

**Ligita BALEŽENTIENĖ, Sabina MIKULIONIENĖ**

Intensification of agriculture induced applying of heavy amounts of mineral and organic fertilizers and various pesticides about 60 yrs ago in the West Europe countries. Due to the chemical load the animated part of soil started to decline. Intensive farming system influenced decreasing both different soil fauna (insects, earthworms) and microorganisms (bacteria, actinomycetes, algae, fungi and protozoa). By way of alternative of such aggressive farming integrated, extensive and organic agriculture systems began spread inherently. The main aim of this research was to determine and compare chemical composition of forage cereals (barley, wheat, rye, out and triticale) cropped in different farming systems. Dry matter (DM), crude ash (CA), crude fat (CR), neutral detergent fibre (NDF), acid detergent fibre (ADF), acid detergent lignin (ADL), content of mineral, trace element and heavy metals were determined for estimation of feed value of tested cereals grain. The highest content of important essential amino acid methionine+cystine ( $5.0 \text{ g kg}^{-1} \text{ DM}$ ) and lysine ( $4.7 \text{ g kg}^{-1} \text{ DM}$ ) was determined in chemical composition of out. The equal content of triptofane (1.2) was determined in wheat, out and barley. [Tryptophan](#) is a precursor of the neurotransmitter [serotonin](#). The smallest content ( $0.95 \text{ g kg}^{-1} \text{ DM}$ ) of this amino acid was found in rye. Mineral and trace elements concentrations in DM ranged: Ca– 0.3–0.9, P – 3.3–3.7, Mg – 1.1–1.2 and Na – 0.16–0.35  $\text{g kg}^{-1}$ . Organically cropped grain contented less of protein and fat, but crude fiber content increased in compare with intensive cropped ones. CP varied from 8.2 (triticale) to 11.5% (out) in organic cropped grains. CP content was a markedly higher of intensive cropped grain and constituted from 11.9–14.5%.

**Ke ywords:** cereals, organic and intensive farming, chemical composition

## STUDIES ABOUT THE INFLUENCE OF SOME VEGETATIVES ADDITIVES USED ON THE GROWTH PERFORMANCES AND BROILERS MEAT QUALITY

**P.C. BOIȘTEANU, I.M. POP, Cecilia POP,  
Lenuța FOTEA, M.G. USTUROI**

Two medical and spicy herbs, *Satureja hortensis* (thyme) and *Anethum graveolens* (dill) were studied in order to test their biostimulating potential and possible influence on the carcass and meat quality, when used as supplement in animal feed, like botanical feed additives.

The herbs were administered as powder in the compound feed.

The experiments were made on broilers Ross 308, organised in 3 experimental groups: one control group (C), first experimental group with control feed + thyme 0,6% (E1) and second experimental group with control feed + thyme 0,6% and dill 0,3% (E2), during 0 at 42 day of age.

The results concerning the final body weight were significant higher at the both experimental groups (more than 6%, like the daily body gain) in comparison with control; the feed conversion was better in experimental groups (FCR less 3.35% than control). The weight of carcass, main trench portions and internal organs was in relation with the medium body weight.

Meat quality, expressed through organoleptic, physical and chemical properties, was not obviously influenced by the use of the two botanicals additives.

**Key words:** botanicals, feed additives, broilers, performances, meat quality.

## **RESEARCHES CONCERNING THE CONVERSION OF NUTRITIVE SUBSTANCES FROM MULBERRY TREE LEAFS USED IN THE BOMBYX MORY LARVAE SUSTENANCE**

**M. DOLIȘ**

*During the experiments performed upon different the silkworm larvae hybrids, the mean ratio between the dry substance from the ingested leaf and the dry substance gathered by larva in the form of body matter, during all the larva period, was 4,5417, in this case, the efficiency of conversion of ingested food in the body matter of larva (ECI-body matter) being 22,02%. As regarding the utilization of sustenance from the mulberry tree leaf in the silk shell of cocoons, the mean ratio between the ingested dry substance and the dry substance from the silky shell of cocoons was 10,5317, the efficiency of conversion of ingested food in silk shell (ECI-silk shell of cocoons) being, in this case, 9,50%.*

**Key words:** mulberry tree, nutrient, larvae

## **RESEARCHES CONCERNING THE EFFICACY OF MULBERRY TREE LEAFS USAGE BY BOMBYX MORY LARVAE**

**M. DOLIȘ, D. SIMEANU, I. GÎLCĂ**

*During the experiments performed upon different types of mulberry tree, the mean ratio between the dry substance from the ingested leaf and the dry substance gathered by larva in the form of body matter, during all the larva period, was 4,6901, in this case, the efficiency of conversion of ingested food in the body matter of larva (ECI-body matter) being 21,81%. As regarding the utilization of sustenance from the mulberry tree leaf in the silk shell of cocoons, the mean ratio between the ingested dry substance and the dry substance from the silk shell of cocoons was 10,5633, the efficiency of conversion of ingested food in silk shell (ECI-silk shell of cocoons) being, in this case, 9,47%.*

**Key words:** mulberry tree, nutrient, larvae

## **RESEARCHES OBSERVING THE INFLUENCE OF UTILIZATION IN FEEDING OF DIFFERENT LEVELS OF MEDICINAL HERBS - CAPSICUM ANNUUM, SATUREJA HORTENSIS AND ANETHUM GRAVEOLENS – ON TO THE BROILERS GROWING PERFORMANCE**

**Lenuța FOTEA**

*New concepts and new products are used as alternatives to antibiotics in new millennium. This research was made to determine the use of medicinal plants (botanicals additives) as a natural growth promoting sources instead of antibiotics in broiler nutrition. Different levels of medicinal plants were added to standard diet to determine its effects on weight gain, and feed conversion ratio, slaughtering efficiency and mortality, compared to control groups. One hundred day-old broilers (Ross 308) were divided in to groups of 25 birds. Experimental groups were as follow: E1 (Capsicum annum 0.05 %), E2 (Satureka hortensis 0.7%), E3 (Anethum graveolens 0.5%) and M control group without additives. The highest weight gain was observed on the E2 group with 4.23%, followed by E3 with 3.34% and E1 with 2,84% compared to the control group; the feed conversion ratio was improved by 9.55% E2, 6.34% E1 and 4.2% E3 compared to the control group; the slaughtering was similar in groups. In conclusion Satureka hortensis 0. 7% could be considered as a potential natural grow promoter for poultry.*

**Key words:** antibiotics, botanicals additives, alternatives

# DATA CONCERNING MELLIFEROUS AND MEDICINAL VEGETATION IN HILLY AND MOUNTAINOUS AREAS OF ROMANIA

*Nicoleta ION*

*In the last time, there are more and more discussions about the possibility of appearance of new kind of apiaries near the conventional and ecological ones, respectively apitherapeutic apiary, which are specialized in providing the apitherapeutic chemists and doctors with the different apiculture products that are pure and not unpurified (for instance, pollen of dandelion, mint honey, buck wheat etc.). In view to develop such an apiary, the beekeepers need to know very well the melliferous flora and the proportion of the medicinal and melliferous plants. Moreover the classical kind of acacia and lime honey there are other honey sorts, and in the same time, there are some specific kinds of pollen coming from the medicinal and melliferous plants, but the beekeepers has to know very well where to go with their beehives in view to get these kinds of honey and pollen.*

*That is why the present paper has the aim to promote the areas with medicinal and melliferous plants from the hilly and mountain areas from Romania in view to rationally valorize this economic potential even by the development of the stationary apiaries or by the development of pastoral ones.*

*For determination and promotion melliferous and medicinal vegetation in hill and mountainous areas of Romania with a view to acknowledge their contribution to a superior valorisation there were studied different bibliographic materials that are characterising the hilly and mountains zones.*

*Taking into account the climatic conditions from our country and the good results the local beekeepers obtained, we consider that the hilly and mountain areas from our country are very favorable for the development of the apitherapeutic apiaries. The medicinal and melliferous flora from these areas can contribute to the increasing of the apiaries productivity and the promotion of the specialized apiculture in our country.*

**Key words:** meadows, forest, harvest, meliferous vegetation, herbs, Romania

## RESEARCHES REGARDING THE REMANENT EFFECT OF FERTILIZATION WITH VINASSA ON THE QUALITY OF FODDER YIELD ON PERMANENT MEADOWS FROM MOLDAVIAN PLATEAU

*A. IONEL, Irina TALPAN, Mihaela BALAN-SURMEI*

*The present paper was on the results obtained in an experiment set up in 2000, on a meadow of *Lolium perenne* L., *Poa pratensis* L., situated on a slope of 8-10 %, with a south-western exposition, on a preluvosoil with a clayeysandy texture. In the period 2005-2007 the researches were carried out regarding the remanent effect of fertilization with vinassa, manure and mineral fertilizers on the chemical composition of the fodder. The researches have established that the remanent effect on the fodder quality was influenced by the assortment and doses of the fertilizers which had been applied, by the climatic conditions from the period mentioned above the time interval elapsed after fertilizer application.*

*As compared to 2004, in 2005 the fodder content in raw protein slightly decreased in the majority of the variants. This aspect can be explained by the quantities of vinassa applied till 2004, and by the fact that 2005 was a more favourable year for the permanent meadows from the region as compared to 2004. By increasing the time interval from the latest applications of vinassa, the fodder content in raw protein significantly decreased.*

*Thus, in 2007 the content of raw protein decreased in the variant with 3 t/ha vinassa from 12.96 % to 11.88 %, at 7 t/ha vinassa from 14.10 % to 12.40 %, and in the variant with 7 t/ha vinassa + P<sub>75</sub> from 14.54 % to 12.10 %.*

*The content of raw cellulose was more influenced by the climatic conditions of the years from the research period and less by the time period after 2004.*

**Key words:** permanent meadows, remanent effect, chemical composition, fertilyation, vinassa.



## RESEARCHES REGARDING THE REMANENT EFFECT OF FERTILIZATION WITH VINASSA ON THE FODDER YIELD ON PERMANENT MEADOWS FROM MOLDAVIAN PLATEAU

**A. IONEL, Mihaela BALAN-SURMEI, Irina TALPAN**

*The present paper was based on the results obtained in a experiment set up in 2000, located on a meadow of Lolium perenne L. – Poa pratensis L., situated on a slope of 8-10 %, with a south-western exposure, on a preluvosoil with a clayey-sandy texture. In the period 2005-2007 researches were carried out regarding the remanent effect of fertilization with vinassa, manure and mineral fertilizers on the fodder yeild. The researches pointed out that the remanent effect was influenced by the climatic and by the doses of the fertilizers applie, by the climatic conditions from the period under study as well as by the time interval elapsed after the fertilizer application. In the first year under study (2005) regarding the remanent effect of fertilization, it was noticed that the yield gains were higher at all the variants as compared with theyield gains from 2006, and these gains in their turn were higher as compared with the yield gains from 2007.*

*At the variant with 2 t/ha vinassa the remanent effect was noticed only in 2005, when the yield gain was statistically ensured, and at the variants with 3-7 t/ha vinassa the yield gains were also obtained in 2006, but these were smaller as compared with those obtained in 2005.*

*In 2007, which was a very droughty year, the fodder yields at all the variants were much smaller as compared with the yields obtained in 2005 and 2006, and the remanent effect of fertilization materialized itself in reduced yield gains, these being statistically ensured only at the variants with average and high doses of fertilizers.*

*At the variants with vinassa on a background with phosphorus the remanent effect distinguished itself in yield gains higer as compared with the variants where vinassa was given on a background with phosphorus.*

**Key words:** permanent meadows, remanent effect, fodder yield, vinassa, mineral fertilizers.

## OPTIMIZATION OF FORAGES RATION IN THE ORGANIC FARMING CONCERNING SOME IRREPLACEABLE AMINO ACIDS

**Stasys JUKNEVICIUS, Jolanta STANKEVICIUTE, Nomeda SABIENE**

*Supposedly, soya cakes are mostly valuable albuminous supplements in the animal diet as contain about 40 % of proteins. But soya beans are unrepresentative fodder crops in the Lithuania and their processing is economically disadvantageous for the organic farms. The aim of the research was to investigate Lithuanian forages concerning amino acids Histidine, Isoleucine, and Valine amounts in order to compare them with soya cakes and to optimize animal feeding with local forages.*

**Key words:** Isoleucine, Histidine, Valine, Forages, Organic farming

## RESEARCHES REGARDING THE QUALITY AND NUTRITIONAL VALUE OF THE CORN SILAGE

**Roxana MIRON, I.M. POP**

*The researches had as purpose the assessment of the nutritive value of the corn green mass and the eventual modifications that occur in the fodder subject to the pickling. The studied material was represented by corn green mass ( A experimental lot) harvested at the beginning of the period; the harvested green mass was deposited in two different silage bunkers, one being covered with foil and achieved in an optimal period of time (the B experimental lot) and in the other the green mass was introduced at a more advanced stage of vegetation, closed for 14 days and covered with chopped straws (C experimental lot). The technical quality determination emphasized a very good quality of the B and C lots . The dry matter quantity suffered losses due to the ensiling of 7.5 % reported to the dry matter quantity introduced in the silage. The significant differences between the values obtained for the B and C lots compared with the A lot in the case of the protein content was meaningful, respectively an increase of the protein quantity with approximately 20%. The differences registered regarding the chemical composition of the A lot and the B and C lots were determined by the environment factors, by the vegetation phase in which the harvesting took place and not lastly by the fermentation processes.*

**Key words:** corn, corn silage, composition, quality, nutritive value

## COMPARATIVE DATA ON THE USE OF DIFFERENT SELENIUM (Se) SOURCES IN LAYER DIETS

*Tatiana PANAITTE, Carmen CIURESCU, Ana CISMILEANU, Anca BERCARU, Constantin RADUCANU, Rodica Diana CRISTE*

*An experiment conducted for 6 weeks on 4 groups of Lohmann Brown layers (36 layers/group) evaluated comparatively the effects of diet formulations supplemented with different forms of Se on layer bioproductive performance and on egg quality (physical and chemical parameters). All groups received the same corn-soybean meal basal diet (17.45% CP; 11.6 MJ, EM). The groups were different by the source of dietary Se: Se enriched corn and peas (group 1), Selplex (group 2) and sodium selenite (group 3). There was no dietary Se added to the basal diet of the control group. The experiment was conducted within CEEEX projects SELENPLUS 16/2005. Selplex (organic source) displayed the best Se absorption in the egg, with values 3.5 times higher (0.516 ppm Se) than in the control group (0.147 ppm Se). Our data show that the use of selenium-enriched feeds didn't produce comparable results, as Se level in the egg, with the Selplex and sodium selenite groups.*

**Key words:** *Selenium, Laying, FCR, Egg quality, Lohmann Brown*

## EFFECTS GENERATED BY ASCORBIC ACID USAGE IN LAYING HENS FEEDING, DURING HEAT STRESS CONDITIONS

*Cristina RADU-RUSU, I.M. POP*

*Main goal of the researches was to assess the effects generated by ascorbic acid feed supplementation of the hens approaching the end of their laying period, in thermal stress conditions.*

*In order to reach the target, a flock of 60 ISA Brown 56 days old laying hens has been used. The biological material was divided in two groups: a control one (C), fed with standard mixed fodder and an experimental group (E) fed with mixed fodder, added with 250 mg ascorbic acid/kg. Following parameters have been studied: live weight and feed intake dynamics, laying intensity; eggs weight, Haugh index; eggshell weight, percentage of shell from whole egg weight, eggshell thickness, proportion of intact shell eggs, percentage of eggs with cracked or soft shell, proportion of eggs without shell.*

*Addition of ascorbic acid in laying hens feeding positively influenced feed intake and egg production, on both quantitative and qualitative sides. Thus, laying intensity of E was 5.8% improved, while favourable changes have been noticed for eggs quality parameters (+3.69% eggs weight, +3.04% shell weight, +5.70% shell thickness). Proportion of eggs with deficiencies also decreased, as compared to the results obtained by control group. Considering the beneficial achieved results, acid ascorbic feed supplementation could be recommended to apply for laying hens approaching the end of laying, mainly during heat stress periods.*

**Keywords:** *laying hens, ascorbic acid, heat stress, eggs quality*

## YIELD EFFECT GENERATED BY ENZYMATIC SUPPLEMENTATION OF LAYING HENS FEEDING

*D. SIMEANU, M. RUSSELL, I.M. POP, M. DOLIŞ*

*The experiment goal was to establish the effects onto the eggs production of an enzymatic complex feed to Lohman Brown laying hybrids. Three experimental groups have been formed, including 11800 hens each: a control group – C and two experimental treatments – E1 and E2; the researches have been conducted within the SC Avicola Şiviţa SA Company in Galaţi. Three different halls, endorsed with pyramidal coop batteries served for flock rearing. During the trial, a corn-wheat-soymeal feed type was used. Supplemental doses of Avizyme 1500 have been included in feed, respectively of 0.75 kg/t at the E1 group and of 0.5 kg/t at the E2 group.*

*Enzyme supplementation lowered feed intake with 4.49-6.59%, while FCR was improved by 5.76-7.81%. The best results have been achieved by the hens in the E1 group, whom feed has been added with 0.75 kg/t enzymatic complex.*

*Using of enzymatic product in laying hens feeding did not significantly influence with the body weight dynamics, with the laying intensity or with flock losses but. However, it decreased feed intake levels, leading to better FCR results.*

**Key words:** *enzyme, hens; eggs*

## CONTRIBUTIONS TO INCREASE THE FODDER SORGHUM GRAIN PRODUCTION

**M. VOLF**

*Sorghum fertilization for grains with organic and mineral fertilizers influences the production level, getting increases up to 72% at Fundulea 21, hybrid 52 % at Tinca hybrid and 43% at Fundulea hybrid 32.*

*The highest grain productions were recorded at Fundulea 32, hybrid in conditions of fertilization with manure on a N<sub>65</sub> and P<sub>50</sub> base.*

*1000 grain mass had large values at Fundulea 32 hybrid when fertilization was made with manure on a N<sub>65</sub> and P<sub>50</sub> basis and the hectoliter mass had modifications according to the fertilization, higher modification being recorded at Fundulea 32 hybrid on mixed fertilization.*

**Key words:** *shorghum hybrids, cattle manure, chemical fertilisers, fodder yield*

## SORGHUM FOR SILO – CONTRIBUTION TO IMPROVING THE CULTIVATION TECHNOLOGY

**M. VOLF**

*The sorghum can present a valuable source of food in conditions of ensilage if hybrids are used offering the highest productions in conditions of organic fertilization and organic and mineral fertilization. The resulting silo should have a high content of raw cellulose in case an adequate fertilization is used. The best results are obtained in the conditions of Moldova silvo-steppe at Fundulea hybrid 32 fertilized with farm manure 20 -30 t/ha + N<sub>65</sub>P<sub>50</sub>, at which the increases in production compared to the non-fertilized witness should reach 12-12,6 t/ha with a high content of raw protein ( 13,16 – 13,66 %) and a low content of raw cellulose 21,06 – 21,88%*

**Key words:** *sorghum, silage, fertilisation, hybrids, chemical composition*

## DEVELOPING AN INTERNET-BASED LEARNING ENVIRONMENTS AND A VIRTUAL MICROSCOPE FOR ENHANCING TEACHING AND LEARNING OF THE STRUCTURE AND FUNCTION OF PRODUCTION ANIMALS

**A. N. ABDELFATTAH**

**Key words:** *e-learning and teaching, production animals, virtual microscope, structure, function*

*The Internet has made the dissemination of information across geographical boundaries a relatively easy task. Apart from text-based materials, the Internet provides an easy means to transmit images, sound, video, and other multimedia content to a global audience, thus lending itself as a medium for establishing distance learning programs in multiple languages. In this presentation, we describe the features learning environments we designed and summarize our experiences in designing and conducting web-based learning. Creation of these learning environments can provide Interactive multimedia applications, as educational tools; can maximize the potential for successful teaching and learning in today's educational systems. By allowing students to learn at their own pace in a stimulating setting, interactive multimedia environments can help students acquire knowledge of basic medical sciences. Animal science and veterinary students are showing an increasing interest in learning about production animals. Yet few course offerings on structure (anatomy) and function (physiology) are available on-line as resources for teachers and learning environments for students. Comparative functional anatomy courses are important foundation for understanding the production animal.*

*In recent years, the Internet has become an effective and accessible delivery mechanism for distance education. In 2003, 81% of all institutions of higher education in the USA offered at least one fully online or hybrid course. In 2005, the proportion of institutions that listed online education as important to their long-term goals increased 8% over those that had done so in 2003. This growth in available online courses and*

*their increased convenience and flexibility have stimulated dramatic increases in enrollment in online programs, including Distance Learning Programs at Purdue. Regardless of the obvious benefits, distance learning (DL) can be frustrating for the learners if course developers are unable to merge their knowledge about the learners, the process of instructional design, and the appropriate uses of technology and interactivity options into effective course designs.*

*Comparative functional anatomy teaching has been facing several challenges, including expanding information, the cost of different animal species, embalming, storage and dissection, and issues related to the use of animals in teaching. In addition, certain species may not be available for students due to the geographical location or unavailability of enough funds. Interactive multimedia, applied as an educational tool, can maximize the potential for successful teaching and learning in today's educational systems. Also, it is becoming more important as the emphasis continues to be placed on the application of the information for solving problems rather than rote memorization of facts about functional anatomical differences of different production animals.*

*Using internet-based resources or CD-ROMs/DVDs, learners can study functional anatomical facts step by step without the constraints of the laboratory time of pressure. A well designed interactive program can make learners learn quicker, appreciate pronunciations of difficult terms. The key to such a program is excellent images, video clips, audio, interactive drills, and instruction ally sound design. The incorporation of function in discussions of anatomy make it easier for students to appreciate how structures are adapted for the functions they perform. To demonstrate the feasibility of this approach, we also designed an electronic dissection guide of the goat.*

*In this presentation we describe strategies that we have used to increase students' learning of physiology content in an online environment. We will also describe the virtual microscope we designed. While some of the strategies are describing are similar, if not identical, to strategies that might be used in a face-to-face (FTF) environment (e.g. case studies, videos, concept maps), additional strategies (e.g. animations, virtual microscope) are needed to replace or supplement what might normally occur in a FTF course. We describe how we have addressed students' needs for instructional interactions, specifically in the context of two foundational physiology courses. Although the teaching and learning strategies we have used have led to increasingly high levels of interaction, there is an ongoing need to evaluate these strategies to determine their impact on students' learning of physiology content, the development of problem solving skills, and the retention of information. In addition, the virtual microscope we designed provides a description of the basic structures and functions of different body systems, using chickens as our initial example. We are now adapting this technology to encourage participation to use this virtual microscope for teaching functional histology of other production animals.*

*The Virtual Microscope, an interactive tool that allows users to control a microscope in order to learn avian histology. By exploring slides of the various organs and organ systems of the chicken, veterinary students learn avian functional anatomy in a simulated environment. By providing an easily accessible resource, we hope to encourage instructors to integrate more avian functional anatomy in teaching veterinary students. Students using the virtual microscope will not only learn histology but learn how to use a real microscope. The virtual microscope will be adapted to develop a resource that may be used for teaching veterinary mammalian histology. We conducted usability testing to provide a method for improving the user-friendliness of interactive virtual microscope design and development through quality control procedures.*

*We are hoping, by this presentation to stimulate interest in collaboration for developing Internet-based learning environments for enhancing teaching and learning not only of functional anatomy of production animal but also other production sciences, for example, dairy, meat and poultry.*

## **RESEARCHES REGARDING POLY-PARASITICAL POLLUTION IN SHEEP FARMS**

***Doina ARDELEANU, Gabi-Marilena NEACȘU,  
Carmen-Ana PIVODĂ, C. NEACȘU, I.-C. ARDELEANU***

*The purpose of our researches was the determination of parastical pollution degree of pastures which were exploited with the sheep, because the parasitical infestation has negative repercussions about pastures (environment), these infesting themselves with parasitical elements which where eliminated of infested animals. In order to realising proposed aim we were followed some objectives: the establishment of infestation degree with exogenous parasitical elements of pasture surfaces, the influence of ecological*

factors about pollution degree of environment and the calculation of correlation coefficients existing between these variables. The parasitological examination was carried out through **Baermann larvoscopic method**. Based on obtained lab results it comes out that: the pasture surfaces exploited with sheep are infested with exogenous parasitic elements (infesting strongyloide larvae in third stage of development); the parasitological pollution degree of pastures during grazing season presents a monthly dynamics influenced by environmental factors; the correlation coefficients which exist between the level of infestation on pastures and the weather factors have positive values, with different statistical significances, depending on the weather conditions for every year.

**Key words:** pasture, sheep, infesting strongyloide larvae

## **THE ACTUAL SITUATION AND PROSPECTS OF THE LIVESTOCK SECTOR IN THE REPUBLIC OF MOLDOVA**

**T. BAJURA, S. CHILIMAR**

The analysis of development of animal breeding in the Republic of Moldova for the period 2001-2006 was made. In the period of 2000 - 2006 years the livestock of bovines was reduced from 394 up to 299 thousand heads, including cows from 269 up to 207 thousand heads. Annual production of cows for the 2006 has made only 2913 kg of milk. For the specified period total production of milk in the Republic of Moldova has increased slightly (9,2%), but the beef production was reduced with 16,7 %. Measures up to reanimate the current critical situation of these important branch for a national economy are determined.

**Key words:** Cattle population, Milk, Beef, Prognosis, Republic of Moldova

## **STUDIES ON THE NEW OPPORTUNITIES OF DEVELOPING ANIMAL HUSBANDRY IN THE ȚIBĂNEȘTI MICROZONE, IAȘI COUNTY, BY DRAWING STRUCTURAL FUNDS**

**Liliana BIȚIC, Elena GÎNDU, A. CHIRAN**

The Țibănești microzone includes four communes (Țibana, Țibănești, Tansa and Dagăța), with a total area of 24.769 ha and a population of 23.150 inhabitants.

In the structure of land area, the farming land occupies 61.6 %, of which 69.5 % represent the arable land.

Nowadays, animal husbandry is weakly developed within microzone, especially in case of bovine and poultry. The highest stocks of animals found in the ownership of inhabitants were of cattle (62,140 heads), followed by swine.

The capitalization of farming production (inclusively, animal production) is carried out on the free market, organized as fairs, according to the schedule established by the mayor offices in each commune. According to the analysis of data on forage reserve and animal stock from the Țibănești microzone, the following aspects are pointed out:

- The arable area occupies the first place in the structure of the farming field, with a percentage of almost 70 %;
- Nowadays, in the structure of the arable land, forage crops occupy a slightly reduced percentage and the level of productions obtained is inadequate;
- Natural grasslands also occupy a low area, have a high degradation degree and a reduced production potential;
- In the field of animal husbandry, as well as in vegetal production, the individual organization system is applied, with quite low areas and animal stocks, showing the practicing of a subsistence agriculture, for self consumption, with non performing traditional production technologies;
- There is no permanent farming market in the microzone or an organized system of distributing and capitalizing the products obtained by landowners and farm breeders.

Within the context, the aim of authors was to analyse the situation found in the microzone and to design a complex plan of the future agriculture development, based on the new opportunities of the financial support, by drawing structural funds, according to the new regulations of the European Union.

**Key words:** animal husbandry, development, structural funds, Țibănești area, Iași county

## **THE PRODUCTION PERFORMANCES FROM S.C. STAZOO S.R.L FARM FROM ALBA COUNTY**

**S. BOCA, Marcela SÎRBU, Ioana TĂNĂSESCU**

*The researches conducted for the present paper are integrated into the Phd activity with the title: "Researches regarding the morfo-productive characters of cattle in the context of some constructive solutions from Transilvania farms", that follows the dairy cow's morfo-productive performance in S.C Stazoo S.R.L farm from Teiuș town.*

*Into S.C Stazoo S.R.L farm with 124 dairy cow Romanian spotted with black breed and young, we followed: the biological material component, keeping the breeding technologies, material and forage basis and the production obtained.*

*As a result analysis that were made we came to the conclusion that reaching the productive performances of E.U. Normes imposes: ventilation problem resolve, separate maternity arrangement from dairy cow house, where the comfort conditions, deseases and poison gas prevention; all these following the economical efficiency increase.*

**Key words:** livestock structure, performances, milk yield, fat content, Alba county

## **THE MILK PRODUCTIONS AT THE PEICA FARM BISTRITA-NASAUD DISTRICT, OBTAINED WITHIN THE EXISTING CONSTRUCTIVE SOLUTIONS**

**S. BOCA, Marcela SÂRBU, Ioana TĂNĂSESCU, R. OLAR**

*The paper present the researchings results performed at a farm of the Bistrița-Năsăud district, between 2005...2008, concerning the milk productions, obtained in the existing constructive solutions. The essential changings produced in the last decades, concerning the dairy cattle raising and exploatation technologies, food, reproduction and amelioration, at one time with the technique development wich allow the mechanization of some production processes, imposes, also, our intervention in the constructive variants of accommodation through the actual shelter modernization, existing in this farm.*

**Key words:** dairy cows, shelter, milk yield, fat%, protein%

## **INTERDEPENDENCE BETWEEN AMBIENT FACTORS AND KINDLING EVOLUTION AT *CHINCHILLA LANIGERA* IN THE SPRING AND SUMMER MONTHS**

**M. BOTHA, I. BUD**

*The aim of this paper is to analyze the impact of the microclimate factors (temperature and relative humidity, so far) upon the reproductive performances (fecundity, kindling) of the chinchillas' female. Our research are focused so far to record the temperature and the humidity from a chinchilla farm from November 2006 to August 2007 and to confront them with the reproductive performances. After processing the recorded data we obtained a grouping kindling in March-May and July-August. The fecundity seems to not following strictly the temperature and humidity curve. It is also necessary a better microclimate management to can maintain comfort in the reproductive sector.*

**Key words:** Chinchilla lanigera, ambient, factors, kindling.

## **MICROCLIMATE FACTORS EVOLUTION IN A MIDDLE SIZE CHINCHILLA BREEDING FARM**

**M. BOTHA, I. BUD**

*Following the recorded data's we obtained a big amplitude of the temperature like 16-25°C, which is not desirable in a Chinchilla farm. If the temperature reach and/or pas by 25°C, exist the thermo shock risk, talking about four animals.*

*In a most of the cases (months) the relative humidity was lower that would be consider optimum for this species. In this order in sultry summers it is necessary to intervene for the artificial correction of the temperature and the humidity.*

*For the observed period we didn't recorded any air streams, the absence of this it is a primordial condition for an adequate microclimate.*

*The toxic gases concentration proved to be really low, in case of the NH<sub>3</sub> we found just some traces and the CO<sub>2</sub> the concentration didn't pas over 0,1%. H<sub>2</sub>S absent, because in the shelter did not exist conditions for anaerobic fermentation. All this values shows an impeccable hygienic state of the shelter.*

*Because the farm practiced the bedded breeding system (with pine shavings) we also measured the sedimentabile materials quantity, which indicates an middle to strength pollute microclimate, respectively 18,20-33,80 g/m<sup>2</sup>/30 days.*

**Key words:** *chinchilla, breeding farm, microclimate dynamics, fecundity*

## **CONTRIBUTIONS TO THE STUDY OF CATTLE BREEDING OF RACE BALATA NEAGRA ROMANEASCA IN DOBROGEA**

**S. BULANCEA**

*Cattle breeding represent a major production branch in agriculture. The milk is one of the important products in Romanian agriculture, and the contribution of this sector to the global value of agriculture was in 1999 of 15%. Approximately 95% of the milk production is obtained in the private sector, which offers the most important part of the processed milk.*

*This study presents an analysis of the evolution of milk production from the official control, and also an analysis of the cattle number in the past years in Dobrogea region.*

*Taking into consideration the current state of cattle breeding in the studied area, the form of propriety, the size and the endowment of agricultural exploitations, the genetic value of the biologic material reared in these exploitations, we distinguish the following common objectives for the studied exploitations:*

- 1. Increase the total number of selected in exploitations;*
- 2. Increase the milk and meat production to the European standards of quality;*
- 3. The biologic material offered for reproduction has to be correspondingly dimensioned to size of the existing farms, but also to new cattle farms;*
- 4. Attentively elaborate the legal frame to allocate financial stimulants;*
- 5. Recognition, encouragin and help offering from authorities for the cattle breeding associations.*

*In what follows we will go deeply into the segment of superior capitalization of the milk production and the realization of this desideratum by a superior management of exploitations.*

**Key words:** *Romanian black mottled breed, milk yield, marketed milk, Dobrogea*

## **PARTICULARITIES OF CATTLE BREEDING IN SMALL FAMILY FARMS, IN THE SPECIFIC CONDITIONS OF DOBROGEA REGION**

**S. BULANCEA**

*Before 1990 in the agricultural structures in Romania, besides state owned agricultural enterprises and agricultural cooperatives of production existed as agricultural entity of production also the small household farms.*

*The milk productions obtained in this last sector were mainly used for family consumption and only a small part was collected by the state.*

*After 1990 these small household farms were called family farms. Taking into consideration over 50 years of experiences in countries with advanced zootechny, and in comparison with the natural, social and economic conditions in Romania, we can conclude that the Romanian zootechny can be based on performance, competitive and profitability only in family farms, but in such a way that the farmer exploits alone or together with his family members all the animals reared and the afferent land, without employing other person, excepting maybe some peak periods of time.*

*In order to present the offer of Dobrogea region in the context of cattle breeding and exploiting in the private sector we have to account for the following important aspects:*

- Study the specificity of family micro farms in Dobrogea area and to determine its economical efficiency;*
- Evaluate the allocated expenses and incomes obtained in micro farms of different dimensions;*

- Case study on the technical-managerial elements in family owned milk cattle farms in Dobrogea region;
- Fundament the production cost for milk and diary products producers by emphasizing the influence of intermediary links in the production chain;
- Study the possibilities of integrating the milk production, identify and emphasize the integration poles in Dobrogea.

**Key words:** cattle husbandry, small family farms, grazing, stabulation, microclimate

## **THE ORIGIN OF HUȚULA BREED PRODUCTS OBTAINED AT LUCINA HERD**

**M.V. BURLICĂ, D. SIMEANU**

*From the beginning, in Lucina Herd, Huțulul grew in a pure breed, on the basis of lines this form being considered an organization form of improving works.*

*To avoid the consangvinisation too close of breed part now are 5 genealogical lines: Hroby, Goral, Petrosul, Oușor and Prislop.*

*The research was made at Lucina Herd taking in calculation the stallions products representing those 5 lines, beginning with the year 1976 till 2006 studying 1680 products, from which 823 males and 857 females.*

*From the entire products obtained at Lucina Herd has been restrained for reproduction just 388 animals from which 349 females and 39 males.*

*The highest number of products has obtained in the Hroby line (484 products, 236 males and 248 females) then succeed the lines Oușor (355 products from which 176 males and 176 females), Goral (289 products from which 139 males and 150 females), Prislop (279 products from which 141 males and 138 females) and final the Pietrosu line with 273 products from which 131 males and 142 females.*

**Key words:** Huțul, Hroby, Goral, Pietrosul, Oușor, Prislop.

## **RESEARCHES CONCERNING THE MOTHER SHEEP AGE EFFECT ON WEIGHT OF MERINOS FROM PALAS LAMBS AT BIRTH AND WEAN**

**Maria CORDUNEANU**

*Researches concerning the mother sheep age effect on weight of merinos from palas lambs at birth and wean were done at I.C.D.C.O.C. Palas – Constanța on 884 Merinos from Palas sheep, which gave birth one lamb and rise one lamb, divided in 4 groups of age:*

- mother sheep from 2 years age including 228 sheep between 1 ½ - 2 ½ year;
- mother sheep from 3 years age including 219 sheep between 2 ½ - 3 ½ year;
- mother sheep from 4 ½ years age including 246 sheep between 3 ½ - 5 ½ year;
- mother sheep from 6 ½ years age including 191 sheep between 5 ½ - 7 ½ year;

*On this number of sheep was studied the age's effect of sheep mother on weight Merinos from Palas lambs at birth and wean through genetics analysis.*

**Key words:** Merinos from Palas, sheep age, parturition, weaning, lambs weight

## **COMPARATIVE STUDY CONCERNING SOME PHENOTYPIC PERFORMANCES IN SHEEP OF TIGAIE AND ROMNEY-MARSH BREEDS**

**V. CIGHI**

*The technological medium conditions, the economic demands and the biological particularities of species are factors, which have major influence on main breeding directions of sheep.*

*The Tigaie breed frames inside the mixed morpho-productive type, of semi-fine wool-milk-meat one having intermediate body development, dolicomorphous or mesomorphous format. The body weight of adult sheep is 35-45 kg, and of rams 57-76 kg, and the wool production is 2.5-3.5 kg.*

*The sheep population of Romney-Marsh breed was imported from New Zealand, being a breed with good aptitudes for the meat production. The lambs' birth body weight is not great (3.5-4 kg), but is characterized by the fact that it exists a strong influence of the parturition season and of the technological medium conditions on quantitative and qualitative performances in sheep.*



*Having in view these considerations, in this work paper we followed the parturition year influence, the breed and the sex ones on body weight at birth, respective of body weight and wool production at one-year age.*

*The biological material is represented by individuals' samples of Tigaie and Romney-Marsh breeds, birthed in 2001-2003 period, and belonging to Research and Development Station for Pasture, Jucu, Cluj County.*

*The crude data, which were obtained, were processed establishing the average and dispersion indices, and the results' interpretation statistically concerning was done by Student test (t).*

*Analyzing the body weight averages at birth, at one-year age, and also the wool production at the same age, in sheep of the two breeds, both in females and males, we ascertain next aspects. There exist differences statistically ensured among values of body weight at birth in Tigaie breed female products (0.170-0.366 kg). There are not significant differences among values of body weight at birth in Tigaie breed males. This fact we consider to do to increased number of observations that we disposed of this category (17 heads in 2001 and 2002, respective 9 heads in 2003).*

*In Romney-Marsh breed, there are not significant differences among body weight at birth, in females born in different years, but in males the differences are very significant (0.483 kg).*

*At one-year age, statistically, there are significant differences among Tigaie breed females, born in 2001 and 2003 in rest, no ones. Same situation was also in males.*

*There are not significant differences among values of body weight in one-year age Romney-Marsh breed products, derived from different seasons.*

*The total crude wool production presents an average of 3 kg in Tigaie breed and 3.3 kg in Romney-Marsh breed.*

*In conclusion, the parturition season with its specific conditions, the breed and sex are evident sources to influence the followed characters.*

**Key words:** Tigaie, Romney Marsh, Body weight, Wool yield

## **RESEARCHES CONCERNING THE MAIN CONFORMATION FEATURES IN A BUFFALO POPULATION FROM SCDP JUCU**

**V. CIGHI**

*The fact that buffalo milk production is not submitted to quotas imposed by E.U. and also the fact that this species is not affected by bovine spongyform encephalopathy, determined much more farmers from country and Europe to keep attention for this species. Inside buffalo populations from Transylvania, the most spreading important zone of species in our country, exist nuclei with valuable morpho-productive features, which by an appropriate improvement program application, can constitute the biological material requisite for improvement work start of buffalo population from Romania.*

*Starting from this premise, we effectuated study on a buffalo population from SCDP Jucu, following the main conformation features. The studied biological material is represented by a nucleus of 30 heads of buffalo female youth aged of 26 months. Were effected measurements for next conformation features: body weight, withers' height, croup height, trunk oblique length, croup width, chest width, thorax depth, thorax perimeter and radius perimeter. The measurements were done in accordance with methodology and with votive specialty instruments.*

*The observation data were processed establishing average values and variability indices for followed features.*

*The average values and variability indices established for studied features frame inside the values presented in specialty literature for the age category to which the chosen material apart.*

*The wither height (stature) registers an average value of  $136.58 \pm 0.44$  cm, the trunk oblique length  $128.41 \pm 0.76$  cm, croup width  $51.850 \pm 0.36$  cm, chest width  $35.41 \pm 0.45$  cm, thorax depth  $65.08 \pm 0.76$  cm, thorax perimeter  $186.83 \pm 0.45$  cm, radius perimeter  $21.08 \pm 1.914$  cm, and body weight  $367.5 \pm 0.82$  kg.*

*The values represented by the biological material for studied characters convinced us of the species availability for exploitation for meat and milk production, of utility initiation of some improvement programs to put in value this species.*

**Key words:** Buffalo, Conformation features, Morpho-functional involvements

## MORPHOLOGICAL AND PRODUCTIVE CHARACTERISTICS OF THE SURA DE STEPA CATTLE FROM S.C.D.C.B. DANCU IASI

*Iulia COSTEA, M. PÎNTEA, Șt. CREANGĂ,  
Elena RUGINOSU, Mariana SOFRONIE*

*The research was performed based on 28 dairy cows belonging to Grey breed, proceeding on describing the body development extent and the indices of milk production.*

*The variability of the morphological traits is very accented, with values of the variation coefficient over 10 % in most cases and reaching even 58,17 %, being very obvious the lack of the selection, but also the possibility of a subsequent improvement regarding the body development and conformation.*

*The production average registered the following values: I<sup>st</sup> lactation – 1468,14 kg milk, II<sup>nd</sup> lactation – 1607,81 kg milk, III<sup>rd</sup> lactation – 1829,00 kg milk, IV<sup>th</sup> lactation – 1758,58 kg milk, V<sup>th</sup> lactation – 2198,00 kg milk. The average period of the total lactations is generally short, from 248,75 days (I<sup>st</sup> lactation) to 260,25 days (V<sup>th</sup> lactation).*

*Making a comparison of the production performances with the data included in the manuals in the last 50 years, we can see that Grey breed didn't evolve in a genetic way, being excluded from the selection programs. However this genetic content must be reconditioned, preserved and consolidated because of the valuable traits this breed possess (accommodation to environment conditions, organic resistance, milk quality, health and remarkable resistance to diseases and bad weather).*

**Key-words:** *morphological parameters, milk production, variability*

## THE POTENTIAL OF MERINOS BREED OF CLUJ FOR MEAT PRODUCTION

*S. DĂRĂBAN, A. POP, C. COROIAN*

*The Merinos breed of Cluj, formed during 1957-1988 period inside Dr. Petru Groza Agronomic Institute by a team led by the refined professor dr. eng. Augustin Pop, brings together in its genetic fond the two Romanian breed genes, such is Transylvanian Merinos breed on paternal line and the white variety of Turcana breed, Sibian ecotype on maternal line, being catalogued as a breed that apart to mixed morpho-productive type for fine wool-meat-milk. After 1989, the breed registered, concomitantly with Romanian ovine breeding, a pronounced force retrogression, in present days being in genetic preservation, but also an alignment to European production orientation, so actually being a mixed breed with production weight of 61.70% for meat, 30,10% for milk and 8,20% for wool and leathers from the total values' of obtained productions. It is significant to be mentioned the fact that Merinos breed of Cluj presents good features for the milk production, so the total production average on 2004-2006 lactations was over 100 liters.*

*To put into evidence the production potential for meat, were effected fattening experiments in different systems, both on pasture and intensively in section or non field, the total body weight gains having average values of 16.06±0.30 kg, 24.82±0.40 kg, respectively 25.31±0.68 kg. The registered slaughter indices permit to situate in the I<sup>st</sup> quality class depending on slaughtering efficiency, the STAS applied in our country for youth ovine category, in the class of fattening ovine youth by European normative, and the carcass mass permits to situate them in 16.00-19.00 kg average carcasses' group.*

*In conclusion, we can affirm that the Merinos breed of Cluj represents an important gene source for meat production, whose expression level can be increased either by technological optimum providing, or by crossing with specialized breeds for meat production.*

**Key words:** *Merinos from Cluj, Body weight gain, FCR, Slaughtering efficiency*

## QUANTITATIVE AND QUALITATIVE FEATURES OF EGGS PRODUCTION ISSUED FROM SOME GALINACEAE POPULATIONS IN BIHOR COUNTY

*Monica DODU, I. CHEREJI*

*The paper presents some partial results issued from the identification and characterization of some domestic fowl populations in Bihor County, belonging to Galliformes order, Gallus domesticus species, Leghorn and Hamburg breeds. Chickens from five private breeder farms in Oradea city and surroundings have been evaluated. A flock of 197 birds, including 151 hens and 46 cocks have been inventoried for Leghorn breed, while Hamburg population counted 174 birds, respectively 35 males and 139 females.*

*Among the studied morpho-productive features (bodyweight dynamics in youth and adults, feed conversion ratio, eggs yield and laying curve during 21-70 wks. period, incubation eggs quality and incubation analysis), this paper reveals some data related to quantitative and qualitative eggs production. Thus, in Leghorn breed, eggs yield, expressed as mean of the 5 populations, reached 6329 pcs., respectively 229 eggs/hen/period while laying peak (82.52%) occurred during wk. 28. Quality parameters of the incubation eggs oscillated between laying initiation and its ending. Eggs weight has been found within 47.7±0.6g – 64.6±0.7g range and shell thickness between 0.425±0.007 mm ÷ 0.328±0.015 mm limits. Values between 72.5% and 74.3% have been found for the Egg format index, while Haugh index has been comprised within 77.5 U.H. and 80.5 U.H. variation interval. Hamburg hens produced an average amount of 4062.8 eggs, meaning 163 eggs/hen/period, with a maximum level of 70% laying intensity, reached during wk. 28. eggs weight values have been found between 48.2±0.5g and 52.5±0.8 g limits while shell thickness decreased toward the end of laying period (0.429±0.008 mm ÷ 0.332±0.014 mm). Eggs format index oscillated between 72.9%-74.1% limits, while the Haugh index values have been found within the 80.3-81.6 U.H. interval. Overall, the assessed features showed average values comprised within the interval specified by the standard of the studied populations.*

**Key words:** Leghorn, Hamburg, eggs yield, eggs quality

## **EUROPEAN HIPPOLOGICAL STUDIES OF THE RACE HORSE IN EQUESTRIAN COMPETITIONS**

**I. DULUGEAC**

*The present paper uses a rich bibliography of specialty, as well as scientific own considerations made on the occasion of the authors participation in hippic congresses, symposiums, biennials, conferences. The 8 lines of Lipizzan horses are presented in this paper, as well as a short history of this race appearance, evolution and distribution, followed by systems of evaluation, cataloged registration, classification and certification of the Lipizzan horses, based on morphological criteria, to end with references made on the use of this horse flesh in equestrian sport events, four-in hands in different European countries.*

*The paper equally presents the history of the appearance of this race horse, the existence of the 8 Lipizzan pure lines, the organization of the stud farm, the various results of the research studies of the biological material, the breed structure of the race horse at national level and the results obtained by each category of horses, as it was evaluated with the race horses meant for participation in hippic sports events, in domestic and international competitions, for which these categories of horses are specially trained. The morphological characteristics of the Lipizzan horses existing in the European stud farms, the genetic variation and the heritage morphological characteristics of the horse population herewith under observation have been studied during various periods.*

**Key words:** Jumping, Dressage, Three Days Event, Driving, Endurance, Voltage, Reining

## **LIPIZZAN RACE LINES AND THE STUDY OF THE MORPHOLOGICAL CHARACTERISTICS OF THE ROMANIAN LIPIZZAN HORSE**

**I. DULUGEAC**

*The present paper uses a rich bibliography of specialty, as well as scientific own considerations made on the occasion of the authors participation in hippic congresses, symposiums, biennials, conferences. The 8 lines of Lipizzan horses are presented in this paper, as well as a short history of this race appearance, evolution and distribution, followed by systems of evaluation, cataloged registration, classification and certification of the Lipizzan horse, based on morphological criteria, to end with references made on the use of this horse race in equestrian sport events, four-in hands in different European countries.*

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**Key words:** Horse race lines, Lipizzan, Morphological parameters, Genetic variation, Heritability

# THE STUDY OF THE VARIETY OF SOME MORPHO-METRIC INDICES OF HONEY BEES

**N. EREMIA, Iulia MIHAILOVA**

*The knowledge of morpho-metric indices of honey bees, and their variety during the year, allow to determine the pure breed, and using these information for selection work what is very important. It is necessary to mention that for selection work it is very important study of morpho-metric indices, accordingly to what the selection work is done.*

*The aim of the held researches was to determine the variety of morpho-metric indices of honey bees from the apiary – Hartopul Mare, during the active season. There were formed three family groups of honey bees at apiary - Hartopul Mare: group I – family wither the honey queens from Romania; group II – families with honey queens from the first generation; group III – families with the local queens. During the active season on each 12<sup>th</sup> date of each month, from every family there were taken the samples of 20-30 bees there were studied their morpho-metric indices.*

*Reading the results, it is necessary to mention that the honey bees from the families with the queen from Romania on 12<sup>th</sup> of April had the average of the proboscis length – 6,09 mm, and the honey bees from the families with first generation queens – 6,17 mm, and the honey bees from the local queens – 6,22 mm, in May the indices were correspondingly 6,23; 6,16 and 6,21 mm.*

*In September – November the honey bees had the average of proboscis length between 6,27- 6,42 mm, at the same time the individual limits during the active season vary between 6,0 and 6,7 mm.*

*The working bees had the proboscis length in August – 0,12 – 0,26 mm, but the working bees from September – October correspondingly longer rather than those from April with 0,07 – 0,33 mm (\*B  $\geq$  0,95; \*\*B  $\geq$  0,99; \*\*\*B  $\geq$  0,999).*

*On the basis of the performed researches it was established that the individual limits of the morpho-metric index varied at working bees during the active season: proboscis length 6,0-6,7 mm, the dimensions between prominentes at tergite-3 – 3,6-4,9 mm, tergite-3 length 1,8-2,8 mm, sternite-3 length 3,2-4,5 mm and the width 2,1-3,2mm, the length of the wax mirrors 1,8-2,6 mm, the width 1,2-1,5 mm, the length of the big right wing 8,0-9,2 mm and the width 2,7-3,2 mm, the corresponding tars 1,7-2,2 mm and 0,9-1,2 mm.*

*It is very important to consider the phenotypic changes of morpho-metric indices during the active season when the pedigree work is held for selecting the families for queen's reproduction.*

**Key words:** Honey bees, Proboscis, Wings, Wax gland, Dimensions

## SOME ASPECTS REGARDING THE DEVELOPMENT OF ANIMAL BREEDING OF SURROUNDING AREA OF ORADEA

**Elena GÎNDU, Alina-Emilia-Maria MOȘOIU, A. CHIRAN**

*After 1990, in Romania, animal effectives were reduced drastically, excepting the increase of the caballines that was obvious.*

*This phenomenon became manifest also in the surrounding area, which include seven villages and it owns 8% from the agricultural area of Bihor country.*

*From 1990 till 2000, the animal effectives showed an ascendant trend, after witch there was a slight development in sheep species and more obvious in poultry.*

*In the future, as a result of the support offered by the EU, the animal effectives and their production will mark an important event. The highest headway is being anticipated for the poultry species.*

*An essential role in accomplishing this desideratum it will be played by the politics of investments destined to modernize the existing farms and to set up new ones specialized in pisciculture, snail-keeping, apiculture and fur animals, etc.*

**Key words:** development, animals, investments

## RESEARCHES CONCERNING REPRODUCTIVE PERFORMANCES RECORDED TO BOARS PIC 402 AND PIC 408 EXPLOITED IN SC SUINPROD SA ROMAN

*G. HOHA, B. PĂȘĂRIN, Elena COSTĂCHESCU,  
Gh. TĂRĂBOANȚĂ, Roxana Teodora STĂNESCU*

*The competent management of boars farm is very important for the success of which pig keeping farms.*

*In these paper we propose to mark aut the reproductive performances (quantity and quality of semen) to boars PIC 402 and 408 exploited in SC SUINPROD SA ROMAN to obtain a commercial PIC hybrid intended exclusive for slaughterhouse.*

*The value of the major semen index (volum, sperm concentration, mobility and number of doses per ejaculation) the oscillation in boars lines, individual and boars age, the variation limits being close to the other researchers at different breeds, hybrids or synthetic lines.*

*The production level and the spermatic properties on record to boars PIC 402 and 408 gives the possibility to breeders to exploit a small male population, with a high genetic value, this way obtaining a advanced economical efficiency.*

**Key words:** pigs, performance, breeding, pic

## EXPERIMENTAL RESULTS FOR DIFFERENT HOUSING DENSITIES AND RECIPES OF COMBINED FEED FOR BROILERS

*Cristina IONESCU, I. VACARU-OPRIȘ*

*The experiment was carried out on a number of 46,000 broiler which were separated in four groups: a control group (CG) consisting of 12,150 chickens, and three experimental groups (EG1 ÷ EG3), of which EG1 had 12,150 chickens, EG2 had 12,960 chickens and EG3 had 11,340 chickens. The stocking density in the housing unit varied from 15 birds per m<sup>2</sup> for CG and EG1, to 16 birds per m<sup>2</sup> for EG2 and 14 birds per m<sup>2</sup> for EG3.*

*The combined feedstock administered to the studied birds was isoenergetic and isoproteic and their nourishing properties were very close to the standards and recommendations of "Ross Breeders". The feedstock of the broilers in the control group contained fodder additives (probiotics and enzymes), while the feedstock given to the broilers in the experimental groups did not contain such additives.*

*Administering combined feedstock without fodder additives to the studied broilers in the experimental groups proved to be inappropriate. Furthermore, increasing the housing density from 14 birds per m<sup>2</sup> to 16 birds per m<sup>2</sup> was not beneficial in terms of the broilers' growth, development and feed consumption because the broilers in EG2 obtained the worst results for all parameters that were analysed.*

**Key words:** broiler, density, combined feedstock

## PRACTICAL IMPLICATIONS OF IMPLEMENTING BATCH FARROWING SYSTEMS IN PIG FARMING

*I. LADOȘI, M.Gh. BEREȘ, G. POPA, Ileana BEREȘ,  
Paula MUNTEAN, Daniela LADOȘI*

*Applying batch farrowing can become a highly useful management tool in pig farms with 150 – 1000 sows. Through the present paper we would like to outlight the field experience accumulated in the last year within several Romanian farms working in close partnership with PIC. For a better comparison considered farms were the ones with similar size, between 200 and 250 sows.*

*Main conclusion is that applying batch farrowing can bring several advantages to farmers, but only where farm staff management skills are well developed and where farm routines are rigorously followed.*

**Key words:** batch farrowing system; farrowing rate, borned alive, weaned piglets

# CONTRIBUTIONS TO THE STUDY OF THE MORPHO-PRODUCTIVE FEATURES AT A "FRISIAN" TYPE CATTLE POPULATION, EXPLOITED IN THE N-E AREA OF THE COUNTRY

V. MACIUC

*The examination paper has the achieve fenotypical knowing, also the actual situation of cattles type "Frisian" breeding into NE region farms described among a slight economical increasement and reduced technical end owment and capitalization of caws exploitation. On these population it was up for debate man yaspects: genetical form and ascendancy veiling productive performances on the exploiting period (5-8 lactations), principal reproduction coefficients, bodily evolution, technologies used in exploitation etc.*

*The population tipe "Frisian" has a cantitative milk production approximate to 5.500 kg in the first two lactations and 6.000 kg in the last lactations, to the VII lactation . The population has a good bodily evolution the caws size being 131,29-135,16 cm, obliquity perch of trunk 149,14-159,58 cm , thoracic circumference 198,75-212,36 cm and bodily weight 535,50-624,99 kg, averages acquired in the first three lactations.*

**Key words:** population, Frisian, productions,milk, lactations.

## RESULTS OF GENETIC ESTIMATION FOR FRISIAN TYPE CATTLE'S FROM NORTH-EASTERN ROMANIA

V. MACIUC, Șt. CREANGA, M. SCHUTZ,  
S. ACATINCAI, N. BUCATARU

*Growing the genetic potential and population productivity for actual breed of cattle in small and middle family farms using exploitation technologies optimization, management optimization and right economical control represent important means for milk – meat production growth. Profit increases with the growth of effective and amelioration. The essay size up genetic population of cattle's type Frisian from NE region the analyses at genetic parameters (heritability, repeatability and correlations into different acquirement) approve interesting aspects. The superior heritability of Frisian breed regarding fat content ( $h^2=0.67$ ) and protein ( $h^2=0.59$ ) from the milk, the croup height ( $h^2=0.55$ ) and the exterior points ( $h^2=0.56$ ) and regarding the body development they have a genetic strength developed in a medium intensity. From the various pairs of characters is good to notice the positive and intense phenotypic and genetic correlations between milk yield and fat quantity ( $r_{pg}=0.93-0.96$ ), proteins ( $r_{pg}=0.75-0.72$ ) and not the last the withers height ( $r_{pg}=0.77-0.89$ ).*

**Key words:** population, cattles, Frisian, genetic parameters

## PROGRAM FOR THE MANAGEMENT AND DEVELOPMENT OF BEEF CATTLE IN NEAMT COUNTY DURING 2008-2009

Margareta MIHAILESCU

*Analysis performed by DADR in Neamt county regarding the current situation of the cattle farmers shown that most of them are highly unprofitable, being at the border of subsistence on a daily basis.*

*These farms are located in those areas where the cows are sent far away for grazing, without milking possibilities, as well as in farms without milk quota allocation or with low productivity animals.*

*By having as a basis the "Strategy for beef cattle production" developed by the national Agency for Amelioration and Reproduction in Animal Husbandry, the conversion of these farms toward beef breeds could solve the efficiency problem for the small sized farmers, as well as strengthen the role of the farmers' associations in representing the farmers' interests, by getting them involved into the program.*

*The Program will be implemented by the Association of Cattle farm Managers during 2008 and 2009, under the coordination of the Direction for Agriculture and Rural Development Neamt.*

*This will include the purpose and the objectives to be achieved, the participants and their functional responsibilities, action means, financing and schedule of activities, relationship chart and the structure of the steering committee, and the annexes (needed for developing the database).*

*The results obtained by cross-breeding the local breeds with beef breeds will form the basis of a scientific research for further development of the "Medium- and Long Term County Program for Improving the Cattle Breeds".*

**Key words:** beef production, strategy, program, improvement, Neamt county

# THE STRATEGY FOR CATTLE MEAT PRODUCTION

*Gh. NEAȚĂ, C. ȘONEA, E. CIURESCU*

*The main goals in cattle genetic improvement are:*

- *selection, using the performances official records and the selected breeding, focusing on artificial insemination;*
- *using those breeds with high genetic potential for meat production, local and imported ones;*
- *increasing the meat competitiveness on national and international markets and adapting the different breeds and hybrids to the pedoclimatic conditions from different areas of the country;*
- *raising the average level of performances/animal head, and the genetic potential for meat production according to the different breeds;*
- *improving the breeding, maintenance and exploitation technologies;*
- *improving the factors which influence the total meat production, such as the cattle number (density/ha), and the average production/head of animal slaughtered.*

**Key words:** *beef production, strategy, selection, breeding, Romania*

## STUDY OF INTERDIGITAL TILOMA IN BOVIDAE FAMILY

*O. NEGREA, Z. MARCHIȘ*

*Researches done in October – November and December 2007, on a dairy cows stock of 42 cows, BR and MH breeds, in a private semi intensive unit, regarding interdigital tiloma incidence, put in evidence a progressive diminishment of disease frequency, of 16,6 % in October to 4,8 % in December. The significant reduction of podal affection is correlated with the beginning of a prophylaxis and curative measures program (grazing stop on accidental land, stubble field and other areas, shelter hygiene, therapeutic and surgery protocol and adequate medication in sick animals, using of good quality fodder.*

*Also, the presence of tiloma in anterior feet comparative to posterior feet presents important variations. So, it is ascertained a higher incidence of failing ill in posterior feet (8 %) comparative to that in anterior feet (2,4 %).*

**Key words:** *dairy cow, podal diseases, tiloma, front limb, rear limb*

## RESEARCHES REGARDING THE IMPROVEMENT OF SYSTEM OF GATHERING AND PRESERVING THE SHEEP AND GOAT MILK

*Alina NICOLESCU, Carmen Ana PIVODA, Camelia Zoia ZAMFIR,  
I. NICOLESCU, Ana ENCIU, Daniela JITARIU, Maria SAUER*

*The paper work has aimed the improvement and experiment of an installation of mechanical milking appropriate to the breeds of sheep and goats with aptitudes for the milk production and elaboration of technology of mechanical milking. It was elaborated the methodology of selecting sheep and goats for mechanical milking, determining the symmetry of teats, established by us as being optimum between 45-55%. By making the biometry of the mammal gland it was established that the superior diameter of the muffs of the milking glass must be of 18 mm, the length of 200 mm, for the sheep breeds from Romania, and for goats the diameter of the muffs must be of 20 mm and the length of 200 mm. The vacuum pump must make adjustable levels between 300 and 500 mm Hg, and the pulsar a frequency of pulsations between 80 and 100 pulses /minute. For the safety of sheep and goats' contention during milking, the compartment of the contention equipment must be of 12 cm, the width of the milking platform of 108 cm, the length of 200 cm, and the width of the spaces of access at the foddering pipes must be of 10 cm.*

**Key words:** *milk yield, preservation, milking techniques, sheep, goat*

## INCREASING THE MILK PRODUCTION AT SHEEP AND GOATS BY INTRODUCING THE VEGETAL LECITHIN IN THE FODDER RATIO

*Carmen Ana PIVODA, Camelia Zoia ZAMFIR, Ana ENCIU, R. RADUCU, Ida AURELIAN, Daniela JITARIU, Maria SAUER*

*It was aimed the increase of milk production at sheep at goats by administrating the vegetal lecithin in the ratios, a residue from the manufacturing of soy and sunflower oil. It was produced an increase of the milk production at the sheep and goats in the experimental lots, increase which has varied between 10 and 22% during the lactation curve. At the qualitative examination of the milk production, at the experimental lots there were noticed higher values of dry substance, fat and protein, anyway the changes were not constant during determinations. It was noticed that the vegetal lecithin did not significantly influence the content in lactose. The analysis of the structure of the milk fat reveals an increase of the content of unsaturated fat acids. By determining the biochemical parameters of the blood serum of sheep and goats it was noticed an increase of the total protein, a decrease of the content in uric acid, of the quantity of urea and of creatinine, an increase of creatine – kinesis, a decrease of triglyceride, of alkaline phosphates and acid phosphates, a decrease of TGP and TGO at the sheep and goats from experimental lots, and the other constants had close values at the experimental and witness lots.*

**Key words:** *Lechitine, Milk yield, chemical composition, fatty acids, sheep, goat*

## POLYSACCHARIDE STORAGE MYOPATHY IN AMERICAN DRAFT HORSES

**M. RUSSELL**

*Polysaccharide Storage Myopathy (PSSM) occurs in many breeds of horses and the signs include muscle soreness, reluctance to engage the hind quarters muscle atrophy, weakness, difficulty in backing up, and picking up hind feet. There are many myopathies in horses, but in a recent review of muscle biopsies of 1,251 horses with a suspected neuromuscular disease, 40% of were diagnosed with PSSM. 63% of horses with PSSM were of the American Quarter Horse related breeds but 12 % draft breeds. Many horses are reported to have PSSM when amylase-sensitive glycogen is used as a diagnostic criterion for PSSM. These criteria result in up to 80% of Draft horses and 33% of all horses outside of draft and Quarter Horse bloodlines being diagnosed with PSSM. The classic diagnostic feature of PSSM has been the very dark periodic acid Schiff's (PAS) stain of the biopsy taken from semimembranosus muscle. indicating a large amount of glycogen is present in the horse's muscle. Measurements of glycogen are usually 1.5 to 4 X higher than normal horses. The classic or type 1 form of PSSM is caused by a mutation and dominantly inherited in a gene that is highly associated with the presence of abnormal polysaccharide in muscle biopsies of more than 90% of PSSM cases in some horse breeds. These horses can be managed on a high-quality grass or oat hay. Eliminate grain and sweet feed from the diet and replace these calories with a fat supplement with non-soluble starch (NSC) as the sources of energy. A vitamin and mineral supplement that contains Vitamin E and Selenium is also beneficial. The more severe the signs of Exertional Rhabdomyolysis (ER), the lower the starch content of the diet should be.*

**Key words:** *polysaccharides, miopathy, draft horses, feeding*

## THE EFFECT OF FLUSHING UPON FERTILITY AND PROLIFICACY IN EWES

**L. STĂNCESCU**

*Nourishment is the vital factor for the debut and development of sexual cycle. Adult ewes must be properly nourished according to their physiological state, the present reproduction cycle and the available forage at the time. The level of nutrition and maintenance state of ewes before copulation are essential factors that influence fertility and prolificacy. Flushing nutrition applied to ewes during a 3 - 4 weeks period before copulation and by approximately one week after copulation may contribute to substantial increase of ovulation ratio and implicitly of number of lambs. The use of good quality green forage (mixture of peas and oat) and the supplement of concentrated mixtures well balanced energetically and proteically, during the*



preparation for copulation and the copulation itself, may result in increase prolificacy and fertility index. Therefore, the prolificacy index grows from 117.8% at control lot, to 131.0% at the experimental lot, and the fertility index raises from 110% to 130.3%. The indexes are greater than the average of the herd by 16.6% for prolificacy and by 20.1% for fertility.

**Key words:** Ewes, Flushing, Fertility, Fecundity, Prolificacy

## THE GENETICAL CALIBRE OF SURĂ DE STEPĂ BREED FROM S.C.P.C.B. DANCU, IAȘI

V. UJICĂ, V. MACIUC, Șt. CREANGĂ,  
M. PÂNTEA, Rodica DĂNĂILĂ, I. NISTOR

*The Sură de stepă breed, on disappearance means, is into a conservation program of a genetical animal resources, breeding into a reduced center to Development and Research Stock Station-Dancu Iasi.*

*The Sură de stepă breed doesn't have recently dates of morpho-productive characters and actual genetical calibre, so our collective check over the center of Stock Station-Dancu. The used productives have a lean genetical calibre and with unknown ascendancy. In genetic structure of studied effective it was identified three groups of patern half-sisters with a genetic value between 1548,22 kg (registration 79009) and 1752,33 kg (registration 79005), which proves little genetic value of male reproducers related to milk production index.*

*The center of Sură de stepă breed from Dancu farm presents a genetical valorous funds, being a rustic population, which must be cured and ameliorated for meat-milk mixt production and developed up to a number of 50 cows in order to avoid the genetical drift and tight conspecificization.*

**Key words:** population, conservation, genetic parameters, Grizzle Steppe breed

## AMELIORATION PROGRAM OF PINZGAU BREED FROM BUCOVINA

V. UJICĂ, V. MACIUC, I. NISTOR, D. LUCACI,  
Rodica DĂNĂILĂ, Șt. CREANGĂ

*Breed Pined from a compact population in north-west Suceava district and eastern district's of Maramures, and Bistrita Nasaud and a part of Apuseni Mountains and district's Hunedoara and Mehedinti. More homogeneous than breed Brown with regard to production and morphologic and reproductive traits, Pinzgau population from Bucovina presents the characteristics of mixt type, more obvious flesh meat- milk. Following the milk evolution production for Pinzgau breed of Romania between 1992- 2004 is recording an amelioration of productive performances from 2613 kg milk in 1992 to 3750 kg milk on standard lactation and of fat content from 3,75% to 3,81% and also protein content from 3,17% in 2001 to 3,19 in 2004. In the active population, the best cows of Pinzgau breed have accomplished performances of 5500- 6800 kg milk, which shows the genetic potential of biological material raised in Romania. Knowing the genetic parameters of the main selection characters, the bulls used for reproduction and their genetic value of amelioration, in fact of main factors that help to ameliorate a bulls population, I created a project program of zonal amelioration by joining the amelioration factors of selection, respective a plan with suited pairing and the technological factors of exploitation and management.*

**Key words:** population, Pinzgau, breed, amelioration program

## SIMMENTAL BREED RECURS AGAIN IN THE REPUBLIC OF MOLDOVA

Irina VASILACHE, S. CHILIMAR

*The Simmental race for the first time was imported in Republic of Moldova in some farms on the north in period of the second part of XVIII century. But this race suffers essential modifications. At first the Simmental race was breeding as a pure race but now is cross with other race in our country as Black and White race, Jersey and Holstein race. In 2007 were imported 30 animals from Germany with aim to improve the local population.*

**Key words:** Simmental, dimensional features, body weight, milk yield, milk quality

## TECHNOLOGIES OF EXPLOITING YOUNG SHEEP AND GOATS IN VARIOUS PEDI-CLIMATIC AREAS OF ROMANIA

*Camelia Zoia ZAMFIR, Carmen Ana PIVODA, Alina NICOLESCU, Ana ENCIU, N. CUTOVA, Daniela JITARIU*

*It was aimed the increase of quantity of lamb and kid meat, the increase of the quality of carcasses by industrial crossbreeding which determine the improvement of performances of the obtained products, associating the quality of two breeds, having benefit from the effect of complementary and of heterosis, using the technologies of intensive (100-120 days) and semi-intensive (180 -200 days) fattening, using cheaper fodders, obtained ecologically from fields fertilized with natural fertilizers. There were made weight increases of more than 200 g/day at lambs and of more than 140 g/day at lambs, with a final weight of 35-38 kg at lambs, 32-34 kg at kids, with the slaughter output of over 50%. At commercial chopping of the carcass the meat of 1<sup>st</sup> quality had values of 50-55% at lambs and of 50-51% at kids, making high values at the report of meat-bones (meat quantity 52.6%-56.2%, bones quantity 23.8%-25.3%, at lambs and kids the meat quantity was of 62.7%-63.5%, and of bones it was of 20.51%-22.8%). The percent of collagen reported to the content of protein. From the dry substance was of 3.09% - 2.12% at the lambs intensively and semi-intensively fattened.*

**Key words:** *Stable, Grazing, Meat yield, Sheep, Goat*

## A STUDY OF THE IMPACT OF MEASURE 3.1 – INVESTMENTS IN AGRICULTURAL HOLDINGS WITHIN THE S.A.P.A.R.D. PROGRAMME IN THE 1ST NORTHEASTERN REGION

*Anca COSOVANU, E. TICAU, T. ROBU*

*The paper points out the impact of measure 3.1 – Investments in agricultural holdings within the S.A.P.A.R.D. Programme in the 1<sup>st</sup> Northeastern region.*

*It presents the results of the studies undertaken regarding the yearly evolution of project submission, the number of projects and their value for each department, the proportion of plant farms and livestock farms in the region, the distribution of animal species for each department and the weight of measure 3.1 among the other measures.*

*The general conclusion is that, by means of the investments made with S.A.P.A.R.D support, agricultural holdings registered a satisfactory progress, absorbing 123 209 836 EUR, but it is still necessary to accelerate the development of agricultural farms in order to be able to achieve a competitive sustainable agriculture.*

**Key words:** *S.A.P.A.R.D. programe, projects, measure 3.1., Northeastern Romania region*

## RESEARCHES CONCERNING THE COMPARISON OF MILK YIELD BETWEEN PINZGAU BREED IMPORTED FROM AUSTRIA AND PINZGAU OF TRANSYLVANIA

*I. GÎLCĂ, C. PASCAL, Mihaela IVANCIA, B. PĂȘĂRIN, M. DOLIȘ, T. ROBU*

*The main aim of this study was to compare the milk performance realized by cattle of Pinzgau breed (P) imported from Austria and Pinzgau of Transylvania (PT) - indigenous breed. The analysis was performed in two herds at the first and second lactations. In herd 1, the imported dairy cattle (P) were compared with contemporaries indigenous breed (PT) calved in the same period. Both breeds were kept in the same conditions and with the same feeding. The first lactation records were analyzed according to the following linear model:  $Y_{ij} = \mu + H_i + C_j + e_{ij}$ . The second lactation records were analyzed according to the following linear model:  $Y_{ijk} = \mu + H_i + C_j + J_k + e_{ijk}$ . The difference in milk production between Pinzgau and Pinzgau of Transylvania breeds, at first and second lactations, were not statistically significant. The Pinzgau breed cattle achieved higher fat, protein and lactose percentage at the first lactation (4.22% and 3.96%, 3.39% and 3.21%, respectively 4.63% and 4.51%) and at the second lactation (4.28% and 4.01%, 3.41% and 3.23%, respectively 4.58% and 4.46%). These differences were statistically highly significant ( $P < 0.01$ ).*

**Key words:** *milk yield, cattle, Pinzgau breed, Romanian condition*

# PROFITABLENESS IN BEEKEEPING AND ITS INFLUENCE FACTORS

**Șt. LAZAR, D. BODESCU, O.C. VORNICU**

*Although beekeepers are aware of the economical, ecological and social role of the bees, their motivation for growing bees is determined, in an overwhelming way, by the profitableness of this preoccupation.*

*Through this study, the influences of the exploitation dimensions, the structure and the mode of commercializing the output over the profitableness degree of the branch have been followed.*

*The beekeeping profitableness exploitation grows in the condition of product diversification, bee family number on the exploitation and of the direct opening on the market of the honey production.*

**Key words:** *Beekeeping Profitableness, Direct Selling, Agro Alimentary Market, Pastoral.*

## GENERAL ASPECT REFERRING THE TECHNICAL –ECONOMICAL PARAMETERS IN THE FAMILY FARMS IN CONSTANTA COUNTY

**Gh. NEAGA**

*In the Dobrogea's area specific conditions, respectively of Constanta's department, and keeping in mind the geographical structure's harmony and of the agrarian productive potential starting with the labor force and ending with the incomes realized in the milk cows exploitations in Constanta department I seek to accentuate the department's agrarian character.*

*Analyzing the labor force in the 27 milk cows exploitation we find that from the total 115 family members, from it 71 adults (61, 73%) in the farm are working 72 family members, and 53 people had different occupations. In the agricultural period this exploitations are hiring daylabourer.*

*By the mechanizing point of view for the agricultural works and in the zootechnical sector we are finding a low work's mechanization, which is requiring more labor force.*

*The agricultural field and the revaluation way*

*The studied exploitations are holding 6993 agricultural hectares, from this 6907 agricultural fields (98, 77%). From this total surface, are hold only 1098 hectares (15,7%), the rest of 5895 are rented fields.*

*Following the agricultural field's using mode, in 2006 is ascertained that a high percent is the vegetal culture, in the fodder's culture detriment (8, 29%).*

*Zootechnical's sector development*

*All the studied exploitations have a mix character, holding land, agricultural cultures and different animals' species. Except the milking cows (20, 51%), we encounter sheep (31, 33%), horses (1,23%), pigs (17,18%) and 112 chickens.*

*For hosting the horned cattle every exploitation has a shelter with 58 heads minimum capacity.*

*The maintenance system is the tied one, settled in one or two rows.*

*Administrating the fodder is made by hand, the watering 100 % mechanized, evacuating the manure is made by hand, and milking in 8 exploitations is made only by hand, and in 19 exploitations only mechanically.*

*Every exploitation owns hayracks, silages, material storages rooms and other additions to structures.*

*Reproduction activity. Are made only artificial insemination, with aborigines Romanian Black Spotted and imported Frisian seminal material.*

*The obtained milk production and its revaluation is presented in table 1.*

*It is revaluated in this way:*

- 86, 1 delivered for processing to specialized units.
- 6, 1 % directs selling.
- 5, 9 % consumed by the calves.
- 1, 8 % consumed by the family.

**Key words:** *familial farms, dairy cows, milk yield, husbandry technologies*

## THE PRODUCTIVE LONGEVITY IN SOME DAIRY COWS EXPLOITATION IN CONSTANTA COUNTY

Gh. NEAGA

*In the studied exploitations was analyzed the productive longevity for 156 cows heads that finished the exploitation period analyzing the productive life time, milk production, at and protein on productive life time, and the using parameters, to which medium values are presented in table 1.*

*The milk production on productive life time was in average, 9802,565 kg. milk with limits between 46 243 kg milk in Mihale Inacu's breeder exploitation and 19948, 28 kg. milk in Olteanu Marius's breeder exploitation.*

*From the 27 analyzed exploitations 14 exploitations had the production on productive life time under the population average and in 13 exploitations more than the average.*

*The best results were obtained in exploitations F3SC, F5DC, F10TN, F12CC, F18SG, F23GN, F26OM, with total yield over 12000 kg. milk*

*In the analyzed population were over 20 cows with a good productive longevity, the best performance was obtained by the cow with register number 950005 with 30396 kg milk that belongs to breeder Solomon Constantin. This exploitation had many cows with a production over 20000 kg milk on productive life time, being detached to other exploitations.*

*The using parameter (%) in the studied population was only 27, 5 %, which is proving an insufficient cow's using, if we direct to this parameter's optimum value (80% at least, according to V. Ujica).*

*In the studied population were identified 11 genetically groups of half-father sisters with at least 5 daughters that had a productive longevity between 19194, 6 kg. milk (code 19486) and 5547, 92 kg. milk (code 51454).*

*Analyzing this information, the conclusion is that the exploitation time in the Romanian Black Spotted population in the studied farms is too short, and the cows couldn't express the maximum productive potential.*

*Taking the cows out of the herd before realizing the maximum lactation has negative economical effects but also to the genetically ameliorating activities by emigrating some valuable genes.*

*Is ascertaining however that the drying period is too long, the animals being kept in the herd without producing milk. These aspects are due less to the animal's genetically value, but more to the exploitation's drawbacks and technological parameter's management deficiencies.*

**Key words:** dairy cow, life length, production longevity, lactations, Constanța county

## THE MILK YIELD APTITUDES OF THE "CARPATINA" GOAT BREED REARED IN ROMANIA

C. PASCAL, Mihaela IVANCIA, I. PĂDEANU,  
C. CIPRIAN, N. IFTIMIE

*The researches we've done on the milk yielding potential of the goats shown that the individuals within the studied species could produce, within usual conditions, during normal milking periods, more than 15 times milk quantity than their own body weight.*

*According to the researches set up on "Carpatina" breed goats, reared in Romania, the milk yield of those females is not quite similar to that obtained by the females belonging to some high milk specialized breeds, although the Romanian goats gave average yields of 200 l per lactation, during the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> lactation. Within a milking period, the milk secretion process follows the same evolutions like in ovine species, increasing during the first three months and reaching monthly productions over 30 l, continuing with a plateau period, during two months and following a gradual decreasing until the end of the milking period.*

*Milk quality was evaluated through monthly assessments on its chemical composition, especially concerning the protein and fat contents, reported straight to the dry matter of the milk.*

*The proteins in milk were found at a  $3.35 \pm 0.12$  % level in March and at a maximum level of 3.80% during the June-August period.*

*According to the analyses on the milk issued from the studied specimens, fat content evolution was characterized by an incipient value of  $2.90 \pm 0.11$ % in March, being increased afterwards at  $3.81 \pm 0.09$ % in September (an increasing of 23.88% comparing to the reference month) and at  $3.98 \pm 0.14$ % during October (an improvement with 26.71%).*

According to the analyzed data, it could be stated that the values of the three main components of the milk increased toward the final period of the lactation, maximal values being recorded during its two last months. The high values given by the variability coefficient leded us to state that the chemical composition of the milk depends on the analyzed individual as good as on the milking month.

The main conclusions show that the "Carpatina" breed is characterized through a high heterogeneity, concerning the quantitative and qualitative milk yield. Par consequence, it imposes to elaborate competent breeding programs for the goat populations in Romania, in order to improve their milking potential.

**Key words:** quality, goats, milk yield, "Carpatina" breed

## **RESEARCHES REGARDING BODY WEIGHT DYNAMICS OF CROSSBRED CHAROLLAIS x MERINOS DE TRANSILVANIA SUCKLING LAMBS REARED IN BANAT AREA**

**I. PĂDEANU, S. VOIA, C. PASCAL,  
Gh. BOGDAN, L. POROȘNICU**

On the Western European market suckling lambs from breeds specialized for meat production, are sold for very high prices. Body weight evolution from lambing to weaning was studied on the Charollaise x Transylvanian Merino crossbreed lambs obtained from Charollaise rams imported from France by Emiliana Vest Ltd. Besides the maternal milk lambs generated in single and double lambing received for ad libitum consumption a high quality after grass and pelleted compound feed having 14% PDI during the first 30 days and 12% PDI from 31 to 70 days. After the body weight evaluation, single-lambing lambs of both sexes (M and F) had a significantly higher live weight (3.28 kg,  $p < 0.01$ ) than twin lambs from F-F couple (2.76 kg) and F-M couple (2.96 kg), and close to twin lambs obtained from M-M couple (3.01 kg). After this study was found that single-lambing lambs had the highest body weight at weaning (29.24 kg) followed by the twin lambs (M-M with 24.57 kg, F-M with 23.98 kg, and F-F with 22.94 kg). Taking into account that these values are close to those from the country where Charollaise rams were resulted from we propose the utilization of Charolaise rams for crossbreeding with Merino sheep in order to improve the meat production.

**Key words:** sheep, meat crossbreeds, body weight.

## **CASE STUDY CONCERNING THE ANALYSIS OF GROSS MARGIN IN A DANISH DAIRY FARM**

**I. PIRVUȚOIU, Agatha POPESCU, L. BJARNE, G. RADULESCU**

This study aimed to present a study case concerning the calculation of Gross Margin in a Danish Dairy farm. In the paper there are put in evidence farm performances in milk production as well as the fundamentals of gross margin calculation based on Profit And Loss Account. The farm has 140 ha aricultural land, raises 190 Jersey cows, producing 8,000 kg /cow and year in average. The milk quota was 1,109,240 kg in the year 2005. The Gross Output of the farm was DKK 4,273,137 in 2005 and cost related to good sold were DKK 1,481,683, so that Gross margin counted DKK 2,791,454. Gross margin is the barometer of farm efficiency, showing how much of revenue / sales is left to farmer after subtracting the cost of goods sold.

**Key words:** Dairy farm, Milk yield, Milk marketing, Quota, Gross margin

## **CASE STUDY CONCERNING BANKRUPTCY RISK PREDICTION IN A DANISH DAIRY FARM**

**I. PIRVUȚOIU, Agatha POPESCU, L. BJARNE, G. RADULESCU**

This study aimed to predict bankruptcy risk using Altman Model for determinating Z-Scor function and taking as study case the data from a Danish dairy cow farm Bookeeping. The value of Z-Score function for the year 2005 was 0.4480 and 0.3015 for the year 2004, showing that in the both years the farm was in danger to fail. This result was determined by the investments made by farmer which have disbalanced the financial statement. This model can be successful used in Romania in the case of farms having juridical status and bookeeping evidence.

**Key words:** dairy farms, capital, assets, Z-score, bankruptcy

## **LONGEVITY STUDY FOR THE POPULATION OF BĂLȚATĂ ROMÂNEASCĂ BREED IN THE AREA OF BISTRITA-NASAUD**

**P.N. POPȘOR**

*Given the fact that Bălțată românească breed holds the largest ponderosity in the horned cattle structure in the area of Bistrita-Nasaud, I considered that it is adequate to interpret studies and research on productive performance in relation with precocity and longevity, under variable environmental conditions and with exploitation techniques used by breeders from this area.*

*394 Bălțată românească cows that ended their productive career in 3 farms (of the ex-IAS) and 150 cows from population grange were taken in the studio.*

*During the actual research the primary data base from the official production control of the UARZ Bistrita-Nasaud (1985-2005) was used and completed with personal observations.*

*In the first step the data was statistically adapted and estimations of average values and variability of analyzed characteristics on lactations and on whole productive life on farms and on genetic groups were made and then the genetic quantity parameters (heritability, repeatability, fenotipic and genetic correlations, improvement value of male sire) were determined.*

*Productive longevity study in the analyzed Bălțată românească population reveals these facts :*

- life duration :  $2774,55 \pm 42,2$  days and productive life duration  $1579,0 \pm 42,13$  days ;*
- average milk production on whole productive life was  $12569,96 \pm 491,17$  kg, this meaning 4,53 kg of milk on each day and 7,96 kg of milk on each productive day*
- utilisation index (IU%) in production had the average value of 56,91%.*

*Results obtained by us regarding exploitation duration of Bălțată românească cows could form the scientific base for optimization of this parameter with usage in selection and genetic improvement of population.*

**Key words:** *production longevity, lactations, Romanian Mottled breed, Bistrita-Nasaud county*

## **OWN RESEARCH REGARDING PRECOCITY AT BĂLȚATĂ ROMÂNEASCĂ BREED IN THE AREA OF BISTRITA-NASAUD**

**P.N. POPȘOR**

*Research regarding precocity were made on Bălțată românească horned cattle nominated on elite farms and on cattle from population grange. Age at first birth, milk production evolution during life period and lactation (when reached maximum level), somatic precocity and genetic parameters for precocity indexes were analyzed.*

*Results that were obtained show that Bălțată românească horned cattle population from the area of Bistrita-Nasaud has a low production precocity, age at first birth : 34 months and 29 days.*

*Milk production precocity can be appreciated as being a good one, within the accepted limits of this breed.*

*Under the aspect of somatic precocity at Bălțată românească population from the studied area, it is shown a low precocity, consequence of some deficiencies in upbringing sire youth, especially regarding feeding.*

**Key words:** *Romanian Mottled breed, precocity, milk yield, fat%, protein%*

## **QUANTITATIVE AND QUALITATIVE FEATURES OF EGGS PRODUCTION ISSUED FROM CERTAIN DOMESTIC ANSERIDAE POPULATIONS IN BIHOR COUNTY**

**I. CHEREJI, Monica DODU**

*The paper presents some partial results issued from the identification and characterization of some domestic fowl populations in Bihor County, belonging to Anseriformes order, Anser anser and Anas platyrhynchos, White Dutch and Pekin breeds. Waterfowl from three private breeder farms in Oradea city and surroundings has been evaluated. A flock of 110 geese, including 88 females and 22 males, have been inventoried for White Dutch breed, while Pekin population counted 105 birds, respectively 15 drakes and 95 ducks. Among the studied morpho-productive features (bodyweight dynamics in youth and adults, feed conversion ratio, eggs yield and laying curve during 33-50 wks. period for geese and 24-65 weeks period for*

ducks, incubation eggs quality and incubation analysis ), this paper reveals some data related to quantitative and qualitative eggs production. Thus, in White Dutch breed, eggs yield, expressed as mean of the 3 populations, reached 1145.23 pcs., respectively 41.4 eggs/goose/period while laying peak (57.86%) occurred during wk. 37. Quality parameters of the incubation eggs oscillated between laying initiation and its ending. Eggs weight has been found within 183.5±1.4g – 186.±2.1g range and shell thickness between 0.558±0.022mm – 0.547±0.014mm limits. Values between 65.8±1.1% and 67.2±1.4% have been found for the egg format index, while Haugh index has been comprised within 77.7 U.H. - 80.2 U.H. variation interval. Pekin ducks produced an average amount of 3232.2 eggs, meaning 98.9 eggs/duck/period, with a maximum level of 80.1% laying intensity, reached during wk. 30-31. Eggs weight values have been found between 78.7±1.0g and 81.2±1.3 g limits while shell thickness decreased toward the end of laying period (0.392±0.007 mm – 0.375±0.008 mm). Eggs format index oscillated between 77.5%-80.7% limits, while the Haugh index values have been found within the 77.5-80.7 U.H. interval. Best values for quality features of the incubation eggs have been achieved, by both species, during laying peak period.

**Keywords:** White Dutch goose, Pekin duck, eggs yield, eggs quality

## THE STANDARD PROJECT OF A FARM FOR MILK PRODUCTION

**S. CHILIMAR, T. BAJURA**

The standard project of a farm for milk production is developed. The farm can be created in three variants, which differ on a livestock of animals and gross output (milk and meat) received for a year. The project is intended for small farms of a private sector.

The base model is designed for the maintenance of 44 heads of bovines, including 20 cows and 24 young bovines for reproduction. In the age of 30 days young bulls are realized to other farmers. The intensive technology of milk production, reception from each cow 5 - 6 thousand of kilograms of milk (annual) is stipulated. Total volume of milk in one year makes 110 t, meat - 4,3 t. The specific expenditure of forages on production of milk make 1,2 fodder units. Creation of farms in the suggested variants will promote revival of production of milk and beef of bovine.

**Key words:** dairy farm, capacity, technical projecting

## S.C. "KOSAROM" S.A. PASCANI, IMPORTANT INCORPORATED UNIT IN MOLDOVA

**A. CHIRAN, A.-F. JITĂREANU**

S.C. "KOSAROM" S.A. Pascani is the first private company in the food industry in Romania, being part of the Private Pilot Program launched by the Romanian Government in 1992, through HG 264 / 1992.

In over 15 years of activity, the unit evolved and today it is one of the leaders of meat producing and processing in Romania, especially in Moldova, having over 1000 customers in Bucuresti and other 18 districts of the country.

S.C. "KOSAROM" S.A. Pascani is an incorporated unit and it contains 5 firms : S.C. "SUINPROD" S.A. Roman, S.C. "AVI-TOP" S.A. Iasi, S.C. "AGRICOLA" S.A. Tg. Frumos, The Factory of Combined Fodders Roman and The Factory of Combined Fodders Tomesti - Iasi district.

With over 1200 employes, the unit produces over 100 assortments of meat, based on 80 own recipes.

The capacity of the slaughter – house is 7500 tons of meat per year and the total production of meat products is 4000 tons per year.

S.C. "KOSAROM" became the leader of quality in meat production and processing industry (chicken, beef, pork) at the high standards demanded and atested by LAREX CERT Bucuresti.

The authors wish to mark out some of the production, investments, economic and financial results accomplished by S.C. "KOSAROM" S.A. Pascani during the last years, which makes the company an important unit in producing, processing and capitalization of meat in Romania.

**Key words:** production facilities, distribution, market share, investments, Kosarom company

## RESEARCHES CONCERNING COW MILK'S QUALITY OBTAINED IN A FARM FROM GERMANY – HESSEN LAND

*Andreea Bianca GHIRILĂ,  
Aurelia PECE, Gh. MUREȘAN*

*The aim of the researches are concerning the cow's milk quality taking into account the physico-chemical and bacteriological features. The researches were made on 35 Holstein Friesian cows in lactation, from Germany, Hessen land. In these researches the most important role is the hygienic factor and sanitary quality of milk expressed in the total number of germs and the number of somatic cells. By evaluating the milk's quality on the basis of determining total germs number and the number of somatic cells, there were obtained good results in the correlation of the two indicators. Milk production is different from one country to another because of the zoo economy level of development and the efficient potential of the existing race. That is why in the farm where the researches were made the existing milk production is higher than the level of milk production from our country with the same capacity of animals' fact due to qualitative and hygienic conditions from the farm.*

**Key word :** milk, Holstein Friesian cow, quality

## EVALUATION PROCEEDING OF MUSCLE TISSUE TO PIG CARCASSES IN ROMANIA

*G. MOVILEANU*

*In Romania, the Carcass Classification System for pig, bovine and ovine carcasses was established in 2004 by Government Decision; the functioning of the system is ensured by "The Carcass Classification Commission, Classification Agencies, Classifiers and Inspectors".*

*Pig Carcass Classification is compulsory in Romania in all slaughterhouses, regardless of their size. Thus, slaughterhouses that slaughtered over 200 pig/week on an yearly average in the previous year must classify with an optical probe, either Fat-O-Meat'er, or OptiGrade-Pro. Slaughterhouses that slaughtered under 200 pigs/week on an yearly average in the previous year may apply the ZP method.*

*The working document was presented to the representatives of the Ministry of Agriculture and Rural Development at the meeting on the 13th of September.*

*Romanian authorities will apply for the authorization of the Fat-O-Meat'er and OptiGrade-Pro, on the bases of the results presented in chapter 3. The prediction formulas shall be applied to pig carcasses weighing between 50 and 120 kg hot weight.*

**Key words:** muscle tissue, swine carcasses, classification, Fat-O-Meat'er, OptiGrade-Pro

## STUDY CONCERNING THE PHYSICO-CHEMICAL AND MICROBIOLOGICAL PARAMETERS OF BUFFALO MILK FATED IN INDUSTRIAL MANUFACTURE

*Aurelia PECE, C. COROIAN, Bianca GHIRILĂ, G. MURESAN*

*The aim of the researches was to evidence the main physico-chemical and microbiological parameters of buffalo milk. The determination were made on 28 samples ingathered from buffalo in diferent degrees of lactation. The results obtained after the determination are accorded to the standard. Because of the fact that the mastitis are usually appearing at the buffalos in lactation and this fact is decreasing the milk production I considered necessary to determine the also the somatic cells count which is an indicator for the evaluation of the mammary gland healthy. The correlation between the number of somatic cells, milk production and milk composition are used in the buffalo farms for estimating the lost caused by mastitis and the implementation of some measures for the control of this affections.*

**Key words:** buffalo milk, microbiological quality;



## RESEARCH CONCERNING SOME CONSTITUENTS FROM ORGANIC RAW MILK

**O. PENTELESCU, Gh. MUREȘAN, C. BELE**

*The consumption of milk and certificated dairy products as being organic is increasing, due to researches from the last which years that emphasized the important characteristics of these products. The aim of the researches was to emphasize the content of fatty acids from milk obtained in organic farms from mountain area of Romania. For the present research were identified two main factors influencing the content of fatty acids from milk. One factor was the breed, the milk being sampled from Austrian Brawn cows. Another factor was the different feeding system from two different seasons: winter and summer. The separation of methylic acid esters from fatty acids was done of an gas chromatograph SHIMADZU GC equipped with a capilar column CHROMPACK with the length of 60 m and the diameter of 0,25 mm, the stationary phase being deposited inside the column, in the likeness of a thin film of 0,2 μm. It was used a FID detector and the mobile phase was helium of 99,99 % purity. After laboratory investigation was established the proportion of fatty acids from milk influenced by breeds and seasons. Considering the proportion of saturated fatty acids it was noticed a difference between seasons of 9,55%, a higher content being observed in winter. This situation is modified in the case of monounsaturated and polyunsaturated fatty acids, with higher percents in summer. The higher content of polyunsaturated fatty acids from raw milk sampled in summer makes that our recommendations considering the milk consumption to take into account the results of our investigations.*

**Key words:** Organic production, raw milk, fatty acids, PUFA

## MONITORING SOMATIC CELL COUNT WITH A STATISTICAL CONTROL PROCESS TOOL

**O. PENTELESCU, Gh. MUREȘAN**

*The composition of cow milk is of very big importance for the food industry. There fundamentally for the milk quality, affecting the nutritional value and the processing activity. The factors which influence the milk composition have internal origin, for instance breed, or external - feeding systems, seasonal modifications, milking frequency and the milking systems. In future, new techniques of production and processing, and also new products, will contribute to the formulation of new requirements considering the composition of milk. The aim of this study was to introduce a new statistical control tool to monitor the variability of somatic cell count (SCC) in food industry. For this study were used the date obtained after raw milk samples analysis in January, April, July and October. The milk SCC was determined by infrared spectrophotometry using a Bentley Somacount 150 (Bentley Instruments Inc., Chaska, MN). The average values obtained in the control year was found at values between 360185 / ml (January) and 384846, 2 / ml (October) what makes the milk to be enrolled even in the European quality conditions for the respective year. The use of EWMA control chart provided to be a very tool useful in the case of somatic cell monitoring from the raw milk, being determined in January three points out of control. A further research is needed in other sectors from food industry to conclude the fact that EWMA could be a general useful tool in monitoring different quality parameters in food industry.*

**Key words:** Milk, somatic cells, counting, statistical monitoring, EWMA

## STUDY ABOUT THE RESULTS OF SLAUGHTERING AND THE CARCASS FEATURES AT THE BALOTEȘTI QUAILS POPULATION OF DIFFERENT AGES

**Elena POPESCU-MICLOȘANU, L. IONIȚĂ,  
I. CUSTURA, Consuela ROIBU**

*The purpose of the experiment was to determinate the slaughtering output of the quails at 6, 7, 8 and 9 weeks of age and also the proportion of the main component parts of the quail carcass s and of the breast. To accomplish these, determinations were made on 80 males divided in 4 batches (20 males in every lot).*

*The present experiment is part of a series, realized by the authors to complete the characterization of the Balotești quail regarding the productive parameters in the youth and the adult flock. The data will serve to the elaboration of some selection programs for eggs or meat production.*

*Because the obtained results of both the lots slaughtered at 7 weeks and 8 weeks are superior to that slaughtered at 6 weeks and the meat price justifies the expenses of kipping the fowls until these ages, we recommend them for the valorization of the eggs-meat production quails.*

**Key words:** quail, mixt production, slaughtering age

## **DYNAMICS OF CONSUMPTION EGGS QUALITY, ACCORDING TO THE STORAGE PERIOD**

**M.-G. USTUROI**

*Decrease of consumption eggs quality indexes values could be observed when eggs are stored longtime, without meeting the physical storage factors requirements; moreover, the germs on the shell begin to multiply, increasing the infection risk of the inner content.*

*Consequently, this paper presents a study on some quality and microbiological indexes of the consumption eggs kept in various storage conditions.*

*Achieved data indicated that eggs keeping in different storage conditions led to decreasing of certain quality indexes, especially 2.88-4.45% weight reduction. Microbial load on the shell increased from 92.45-92.60 germs/cm<sup>2</sup> shell (storage beginning) till 98.05-135.4 germs/cm<sup>2</sup> shell, after 30 days of storage.*

*It is recommended to keep consumption eggs at +4°C temperature and 90% relative moisture values.*

**Key words:** eggs, quality, storage

## **INFLUENCE OF THE POST-TRANSPORTATION REST ON THE POULTRY MEAT ACIDITY**

**M.-G. USTUROI**

*Sudden decrease of meat pH occurs when realization of poultry transport, even on short distances, is done without allowing the required rest for glycogen recovering. After long lasting transportation, immediately followed by fowl slaughtering, the decrease of meat pH becomes more acute, consequently to the poor glycogen and A.T.P. supplies in muscles.*

*At chicken broilers, transportation across mean distances (80km,) without allowance of post-transport rest, leads to meat pH migration toward alkaline range, immediately after slaughter (pH=6.99), as well as in 12 hours post mortem (pH=6.01).*

*Granting of post-transportation rest (30-120 minutes) allowed recover of glycogen supplies at lower or higher ratios, while meat pH reached values within normal limits.*

*Experimental data proved that optimal requested time for recovering after mean distances transportation counted 120 minutes (pH=7.17 just after slaughtering, respectively pH=5.51, at 12 hours post-slaughtering).*

**Key words:** broiler, rest, pH value, preservation ability

## **MOLECULAR METHODS USED FOR DETECTION OF CATTLE MILK IN BUFFALO, EWE AND GOAT DAIRY PRODUCTS**

**A. VLAIC, V.A. BALTEANU, F.D. POP, Anda Raluca RUSU**

*Authenticity identification of different animal food products received in the last years an important attention in many countries. The majority of dairy products authenticity identification methodologies are based on major milk proteins analysis. In milk there are six major proteins (codified by 6 genes), which are specific expressed in mammary gland epithelial cells during lactation, each having many genetic variants in different farm species/breeds. In this review we describe the actual stage in this research field at the international/national level and methods used in authenticity/ origin identification in milk and other dairy products.*

**Key words:** authenticity, origin, molecular methods, dairy products

## **ON THE CONCENTRATION OF SOME VITAMINS AND PROVITAMINS IN THE *VACCINIUM MYRTILLUS* L. FRUIT**

***D. COJOCARU, Elena CIORNEA, Gabriela VASILE***

*The study discusses the experimental data obtained in the study on the concentration of vitamins C, P and B<sub>6</sub>, of provitamins A and of the soluble proteins in the fruit of bilberry (*Vaccinium myrtillus* L.) from the spontaneous flora, comparatively with those of the cultural plants. The results obtained support the conclusion that the bilberry fruit from the spontaneous and culture plants represent important sources of both vitamins and provitamins.*

**Key words:** *Vaccinium Myrtillus* L., vitamins, provitamins, soluble proteins

## **ON THE CONTENT OF SOME ACTIVE PRINCIPLES IN THE *HYPPOPHAE RHAMNOIDES* FRUIT**

***D. COJOCARU, Elena CIORNEA,  
Gabriela VASILE, Sabina Ioana COJOCARU***

*The paper systematizes the obtained experimental data on the dosing of vitamins C, P, B<sub>6</sub>, carotenes, soluble proteins and reducing glucides from the fruit of sea buckthorn harvested from various areas of the Buzău district. The results obtained recommend them as a very good source of vitamins and provitamins for the human organism.*

**Key words:** *Hyppophae Rhamnoides*, C vitamin, P vitamin, carotenes, provitamins, soluble proteins

## **RESEARCHES CONCERNING THE PHYSICO-CHEMICAL AND MICROBIOLOGICAL QUALITIES OF THE MILK**

***Andreea Bianca GHIRILĂ, Aurelia PECE,  
Vioara MIREȘAN, Gh. MUREȘAN***

*The aim of the researches from this project evidences the physico-chemical and microbiological qualities of the milk in order to improve the qualitative and quantitative performances. The determinations were made on 34 dairy Romanian black spotted cows in lactation from Cluj County. The results obtained illustrates that the analyzed parameters are framed between the following values: fat 2,9-5.62; protein 2.82-3.42; lactose 4.08-5.65; dry matter 7.78-9.5. That's why the lactose concentration is correlated with its evolution and decrease in the deficit contribution of glucose or in the case of mammary infections. In the same time the development of the number of somatic cells is in harmony with the milk production. The physico-chemical and microbiological parameters are in correlation with the milk production which is also correlated with the assurance of a technical and economical foundation and with the application of well known and correct breeding technology.*

**Key word :** *milk, Romanian black spotted cow, quality*

## **SURVEY REGARDING THE CONCENTRATION OF LIQUID FOOD COMPONENTS THROUGH REVERSE OSMOSIS USING SPECIAL MEMBRANES**

***Camelia HODOSAN, Lucica NISTOR, S. BARBUICA,  
I.G. MALOS, Gabriela MALOS***

*Liquid food components are concentrated by applying the reverse osmosis procedures and eliminating water at low temperatures. Eliminating water does not require a change in the aggregation state, as the process unfolds with the preservation of energy.*

*Reverse osmosis through special membranes applies both to food items or vegetal origin food items and animal origin.*

**Key words:** *reverse osmosis, membranes, purification, food items.*

## **THE DETERMINATION THROUGH MICROBIOLOGICAL TESTS OF THE HYGIENE STATE BELONGING TO THE SURFACES THAT COME IN CONTACT WITH MILK IN THE MILKING INSTALLATIONS**

**Gabriela MALOȘ, I.G. MALOȘ, Daniela IANIȚCHI,  
Lucica NISTOR, Camelia HODOȘAN**

*The initial qualities of milk, given by the inter-relations between animal organisms (potentially genetic, healthy state), and climate factors (sustenance, watering, microclimate), can't be improved once the milk has exit the udder, but on the other hand these qualities can be lost irreversible on the ingathering/conditioning/manipulation flux (milking, cooling, transporting), when the hygiene requirements specific to milk as an „alive” product are not satisfied.*

*The purpose of these present researches, preformed in concrete conditions of high productivity, is to determine through a non-subjective methode the hygiene state of the surfaces belonging to the milking devices that come in direct contact with the milk, this way being able to establish the influence that this hygiene state has over the quality index of milk basic material (technological and nutritional).*

*The hygiene state of the surfaces that come in direct contact with the milk in the studied milking devices is diferent acording to: the hygiene performances of the devices; their correct handling by the qulified staff (the correctitude in the washing/disinfection operations).*

*However, the hygiene state is determinated in all situation by the: the time used from the acomplishment of the hygiene process until the utilization of the devices and by the conditions of preservation and usage of the milking devices after the hygiene process (the germ load belonging to the surfaces with which they come in direct contact, the density of the microflora from the air of the rooms in which these are kept, etc.).*

**Key words:** *surfaces in diary hall, hygiene, microbiological tests*

## **THE INFLUENCE APPRECIATION OF MILKING INSTALLATIONS PARAMETERS FOR INITIAL QUALITY OF MILK**

**Gabriela MALOȘ, I.G. MALOȘ, Daniela IANIȚCHI,  
Lucica NISTOR, Camelia HODOȘAN**

*The initial qualities of milk, gived by the inter-relations liaise between animals organism (genetic potential, health) and environment parameters (sustenance, watering, microclimate), its can't be improved once the milk left the udder but in exchange it can be lost irreversible on the gatherin/conditioning/manipulation flow (milking, cooling, transportation) when it is not ensure the specific hygiene requirement of milk like a „live” product.*

*The purpose of the present investigations, make in concrete conditions for a big production, it is that of initial quality cuantification for milking with much more types of milking instalations so it can record the difference semnifications and much possible to establish the causes.*

*The obtained results notice following aspects:*

*- the hygiene situation of milking instalations surfaces wich they came in contact with milk have a certain influence for the milk quality obtained with this one: straight for the primary microbial cargo and for the trail of inhibitory substances and somehow indirectly (for some moist surfaces) for the integrity of fatt content and the milk density;*

*- the technic-functional parameters of milking instalations have a influence on relative density (for a volume of inclusion of gases) with important consequences on nutritional milk quality.*

**Key words:** *Milking instalation, milk, physical features, germs, inhibitory substances*

## **MATERIAL BALANCE FOR OBTAINING SHRIMPS CANS IN BRINE AND CRAB CANS IN OIL**

**Carmen Georgeta NICOLAE, Georgeta DINIȚĂ,  
Dana POPA, R. AL. POPA, T. ISBĂȘESCU**

*Seafood could be presented as food products with a great nourishing value and a special contribution to human nutrition optimization, but also as raw material for the processing unit. The present study proposed itself the analyze of processing 200 kg/day shrimps and crabs having in view the obtaining of two canned sorts (in brine and oil) establishing the material balance for each sort. Upon the balance realized according to technological diagram, it can conclude that by processing the same amount of seafood it is obtained a larger amount of cans in brine from shrimps meet (16.6 kg more cans in brine than cans in oil.).*

**Key words:** *shrimps, crabs, cans, balance of material*

## RESEARCHES REGARDING THE INFLUENCE OF THE VITAL GLUTEN ON THE BREADMAKING QUALITIES OF FLOURS

*Lucica NISTOR, Minodora TUDORACHE,  
Georgeta DINIȚĂ, I.G. MALOȘ, Gabriela MALOȘ*

*The work is focused on the influence of the gluten on the breeding qualities of wheat flour. Gluten represents the flour protein and it has an important role in bread making process, especially in the bread volume and final quality.*

*One method of obtaining vital gluten is by protein separation from a mix of flour and water by physical extraction. The water insoluble fraction is after that transformed into a powder yellow fraction which represents the commercial vital gluten. The protein content of the final product is 75-80% d.w.*

*The flour protein quality may vary according to the wheat source and the drying conditions used for wheat conditioning. After the separation by washing of the soft dough, the gluten is dried to a 6-8% moisture level.*

*For a decreased level of gluten, the dough is more plate even if its elastic proprieties are superior. The content of gluten in wheat flour is 22-32%.*

**Key words:** *gluten, dough, extraction, elasticity, breadmaking process.*

## THE INFLUENCE OF HUSK ADDING ON CHEMICAL AND PHISICAL CHARACTERISTICS OF BREAD

*Lucica NISTOR, Victoria Gratiela BAHACIU,  
Camelia HODOȘAN, S. BARBUICA, Andra SULER*

*This paper tries to determine how adding husk can influence the characteristics of bred. We tried to evaluate the chemical and physical characteristics of bred.*

*Husk is obtained by mechanical processing the wheat, during the second groats; husk is a residual product of this process.*

*The husk is added during the breadstuff preparing which is not complied with a further analysis.*

*Vegetal fibers are added in a 5-35% proportion related to the wheat flour quantity, depending on the concentration of vegetal fiber wanted and the products' final destination.*

*The wheat husk is the most used ingredient as a vegetal fiber source for breadstuff. This happens because husk is cheap and easy to find, affordable. Also, the husk contains not only vegetal fibers, but vitamins, mineral salts and proteins .*

*The husk contains 40 to 50 percents alimentary fibers, made of hemicellulose and lignin.*

**Keywords:** *bread quality, physical, chemical features, husks*

## STUDY OF THE PHYSICO-CHEMICAL AND MICROBIOLOGICAL PARAMETERS OF COTTAGE CHEESE OBTAINED FROM BUFFALO MILK

*Aurelia PECE, C. COROIAN, Bianca GHIRILĂ, G. MURESAN*

*The aim of the researches is to evidence the physico-chemical and microbiological properties for framing the obtained product in the norms. The determination were made on 25 samples of cottage cheese obtained from buffalo milk by using diferent selective medium culture. The results of the determination was showing that the majority of the bacterias were absent. Exception was making the dregs and moulds which had values between 510-768 germs/g, coliphorme bacteria between 2.3-9.4 germs/g ans Staphylococcus coagulates + between 3-10 germs/g. The contamination with Staphylococcus coagulates + can be referable to the diferent manipulation and contamination due the technological process of the obtainement of end-product.*

**Key words:** *buffalo, chemical composition, microbiological quality;*

## CONSIDERATIONS CONCERNING COW MILK PRODUCING AND MARKETING IN ROMANIA AND BULGARIA

*Agatha POPESCU, Elena ANGEL, Judita SAFARIKOVA*

*This study aimed to make a comparative analysis of milk producing and marketing in Romania and Bulgaria, during the period 2001-2006. The paper is based on the use of several information sources. Based on the statistical data provided by FAOSTAT, the following indicators specific to such a study were used: dairy cows stock, milk yield, total milk production, milk producer's price, milk imports and exports, quantity and value, import and export milk price.. The study pointed on that Romania has a better producing potential compared to the one of Bulgaria, but the both states are the main milk producers within the CEECS, raising together 28.55 % of cow stock and producing 23.79 % of the total cow milk producing achieved in this area. The study allowed to emphasize the similarities and differences concerning milk producing and marketing, as well as the opportunities and perspectives to increase productivity and competitiveness in dairy farming and milk processing.*

**Key words:** *flock size, dairy farms, milk yield, trade, Romania, Bulgaria*

## MAJOR ASPECTS IN THE EVOLUTION OF MILK PRODUCTION IN DENMARK

*Agatha POPESCU, S. RASMUSSEN, G. RADULESCU*

*This study aimed to present some major aspects concerning milk production in Denmark during the period 1975-2005, based on the statistical data. Finally, the conclusions were that: the number of dairy farms is significantly reduced from 63,200 to 5,900 units, the average farm size increased from 17 to 94 heads, milk yield increased from 4,952 to 8,600 kg/cow/year. Milk payment is done based on a new system which stimulates the increase of efficiency in dairy farms.*

**Key words:** *dairy farms amount, herd size, milk yield, quality payment, seasonal price*

## CHARACTERIZATION OF THE BIOLOGICAL MATERIAL OF RAINBOW TROUT (*ONCORHYNCHUS MYKISS*) USED FOR ARTIFICIAL REPRODUCTION AT SEXUAL MATURITY AGE

*Anca BOARU, I. BUD, R.M. VODĂ, Daniela LADOȘI, I.V. MAG PETRESCU, Adriana CRISTE, Viorica COȘIER*

*Artificial reproduction in the rainbow trout (*Oncorhynchus mykiss*) is practiced in Romania yet before introduction of this species, and sires breeding can be relatively easy done, having in view that fish accept easily the artificial food. The sexual maturity is reached at 2-3 years age, and a very good maintaining state of sires, with a very good start until sapling phase, as well the conditions existent in diverse trout farms from our country influence decisive the reproduction success. In the work paper, the authors analyze, basis on body measurements and followed reproduction indices, the results obtained in the first reproduction year in rainbow trout (*Oncorhynchus mykiss*) bred in two trout farms from Romania. The body development of biological material 3 years aged, puts into evidence the differences between the two sexes, as well between the two locations, differences found also in the values of main followed reproduction indices. The reproductive performances of rainbow trout (*Oncorhynchus mykiss*) differs depending on medium parameters, biological material specific for each trout farm, it's feeding during breeding and development period, as well before reproduction preliminary period.*

**Key words:** *rainbow trout, artificial reproduction, sexual maturity, gonosomatic index*

# THE WATER QUALITY APPRECIATION FROM THE BAHLUI RIVER BY MEANS OF SOME BIOLOGICAL INDEXES

*A. COLESNIUC, Petronela RĂILEANU, Lenuța GRIGORICĂ*

*Aquatic ecosystems suffered for the past decades, due to antropic pressure which include: pollution, eutrophisation, urban and industrial development, and the hydrotechnics activities. All these are reflected devotedly, through diminish of the plankton, benton and nekton diversity communities, as well as through the modification of their structures. Ergo, it has applied to the utilization of the biologic variables for appreciation the water quality of the Bahlui river, these having certain advantages and complementarities in report with physico-chemical variables. To emphasize the antropic impact on the Bahlui river ecosystems, main affluent of the right of Jijia, was chose the stations of take-off of samples depending on the degree of antropic influence of each zone.*

*Thus, in the frame stations of collection was noticed the concordance between the organic shipment waters and the diversity species. To an enhance organic shipment (the station Holboca - CBO<sub>5</sub>: 20.3-21.4 mg/l) was noticed the existence of a paucity of species. Tubifex tubifex is indicatory water specie with organic shipment represented across 60% from the total individuals. In other two station was registered the CBO<sub>5</sub> values contained between 10.8 and 13.5 mg/l, correlate with a relative high number of taxons and a well-balanced number of individuals.*

**Key words:** *Bahlui river, water quality, biological indices, biodiversity*

## THE INFLUENCE OF DIFFERENT GLYCEROL CONCENTRATIONS IN RAM SPERM MOBILITY AT 4°C

*Anca DASCĂL, V. MICLEA, M. ZAHAN, V. CIORNEI, L. SASCA*

*A large number of techniques have been tested in order to reduce or stop the metabolism of spermatozoa, thereby prolonging their fertile life and mobility. That can be obtained by used of different extenders which were devised for ram semen refrigeration and which can minimize the detrimental effects of sperm temperature decrease processes (Salamon and Maxwell, 1995; 2000). The temperature decreasing rates (Byrne et al., 2000; O'Neill, 1998), the cryoprotectant agent and their concentration, extender composition, dilution rate, the temperature which the glycerol is added to ram semen and the equilibration time represents the main factors which influence the successful of maintaining a high ram semen mobility for a long time (Abdelhakem et al., 1991; Aisen et al., 2000; Anel et al., 2005; Ashworth et al., 1994; Molinia et al., 1994; O'Neill, 1998; Paulenz et al., 2004; Salamon and Maxwell, 2000). The researches were made between November 2007 and January 2008 at SCDP Jucu. The aim of this researches was to analyze the influence of different ram semen extenders, with different glycerol ratio, on time evolution of ram sperm mobility at 4 °C . Were used three different extenders, with 2.5, 5 and respectively 7% glycerol. Except glycerol, all extenders contained others components like: monosodic citrate (0.28 g), fructose (0.1 g), egg yolk (2 ml) and bidistilled water (8 ml). The protocol used for refrigeration presumed gradual decrease of temperature, from 13°C to 5°C, in an interval of two hours and than the maintenance of the samples in refrigerator, at 4°C. Both in temperature decreasing period and in depositing period at 4°C, was determined the sperm mobility, at one hour and respectively 24 hours intervals. The qualitative and quantitative semen parameters integrated oneself in the normal limits. The sperm storage period at 4°C increase with the increase of the glycerol extender's rate. Glycerol concentration at 5 and 7% give better results for ram sperm refrigeration than 2.5%, but not more than 7%.*

**Key words:** *Ram, sperm, mobility, glycerol, different concentrations*

## RELEVANT FRESH WATER SPECIES TO BE USED AS BIOMARKER IN MONITORING POLLUTION OF HILLY HYDROGRAPHIC HABITATS

*Daniela LADOȘI, I. LADOȘI, I. BUD, Anca BOARU, V. VLADĂU, Reka ȘTEFAN, Camelia RĂDUCU*

*One of the main obligations assumed by Romania since joining EU was to become an active part of the efforts designated towards biodiversity conservation on the natural ecosystems and also to act for reconstruction of the ones endangered. The current paper aim is to use this starting point and to point out based on updated data that there is an ongoing limitation of the natural habitat of several fresh water species. Only in the last 15 years 12 species gone extinct, a situation, which should not be further, tolerated.*

*It is important for the aim of this project that the targeted specie are already on the UE red list as vulnerable or endangered. This is supported as well by the Water Framework Directive and Habitat Directive – 92/43/EEC. In the same time these specie are regarded as valuable biomarker tools for water quality assessment according to the EU Fish Monitoring Report TC230/WG2/TG4. For Romania the most relevant species which can be used as biomarker for level of pollution assessment are: burbot (*Lota lota*), bullhead (*Cottus gobio gobio*), Carpathian lamprey (*Eudontomyzon danfordi*), Romanian loach (*Cobitis romanica*) and stone crayfish (*Austropotamobius torrentium*).*

**Key words:** freshwater species, biomarkers, pollution assessment

## **GROWTH STIMULATION AND FOOD CAPITALIZATION, IN CYPRINIDS, BY CONTROL OF THE PARASITIC STRESS**

**C. MISAILA, A. COLESNIUC,  
Elena GRIGORICA, Petronela RAILEANU**

*The study discusses the results obtained on the weight gain and food capitalization in one-year old common carp, silver carp and bighead carp grown in polyculture, at industrial level, in two variants, namely with and without the application of some preventive antiparasitical treatments. The lots, parked into ponds at The Research Station for Aquaculture and Aquatic Ecology of Iasi, were formed of 79% common carp (*Cyprinus carpio*), 11% silver carp (*Hypophthalmichthys molitrix*) and 10% bighead carp (*Aristichthys nobilis*), the controlled food administered for 220 days, consisting of granulated fodder with identical compos.*

*Along the whole experimental period, the carp grew from 51g/piece to 243 g/piece, the silver carp from 125 g/piece to 474 g/piece, and the bighead carp from 134 g/piece. to 424 g/piece.*

*In both experimental variants, the silver carp records the highest weight gain, followed by bighead carp and common carp. In all the three species, the individual weight gain is higher in the variant in which antiparasitical treatments had been applied, comparatively with the reference (i.e., + 19% in silver carp, + 20.3% in common carp and + 25.7%, respectively, in bighead carp). Food conversion ratio - in the case of carp - is 26.3% more efficient in the variant under investigation than in the reference one, while the coefficients of metabolic conversion of the ingested proteins evidence the 28 - 35% superiority of this variant.*

**Key words:** weight gain, FCR, proteic retention, parasitic stress, cyprinids

## **RISK OF DACTYLOGIROSIS TRANSMISSION IN CARASSIUS AURATUS, IN STRESS EXPERIMENTAL CONDITIONS AND THERAPEUTIC EFFICIENCY OF TRICHLORFON PRODUCT (SYNTHESIS ORGANO-PHOSPHORIC)**

**O. NEGREA**

*Investigations done on an effective of 58 fishes (young carp), on the dactylogirosis incidence and extension in dynamic, on 60 days, in conditions of inducing some stress factors artificially (great density of population into aquarium, moving space restraint, residual organic support in great quantity, high temperature 22 – 24 °C, reduced oxygen) and testing antihelmintic efficiency of Trichlorfon product put in evidence the following aspects :*

*- dactylogirosis incidence presents in dynamic, increasing values from the first control (8,6 %) to the second one (36,0 %) and maximum to the third (88,1%).*

*- the level of parasitism intensity records in dynamic, important increasing values, touching to the last control values of 73,3 % massive infestations, facing the absence of these to the first control.*

*-into the clinical picture are appearing progressively grave modifications express by an acute respiratory syndrome, suffocation accesses and mortality.*

*- morpho-pathologic exam which was done puts in evidence branchial multiple hemorrhagic lesions alternating with branchial necrosis areas, hyper-secretion of mucus into branchiae cavity*

*- therapeutic efficiency of Trichlorfon for struggle against dactylogirosis in carassius is very good touching a threshold of 80 %.*

**Key words:** Parasitism, Dactylogyrosis, Trichlorfon therapy, Carassius sp.



## PCR TECHNIQUE USED IN SAPROLEGNIA SP. GENETICAL CHARACTERIZATION

**R.G. OROIAN, A. VLAIC, T.E. OROIAN**

*We isolated and genetically characterized using PCR technique, 16 samples of Saprolegnia sp., originating from infected carps (Cyprinus carpio), belonging to the Arinis fishery, Maramures, in April 2007. The molecular genetics methods were performed at the Facolta di Agraria, University of Tuscia, Viterbo, Italy, in november.*

**Key words:** *Saprolegnia isolates, Cyprinus carpio, PCR technique, genetical characterisation*

## RESEARCH CONCERNING THE MAIN CHARACTERISTICS OF MILT OBTAINED CONSECUTIVELY TO OVOPEL TREATMENT IN COMMON CARP

**L. SASCA, V. MICLEA, M. ZAHAN, A. DASCĂL, T. OROIAN, G.R. OROIAN**

*Through the application of some artificial reproduction techniques in common carp, which begins with the selection of the reproducers and ends with the larvae obtaining, there are obtained larger fisheries productions comparatively to natural reproduction.*

*The artificial reproduction of the common carp implies the hormonal treatment for gonads maturation with the purpose of eggs and milt retrieving. The reproductive synchronization of an appropriate number of individuals is realized through hormonal induction of spawning for the efficient use of the large capacity incubators. The hormonal induction of spawning is based on the chain brain – hypothalamus – hypophysis – gonads driving. From the substances used for the induction of milt and eggs retrieving, the hormones are represented in the present paper by the Ovopel synthetic hormone.*

*The quality of the milt obtained consecutively to the Ovopel treatment is characterized through macroscopic and microscopic analysis, determining the following parameters: quantity of milt obtained, mobility, viability, concentration and sperm abnormalities. The obtained results are situated between the limits presented in the literature.*

**Key words:** *Lausitz carp, Galitian carp, milt quality, ovopel, treatment*

## STRUCTURE OF THE DIGESTIVE TRACTUS IN ARISTICHTHYS NOBILIS

**Gabriela VASILE, Gianina COMĂNESCU, Elena CIORNEA**

*The paper presents some histological aspects of the digestive tractus in Aristichthys nobilis in its various segments (anterior post-oesophagian intestine, anterior distal intestine, median and posterior intestine), as correlated with both age and main type of food for the species under study.*

*The digestive tube has been taken over from 5 Aristichthys nobilis individuals of various ages, namely: one- and four-old summer ones, the digestive tractus being unfolded along its whole length, after which rectangularly-shaped fragments were taken over and processed by methods of histological techniques; thus, the nuclei were colored with hemalaune, while the cytoplasm - with eosine. Thickness of the mucous and muscular tunics was measured by the micrometric method, with a micrometric objective thin plate lamina and an ocular micrometric lamina.*

*The experimental results obtained put into evidence some variation in the form of the mucous folds (simpler in one summer-old individuals and more complex in the four summer-old ones), along with variations in the thickness of the mucous and muscles.*

*For both categories of ages taken into study, the mucous and muscular tunics are more well-developed in the segment of the post-oesophagian anterior intestine than in the rest of the digestive tractus, which entitles one to consider this portion as a “stomach”, in spite of the typically intestinal aspect of the mucous tunic.*

**Key words:** *Aristichthys nobilis, digestive tract, mucosa, muscular tunic, structure*

# BIOMETRIC ASPECTS OF THE DIGESTIVE TRACTUS IN *ARISTICHTHYS NOBILIS* AND *HYPOPHTHALMICHTHYS MOLITRIX* OF VARIOUS AGES

*Gabriela VASILE, Elena CIORNEA,  
Elena RADA MISAILĂ, C. MISAILĂ*

*The study discusses some biometric aspects of the digestive tractus in representatives of *Aristichthys nobilis* and *Hypophthalmichthys molitrix* of various ages (i.e., one and, respectively, four summer-old ones), as correlated with the prevailing food regime and with the standard and total length values, which permitted a comparative analysis between the two species of Asian cyprinids.*

*The results of the biometric studies have been interpreted versus the standard and total bodily length, for evidencing the extent of its elongation up to the age of four summers.*

*The literature of the field evidences the fact that, with the increase in bodily length, the ratio between the length of the digestive tube and that of the body increases, as well, as supported by our own results. Thus, in the case of bighead carp, the ratio between the length of the digestive tube and the total length of the body gets modified from 2.969, in fingerlings, to 5.382 in four summer-old individuals, while the ration between the length of the digestive body and the standard bodily length - from 3.615, in fingerlings, to 6.173 in adults.*

*Nevertheless, in one summer-old *Hypophthalmichthys molitrix* individuals, both the digestive tractus length: total bodily length ratio, and the digestive tractus length: standard bodily length ratio is much higher than in the bighead carp of the same age, attaining values of 4.133 and 4.930, respectively, while in adults of *Hypophthalmichthys molitrix*, the ratio between the length of the digestive tube and the total length of the body is of 7.591, while that between the length of the digestive tube and the standard bodily length is of 8.712.*

*Apparently, such elongation of the digestive tube in farming cyprinids is the result of their growing tamed, as well as of their food regime - once known that modification in the length of the digestive tube occurs simultaneously with that of the nutritive spectrum.*

*Another objective of the present study was to establish the correlation and regression relations occurring between the standard length of the body and the length of the digestive tube, in the bighead carp and silver carp representatives under investigation, permitting subsequent calculation of the regression (i.e., the extent to which one of the variables determines increases in the other one) and determination coefficients, known as indicating - as percent ratios - the extent to which the values of the dependent variable are determined by the other, independent one, and vice versa.*

*With the exception of the one summer-old bighead carp individuals, in the case of which a negative, statistically non-significant correlation has been established between the bodily standard length and the length of the digestive tube, positive correlations have been found out between the two tested variables in all the other cases subjected to investigation.*

**Key words:** *Aristichthys nobilis, Hypophthalmichthys molitrix, digestive tract, biometry*

## RESEARCHES REGARDING THE BIOMETRY AND THE PARAMETERS OF *BARBUS MERIDIONALIS PETENYI* FROM NADRAG RIVER BASIN

*I. BĂNĂȚEAN-DUNEA, A. GROZEA, M. BURA,  
Silvia PĂTRUICĂ, G. HOHA*

*We can estimate the fishes' overall body development by means of physical measurements; the interdependency of different body zones; growth rate; conformation and facts evaluation, as well in relative as in absolute values, thereby physical parameters can characterize a piscicol population from a certain geographical area, morphologically speaking. By doing a mean analysis as it regards females and males' total body length, it was observed that the mean female body length (17.11 cm) is bigger than to the male (11,61 cm), respectively. The mean body weight to the females was of 58.18 g and to the males was of 15.35 g. By doing a watchful body analysis, it was established that females have fattening and flesh-like parameters higher than males.*

**Key words:** *Barbus meridionalis petenyi, subspecie, somatic measurement, body parameters, river.*

# THE INFLUENCE OF *ARTHEMIA SALINA* FEEDING ON *POECILLIA RETICULATA* (*LEBISTES RETICULATUS*) COLORS

**A. GRUBER, B. PĂSĂRIN, I. M. POP,  
Françoise PICARD, Doina LEONTE, C. LEONTE**

*The production of ornamental tropical fish involves the realization of some optimal condition for obtaining healthy fishes with various colors easy to maintain and grow. Across the time the trend became to grow fishes with various colors obtained by selection and crossing. Like this the actual guppy's forms have color and nuances apart from the wild forms of guppies.*

*This study follows the influence of feeding guppies with *Artemia salina* nauplis over colorist of *Poecillia reticulata* (*Lebistes reticulatus*), a very common species in aquariums.*

*The method consist in forming 3 lots of fish from *Poecilia reticulata* species, one day fingerlings obtained from several females, and observing coloristic evolution from the first and second generation and of the adults from the first generation over 3 months period.  $M_1$  lot was feed with complet food;  $A_1$  feed with alive *Artemia salina* nauplis and  $A_2$  feed with mixture food (complete food and *Artemia salina* nauplis).*

*The fingerlings feed with *Artemia salina* presents more intense colors comparing the lot feed with mixed or complete food.*

**Key words:** *Artemia salina, feeding, Poecilia reticulata, coloration*

## IDENTIFICATION AND QUANTITATIVE DETERMINATION OF AQUATIC VEGETATION IN A PISCICULTURAL POOL

**Valerica MACOVEI, I. M. POP**

*The purpose of this paper was to identify and determined the quantity of a piscicultural pool vegetation as well a the quantity of terrestrial vegetation in the near vecinity of the piscicultural pool.*

*The aqatic macrophites have been diagnosed with the help of the determinator analysired the rod, the leafes and the whole inflourescent plant. The identified plants have been recoltd and grouped in association to be sistematicaly incorporated, and then the biomass was determined.*

*The quantitative determination of the emerse aquatic vegetation has been mode on a surface of 800 mp and that of the submersed an floating macrophites, on a surface of 1500 mp and the ground vegetation on a surface of 1200 mp. Every area was a divided in parcels with an wer measuring 1 mp, the plants on every parcel, grouped into families and weight. After that, the biomass for every taxons on 1 mp. Was determined as well as on the entire recolting surface. There heve been mod 2 recoltings for every group of macrophites and the results writen into tabeles.*

*Regarding the identification of the aquatic and terrestrial vegetation, it was a determined that 29 taxons belonging to 12 families of emerse aquatic macrophites, and 21 taxons belonging to 8 families of terrestrial plants in the vicinity of the piscicultural pool.*

*After the recolting and identifying of the aquatic and the terrestrial vegetation came the quantitative determination. So, it was determined the surface occupied by every specie and the biomass, in humidity for the aquatic vegetation and fresh for the terrestrial vegetation.*

*The total biomass of the emerse plants, on a surface of 1200 mp was 13920 kg. The total biomass of the submersed plants on a surface of 1500 mp was 1268 kg. Amoust the natal aquatic plants, more representative where the *Lemna* species with 1,220 kg per mp, followed by *Hydrocharis morsus-ranae* with 0,490 kg per mp and *Azzola caroliniana* with 0,342 kg per mp. Also, on a surface of 1200 mp, it was recoltd a quantity of 9180 kg of terrestrial vegetation. The moust spread species were the *Tripholium hybridicum* with 1,7 kg per mp, *Tripholium repens* and *Medicago sativa* with 1,5 kg per mp, *Lotus corniculatus* with 1,1 kg per mp, *Dactylis glomerata* and *Lolium perene* with 0,9 kg per mp, *Festuca pratensis*, *Agropyron pectiniforme*, *Taraxacum oficinalis*, *Ranunculus acer* and *Deschamptia caespitosa* with 0,5 kg per mp.*

*Considering the great quantity of fitomass and the acceptable quantity of organic mass, the aquatic and terrestrial vegetation, could consist an important food source for the fish.*

**Key words:** *pisciculture pool, emerse plants, submerse macroflora, natant macroflora, land vegetation*

## **INCIDENCE OF BLACK SPOT DISEASE IN THE FRESHWATER FISH GATHERED UP BY INDUSTRIAL FISHING IN DANUBIAN DELTA AREA**

**M. HANGAN, Laura URDEȘ, P. VASILE**

*A total of 485 fishes belonging to four different species - *Cornus mascula*, *Scardinius erythrophthalmus*, *Vimba vimba* and *Perca fluviatilis* – were examined for the black spot disease. The biological material originated as follows: *Cornus mascula* –Dranov lake and Razelm lake (Sarinasuf area); *Scardinius erythrophthalmus* –Murighiol and its afferent canals; *Vimba vimba* –afferent lakes of Sulina, Chilia and Saint George branches'; *Perca fluviatilis* –Razelm lake. It resulted that the highest incidence of infection was in *Cornus mascula*, followed by *Scardinius erythrophthalmus*, *Vimba vimba* and *Perca fluviatilis*. The most frequent positions of metacercariae were found on the dorsal face of body, head and on the fins, especially dorsal and posterior fins. Muscle placement of parasites was found only in bloody twig and zahrte. In zahrte, it also have been found peritoneal metacercariae pigmentations.*

**Key words:** Black spot disease, bloody twig (*Cornus mascula*), rudd (*Scardinius erythrophthalmus*), zahrte (*Vimba vimba*), perch (*Perca fluviatilis*)

## **CRUSTACEANS' (*LERNEA* SP.) PATHOGENY ON EFFECT FRESHWATER FISHES BRED IN STATIC PONDS, WITHIN SOME FISHERIES IN THE DANUBIAN DELTA AREA**

**M. HANGAN, Laura Daniela URDEȘ, Cristiana DIACONESCU, P. VASILE**

*Our research regarding crustacean' pathogeny effect on the freshwater fishes started in February 2006 and ended in November 2007. Its purpose was to study the health of industrial fishing fish within the lagoonal complex Razelm-Sinoe, the ponds from the Sarinasuf village (Murighiol commune), the Lunca fishery and Dranov lake. The work aimed to evaluate the crustaceans' pathogeny and incidence on two species of freshwater fish, carp (*Cyprinus carpio*) and mower (*Locusta viridissima*) in the area. It resulted a high rate of infection in mower (95%) and very low (20%), in carp. The incidence of the disease had a peak in December 2006 - January 2007.*

**Key words:** Crustaceans' (*Lernea* sp.) pathogeny, freshwater fish, static ponds, Danubian Delta area

## **EUSTRONGYLIDES' AUTUMNAL DISTRIBUTION AND ITS PATHOGENICITY IN RAZELM, DRANOV AND MURIGHIOL LAKES' FISHES**

**Laura Daniela URDEȘ, M. HANGAN, V. PETRICĂ**

*The aim of this scientific work was the study of the autumnal nematodean infections with *Eustrongylides* sp. in *Aspius aspius*, *Stizostedion lucioperca* and *Perca fluviatilis* originated from Razelm, Dranov and Murighiol lakes. Fishes have been clinically, pathologically and parasitologically examined. Following these examinations, resulted a higher rate of infection in perch (*Perca fluviatilis*) than the others. We identified the nematod's larvae in: muscles, body's cavity and mesentery - in *Aspius aspius*; muscles and body's cavity - in *Stizostedion lucioperca*; in muscles, gonads, body's cavity and guts - in *Perca fluviatilis*. In a number of cases, there were serious lesions pointing out the presence of circulatory and metabolic disturbances, and inflammation.*

**Key words:** autumnal *Eustrongylides* sp. infection, rapacious carp (*Aspius aspius*), pike perch (*Stizostedion lucioperca*), perch (*Perca fluviatilis*)

# **EUSTRONGYLIDOSIS, A SECONDARY NEMATODOSIS ASSOCIATED WITH CERTAIN MYXOZOANS AND TREMATODS IN DANUBIAN DELTA FRESHWATER FISH**

*Laura Daniela URDEȘ, M. HANGAN, V. PETRICĂ*

*Our main reason for making this study was the finding of a high number of cases in which Eustrongylides sp. was being associated with other species of parasites on the same host. Our aims were to find which parasites the nematod associates with, and whether there is a link between its affinity for a certain host, for parasites it affiliates with and the seasonal occurrence of this phenomenon.*

*In order to do this scientific work, a number of 625 perches (Perca fluviatilis) have been examined anatomo-pathologically and parasitologically over a period of 4 years. Even though we examined also other species of fish sourced with Perca fluviatilis, this particular type of parasitism have been found –having a low rate- only in perch, in March 2003, March 2004, in October 2005, October 2006, and in November 2007, respectively. We've found the nematods' larvae associated with three very different species of parasites: the myxozoan Myxobolus sp., the cestod Triaenophorus sp. and the „Ink spots' disease” metacercariae. Using anatomo-pathological and parasitological examinations, we achieved information regarding macroscopic lesions, position of the nematods' larvae into the hosts' body, and also diagnosed the primary infection.*

**Key words:** perch (Perca fluviatilis), secondary Eustrongylidosis, Myxobolus sp., Triaenophorus sp., Ink spots' disease's agent

## **COMPARATIVE STUDY BETWEEN COW MILK SOMATIC CELL COUNT FROM MANY GATHERING CENTERS FROM CIMPULUNG MOLDOVENESC AREA**

*Mihaela IVANCIA*

*The analysed samples were from milk from gathering centers Botus, Breaza, Cimpulung Moldovenesc, Fundu Moldovei, Izvoarele Sucevei, Moldova Sulita, Moldovita, Pojorita si Vatra Moldovitei, all of these are in Cimpulung Moldovenesc area.*

*20511 samples have been gathered from entire area and have been analyze with Somacount apparatus in Dorna Lactate laboratory. Milk somatic cell count was between 240010 and 320360 somatic cell/ml milk. The average on area was 290210 somatic cell/ml milk.*

*There are very significantly differences between the gathering centers for milk somatic cell count and these were determined with Fisher test ( $\hat{F} = 5,67$ , more than F for 0.1% witch is 3.27). Student test have been use to found the centers pairs witch determine these differences.*

*In this way, there could be observed from 36 possibly pairs, more than half (19, means 52.58%) have insignificantly differences between them. Also, between 8 pairs (22.22%) are very significantly differences, between 5 pairs (13.89%) are distinctly significantly differences and between 4 pairs (11.11%) are significantly differences. The very significantly differences were the most many to those pairs with Pojorita center (from that 7 pairs, just two have insignificantly differences; the others have very significantly differences).*

**Key words:** milk cow, fat content, protein content, somatic cell count

## **STUDY REGARDING COW MILK SOMATIC CELL COUNT DYNAMIC FROM DORNELOR AREA, DEPENDINGS ON GATHERING MONTHS**

*Mihaela IVANCIA, D. DRONCA, M.G. USTUROI, C. PASCAL*

*The study has been effect on 31823 gathering milk samples from cows belong to Dornelor area. Analyzes have been effect with SOMACOUNT apparatus, in DORNA Lactate laboratory.*

*Studying the monthly variation of milk somatic cell count we observed the lowest average was in January (229660 somatic cell/milk ml) and the highest average was in May (300380 somatic cell/milk ml). The yearly average was 273740 somatic cell/milk ml. The variation amplitude is determined by the lowest*

and the highest daily values, what were 1000 somatic cell/milk ml (registered in many months) and 2647000 somatic cell/milk ml (registered in December). Milk somatic cell count has been registering a very high variation coefficient in all year months (between 37.41% and 67.77%).

The obtained dates following this study show us the results are different than those from specialty literature. In accordance with this, the highest somatic cell count should be in summer months, the lowest should be in winter months and intermediary, in the other. In Dornelor area, there aren't big differences between monthly average somatic cell counts, however, the maxim value is in one spring month, followed by the value from one autumn months (November, 293650 somatic cell/milk ml).

Also, comparing obtained results with those from specialty literature we can say milk from this area is the "healthy" one (with monthly averages under 400000 somatic cell/milk ml); though some daily values are higher over accepted superior limit.

**Key words:** milk cow, fat content, protein content, somatic cell count

## **COMPARATIVE RESEARCHES CONCERNING THE REARING OF BROILER CHICKENS IN INTENSIVE SYSTEMS WITH FEED MIXTURE DIETS WITH OR WITHOUT BIOSTIMULATORS (ENZYMES)**

**D. MACSIM, I. VACARU-OPRIȘ, D. SIMEANU**

The researches were carried out in S.C. AVICOLA Botoșani, on a number of 32.000 one day old broiler chickens of the commercial hybrid „Ross – 308”, divided into two lots, of which: a control lot (Lc), with a number of 16.000 chickens and another one, an experimental lot (Lexp), with an equal number of chickens. The feeding of the broiler chickens from the control lot was made on the basis of feed mixtures that did not contain feed enzymes, while experimental lot chickens were fed with feed mixtures with additions of Avizyme 1500, in a dosage of 1 kg/ton. The parameters examined during this research were: the dynamics of body weight gain, feed consumption, losses of chicken and the european efficiency factor.

As a general conclusion of the researches carried out, we may say that Lexp experimental lot chickens had higher values than those from the Lc control lot as far as body weight increase is concerned (5,73%) and the value of the feed administered (5,32%). From an economic point of view, the experimental lot - Lexp had a higher european efficiency factor value (EEF)- 6,28% - than the control lot Lc. Consequently, on the basis of the research we may state that the Avizyme 1500 enzyme compound administered to the Lexp lot feed, despite the small quantity of only 1 kg/ton feed mixture determined an intense metabolic activity in the body of the studied chickens.

**Key words:** enzymes, biostimulators, combined feed.

## **RESEARCHES REGARDING THE BREEDING OF BROILER POULTRY IN THE INTENSIVE SYSTEM, WITH COMBINED FODDERS RECIPES, WITH AND WITHOUT BIOSTIMULATORS (PROBIOTICS)**

**D. MACSIM, I. VACARU-OPRIȘ, D. SIMEANU**

The researches were carried out at S.C. AVICOLA Botoșani, on a number of 78.000 broiler chickens, of one day old, belonging to the "Ross-308" commercial hybrid, distributed in four lots, of which: a control lot (Lc) and three experimental lots (L3exp, L4exp and L5exp). The chickens in the experimental lots were fed with combined foddors which have different probiotic contents, as follows: L3exp – BioPlus 2B 1 kg/ton; L4exp – Biomin IMBO 0,5 kg/ton; L5exp – Cylactine LBC ME 0,3 kg/ton. The monitored indicators were: the weight gain dynamics, the food conversion index, the number of deaths and the European efficiency factor.

Based on the researches carried out we determined the fact that the three studied probiotics, administered through their homogenization in the food destined to the chickens in the experiment lots, determined the production of higher weight gains compared to the control lot with 3.33-8.40% in parallel with the reduction of the food conversion index with 0.90-1.13 %, ensuring a good health state. From the economic point of view, in the lots of chickens who received probiotics in the food, higher profits were registered than the profit obtained for the control lot.

**Key words:** probiotics, broiler chicken, biostimulators.