

# **RESUME**

## **CATTLE BREEDING**

**Voronenko V.I., Omelchenko L.O., and Nazarenko V.H.,  
Naydionova V.I., Dubynskiy O.L.  
Methodological Bases of Creation of the Highly Productive Type of  
Beef Cattle on the Basis of Interspecific Hybridization**

Results of the 50 years work on creation of the Taurian type of beef cattle are presented: theoretical bases, choice, use of the initial breeds and methods of creation of populations; materials on genetic structure and productivity of animals of the new type.

**Voronenko V.I., Nazarenko V.H., and Omelchenko L.O.  
Immunogenetic Features of Inheriting Colour in Animals of the  
Taurian Type of the South Beef Breed of Cattle**

Materials of research of character of inheriting colour in animals of the newly-created Taurian type of the South Beef breed of cattle by immunogenetic test systems are presented. It has been demonstrated that genetic types in animals of the Taurian type have a reliable difference in frequency of antigens of the 9 systems of blood groups. системами are pointed for the of the accrued таврійського type. A high coefficient of correlation at the analogous selection for immunogenetic test systems, colour, and genealogy has been revealed.

**Buyuklu H.I., Iovenko L.M., Taranenko S.V., and Noskova  
A.M. Estimation of Level of Development of Economically Useful  
Characters in Animals of the South Type of the Ukrainian Black-  
Spotted Dairy Breed**

Mating of bulls of the Holstein bulls of the black-spotted colour with dam population of the Red Steppe breed has resulted in creation of the South type of the Ukrainian Black-Spotted Dairy breed having high genetic potential of milk productivity. Adaptation of animals to industrial technology of milk production is proved with a high index of adaptation (-0.37; +0.155) and the coefficient of production typicalness (3.64).

**Voronenko V.I., Nazarenko V.H., Polupan Yu.P., Voronenko A.V. ,  
Rukavnikova H.I. , and Khliust H.M. Immunogenetic Analysis of Lines  
of the Fat-Milked Type of the Ukrainian Red Dairy Breed**

Results of research on determination of genetic features of the breeding lines and related groups of the Fat-Milked type of the Ukrainian Red Dairy breed by antigens and alleles of the systems of blood groups.

Using parallel application of some methods of comparative analysis immunogenetic differentiation and genotypic specificity of the created selection formations have been revealed.

**Taranenko S.V. Reproductive Ability of Cows of the South Type of the Ukrainian Black-Spotted Dairy Breed of the State Enterprise Experimental Farm «Askaniyske»**

Increasing of hereditary part of the Holstein breed in genotype of animals of the South type of the Ukrainian Black-Spotted Dairy breed has resulted in deterioration of reproductive characters along with high productivity. In selection process, when improving the herd, the existing negative and reciprocal-proportional connections between milk yield and duration of the service period in progeny of some sires and lines should be taken into account.

**Makarchuk R.M. Features of Growth and Development of Bull-Calves of the South Type of the Ukrainian Black-Spotted Dairy Breed at Growing for Beef**

Results of experimental research on intensity of growth and development of bull-calves of various genotypes of the South type of the Ukrainian Black-Spotted Dairy breed in the breeding herd of the State Enterprise Experimental Farm «Askaniyske» in Kakhovka District of Kherson Province are presented. It has been demonstrated that with increasing of the part of the Holstein breed in genotype of animals such indices as live mass, relative speed of growth, and linear parameters increase.

**Fursa N.M. Phenotypic Specificity of Families in the Herd of the Taurian Type of the South Beef Breed of the Breeding Farm «Askaniyske»**

Features of formation of genealogical structure by families and their phenotypic specificity in the herd of the hybrid Zebu-like cattle of the new Taurian type of the South Beef breed in the extreme conditions of South Ukraine have been determined. Families that are perspective for selection work and successfully combine high productive and reproductive qualities have been chosen.

**Dudok A.P. Duration of the Economic Use of Cows of the Ukrainian Red Dairy Breed**

On the basis of studying indices of the productive use of cows of various genotypes in process of forming the herd of the Ukrainian Red Dairy breed a positive correlation between the economic use duration and the life productivity of animals has been found that raises a possibility to simultaneously conduct selection for their high performance and duration.

**Vovchenko B.O., Pentyliuk S.I., Svistula M.M., and Demenska N.M.**

### **Feeding of Animals with Moist Forage Mixtures**

Main requirements on preparation of moist forage mixtures and milk substitutes with the new technology TECHMACH providing thermal treatment of forage products, high food value, and homogeneity and improving taste qualities of forages are presented. The list of perspective forages, their composition with regard to the local forage base, and possibility of using for feeding various types of animals have been offered.

### **Demenska N.M. Influence of Using Biologically Active Additives in Feeding Cows on Amount and Chemical Composition of Milk**

Results of research on use of the ferment-probiotic preparation "Celobacterin" in feeding milking cows in order to improve assimilation of ration nutritives by the organism of animals are presented. It has been found that use of the additive in the ration mixed fodders promotes rational usage of forages, increases milk productivity by 10%, and positively influences on chemical composition of milk of the milking cows multiplying in it maintenance of dry matter, nitrogen, albumen, and phosphorus.

### **Skrepets V.I., Demenska N.M., and Svistula M.M. Use of Untraditional Forages in Rations for Calves**

Results of research of possibility of increasing biological value of the ration for sucklings calves substituting in it milk products with the equivalent nutritive amount of soy-bean "milk" enriched with the ferment-probiotic preparation "Celobacterin" and the substitute of antibiotics "Bio-Mos" are presented. It has been found that use of soy-bean forages together with forage additives instead of milk products improves digestibility and assimilation of ration nutritives and increases live mass gains in the young cattle by 5-7%.

## **PIG BREEDING**

**Shulha Yu.I., Krylova L.F., Pipe O.I., and Masliuk A.M.**

### **Selection-Genetic Differentiation of Pigs of the Ascanian Selection**

Results of long-term researches of the Pig Breeding Department on breeding and improvement of the Ukrainian White, the Ukrainian Spotted, and the Duroc breeds, the Ascanian type of the Ukrainian Meat breed (AMT), and the new type in the Landrace breed (ULN-1) not yielding to the world analogues in productive qualities are presented.

### **Dudka O.I., Yavyschenko V.R. Influence of the Intrabreed Combinations on Productivity of Pigs**

Results of estimation of efficiency of various variants of intralinear selection and interlinear crosses in the herd of pigs of the Ukrainian Steppe Spotted breed using the correction index making it more objective are presented. Positive influence of the intrabreed breeding on development of reproductive characters in sows has been found.

### **Topchiy L.I., Ivin A.M. Breed Features of Age Dynamics of Live Mass in the Young Pigs**

Indices of growth and development of the young pigs of the Ukrainian Meat breed (the Ascanian type) of the breeding reproducer of the State Enterprise Experimental Farm of the Institute of Animal Breeding of the Steppe Regions "Ascania Nova" and the Ukrainian White Steppe breed of the Breeding Farm Ltd. „Prod-Alyans" are represented. Efficiency of using the indices of tension and equability of growth for prognostication of live mass in animals of various breeds at the age of 8 months has been proved.

### **Herasymenko V.V., Skrepets K.V., Karvatska I.M., and Smolianets T.I. Use of Immunogenetic Methods to Save Gene Pools of the Local Breeds of Pigs**

Results of comparative analysis of efficiency of some methodical approaches in use of genetic systems of the marker genes to save genetic polymorphism in the local small populations of pigs at the closed breeding are presented.

### **Herasymenko V.V. On the Problem of Using Indices of Genetic Similarity in Selection of Agricultural Animals**

A method of determination of degree of individual genetic similarity among animals taking into account features of their genotypes by some genetic systems of marker genes and their complex has been proposed.

### **Svistula M.M., Horb S.V. Influence of Feeding Protein-Mineral Supplements Prepared From Hydrobionites on Passing of Metabolic Processes in the Young Pigs at Raising**

Results of research on influence of protein-mineral additions prepared from hydrobionites on passing of metabolic processes in the young pigs are presented. It has been found that substitution of the vegetable protein in the ration for the protein-mineral supplements with fish (13% of the requirement) or addition of the protein-mineral mussel supplement (80 g per 1 kg of the mixed fodder) increases digestibility of

nutritives and promotes higher assimilation of nitrogen, calcium, and phosphorus in the organism.

**Yefremov D. V. Efficiency of Using the Low-Component Fodders Enriched with Fatty Additives And Enzymic Preparations in Feeding of Sows and Suckling Piglets**

Results of research on basing efficiency of using fatty additives and enzymic preparations in feeding sows and suckling piglets are presented. Using of these supplements in combination as energy sources, particularly linoleic acid and exogenous enzymes, increases intensity of metabolic processes and promotes effective assimilation of the ration fodders and in its turn allows increasing of indices of reproductive qualities in sows and dynamics of development of their progeny by 7.5-13.0%.

**Ivanov V.O., Dudchenko D.V., and Voloshchuk V.M. Reconstruction of Small Farms**

A plan of reconstructing the small farm and the basic parameters of three-phase technology of pork production are presented. Various variants and structural features of the developed crate equipment for keeping suckling sows unfixed with directed motion activity have been demonstrated.

**SHEEP BREEDING**

**Zharuk P.H., Mykhaylov A.P., and Zaruba K.V. Productivity in Ewes of the Selection Kernel of the Azov Type of the Tsigay Breed on the Breeding Farm "Rozovskyi"**

Results of research on the age and seasonal dynamics of productive characters and their interrelation in highly productive genotypes of sheep of the Azov Meat-Wool type of the Tsigay breed are presented. It has been demonstrated that they have high genetic potential of all types of productivity becoming apparent under the favourable conditions, that is why selection and breeding work should be based on the step individual evaluation of animals taking into account forage and age factors and peculiarities of interrelation of the characters in various conditions.

**Antonets O.H. Characteristics of Productivity and Interrelations of Selection Characters in Replacement Rams of the Breeding Farm «Ascania Nova»**

Productivity in the replacement rams of various lines and family groups of the Breeding Farm «Ascania Nova» in the periods 1991-1995 and 1996-2000 has been studied. In the last period decrease of live mass in animals by 22.4 kg, length of wool by 2.5 cm, fleece mass by 3.02 kg, and clean wool cut by 1.79 kg has been found. No substantial difference in clean wool output for the studied periods has been revealed. Between of selection characters in the replacement rams positive coefficients of correlations prevail.

#### **Besedin O.V. Reproductive Ability in Ewes of the Taurian Type**

Results of research on dynamics of the level of development of such selection and biological characters as fecundity, prolificacy, duration of pregnancy in ewes of the Taurian type of various ages, survival of their progeny are presented. The maximal parameters of the aforementioned indices in the ewes of 3-5 years have been determined. age.

#### **Kobzar O.A. Milk Productivity in Ewes of the Taurian Type of the Ascanian Merino Breed**

Results of research on productivity in ewes of the Taurian type of the Ascanian Merino breed depending on their linear origin and live mass are presented. Correlations between milk productivity, live mass in ewes, and washed wool cut are represented. It has been found that the maximal milkiness is characteristic of animals with live mass within the limits of 61-70 kg. No close connections between live mass, washed wool cut, and milkiness have been revealed.

#### **Krylova O.M. Wool Productivity and Physical-Mechanical Properties of Wool in Gimmers of the New Lines of the Taurian Type Obtained with Various Types of Selection**

Results of research on wool productivity and physical-mechanical properties of wool in gimmers of new lines 224, 369, and 1577 of the Taurian type of the Ascanian Merino breed taking into account the intra- and interlinear types of selection are presented. It has been shown that gimmers of the intralinear origin of line 1577 have reliable differences in comparison to gimmers of the same age of lines 224 and 369 in unwashed wool cut, clean wool cut, woolliness coefficient, and sort composition of fleece.

#### **Ivina-Maliarenko O.S. Interrelation between Indices of Wool Sweat and Wool Thickness in Ewes of the Taurian Type of the Ascanian Merino Breed**

Results of research on interrelation between yolk and wool thickness in ewes of the Taurian type of the Ascanian Merino breed are presented.

It has been found that the animals with very thick wool are characterized by greater yolk content that determines better properties of wool.

### **Bolotova T.H., Moroz I.A. Hogg Is a Reserve of Increasing Wool Productivity in Sheep**

Influence of double shearing of ram lambs of the Taurian type of the Ascanian Merino breed on wool productivity and physical-mechanical and technological properties of wool has been studied. It has been found that double shearing of ram lambs resulted in increase of washed wool cut by 11.6%, total length of wool by 20.2%, and improvement of physical-mechanical and technological properties of wool.

### **Iovenko V.M., Zharuk P.H., and Ivanyna O.P. Interlinear Genetic Relations in Sheep Population of the Tsigay Breed**

Genetic differentiation of genealogical lines of sheep of the Tsigay breed of the Breeding Farm "Chornomorskyi" by concentration of the molecular-genetic markers has been studied. A low level of interlinear differences has been revealed. It is a consequence of genetic-automatic processes occurring in the population for a large period of breeding animals of the foregoing structural components.

### **Iovenko V.M., Prodayvoda H.O., and Polishchuk V.M. Features of Genetic Structure of Population of the Merino Sheep of the Taurian Type**

Genetic structure of the herd of sheep of the Taurian type of the Ascanian Merino breed by the level of polymorphism of transport albumen of transferrin has been investigated. It has been demonstrated that the genetic peculiarity of the population resides in high frequency of the allele Tf<sup>D</sup>, accumulation of which in the process of selection is related to the Australian breed, rams of which having been used in creating the foregoing type of sheep. Besides, a high level of viability and adaptation of the homozygote TfCC which, to our opinion, is the marker of the foregoing characters for the similar dependence previously being discovered in other breeds of sheep of South Ukraine.

### **Horlova O.D., Popov M.F., and Yakovchuk V.S. Quantitative and Qualitative Losses in Processes of Reproduction, Lambing, and Raising of Lambs in the Suckling Period**

Quantitative and qualitative losses due to barrenness of ewes and death of lambs in the processes of reproduction, lambing, and raising in the suckling period have been studied. It has been found that the largest losses are barrenness in ewes (16.86-19.04%) and death of lambs in the suckling period (11.14-27.46%). Feeding salts of microelements mixed with kitchen salt to ewes and lambs and double intramuscular injections of

the trivitamin ADE, ASDf2, ascorbic acid, and 40% solution of glucose is an effective technological method of increasing milkiness by 12.8% and the average daily gains in lambs by 17.1%.

**Horlova O.D., Yakovchuk V.S., Popov M.F., and Beriozkina L.I.**  
**Meat Productivity in Intensively Fattened Ram Lambs of the Ascanian Merino Breed**

Results of experimental research on influence of the new technological method of intensive fattening on meat productivity in ram lambs are presented. Results of slaughter, morphological and of sort composition of carcasses, and chemical analysis of meat are represented. Intensity and efficiency of fattening lambs at the age since 2.0-2.5 to 6.5 months resulting in carcasses suiting to requirements of the Eurostandard have been demonstrated.

**Turynskyi M.M., Kudryk N.A. Marketable Qualities of Lambskins of the Prolific Karakul of the Ascanian Breed Type**

Results of research on marketable qualities of lambskins of the Prolific Karakul of the Ascanian breed type of the black colour depending on their sort and amount of newborn lambs per litter are presented. It has been found that the most desired are lambskins of the twins characterized by thin inner side, average size of curls, and shortened hair coat.

**Denysova V.D. Interrelation of Histological Structure of Skin and Wool Productivity in Rams and Ewes of the Taurian Type**

Results of research on indices of histological structure of skin and its interrelation with wool productivity in adult sheep of the Taurian intrabreed type of the Ascanian Merino breed are presented. Mating of the Australian Merino rams with ewes the Ascanian Merino breed has positively influenced on skin and wool coat in sheep of the Taurian type of the Breeding Farm "Ascania Nova".

**Bolotov Yu.I., Korinets N.O. Results of Insemination of Ewes of the Taurian Type of the Ascanian Merino Breed with Sperm Conserved by Various Technologies**

Impregnation ability of native and cryoconserved by various technologies sperm of rams has been studied. It has been found that efficiency of inseminating ewes with the cervical method is higher using sperm frozen in the paillettes as compared to application of the opened granules.

**Lobachova I.V., Zhulinska O.S. Preliminary Estimation of Suitability of Ewes for Hormonal Treatment as a Means of Increasing Efficiency of the Moet Technique**



Possibility of application of the cytologic analysis of vaginal smear for estimation of suitability of ewes to hormonal stimulation of superovulation has been investigated. It has been found that a high portion of functional cells and a low portion of pyknotic cells in smears at the beginning of treatment with high probability testify that the animals are not suitable to stimulation. Cytology of vaginal smears depends on the seasons that must be considered at interpreting the results.

**Bova V.M., Hratylo O.D. Improvement of the Natural Forage Lands and Creating Pasture Conveyers on Them for Cattle and Sheep**

The question of creating pastures on the natural forage lands of the Syvash has been considered. Perennial grass mixtures of various terms of usage providing in combination with annual forages conveyer supply of pasture fodders in the spring-summer and autumn periods have been selected.

**Polska P.I., Kalashchuk H.L., Atanovska-Masliuk O.Y., Hlebova N.P., Paraniak N.P., Stapay P.V., Makar I.A., Havryliak V.V., and Kochetov S.V.**

**Productivity and Physical-Chemical Properties of Wool in the Intensive Types of Sheep of the Ascanian Meat-Wool under the Extreme Conditions**

Results of complex researches on productivity and physical-chemical properties of wool in the Ascanian Crossbreds and the Ascanian Black-Headed sheep under the extreme conditions of feeding and maintenance are presented. Prominent genotypes with high cuts of clean wool настригами of and normal processes of wool-formation, and high protective properties of wool sweat preserving the inherited high qualitative characteristics of the crossbred wool.

**Zharuk L.V. Conditions of Adapting the Sheep Breeding Branch to Market Space**

Conditions of adapting the sheep breeding to market space in the light of requirements of the World Trade Organization are presented. Measures of the state support of the branch within the „three caskets” and periods of their action have been determined.

**Shelest L.S. Management of the Sheep Breeding Branch on the Basis of Expense-Price Mechanism**

The organizational mechanism of increasing profitability of the sheep breeding branch depending on the effective use of material and technical resources has been scientifically grounded.

**Iovenko V.M., Horlova O.D., Mokeyev I.O., and Ivina K.A.**  
**Problems of Transition to the International Standards on Selection-Zootechnic Registration in Sheep Breeding**

The authors consider problems of complex decision of tasks of transition of the sheep breeding branch to the international standards, for which purpose both free access to their contents and possibility of concrete realization of positions of the standards in practice of creating the branch database of sheep breeding, decision of a package of organizational, financial, and technical problems. The clear strategy of concordance of realities of the present local technologies and standards with the requirements of the plenipotentiary international organizations and phased painless adaptation of our standards and technologies to these requirements is needed.

**Horlov O.I., Ivina K.A., Mokeyev I.O., and Chichayeva O.P.**  
**Improvement of the System of Control over Selection Process in Sheep Breeding**

Results of improvement of the system of control over selection process in sheep breeding in the directions of modernization of structure of the present databases (DB), creation of new structures of DB for the Tsigay and the Meat-Wool sheep, development of new algorithms and programs are for calculating indices of prepotency and hereditary of selection-genetic characters in sheep of various directions of productivity in the DB sphere.

**Taranenko V.P., Musiyenko V.P. Features of Creation and Introduction of Objects of the Incorporeal Right under the Conditions of Market Economy**

Marketing approaches at creating objects of incorporeal right (OIR) adapted to requirements of the modern innovative market have been determined. It is proposed to create OIR taking into account marketing approaches, the main of which is necessity at the beginning of creating invention to study demand at the science intensive market for the invention prototype and if there is a market for the prototype continue its improving and manufacturing of the invention preproduction-model.