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ABSTRACTS

*ANIMAL GENETICS AND BREEDING**

BIELAŃSKA K., FILUSOWA F., SOCHACKA A., WĘŻYK S., Badania nad dziedziczeniem płodności gąsiorów białych włoskich. — Investigation on the fertility heritability of White Italian ganders. (In Polish with Russian, German and English summaries). Rocz. Nauk Zoot. T. 9, z. 1, 55 - 64, 1982.

The investigations were carried out on 48 ganders after 8 sires and 38 mothers.

Experimental hatchings conducted during 3 reproductive seasons showed that the fertility remained unchanged (average 72.61%) while hatching from laid out and fertile eggs decreased from 61.65% to 54.45% and 84.98 to 73.55% respectively. Estimated heritability coefficients for 3 examined traits were low, and the genetical correlations between them was higher than 1.0 or indeterminable. Environmental and phenotype correlations between fertilization and hatching of the set eggs were high. The remaining phenotype correlations were positive and low. The improvement in the reproductive ability of ganders could be achieved by a strict selection of the breeding flock or by application of crossbreeding in reproductive flocks and by the further improvement of breeding conditions and hatching technology.

(Instytut Zootechniki, 32-083 Balice k. Krakowa)

FELEŃCZAK A. Genetyczny polimorfizm i zawartość niektórych frakcji białek mleka u ras bydła hodowanego w południowej Polsce. Cz. I. Genetyczny polimorfizm białek mleka. — Genetic polymorphism and the content of some milk protein fractions in the cattle breeds of southern Poland (In Polish with English and Russian summaries). Zeszyty Naukowe AR Kraków, Zootechnika Z. 22, 175 - 191, 1982.

Studies were conducted on the milk from four cow breeds: Red-and-White, Black-and-White, Simmental and Polish Red. Milk samples from a total of 2300 cows were examined. In the studied samples a distribution of protein fractions was performed with the use of starch gel electrophoresis. Owing to this method it was possible to determine simultaneously phenotypes of four milk proteins: beta, lactoglobulin, alpha $_{s1}$ -, beta- and kappa-casein. In the Polish Red breed 6 phenotypes of beta-lactoglobulin: A, AB, B, AD, BD and D were found. The phenotypes B, BC in the Simmental and Polish Red breeds were found to occur in the system of alpha $_{s1}$ - casein. In the Simmental breed most phenotypes i. e. A, AB, B, AC, BC, and C were observed in the milk beta-casein.

The calculated frequencies of the alleles in milk proteins are indicative of the largest differences between breeds in the systems of kappa-casein and beta-lactoglobulin.

(Instytut Hodowli Zwierząt, Akademia Rolnicza, Kraków)

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* Summarized in English by Dr. K. Jaszczak

FILISTOWICZ A., ŻUK B., SZYSZKOWSKI L., ZWOLIŃSKA-BARTCZAK J. Parametry genetyczne masy ciała młodego bydła rasy nizinnej czerwono-białej i nizinnej czarno-białej — Genetic parameters of body weight in Red-and-White and Black-and-White young cattle (In Polish with English and Russian summaries). Prace i Materiały Zootechniczne, 30, 35 - 50, 1984.

The growth rate of Red-and-White and Black-and-White breeding bulls and heifers, as well as fattening bulls was determined from body weight measurements from birth till the 15th month of age. The material comprised 3224 sires, 6108 fattening bulls and 14782 heifers.

Genetic parameters were calculated for body weight (at 3, 6, 9, 12, and 15 months of age) and for body weight gains (between 3 - 9, 6 - 12, 9 - 15, 3 - 15 months). All genetic parameters were calculated separately for the different breeds, sexes and breeding categories of animals. Values of the heritability coefficient h^2 for body weight were the highest at 15 months. Genetic correlations were higher than the phenotypic ones, and environmental correlations equalled the phenotypic ones, for the same its. Genetic correlations between body weight measurements taken in different semesters of age were higher, as compared with the measurements made at longer intervals. These correlations were the higher, the greater was the heritability of the correlated traits.

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KAMIENIECKI K. Badania nad wzrostem i rozwojem jałowic mieszańców od krów czarno-białych odmiany krajowej oraz po buhajkach holsztyńsko-fryzyjskich, duńskich i niemieckich. — Studies on the growth and development of hybrid heifers from a local variety of Black-White cows and after crossing with Holstein-Friesian, Danish and German sires. (In Polish with Russian, German and English summaries) Rocz. Nauk Zoot. T. 10, z. 1, 79 - 89, 1983.

The obtained results concerned the growth and development of heifers born after insemination of the local Lowland Black-White cows (BWL) with the semen of Holstein-Friesian (hf) bulls and that of sires of a German, Danish and local varieties of BWL. In the progeny of hf bulls a higher mortality (by 2 - 3%) was observed ($P=0.05$). During the whole rearing period the crossbreds after hf sires showed a higher body weight and higher daily gains than the progeny after other bulls. The hf crossbreds were found to have significantly higher values of such measurements as: height, body length, depth and girth of chest. Lower values of the following indices: chest width to depth, chest width to height at withers, chest girth to height at withers and cannon girth to height at withers — indicate a thinner constitution of BWL X hf crossbreds in comparison with the heifers after the sires of European varieties of the BWL breed.

(Instytut Hodowli i Technologii Produkcji Zwierzęcej Akademii Rolniczej, ul. Akademicka 13, 20-934 Lublin)

NIEDŹWIADEK S. Korelacje fenotypowe i genetyczne między niektórymi cechami użytkowymi królików rasy białej nowozelandzkiej. — Phenotypic and genetic correlations between some performance traits in White New Zealand rabbits. (In Polish with Russian, German and English summaries). Rocz. Nauk Zoot. T. 10, z. 1, 37 - 45, 1983.

The experimental material consisted of 1579 rabbits of White New Zealand breed, representing the progeny of 45 males and 225 females.

Phenotypic correlations were calculated from general variations and co-variations of individual traits. Genetic correlations were estimated by the method of paternal half-sib. Highly significant phenotypic correlations were found between the body weight of rabbits before slaughter and carcass weight ($r_p=0.933$) and the carcass weight and the meat content in the carcass

(r_p=0.901). The genetic correlations corresponded to the phenotypic correlations in both the value and direction. The obtained phenotypic and genetic correlations coefficient showed that the following traits should be considered in the breeding-selection works to improve feeding efficiency and carcass quality: body weight at 90 days, feed conversion per 1 kg gain and hot carcass weight.

(Instytut Zootechniki, 32-083 Balice k. Krakowa)

NIEDŹWIADEK S., KAWIŃSKI J., PALIMĄKA G., PIĄTEK B. Ocena użytkowości rozpłodowej samic królików rasy białej nowozelandzkiej oraz możliwość wykorzystania wyników oceny w selekcji zwierząt. — Evaluation of the reproductive performance of White New Zealand does and a possibility of using estimation results in animal selection. w (In Polish with Russian, German and English summaries). Rocz. Nauk Zoot. T. 10, z. 1, 47 - 56, 1983.

Studies were conducted on 100 does of White Zealand breed and on their whole progeny obtained in 6 nestings. The size of the first litter was 6,9 rabbits; the highest one was observed in the 4th nesting. Rearing losses were the highest for the primaparae (23.2%) and decreased in the successive nestings (to less than 19%). The calculated correlation coefficient between the 1st litter size and the total number of the young born in 6 nestings was low (r=0.3100). However, a high correlation (r=0.8370) was found between the number of the young born in the 3 initial nesting and that born in all 6 nestings. This high correlation allows to conduct short-time tests, the results of which can be a selection criterion for does.

(Instytut Zootechniki, 32-083 Balice k. Krakowa)

SŁOTA E., JANICKA-MAZUR W. Analiza kariotypu buhajków rasy polskiej czerwonej przeznaczonych do rozrodu. — Chromosomal analysis of young bulls of Polish Red breed, intended for reproduction. (In Polish with Russian, German and English summaries). Rocz. Nauk Zoot. T. 9, z. 1, 11 - 19, 1982.

The karyotype of 47 Polish Red young bulls intended for reproduction was determined. The normal karyotype 60, XY was found in 46 bulls.

Bull Bielak No. 33189 of heterozygotic twins was found to have leucocyte chimerysm 60, XY 60, XX, and the ratio of two leucocyte types was 3 : 1. The blood group test of bull Bielak and its parents did not show erythrocyte chimerism.

The occurrence of cellular chimerism and its implications were discussed.

(Instytut Zootechniki, 32-083 Balice k. Krakowa)

WALAWSKI K., GOSZCZYŃSKI J. Polimorfizm alkalicznej fosfazy u bydła charolais hodowanego w Polsce. — Polymorphism of alkaline phosphatase in charolais cattle bred in Poland. (In Polish with English and Russian summaries) Prace i Materiały Zootechniczne 28, 7 - 13, 1983.

The investigations covered 44 bulls from AI Station and 78 cows and heifers from two herds of charolais cattle. The polymorphism and activity of alkaline phosphatese in the blood serum were determined.

In the investigated material the frequency of the dominant gene the presence of which in the blood serum is marked by a fast migrating fraction of alkaline phosphatase, reaches 0.1363, and demonstrates significant differences between the male (q=0.1882) and female material (q=1084). In the blood serum of animals possessing dominant gene the activity of alkaline phosphatase is higher ($\bar{x}$=147.0 IU) than in recessive homozygotes ($\bar{x}$=41.1 IU).

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