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SIGNS OF SELF-PRODUCTIVITY OF REPLACEMENT GILTS DIFFERENT GENOTYPES AND THEIR RELATIONSHIP WITH INDICATORS OF PROTEIN METABOLISM AND ACTIVITY OF ALKALINE PHOSPHATASE

The aim was to investigate the performance of self-productivity and biochemical indices of blood serum replacement pigs of large white breed of Ukrainian selection of large white breed and French Landrace breeding, and also to carry out correlation analysis between characteristics of their own productivity and interior.

The research was conducted in the conditions of LLC "Agroprime-holding Odessa" (control cultivation of pigs of different genotypes to 5 months of age) and PE "AF "Borysfen" Dnipropetrovsk regions (control cultivation of pigs of different genotypes to slucero age), research center for Biosafety and environmental control of resources APK Dnipropetrovsk state agrarian University (research biochemical parameters of blood serum replacement pigs of different genotypes). The object of the research were repair pigs of large white breed of Ukrainian selection (I control group), large white breed (II control group) and Landrace (III control group) French selection. The total protein content was investigated by bereavem method, the concentration of albumin and globulins for color reaction with bromcresol green, the activity of alkaline phosphatase (apase) - king-Armstrong (centuries Vlizlo, 2012). Biochemical indices of blood serum was investigated in pigs 6 months of age.

Evaluation of replacement gilts on own productivity indicators were performed according to the Instructions on the evaluation of the pigs (2003). This took into account the following indicators: average daily gain in live weight during the period of growth from birth to 180-190 days of age, kg; age reach a live weight of 100 kg, days; the thickness of fat at the level of 6-7 thoracic vertebra (mm); the thickness of back fat at the midpoint of the back between the withers and rump (mm); the thickness of fat on the rump (mm). Measuring the thickness of fat wires with the help of the device Renko Ce (Renko Lean Meater Digital Backfat Idic, S/N 46080). Assessment replacements on the grounds of their own productivity was carried out according to index O. Wangen:

$$I = \frac{1}{\sigma_{СП}} \times СП + \frac{1}{\sigma_{ТШ}} \times ТШ,$$

where, СП - the average daily gain in live weight during the period from birth to age reach a live weight of 100 kg, kg; ТШ - the thickness of fat at the level of 6-7 thoracic vertebrae, mm; $\sigma_{СП}$ - fenotip standard deviation of the average daily gain in live weight during the period from birth to age reach a live weight of 100 kg, g; $\sigma_{ТШ}$ - fenotip the standard deviation of the average daily increase in thickness of back fat, mm (cit. for Century, Kozlowski, 1982).

The BLUP index (breeding value) of pigs was determined on the basis of the main breeding centre on pig (Institute of pig breeding and APT NAAS, Poltava) in the overall model of single animals (P. A. Vashchenko, 2010). Biometric processing results of research carried out by the method Merkureva E. and others (1991) using the program module data Analysis in Microsoft Excel.

According to the results of our studies revealed that the total protein content in animals of the experimental groups ranged from 76,0±2,30 to 80,6±2,33 g/l, the concentration of albumin from 43,6±2,72 to 46,3±1,45 g/l, the concentration of globulins from 30,3±1,85 to 37,0±0,57 g/l, the activity of alkaline phosphatase (apase) from 84,3±1,45 up to 90,3±7,35 u/L. the Difference in content of total protein and globulin concentration between repair pigs And control, II and III experimental groups was 3,6 (td=0,93, P<0,95), 4,6 g/l (td=1,40, P<0,95), 6,4 (td=3,31, P>0,99) and 6,7 g/l (td=3,46, P>0,99), respectively. The concentration of albumin and alkaline phosphatase activity had the advantage of repair pigs of large white breed French selection (II experimental group). The difference in these indicators between peers II experimental group and the control And III experimental groups was 2,7 (td=0,87, P<0,95), 0,7 g/l (td=0,41, P<0,95), 5,7 (td=0,67, P<0,95), 6,0 u/l (td=0,80, P<0,95), respectively. The coefficient of variation of biochemical parameters of blood serum replacement gilts experimental groups ranged from 2,70 (And a control group; the concentration of globulins) up to 14,10 % (II experimental group; the activity of alkaline phosphatase). Average daily gain in live weight during the period of growth from birth to 189,9 - 180,8 - day age repair pigs in the experimental groups ranged from 0,520±0,0156 to 0,546±0,0091 kg (Cv=4,47-5,24 %). Age reach a live weight of 100 kg, the difference between age And control, II and III experimental groups was 2,8 (td=0,43, P<0,95) and 9,1 days (td=1,38, P<0,95). The BLUP index difference between the second experimental animals, and the control And III experimental groups was 26,1 (td=1,48, P<0,95) and 32,33 points (td=2,65, P>0,95).

It is established that the repair mumps control and experimental groups on the thickness of fat at the level of 6-7 thoracic vertebrae belonged to the class of "elite". Repair pigs of large white breed (II experimental group) and French Landrace breeding (III experimental group) compared with the age of large white breed of Ukrainian selection (And control group) were characterized by smaller values of the thickness of fat at the level of 6-7 thoracic vertebra 1,7 (td=0,75, P<0,95) and 5,3 mm (td=2,86, P>0,95) is at the midpoint of the back between the withers and rump, 3,3 (td=1,56, P<0,95) and 5,4 mm (td=2,74, P>0,95) on the sacrum – 2,6 (td=2,03, P<0,95) and 6,9 mm (td=3,63, P>0,99). The difference in thickness of fat at the level of 6-7 thoracic vertebrae and the sacrum in animals of large white breed of Ukrainian selection was 3,4 mm (td=1,42, P<0,95), large white breed French selection – 4,3 mm (td=2,27, P>0,95), Landrace – 5,0 mm (td=5,68, P>0,999). Index O. Wangen ranged from 23,8 to 24,0 points (Cv=0,09-6,55 %). The coefficient of variation in the characteristics of their own productivity replacement gilts experimental groups ranged from 1,71 (I control group, the length of the body in 6 - months of age) to 28,30 % (II experimental group, the thickness of fat at the level of 6-7 thoracic vertebra).

Found that the number of valid coefficients of pair correlation with probability P>0,95-0,999 in animals of the control group is to 41,6 %, II and III experimental groups - 50,0 and

66,7 %, respectively.A straight line and close in strength to the connection set in the following pairs of characteristics: control group - index O. Wangen × activity of alkaline phosphatase - +0,982±0,0667, II experimental group - age reach a live weight of 100 kg × the content of total protein +0,995±0,0353, × concentration of albumin - +0,941±0,1196, × concentration of globulins - +0,901±0,1533, - × activity of alkaline phosphatase - +0,781±0,2208, the thickness of fat at the level of 6-7 thoracic vertebra × concentration of globulins - +0,836±0,1940, III experimental group - the thickness of fat at the level of 6-7 thoracic vertebra × concentration of globulins - +0,645±0,2701, index O. Wangen × the total protein content is +0,900±0,1541; × the concentration of albumin - +0,918±0,1402; × the concentration of globulins - +0,684±0,2579; × the activity of alkaline phosphatase - +0,757±0,2310.