

LONG-TERM PRODUCTIVITY OF SOWS DIFFERENT OPERATIONAL VALUE AND ECONOMIC ESTIMATION OF THEIR USE

V. Khalak¹, O. Grabovska²

¹SI Institute of grain crops of NAAS,
14, Volodymyr Vernadsky str., 14. Dnipro, 49027, Ukraine

²Institute of Animal Biology of NAAS,
Str. V. Stus, 38, Lviv, 79034, Ukraine

The purpose of the work is to investigate the lifetime productivity of sows of different operational values and to calculate the economic efficiency of their use.

The experimental part of the research was conducted in the conditions of a breeding farm for the breeding of large white pigs of the LTD «Druzhba-Kaznachevka» of the Dnipropetrovsk region and the animal breeding laboratory of the State Institution "Institute of grain crops of the UAAS of Ukraine".

The object of research was the sows of large white breed. The evaluation of sows on the basis of lifetime productivity was carried out taking into account the following indicators: life expectancy, month, duration of pedigree use, months, farrowing during breeding use; whole piglets were received, heads; live piglets, heads; multiplicity, heads; weight of the nest on the date of weaning at the age of 28–35 days, kg; the duration of the interbreeding period, days. The operational value of sows was determined according to the method of E. V. Koryazhnov (1985), coefficient of economic use — Pelekhaty M.S. and others (1999).

The economic efficiency of the conducted studies was calculated in accordance with the requirements of the "Methodology for determining the economic efficiency of use in agriculture of the results of research, new technology, inventions and rationalization proposals" (1983). Biometric processing of research results was carried out according to the method of G. F. Lakin (1990).

The analysis of the research results shows that the life expectancy of the sows of a large white breed of the herd of control is 44.1 ± 1.97 months ($Cv=35.27\%$), the duration of breeding use is 32.8 ± 1.95 months ($Cv=46.91\%$), the duration of the interbreeding period is 175.5 ± 3.91 days ($Cv=17.72\%$), the multiplicity is 10.2 ± 0.20 heads ($Cv=16.02\%$), the weight of the nest on the date of weaning at the age 28–35 days — 77.0 ± 1.02 kg ($Cv=10.45\%$). During the period of pedigree use from the sows of the main herd, 6.1 ± 0.36 furrows ($Cv=47.11\%$), piglets total — 65.8 ± 4.41

heads ($Cv=52.80\%$), live piglets — 62.5 ± 4.17 heads; ($Cv=52.55\%$). The number of sows from which 100 or more live piglets were obtained is 12.7 %

It has been established that sows of the category "high operational value" essentially dominate the equivalents of the opposite category "low operational value" by the main quantitative indicators. Thus, the difference between the mentioned groups of animals over the life expectancy was 26.9 (td=12.28, $P<0.001$) — 29.8 months (td=13.67, $P<0.001$), pedigree duration — 26.3 (td=12.52, $P<0.001$) — 29.5 months (td=14.46, $P<0.001$), the number of farrowers received during the breeding season — 5.2 (td=13.68, $P<0.001$) — 5.6 (td=15.13, $P<0.001$), the total pigs received were 64.0 (td=12.35, $P<0.001$) — 70.5 head (td=13.85, $P<0.001$), of the live piglets received — 61.9 (td=13.14, $P<0.001$) — 67.6 heads (td=14.35, $P<0.001$), heads.

In the multiplicity, weight of the nest at the date of weaning at the age of 28–35 days, the duration of the interbreeding period and the coefficient of economic use, the difference between the groups of sows with different operating values was 3,6 (td=3.14, $P<0.001$) — 3.5 heads (td=3.53, $P<0.001$), 8.3 (td=4.30, $P<0.001$) — 8.5 kg (td=3.34, $P<0.01$), 59.4 (td=2.47, $P<0.05$) — 49.3 days (td=2.14, $P<0.05$) and 0.210 (td=4.67, $P<0.001$) — 0.234 in accordance (td=6.15, $P<0.001$). The survival rate of piglets to weaning varied from 92.7 to 97.9 %.

Calculations of the economic efficiency of the research results showed that the use of sows of the category "high operational value" increase in additional products varies within the range of +1.28 – +3.62 %.

Per one sow of the category "high operational value" the profit for the year is equal to 72.55 — 205.19 UAH (the number of farrows — 2.1, the selling price per 1 kg of live weight — 46.74 UAH).

Keywords: PIGS, GENOTYPE, LIFELONG PRODUCTIVITY, REPRODUCTIVE CAPABILITY, OPERATIONAL VALUE, ECONOMIC ASSESSMENT, CORRELATION COMMUNICATION