

Relationships between performance test of gilts and their subsequent fatness, muscling and fertility

Summary

The objective of this study was to determine if performance test results (obtained from animals aged between 150 and 210 days in Poland) can be used to predict subsequent body condition and reproductive performance of sows and rearing performance of piglets. A total of 82 crossbred gilts and sows (Polish Large White and Polish Landrace), performance tested for fattening and slaughter traits, were studied. Over three successive litters, sows were weighed and measured at mating and at farrowing for backfat and longissimus muscle thickness using a PIGLOG 105 instrument. Number and body weight of piglets was recorded at birth and at 7, 14 and 21 days of age. Relationships were determined between body weight, backfat and longissimus muscle thickness measured during performance testing, the same three parameters measured at mating and at farrowing, and the number and body weight of piglets in subsequent weeks of life. The highest correlation coefficients were found between body weight measured at performance testing of gilts and that measured at first mating ($r_p=0.343$). Similar correlations were found for backfat thickness at the P_2 position (behind the last rib, 3 cm of the midline) measured during the same time periods ($r_p=0.330$), backfat thickness at the P_4 position (behind the last rib, 8 cm off the midline) ($r_p=0.431$), and height of longissimus muscle at the P_4M position ($r_p=0.209$). It is concluded that body weight, fatness or muscling of sows in successive litters cannot be predicted from performance test measurements. It was also found that body weight, fatness and muscling, being measured on the day of performance testing, were not correlated with the number and body weight of piglets.

KEY WORDS: pigs / phenotypic correlations / fattening traits / slaughter traits / reproduction traits