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Pork CRC Research Summary

Project Number & Title:

2D-111 *Measurement and comparison of feed intake and growth performance during lactation and wean-finish of gilt-progeny pigs cross-fostered onto multiparous sows*

Principle Investigator:

Rob Smits

Background:

Gilt progeny are smaller at birth and grow slower pre and post-weaning through to slaughter than sow progeny. This may be due to light birth weights, but it may also be due to a lower milking capacity of gilts (primiparous sows) and immunological competence due to differences between gilt and sow colostrum and milk. A possible management system would be to cross-foster gilt progeny onto older lactating sows and swap heavier sow progeny onto gilts within 24 hours of birth.

Methodology:

Two hundred and forty gilts (parity 1) and parity 3-7 sows were allocated to one of six treatments after farrowing:

GB - gilt progeny reared by their birth dam

SB - sow progeny reared by their birth dam

GG - gilt progeny reared by a different gilt

SS - Sow progeny reared by a different sow

GS - sow progeny reared by a gilt dam

SG - gilt progeny reared by a sow dam

The hypotheses tested whether gilt progeny would benefit by being reared by older sows; if heavier sow progeny would increase the milking of gilts; and thirdly if there is a negative effect of fostering within 24 hours compared to being reared by the birth dam. Litters were assessed pre-weaning and continued to be recorded through the weaner, grower and finisher to 21 weeks of age. Live weights, mortalities and feed intakes were assessed.

Key Findings/Conclusions:

Gilt progeny performed better when reared by older sows pre-weaning, and this growth advantage continued through to slaughter when compared to gilt progeny reared by birth dams. However, the reciprocal sow progeny had a lower growth rate when reared by gilts, such that a cross-fostering response between gilts and older sows offset each other.

Fostering gilt progeny onto sows also increased the likelihood of pre-weaning loss, but reduced the mortality post-weaning. Fostering progeny within parity within 24 hours was an unexpected benefit from the study. In gilt and to a lesser extent sow litters, the progeny reared by another dam of similar parity grew faster than when reared by their own mother. There was no adverse effect of fostering within 24 hours on pre- or post-weaning mortality within parity group.

Fostering litters of gilt progeny onto sows will increase carcass weight/age, however the limitation remains as to what to do with displaced sow progeny, as these have been shown to be disadvantaged in the litter swap.

Potential Users of Information (including value assessment):

Farmers and lactation researchers. A significant net benefit in terms of weight, FCR or mortality was not observed in the project.

