

## The Effects of Season and Exogenous Hormones on the Reproductive Performance of Swine

J. C. Hillier and E. J. Turman

This project has involved several separate studies with gilts and boars. One study comparing lot-mating and hand-mating of gilts was published in an earlier Feeder's Day report (Okla. Agr. Exp. Sta. Misc. Publ. MP-78, p. 25). No results are ready to be released from the present study involving gilts in which various compounds are being studied for their effectiveness in synchronizing estrus.

A study has just been completed on the effects of season and three types of shelters on semen quality of boars. Twelve Yorkshire boars were divided into three groups and maintained in lots with access the year round to an open shade only, an open fronted house and an insulated, air conditioned house. Semen was collected three times weekly and evaluated once weekly. There was a marked decline in semen quality associated with hot summer weather, and providing air conditioning did not prevent this decline. In general the semen quality of the boars in the open fronted house remained as good as that of boars in the insulated house. The data is now being analyzed and the results will be published at a later date.

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## Swine Breeding Research Program

I. T. Omtvedt

The swine breeding projects consist of a 90 sow herd at Ft. Reno and a 50 sow herd at Stillwater yielding approximately 280 litters yearly. These herds are primarily involved in a basic selection study to determine if performance can be improved by selection for crossing ability in traits that reveal heterosis in crossing but have low heritabilities and normally show very little response to direct selection. Two lines of breeding are being selected on the basis of their crossbred half-sisters' productivity (litter size and weight at 3 weeks). A zero-selection control line is also maintained along with these two lines for the purpose of measuring the changes that take place in the selected lines. Only four generations of selection have been completed and it is too early to draw any conclusions at this time.