

## EFFECTS OF POST-WEANING STRESS AND FEEDING MANAGEMENT ON RETURN TO OESTRUS AND REPRODUCTIVE TRAITS DURING EARLY PREGNANCY IN SWINE

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### SUMMARY

A total of 177 sows representing five two-breed crosses were used in a  $2 \times 2$  factorial experiment to study the effects of post-weaning stress (changing environment and group housing) and feeding regime (flushing by feeding *ad libitum* until mating) on the weaning-oestrus interval and other reproductive traits up to 30 days of pregnancy.

The group which was stressed had about 10% ( $P < 0.05$ ) fewer reproductive failures than those not stressed, while little difference was found between the two feeding régimes. About 61% of the flushed sows returned to oestrus within 7 days after weaning, 9% higher than for those not flushed. The stress treatment had little effect on the weaning-oestrus interval. Neither treatment affected ovarian and follicular-fluid weights, percentage of follicles of different sizes, ovulation rate nor number of viable embryos. The flushed group, however, had 9% lower embryo survival than the group not flushed. A positive relation was found between the number of days on *ad libitum* feeding and ovulation rate and embryonic mortality. Differences among breeds were significant for all the traits, except weaning-oestrus interval, weight of follicular fluids, percentage of large follicles, ovulation and survival rates. The weaning-oestrus interval was not significantly correlated with any of the reproductive traits studied.

### INTRODUCTION

BRAUDE (1973) has shown that breeders using conventional rearing systems may be producing 6 to 10 pigs less per sow per year than the reproductive potential of the sow, which depends on litter size at birth and the number of farrowings per year. van der Heyde, Lievens, van Nieuwerburgh and Doorme (1974) have reviewed experiments designed to shorten the farrowing interval by early weaning and artificially rearing young pigs. The results have been contradictory in terms of total sow productivity, but in almost all the studies early weaning had an adverse effect on conception rate and litter size and weight.

When piglets are weaned at 5 weeks of age or less, the interval between weaning and oestrus in the sow is very variable. Most sows will return to oestrus within 14 days (van der Heyde, van Nieuwerburgh and Christiaens, 1973; van der Heyde *et al.*, 1974), but there is undoubtedly much variation between individuals, perhaps due to parity, genotype, nutrition or management stress.