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Allyl trenbolone to control estrus in gilts -conception rate and litter size after treatment

Abstract

Control of estrus in gilts is theoretically possible by feeding a progestogen for 18 consecutive days. During the feeding period the progestogen suppresses estrus in all gilts and when withdrawn from the feed, all animals are expected to come in heat 4 to 7 days later. To be useful, the synchronizing agent must meet two criteria: (1) it must effectively control the time of estrus, and (2) it must not adversely affect fertility. We conducted this trial to evaluate a progestogen, allyl trenbolone, with respect to these criteria. Allyl trenbolone is not presently available to swine producers.; Swine Day, Manhattan, KS, November 8, 1979

Keywords

Swine day, 1979; Kansas Agricultural Experiment Station contribution; no. 80-136-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 371; Swine; Allyl trenbolone; Estrus; Gilts; Conception rate; Litter size

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Allyl Trenbolone to Control Estrus in Gilts - Conception Rate and Litter Size After Treatment

D. L. Davis, J. M. Robl, and J. L. Nelssen

Introduction

Control of estrus in gilts is theoretically possible by feeding a progestogen for 18 consecutive days. During the feeding period the progestogen suppresses estrus in all gilts and when withdrawn from the feed, all animals are expected to come in heat 4 to 7 days later. To be useful, the synchronizing agent must meet two criteria: (1) it must effectively control the time of estrus, and (2) it must not adversely affect fertility. We conducted this trial to evaluate a progestogen, allyl trenbolone¹, with respect to these criteria. Allyl trenbolone is not presently available to swine producers.

Summary

Fertility of gilts synchronized by feeding allyl trenbolone (15 mg/day) for 18 consecutive days was compared to untreated controls. Allyl trenbolone effectively controlled the time of estrus, with 14 of 15 treated gilts exhibiting estrus in a 24 hr period. No effect of treatment on conception rate or litter size was observed.

Procedures

Thirty crossbred gilts, which had exhibited at least one estrous cycle, were randomly assigned to either (1) serve as untreated controls or (2) have their estrous cycles synchronized. Estrus was synchronized by feeding allyl trenbolone, a synthetic progestogen, for 18 consecutive days. Synchronized gilts were fed 15 mg of allyl trenbolone mixed in 4.5 lb. of a complete gestation diet. All gilts were housed in outside lots and fed in individual feeding stalls. Controls were bred as they came into heat after progestogen feeding began. Progestogen treated gilts were checked daily with a boar but none exhibited estrus until allyl trenbolone was removed from the feed. All gilts exhibited estrus and were bred by artificial insemination. Estrus was checked twice daily (morning and evening) and gilts were inseminated at the second, third and fourth estrous checks after first detected in heat with mixed semen from at least two boars.

Results and Discussion

All 30 gilts conceived and farrowed (table 4). Allyl trenbolone effectively synchronized estrus with 14 of 15 treated gilts in heat in a 24 hr period. One treated gilt did not exhibit estrus until 9 days after allyl trenbolone withdrawal. This gilt refused to eat more than one lb. of

¹Roussel Uclaf, Paris, France

either the treated or control diet the first 7 days of allyl trenbolone treatment. However, she did conceive and farrow 5 pigs.

These data demonstrate the ability of allyl trenbolone to synchronize estrus in gilts and provide no evidence of adverse effects on reproduction. Therefore allyl trenbolone could provide a useful management tool for swine producers. Further trials are being conducted at this station and elsewhere to evaluate estrus control and fertility in gilts treated with allyl trenbolone under a variety of management conditions.

Table 4. Estrous Synchronization and Farrowing Results After Treatment with Allyl Trenbolone

Item	Controls	Synchronized ^a
No. of gilts:		
Assigned	15	15
Exhibiting estrus	15	15
First exhibiting estrus between 4.5 and 5.5 days after last feeding of allyl trenbolone	--	14
Farrowing	15	15
Pigs farrowed/gilt		
Total	9.7	9.9
Alive at birth	9.3	9.1

^aFed allyl trenbolone for 18 consecutive days (15 mg/day).