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Effect of injectable antibiotics at breeding on reproductive performance

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Abstract

A total of 116 sows were used in a study to evaluate the effect of penicillin or long-acting oxytetracycline on reproductive performance. Antibiotic injection at breeding time did not improve farrowing rate or litter size. Therefore, these results indicate that it is not cost effective to inject these antibiotics on the day of breeding.; Swine Day, Manhattan, KS, November 10, 1983

Keywords

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EFFECT OF INJECTABLE ANTIBIOTICS AT BREEDING ON REPRODUCTIVE PERFORMANCE[1]

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Summary

A total of 116 sows were used in a study to evaluate the effect of penicillin or long-acting oxytetracycline on reproductive performance. Antibiotic injection at breeding time did not improve farrowing rate or litter size. Therefore, these results indicate that it is not cost effective to inject these antibiotics on the day of breeding.

Introduction

Previous research has indicated that antibiotics in the feed during breeding may improve fertility. Since mixing and storing separate medicated breeding diet complicates management, an injectable treatment would be simpler for swine producers to use. Therefore, we tested the effects of antibiotics injected at breeding on reproductive performance.

Procedures

This study was conducted at Keesecker Farms, Washington, Kansas. At weaning, sows were allotted, by the previous litter weight and parity (number of previous litters), to one of the three treatments: 1) no antibiotic (control); 2) penicillin, and 3) long-acting oxytetracycline. Ten cc long-acting penicillin[2] was injected intramuscularly on the first day of breeding. The long-acting oxytetracycline[3] used was Liquamycin LA-200®. Sows weighing less than 400 lbs. received 10 cc of LA-200® intramuscularly and sows weighing more than 400 pounds received 15 cc on the first day of breeding. An attempt was made to breed all sows twice. Boars were allotted equally to the treatment groups.

Farrowing rate was calculated by dividing the number of females farrowing by the number of females that were bred x 100. The number of pigs born live and weaned, adjusted 21-day litter weight, and sow productivity index (SPI) were recorded. The SPI was calculated by the following equation: SPI = 6.5 (number of pigs born live) + adjusted 21-day litter weight.

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[1]We gratefully acknowledge the cooperation of Keesecker Farms in Washington, Kansas.

[2]150,000 units of penicillin G benzathine and 150,000 units of procaine pencillin G per ml in an aqueous suspension.

[3]Pfizer, Inc.; 200 mg of oxytetracycline per ml.

Results and Discussion

Farrowing rate was not affected by the injectable antibiotic treatment (table 1). Overall, 92% of the sows farrowed with an average litter size of 9.7 live pigs. There were no differences among the treatments for the number of live pigs born or weaned. The overall survival rate was 92%, with an average of 8.9 pigs weaned per sow farrowed. There were no differences among the treatments for 21-day litter weight or SPI. These results indicate that injectable penicillin and long-acting oxytetracycline at breeding did not affect reproductive performance in sows. We previously observed no benefits from antibiotics injected at breeding in the K-State herd (Swine Day, 1982, p. 23).

Table 1. Effect of Injectable Antibiotics on Reproductive Performance

Item	Control	Penicillin[a]	LA-200[b]
No. sows mated	15	48	53
No. sows farrowing	15	44	48
Farrowing rate, %	100	92	91
Litter performance:			
No. born live	9.83	9.43	9.94
No. weaned	9.33	8.89	8.76
Survival, %	94.9	94.3	88.1
21-day adjusted litter wt, lbs.	106.8	110.9	109.3
SPI	170.7	172.2	173.9

[a]Pigs received 10 cc of intramuscularly the first day of breeding.

[b]Pigs received 10 cc of LA-200® under 400 lbs. or 15 cc over 400 lbs. the first day of breeding.