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Intermittant Antibiotics vs. Continuous Antibiotics  
for the Finishing Pig

R.H. Hines

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Summary

The use of low or high level antibiotics fed continuously or intermittantly (2 week rotation) to 310 finishing pigs was evaluated in two trials. No significant improvements were noted for rate of gain or feed per lb. of gain in pigs fed antibiotics either continuously or intermittantly, as compared with pigs fed no antibiotics. No difference in performance was observed in pigs fed antibiotics intermittantly or continuously. The rotation of two high level antibiotics in Trial II did not significantly improve the performance of pigs over that of pigs fed no antibiotics.

Introduction

The past several years, the feasibility of feeding antibiotics to pigs during the finishing period (100 lbs. to market weight) has been questioned by many researchers and producers. At this station, the feeding of low level antibiotics continuously has resulted in nonsignificant improvements in rate of gain or feed conversion. In this trial, the use of high level antibiotics is evaluated intermittantly or continuously.

Procedure

Trial 1. One hundred fifty crossbred pigs were allotted to three replicates of five treatments: 1) basal diet--no antibiotic; 2) basal + 50 gm of aureomycin; 3) basal + 200 gms of aureomycin; 4) intermittant--basal 2 weeks the 50 gm of aureomycin 2 weeks; 5) intermittant--basal 2 weeks then 200 gm of aureomycin 2 weeks. Pigs weighed about 84 lbs initially; an average of 228 lbs when the trial ended. Pigs were housed in KSU finishing barn, 6 x 15' pens with a two hole self feeder and an automatic waterer. Pens are totally slatted with concrete slats. Hovers were used to cover the sleeping area (6'x 8') of the pens.

Trial II. One hundred sixty crossbred pigs were allotted to two replicates of eight treatments: 1) basal--no antibiotic; 2) basal + 200 gm aureomycin; 3) intermittant - basal 2 wks then 200 gm of aureomycin 2 wks; 4) basal + 50 gm tylan; 5) intermittant - basal 2 wks then 50 gm of tylan 2 wks; 6) basal + 100 gm tylan; 7) intermittant - basal 2 wks then 100 gm of tylan 2 wks; 8) rotating- 100 gm of tylan 2 wks then 200 gm of aureomycin 2 wks.

At start of trial, pigs weighed an average of 60 lbs, and terminated at an average of 226 lbs. The pigs were housed in the KSU finishing barn. Hovers were not used during this feeding trial.

Basal diet used in both Trial I and II is shown in Table 29.

Table 29. Basal Diet of Growing-Finishing Pigs

| Ingredient           | Lbs/ton |
|----------------------|---------|
| Gr. Sorghum grain    | 1571    |
| Soybean meal (44%)   | 350     |
| Dicalcium phosphate  | 35      |
| Gr. limestone        | 22      |
| KSU vit. premix      | 10      |
| Salt                 | 10      |
| Trace mineral (Z-10) | 2       |

### Results and Discussion

The results of Trial I are shown in Table 30. Pigs performed similarly in rate of gain and feed efficiency whether fed the low or high level aureomycin the first 42 days of the trial. Using antibiotics continuously or intermittantly did not affect pig performance the first 42 days. Pigs fed the basal diet with no antibiotic and those fed antibiotic continuously or intermittantly performed equally well. Similar results were observed for the complete trial. Feeding aureomycin continuously or intermittantly had no obvious beneficial effect upon performance.

Table 30. Performance of Finishing Pigs, Fed Low and High Levels of Aureomycin Continuously or Intermittantly (Trial I)

| Antibiotic, gm                    | 0    | Aureo<br>50 | Aureo<br>200 | Intermittant |       |
|-----------------------------------|------|-------------|--------------|--------------|-------|
|                                   |      |             |              | 0-50         | 0-200 |
| <u>First 42 days<sup>a</sup></u>  |      |             |              |              |       |
| Avg. da. gain, lbs.               | 1.47 | 1.44        | 1.46         | 1.40         | 1.43  |
| Feed/gain                         | 2.47 | 2.77        | 2.74         | 2.77         | 2.70  |
| <u>Complete trial<sup>b</sup></u> |      |             |              |              |       |
| Avg. da. gain, lbs.               | 1.57 | 1.54        | 1.57         | 1.54         | 1.59  |
| Feed/gain                         | 3.06 | 3.24        | 3.14         | 3.03         | 3.04  |

<sup>a</sup> Average of three replicates, 30 pigs/treatment, int. wt. 84 lbs., 42 days on trial average weight 144 lbs.

<sup>b</sup> Average of three replicates, 30 pigs/treatment, ave. int. wt. 228 lbs.

Table 31 presents the results of Trial II. Pigs weighed an average 66 lbs. initially which could have been why all the treatments with added levels of antibiotic gained faster than the control pigs the first 42 days of the trial. No effect due to treatment was observed upon the lbs. of feed required per lb. of gain the first 42 days of the trial. Pigs fed

the basal diet compensated for the slower growth initially during the later stages of the trial, resulting in no significant difference in rate of gain or feed required per lb. of gain. The feeding of continuous or intermittent antibiotics to finishing pigs resulted in no difference in performance. The rotation of two antibiotics at two week intervals produced weight gain and feed efficiency similar to that in all other treatments.

Trial 31. Performance of Finishing Pigs Fed Tylan and Aureomycin  
Continuously and Intermittantly (Trial II)

| Antibiotic, gm                    | 0    | Aureo | Inter | Tylan | Inter | Tylan | Inter | Inter                  |
|-----------------------------------|------|-------|-------|-------|-------|-------|-------|------------------------|
|                                   |      | 200   | 0-200 | 50    | 0-50  | 100   | 0-100 | Aureo-200<br>Tylan-100 |
| <u>First 42 days<sup>a</sup></u>  |      |       |       |       |       |       |       |                        |
| Avg. da. gain, lbs.               | 1.48 | 1.59  | 1.64  | 1.66  | 1.60  | 1.62  | 1.56  | 1.64                   |
| Feed/gain                         | 2.56 | 2.55  | 2.62  | 2.74  | 2.61  | 2.60  | 2.63  | 2.64                   |
| <u>Complete trial<sup>b</sup></u> |      |       |       |       |       |       |       |                        |
| Avg. da. gain, lbs.               | 1.62 | 1.64  | 1.66  | 1.68  | 1.66  | 1.70  | 1.66  | 1.69                   |
| Feed/gain                         | 3.18 | 3.10  | 3.19  | 3.27  | 3.20  | 3.24  | 3.17  | 3.18                   |

<sup>a</sup> Average of two replicates, 20 pigs/treatment, int. wt. 66 lbs., 42 day weight 133 lbs.

<sup>b</sup> Average of two replicates, 20 pigs/treatment, final weight 226.