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## Rations Containing Corn, Sorghum Grain, Or Wheat Compared for Weaned Pigs

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### Summary

The feed required per pound of gain was similar for pigs fed corn, sorghum grain, corn-wheat, or sorghum grain-wheat diets. Pigs on the corn ration grew significantly ( $P < .05$ ) faster. The sorghum grain, sorghum grain-wheat, and corn-wheat rations each produced similar gains.

### Procedure

Two hundred and forty (Duroc, Hampshire, Yorkshire, and Cross-breeds) six-week-old pigs were allotted to four treatments on the basis of weight, sex, and breed to these rations: (1) corn-soybean meal, (2) sorghum grain-soybean meal, (3) corn-wheat-soybean meal, or (4) sorghum grain-wheat-soybean meal. The average initial weight of pigs in each replicate was between 20 and 25 pounds. After four weeks feeding average final weight varied from approximately 50 to 65 pounds.

The pigs were fed in groups of 10 in the 6' x 11' totally-slotted-floor pen. Each pen contained an automatic waterer and a two hole self-feeder. The test building is totally enclosed with controlled environment.

The rations fed are detailed in table 30. All rations were pelleted.

### Results and Discussion

Performance by weaned pigs on various types of grain is detailed in tables 31 and 32. Average rate of gain favored pigs on corn rations. They grew significantly faster than pigs receiving the sorghum grain ration, the sorghum grain-wheat ration, or the corn-wheat ration, all of which grew at similar rates.

Feed required per pound of gain favored pigs on the corn ration; however, the differences were not significant. Daily feed intake did not differ significantly either.

Table 30. Ration Composition

| Ration                   | Corn | S.G. | C+W | SG+W |
|--------------------------|------|------|-----|------|
| Ingredients, lbs/ton     |      |      |     |      |
| Gd. yellow corn          | 965  | ---  | 483 | ---  |
| Gd. sorghum grain        | ---  | 965  | --- | 483  |
| Gd. wheat                | ---  | ---  | 482 | 482  |
| St. rolled oat groats    | 200  | 200  | 200 | 200  |
| Alfalfa meal (17%)       | 50   | 50   | 50  | 50   |
| Soybean meal (50%)       | 300  | 300  | 300 | 300  |
| Meat & bone scraps (50%) | 75   | 75   | 75  | 75   |
| Edible fat               | 50   | 50   | 50  | 50   |
| Milk not conc.           | 200  | 200  | 200 | 200  |
| Sugar                    | 100  | 100  | 100 | 100  |
| Salt                     | 5    | 5    | 5   | 5    |
| Dicalcium phosphate      | 10   | 10   | 10  | 10   |
| Gr. limestone            | 10   | 10   | 10  | 10   |
| TNT <sup>1</sup>         | 25   | 25   | 25  | 25   |
| Vitm-premix <sup>2</sup> | 10   | 10   | 10  | 10   |

<sup>1</sup> TNT contains 4 gms. terramycin plus 4 gms. neonmycin sulfate plus 400,000 U.S.P. units of vitamin A per lb.

<sup>2</sup> Premix contains 900,000 I.U. of Vit. D; 48 gms. Niacin; 16 gms. riboflavin; 32 gms. D. pantothenic acid; 160 gms. choline chloride; 40 mg. of vit. B<sub>12</sub>; 40,000 I.U. vit. E; 114 gm. santoquin; and 908 gms. of trace minerals (Zn-10%, Mn-10%, Fe-10%, Cu-1%, I<sub>2</sub>-0.3%, Cobalt 0.1%).

Table 31. Effect of Type of Grain on Rate of Gain By Post-weaned Pigs, Lbs. Per Day.

| Grain               | Corn             | S.G.             | C+W              | SG+W             |
|---------------------|------------------|------------------|------------------|------------------|
| Rep. 1 <sup>c</sup> | 1.16             | .96              | 1.00             | 1.08             |
| Rep. 2              | 1.02             | 1.01             | .96              | .92              |
| Rep. 3              | .98              | .87              | .92              | .83              |
| Rep. 4              | .93              | .77              | .77              | .87              |
| Rep. 5              | .81              | .80              | .93              | .83              |
| Rep. 6              | .85              | .88              | .81              | .74              |
| Ave.                | .96 <sup>a</sup> | .88 <sup>b</sup> | .90 <sup>b</sup> | .88 <sup>b</sup> |

<sup>ab</sup> Means on the same line with different superscripts differ significantly.

<sup>c</sup> Ten pigs per pen

Table 32. Effect of Type of Grain on Feed Efficiency  
of Post-weaned Pigs  
(Pounds of Feed Required Per Pound of Gain.)

| Grains | Corn | S.G. | C+W  | SG+W |
|--------|------|------|------|------|
| Rep. 1 | 2.00 | 2.16 | 2.03 | 2.10 |
| Rep. 2 | 2.06 | 2.22 | 2.12 | 2.55 |
| Rep. 3 | 1.89 | 2.15 | 1.90 | 1.82 |
| Rep. 4 | 1.92 | 2.00 | 2.06 | 1.75 |
| Rep. 5 | 1.97 | 1.87 | 1.81 | 2.01 |
| Rep. 6 | 1.87 | 1.94 | 2.01 | 2.08 |
| Ave.   | 1.95 | 2.06 | 1.99 | 2.05 |