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Reconstituted Sorghum Grain for Finishing Swine

R. H. Hines and Gary L. Allee

Summary

Gains of finishing pigs fed whole or rolled reconstituted sorghum grain (30% moisture) from 100 lbs. to an average of 210 lbs. were similar and similar to gains by pigs fed a ground sorghum grain ration. Compared on a 90% dry matter basis, pigs fed the ground ration were 7% more efficient than pigs fed the whole or reconstituted grain rations. Rolling the reconstituted sorghum grain improved feed efficiency (8%) and improved rate of gain as compared to the performance of pigs fed the whole reconstituted grain.

Procedures

Fifty-four barrows and gilts (Hampshire, Yorkshire and Duroc) averaging 100 pounds were allotted to the following three treatments: (1) ground sorghum grain (basal ration), (2) whole reconstituted sorghum grain, (3) rolled reconstituted sorghum grain. The feeding trial was conducted in the KSU open-front finishing barn with concrete slatted floors, nine pigs per pen. Each 6' x 15' pen contained a two-hole self feeder and an automatic watering cup.

The reconstituted rations were mixed daily to prevent spoilage and added to the feeders twice a day to reduce the problems of feed bridging in the feeders. The basal ration contained 14% moisture; while the mixed reconstituted rations contained 25% moisture. Composition of the protein supplement mix is shown in table 1. Experimental grains were mixed with the supplement to prepare 16% crude protein rations, (90% dry matter basis). The trial was for 70 summer days.

Results and Discussion

Performance data are presented in table 2. Pigs fed the rolled reconstituted sorghum grain (RRSG) gained faster and were 8% more efficient than pigs fed the whole reconstituted sorghum grain (WRSG). Manure droppings of the WRSG fed pigs contained many particles of undigested sorghum grain; whereas droppings from RRSG pigs contained very few such particles.

Gains of pigs fed the control, RRSg or WRSg rations were similar. The daily dry matter intake of the pigs fed the basal ration was 8% less than the average of the pigs fed the reconstituted sorghum grain. Consequently, the feed efficiency of the pigs fed the basal ration was 3% better than the pigs fed RRSg and 11% better than the pigs fed the WRSg.

Table 1. Protein Supplement Mix (38% Crude Protein)

Ingredients:	Lbs./ton
Soybean meal (44%)	1210
Meat & bone scraps (50%)	400
Alfalfa meal (17%)	200
Dicalcium phosphate	50
Limestone	50
Salt	50
Trace mineral	8
Aureo Sp-250	20
Vitamin premix ^a	12

^a Fortification per pound of supplement: Vitamin A, 4540 I.U.; vitamin D, 750 I.U.; Vitamin E, 80 I.U.; Niacin, 48 mg.; Riboflavin, 16 mg.; Pantothenic acid, 32 mg.; Choline, 160 mg.; Vitamin B₁₂, 40 mcg.

Table 2. Performance Data of Finishing Swine Fed Reconstituted Sorghum Grain (90% Dry Matter Basis)

Ration:	Ground	W-RC	R-RC
<u>Daily gain, lbs.</u>			
Rep. 1	1.52	1.60	1.58
Rep. 2	1.38	1.25	1.42
Average	1.45	1.42	1.45
<u>Daily feed intake, lbs.</u>			
Rep. 1	4.68	5.79	5.24
Rep. 2	4.57	4.46	4.64
Average	4.62	5.12	4.94
<u>Feed/gain</u>			
Rep. 1	3.08	3.62	3.31
Rep. 2	3.31	3.57	3.27
Average	3.19	3.59	3.29