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Winter Dry-Lot Supplements for Growing Pigs^{1/}

Richard C. Wahlstrom

Research conducted at South Dakota in 1955-56 has shown that 10 to 19 per cent of ground alfalfa hay in a protein supplement will decrease the consumption of the supplement (S. Dak. Farm and Home Research, Feb. 1957). This resulted in a lowering of the feed cost per unit of pig gain.

The objectives of this experiment were to compare three levels (10, 20 and 30 per cent) of ground alfalfa hay in a protein supplement and to compare these supplements fed free-choice to a complete mixed ration.

Experimental Plan

Sixty weanling pigs averaging about 38 pounds were divided into 4 lots of 15 pigs each. The pigs were fall-farrowed Durocs, Hampshires, Poland Chinas and Spotted Poland Chinas. All lots were housed in a barn with concrete floors and had access to outside paved pens. Lot 1 was self-fed a mixed ration consisting of 80 per cent ground corn and 20 per cent of supplement 3 while Lots 2, 3 and 4 were self-fed free-choice shelled yellow corn and supplements 2, 3 and 4 respectively. The composition of the supplements is given in table 1.

Summary of Results

The results are summarized in table 2. There was essentially no difference in rate of gain between the 4 lots of pigs. The slightly slower growth of the pigs in Lot 2 was due to three pigs in this lot that developed parakeratosis which reduced their gain for a short period of time. Some parakeratosis was also noted in other pigs in Lots 2, 3 and 4. However, these pigs responded rapidly when additional zinc was added to the protein supplement.

Twenty and 30 per cent of alfalfa hay in the protein supplement reduced daily consumption of supplement 0.15 pound per pig compared to Lot 2. The pigs fed the mixed ration consumed the most feed per day and also required the most feed per hundred pounds of gain. It was noted that these pigs wasted more feed than those fed free-choice. This would account at least in part for their higher feed requirement.

The most economical gains were produced by Lots 3 and 4 that received the protein supplements containing 20 and 30 per cent of ground alfalfa hay. These supplements were consumed in about the proper amounts to provide these pigs with a ration adequate but not excessive in protein content.

^{1/} Presented at South Dakota State College Swine Field Day, September 19, 1957.

Table 1. Composition of Protein Supplements

| | Supplement Number | | |
|----------------------------|-------------------|----------|----------|
| | <u>2</u> | <u>3</u> | <u>4</u> |
| Soybean oil meal | 37 | 37 | 37 |
| Meat and bone scrap | 30 | 30 | 30 |
| Linseed oil meal | 20 | 10 | -- |
| Ground alfalfa hay | 10 | 20 | 30 |
| Trace mineral salt | 2.5 | 2.5 | 2.5 |
| Vitamin-antibiotic premix* | 0.5 | 0.5 | 0.5 |

* Furnished the following per ton of supplement: riboflavin 10 gm., pantothenic acid 20 gm., niacin 45 gm., choline 50 gm., vitamin B₁₂ 45 mg., and Chlortetracycline 50 gm.

Table 2. Dry-Lot Supplements for Growing Pigs (November 8, 1956-March 7, 1957)

| | Mixed Ration* | Supp. 2 10% Alfalfa | Supp. 3 20% Alfalfa | Supp. 4 30% Alfalfa |
|-------------------------|---------------|------------------------|------------------------|------------------------|
| No. of pigs | 15 | 15 | 15 | 14 / |
| Av. initial wt., lbs. | 37.8 | 37.8 | 37.8 | 38.6 |
| Av. final wt., lbs. | 202.4 | 199.4 | 205.9 | 203.2 |
| Av. days on experiment | 103 | 108 | 105 | 102 |
| Av. daily gain, lbs. | 1.59 | 1.50 | 1.59 | 1.62 |
| Feed consumed/day, lbs. | | | | |
| Corn | | 4.89 | 4.77 | 5.30 |
| Supplement | | 0.96 | 0.81 | 0.81 |
| Total | 6.44 | 5.85 | 5.58 | 6.11 |
| Feed/wt. gain, lbs. | | | | |
| Corn | | 327 | 299 | 328 |
| Supplement | | 64 | 51 | 50 |
| Total | 404 | 391 | 350 | 378 |
| Feed cost/cwt. gain | \$10.54 | \$9.69 | \$8.48 | \$8.99 |

* Eighty parts ground yellow corn and 20 parts supplement 3.

/ One pig died of causes not due to ration treatment.