FATS AND PROTEINS RESEARCH FOUNDATION, INC.

Director's Digest

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INTRODUCTION:

This Director's Digest was taken from a Wayne Feeds Research Report that was given to Kevin Custer of the Van Hoven Company. I thought our membership would be interested in the attitude on animal proteins from an outstanding scientist at one of the largest feed companies in the United States.

F.D.B.

ANIMAL PRODUCTS IN SWINE FEEDS

By

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WAYNE RESEARCH REPORT

Animal by-products are valuable ingredients for swine diets. WAYNE® Research has recently completed four trials comparing WAYNE PROSTOCK® formulas with or without the inclusion of meat and bone meal. In three of the four trials, pig performance was slightly better when meat and bone meal was added to the diet. This data would indicate that multiple protein sources have a positive effect on performance. These diets were formulated to provide equal digestible amino acid levels. Blood meal, when properly processed is an excellent product that is high in digestible lysine and tryptophan.

The data in table 1 suggests that pigs fed rations with meat and bone meal have good performance. The second issue is freedom from harmful bacteria. There is no scientific data that has ever shown that feeding meat and bone meal, blood meal or rendered animal fat has caused disease problems in swine.

Meat and bone meal is a rendered product. Rendering is the process of cooking the raw material to remove the moisture and fat. The normal cooking temperatures used for this process is 280 degrees F., generally for one hour. Moisture is removed by evaporation which assures the product is heated above 212 degrees F long enough to reduce the moisture from above 50% down to 4-6%. These temperatures should sterilize the product. Salmonella can be isolated from rendered products but this is from recontamination. Salmonella can also be isolated from soybean meal and other non-animal ingredients. The salmonella that have been isolated are not the strains that cause disease problems in swine.

Fat is completely safe. Fat is 98-99% pure fat. Neither bacteria nor viruses can live in such an environment. Fat can become rancid but this is a chemical breakdown not a bacteria problem.

There is about 4,000,000 tons of animal protein and 1,000,000 tons of fat used in animal feeds each year. Wayne Feeds position is that these are safe and viable products for animal feeding. Using animal by-products in swine feeds results in equal or superior performance at a reduced feeding cost.

Table 1

EFFECT OF MEAT AND BONE MEAL
ON HOG PERFORMANCE

	With Meat & Bone	Without Meat & Bone
Start Wt., lbs.	41.50	41.50
End Wt., lbs.	229.76	229.36
ADG, lbs.	1.85	1.85
F/G	2.84	2.88

Project 3 Experiment 9

	With Meat & Bone	Without Meat & Bone
Start Wt., lbs.	41.10	41.00
End Wt., lbs.	102.10	100.60
ADG, lbs.	1.53	1.49
F/G	2.24	2.30

Project 3 Experiment 4

	With Meat & Bone	Without Meat & Bone
Start Wt., lbs.	47.60	47.60
End Wt., lbs.	117.10	119.10
ADG, lbs.	1.69	1.74
F/G	2.11	1.96

Project 3 Experiment 8

	With Meat & Bone	Without Meat & Bone
Start Wt., lbs.	39.80	39.80
End Wt., lbs.	111.10	109.90
ADG, lbs.	1.74	1.71
F/G	2.21	2.25

Project 3 Experiment 11