

Technical Bulletin #20

— FEEDING TRIAL PERFORMANCE REPORT —

SUMMARY: In a feeding trial conducted in August, 1997, by Dr. Charles V. Maxwell at the University of Arkansas, the replacement potential of **Nutra-Flo DPS 30** for select menhaden fish meal (SMFM) and spray dried plasma protein was tested on young pigs in phase 1 and 2. The study suggests that inclusion of 5.0% or 6.68% **DPS 30** in phase 1 diets produces similar results as compared to diets containing SMFM and spray dried plasma protein.

MATERIAL & METHODS: Four treatments were used in phase one: 1) control diet containing 8.50% SMFM and 3.75 AP-920; 2) **DPS 30** replacing 20% of the SMFM lysine (3.90% DPS); 3) **DPS 30** replacing 5% of the SMFM on an equal weight basis (5.00% **DPS 30** and 3.50% SMFM) and 4) **DPS 30** replacing 50% of the AP-920 lysine (6.68% **DPS 30**). Upon completion of phase 1 all pigs were split into one of two groups: a control diet with 4.0% SMFM or a diet with 4.0% **DPS 30** and no SMFM. Upon completion of phase 2, a common phase 3 diet (1.20% lysine) was fed. All major ingredients were held constant for all treatments, with the exception of test ingredients. Pigs were weaned at 21 days and sorted into 4 different treatments for phase 1. There were 6 pens (5 pigs per pen) per treatment.

RESULTS & DISCUSSION: In phase 1, replacing 20% of the lysine from SMFM with 3.90% **DPS 30** reduced ADG and tended to reduce feed efficiency when compared to pigs fed the control diet. However, replacing 5% of the SMFM on an equal weight basis by **DPS 30** produced similar gain and feed efficiency. Replacing 50% of the lysine from plasma protein with **DPS 30** produced similar performance as compared to control diet. Average feed intake was not significantly affected by diet. Average daily gain, feed intake and feed efficiency were similar in phase 2 in pigs fed either 4% SMFM or 4% **DPS 30**. Results from phase 2 and 3 suggested that **DPS 30** can effectively replace fish meal in phase 2 diets.

TABLE 1: Effects of DPS 30, SMFM and Spray Dried Plasma (AP-920) in Phase 1 Diets

Phase 1 (Day 0 to 10)	1) Control 3.75% Plasma 8.50% SMFM 0.0% DPS 30	2) SMFM:DPS 30 3.75% Plasma 6.00% SMFM 3.90% DPS 30	3) DPS 30 3.75% Plasma 3.50% SMFM 5.00% DPS 30	4) AP-920:DPS 30 1.88% Plasma 8.50% SMFM 6.68% DPS 30
ADG, lbs/day	0.831	0.722	0.767	0.804
ADFI, lbs/day	0.853	0.800	0.786	0.799
Feed/Gain	1.026	1.108	1.025	0.993

TABLE 2. Effects of DPS 30 and SMFM in Phase 2 and 3 Diets

Phase 2 (Day 10 to 24)	1) Control SMFM 4.0%	2) DPS 30 4.0%
ADG, lbs/day	1.127	1.141
ADFI, lbs/day	1.526	1.537
Feed/Gain	1.354	1.347
Phase 3 (Day 24 to 38)		
ADG, lbs/day	1.468	1.432
ADFI, lbs/day	2.613	2.616
Feed/Gain	1.780	1.826

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