Research Bulletin S-29

A-MAX Concentrate China Swine
Research Trial in Sow Lactation Diets

Introduction: A feeding trial was conducted at a Dai-Hsing, a private research center in China.

Objective: To determine the benefits of A-MAX™ Concentrate in sow lactation diets.

Materials & Methods: 24 gestating sows were randomly allotted to 2 treatments based on litter number, body condition and expected date of farrowing. Treatments were:

- Control
- A-MAX Concentrate added to diet at 2.5 kilo per ton

Trial was conducted from July 1 to August 7, 2007, and lasted for 38 days. Gestation and Lactation diets are shown in table two.

Gestating sows were moved into farrowing crates 7 days prior to farrowing. Sows were limit fed 2.0 °C 3.5 kg/meal three times daily, depending on body condition. After farrowing, the sows were full fed the lactation diet three times daily at 0700, 1100, and 1700. Feed intake was recorded daily per sow to determine average daily feed intake per sow. In addition, the sows had ad libitum access to water. Piglets were ear notched and given an iron and selenium injection at 3 days old. Litter weights were recorded at 10 and 30 days of age for calculation of daily body weight gain. Environmental temperature, humidity, and air condition were recorded daily. Piglet diarrhea and mortality were also documented throughout the experiment.

Results: Results from the experiment are displayed in Table 1. A-MAX supplemented sows displayed 0.5 kg/day higher feed intake than the control group. Sows in early lactation often have low feed intake for various reasons, stress from farrowing, weakness, high temperatures etc. A-MAX contains many yeast metabolites that may help improve feed intake and palatability. In this trial done in heat stress conditions, the A-MAX improved feed intake, which decreased the heat stress during the hot summer climate conditions.

In this experiment, the piglets from sows receiving A-MAX had 4.7% greater weaning weight and 5.1% greater average daily gain over the control. This indicates that the sows on A-MAX had improved lactating ability, which translated to better nutrition the growing piglets. Piglets grew faster as they received more milk, and therefore had a higher body weight at weaning. In is also theorized the metabolites in A-MAX help increase the digestion of the feed by stimulation of beneficial intestinal bacteria which leads to improved GI tract function.

Conclusions: In summary, A-MAX Concentrate improved feed intake in lactation sows, which resulted in piglets having higher weight gain and heavier litter weaning weights as compared to control sows not receiving A-MAX.

Table Results:

Table One: Effect of A-MAX™ Concentrate on sow and piglet performance

Parameter	Control	A-MAX Concentrate
Number of sows	12	12
Average number of litters	3.1	3.1
ADFI of lactating sow, kg/d	5.0	5.5
Average litter size, head	10.5	10.2
Average piglets born alive, head	9.4	9.6
Average Mortality, %	11.1	5.9
Alive piglets on day 10, head	110	115
Alive piglets at weaning-day 30, head	102	108
Mortality at weaning, %	7.3	6.1
Average weaning age, days	30	30
Average litter weight on day 10, kg	25.59	27.26
Average litter weight at weaning-day 30, kg	57.72	63.95
Weight gain per litter day 10-30, kg	32.13	36.69
Average daily gain per liter, kg/day	1.76	1.85
Average body weight of weaned piglet, kg	6.79	7.11
ADG of piglets, grams	200	214

Table Two: Diets

Ingredient	Gestation	Lactation
Corn %	60	63
SBM %	20	22.5
Fish Meal %	0	2
Wheat Bran %	16	8
Premix %	4	4
Lysine %	0.61	0.85
Crude Protein %	15.1	17.5
Energy MJ/Kg	12.33	13.17

Note: Premix includes vitamins, B vitamins, and minerals.

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