



NUTRITION NOTES

Innovation + Research from Kent Nutrition Group

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DEVELOPMENT OF NEW NEXGEN ADVANCED STARTER CRUMBLE BASE

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In some swine operations, there can be a number of factors involved leading to a scenario where pigs may have a loose stool during the initial one to two weeks post-weaning. Loose stools can be associated with a reduced health status and may lead to the perception of a need to medicate. In these cases, swine producers may prefer a nursery feeding program that can help improve stool consistency as a priority during this phase rather than a higher performing starter program. To address this situation, several research studies were conducted over the past year at the Kent Research Farm. We have evaluated several ingredients (rolled oats, soybean hulls), protein levels and sugar sources (for palatability and feed intake) for their effects on stool consistency over the first 14 days post-weaning. Six trials were conducted which involved 2,928 pigs with 340 pens on test. The stool data shown below in Tables 2 are from the best product we developed from our last study. The diets fed after Days 0 to 14 were our standard NexGen Advanced line of high-performing products. The pig's average initial weight was 10.7 lbs with pigs started on these grind and mix programs on the day of arrival. In Table 1 are the grind and mix diets used during Days 0 to 14 post-weaning.

Phases	
Phase 1 (Days 0 to 7)	Diets
Ground Corn (7% Crude Protein)	510.00
Soybean Meal (46.85% Crude Protein)	350.00
NexGen Advanced Starter Crumble Base*	1100.00
Fat/Oil	40.00
Total, lb	2000.00
Crude Protein, %	17.7
Crude Fiber, %	9.5
Phase 2 (Days 7 to 14)	
Ground Corn	795.00
Soybean Meal	415.00
NexGen Advanced Starter Crumble Base*	750.00
Fat/Oil	40.00
Total, lb	2000.00
Crude Protein, %	17.8
Crude Fiber, %	7.3

*14% crude protein

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Day	NG Advanced Program
3	2.98
4	2.73
5	2.96
6	2.97
7	2.95
10	3.04
11	3.00
12	2.98
13	2.97
14	2.92
21	3.06
28	3.06
35	3.03
41	3.02

¹KNG; 126 pigs; 14 pens; Fecal Scores: 1 (very hard and dry); 2 (firm); 3 (normal); 4 (loose); 5 (watery); the scores were the average of two to three of our farm staff doing a visual scoring on the days shown above.

Phases	NG Advanced Program
Phases 1 and 2 (Days 0 to 14)	
Average Daily Gain, lb	0.32
Average Daily Feed Intake, lb	0.49
Feed/Gain	1.57
Overall (Days 0 to 42)	
Average Daily Gain, lb	0.77
Average Daily Feed Intake, lb	1.27
Feed/Gain	1.66

²KNG; 126 pigs; 14 pens

Results:

The data are presented in Tables 2 and 3. We observed satisfactory stool scores during the initial 14 days post-weaning with 10 observations recorded. After this 14-day period, the pigs continued to have good stool scores up through Day 41 as the test concluded. Over Days 0 to 14, the feed intakes were good as the sugar sources helped drive feed intake as the pigs consumed higher levels of fiber via the soybean hulls. These soybean hulls provide an optimal source of structural fiber based on all our previous testing.

Discussion:

There are several key aspects that went into developing this new product. One, we used high inclusion levels in order to provide significant amounts of soybean hulls in the complete diet. As a dietary fiber source, the soybean hulls help absorb moisture and thus help when the weaned piglet's gut is subjected to stressors that can cause loose stools. Secondly, we used multiple sugar sources to help with palatability and feed intake with the higher fiber levels. And third, we reduced the total crude protein (CP) in the complete diets to under 18% by markedly reducing soybean meal levels. This has been shown on occasion to be of some help in reducing loose stools. And 4th, we will manufacture this product as a crumble that will mix uniformly with the corn and soybean meal so the pigs do not sort out the feed. And with this new, research proven product, any crumbles the pigs could consume contain lower crude protein (14% CP) as opposed to products that contain from 20 to 25% crude protein which could potentially result in loose stools.

Summary:

Based on Kent Research and an extensive field evaluation in a commercial facility that has historically had issues with loose stools, this NexGen Advanced Starter Crumble Base should be very beneficial in those operations that have pigs with loose stools to help get them on feed during that initial post-weaning phase.