

NEWtraStart™ Feed



The Importance of Palatability and Wellness Nutrition

Natural Performance and Preference Technology

NEWtraStart™ Technology is a phytogenic feed ingredient. Phytogenics (also referred to as nutraceuticals and botanicals) are a combination of natural plant-based feed ingredients. What differentiates NEWtraStart™ technology from other phytogenics is the combination of encapsulated essential oils with two other plant components.

Essential Oils

- ▶ Occur under the surface of many plants as signal substances and natural defense mechanism against fungi, bacteria and viruses.
- ▶ Consist of a large number of active substances, and the complex as a whole has many positive effects including organoleptic stimulation¹.
- ▶ Are highly volatile. Therefore, the essential oils in NEWtraStart™ are encapsulated to ensure storage and heat stability.

Flavonoids

- ▶ Are a large group of plant pigments with many beneficial effects such as the regulation of cellular permeability, inhibition of inflammation mediators leading to anti-inflammatory, and antioxidant effects².
- ▶ Their importance has led them to being named vitamin P (permeability)

Mucilages

- ▶ Occur mainly in plant seeds and contain carbohydrates that swell considerably when exposed to water.
- ▶ The mucilage in NEWtraStart™ was selected for its special carbohydrate structure, enabling it to form a protective layer on the mucosa³.

- ▶ A proprietary combination of natural plant-based feed ingredients designed for sows and pigs.
- ▶ Mix in the diet at 2.5 - 5 lbs/ton complete feed in gestation • 5 - 10 lbs/ton complete feed in lactation • 5 lbs/ton complete feed in nursery and grow-finish
- ▶ Available in 50 lb bags • Product Code # 1275150 (LMA5)

¹W. Windisch, K. Schedle, C. Pletzner and A. Kroismayr, 2008. Use of phytogenic products as feed additives for swine and poultry. J Anim Sci 86: E140-E148.

²H.P. Kim, K.H. Son, H.W. Chang and S.S. Kang, 2004. Anti-inflammatory plant flavonoids and cellular action mechanisms. J.Pharmacol.Sci. 96, pp 229-245

³U.L. Hayden, S.M. McGuirk, S.E.H. West and H.V. Carey, 1998. Psyllium improves fecal consistency and prevents enhanced secretory responses in jejunal tissues of piglets infected with ETEC. Dig.Dis.Sci. 43:11, pp 2536-2541

Ask your local nutrition specialist for more information or visit www.lolfeed.com or www.purinamills.com

Land O'Lakes Purina Feed LLC

NEWtraStart™ feed in Sows Potentially Increases Feed Intake, Weaning Weights and Numbers of Pigs per Litter

Research (2005–2009)	Criteria Measured	Control + Antibiotic	Control + NEWtraStart™	Difference
<ul style="list-style-type: none"> LongView Animal Nutrition Center, MO, USA (3 Trial Summary) 	Litter Weight Gain, lb	69.7	77.5	+11.2%
	Weaning Weight, lb	14.6	16.0	+9.6%
	Pre-weaning Mortality, %	7.5	4.4	-41.3%
<ul style="list-style-type: none"> Commercial Sow Trial in KS, USA 108 sows/treatment ^{ab}Values on same line with different superscripts differ, P<0.07 Control: 7.5 lb NEWtraStart/ ton feed (gestation) NEWtraStart : 7.5 lb NEWtraStart/ton feed (gestation & lactation) Ref: TBVol4 	Stillborns/litter	1.56 ^a	0.72 ^b	-53.9%
	Litter Weight at Weaning, lb	134	138	+3%
	Litter Weight gain 24 hr post farrowing to weaning, lb	97.3	100.3	+3.1%
	Feed Intake over lactation (8-18d), lb/sow		+0.5 - 1.5 lb over control	

NEWtraStart™ feed in Young Pigs Supports Gut Wellness, Increases Nutrient Utilization and Optimizes Growth Performance

Research (2000–2009)	Criteria Measured	Control	Control + NEWtraStart™	Difference
<ul style="list-style-type: none"> Trial conducted at Dankook University, Korea Control diet contained antibiotics 	Immunity - IgG Levels, mg/ml	4.81	7.46	+55.1%
	Immunity - White Blood Cells, x 10 ³ /mm ³	75.8	95.4	+25.9%
	Digestibility - Dry Matter, %	89.1	89.9	+0.9%
	Digestibility - Nitrogen, %	86.0	88.5	+2.9%
	Performance - Daily Weight Gain, lb	0.99	1.07	+8.1%
	Performance - Daily Feed Intake, lb	1.27	1.35	+6.3%
	Performance - Feed:Gain	1.29	1.26	-2.3%
<ul style="list-style-type: none"> Commercial Nursery Trial in USA Twelve pens/ treatment with 22 pigs/ pen All diets contained antibiotics. ^{ab}Values on same line with different superscripts differ, P<0.05 At the end of the 42-day trial, there were 41% fewer pigs weighing < 40 lb & 30% more > 50 lb in the NEWtraStart group. Ref: TBVol9 	Initial Weight, lb	13.5	13.6	-
	Final Weight, lb	47.7 ^a	49.7 ^b	+2 lb
	Daily Weight Gain, lb	0.81 ^a	0.86 ^b	+6.2%
	Daily Feed Intake, lb	1.25 ^c	1.30 ^b	+4.0%
	Feed: Gain	1.55 ^a	1.51 ^b	-2.6%
<ul style="list-style-type: none"> Commercial Nursery Trial in USA Eight pens/ treatment with 22 pigs/ pen All diets contained antibiotics. ^{ab}Values on same line with different superscripts differ, P<0.05 Pigs fed NEWtraStart feed needed 2.1 lb less feed for 42 lb of gain Ref: LOL Trial No. FT 110N08 	Initial Weight, lb	12.9	12.9	-
	Final Weight, lb	55.2	55.8	+0.6 lb
	Daily Weight Gain, lb	0.99	1.00	+1.0%
	Daily Feed Intake, lb	1.34	1.31	-2.2%
	Feed: Gain	1.36 ^a	1.31 ^b	-3.7%
<ul style="list-style-type: none"> Weighted average of eight 35-day trials conducted at LongView Animal Nutrition Center in MO, USA Control diets contained antibiotics. Pigs fed NEWtraStart needed 2 lb less feed for 40 lb of gain 	Initial Weight, lb	13.1	13.1	-
	Final Weight, lb	45.7	47.6	+1.9 lb
	Daily Weight Gain, lb	0.92	0.97	+5.4%
	Daily Feed Intake, lb	1.30	1.33	+2.3%
	Feed: Gain	1.40	1.35	-3.6%

NEWtraStart™ feed in Grower-Finisher Pigs Optimizes Growth Performance

Research (2006–2009)	Criteria Measured	Control	Control + NEWtraStart™	Difference
<ul style="list-style-type: none"> LongView Animal Nutrition Center in MO, USA Values are means of 24 individually penned pigs Initial weight 61.8 lb 5 lb NEWtraStart per ton feed Ref: TBVol2 	Average Weight Gain, lb	203.2	211.3	+8.1 lb
	Daily Weight Gain, lb	2.22	2.30	+3.6%
	Daily Feed Intake, lb	5.23	5.37	+2.7%
	Feed: Gain	2.36	2.33	-1.3%
<ul style="list-style-type: none"> Commercial Nursery Trial in IA, USA ~1300 pigs/treatment Initial weight ~13 lb 5 lb NEWtraStart/ton feed (Grind & Mix) NEWtraStart pigs were 6 days less on trial Ref: TBVol7 	Average Weight Gain, lb	237.3	237.4	+0.1 lb
	Daily Weight Gain, lb	1.37	1.42	+3.7%
	Daily Feed Intake, lb	3.88	3.98	+2.6%
	Feed: Gain	2.83	2.80	-1.1%