



10212-172 - 50 lbs.

# Natural Oregano & Organic Acids for a Healthy Gut

Villipro® XL is a natural oregano-based feed ingredient combined with organic acids designed to be fed to sows, nursery, and grow/finish pigs. Field experience and published controlled research show this proprietary combination suppresses pathogen growth in the intestinal tract while also providing a preferential energy source for epithelial cells, improving intestinal cell growth and providing more cell surface for nutrient absorption. With a highly functional and healthy gut, performance and profitability can be maximized.

**Oregano Essential Oil** - Stimulates the appetite with antibacterial properties that support the pig's immune system, allowing for faster recovery and control of looseness associated with E. coli, clostridium, and salmonella.

**Butyric and Benzoic Acids** - The addition of benzoic and butyric acids in Villipro XL's proprietary blend complements and enhances the action of oregano. As a preferred energy source for gut epithelial cells, villi growth results in more surface area for nutrient absorption. Acidifying the gut enhances enzyme action and increases the population of beneficial bacteria while suppressing the growth of pathogens that may otherwise rob the pig of nutrients, elicit immune responses, and contribute towards looseness and scouring.

Improved Intake & Average Daily Gain - Research proven to improve feed intake and average daily gain.

## Dietary Inclusion of Villipro XL for Grow-Finishing Pigs

Criteria Measured	Control (CON)	Villipro (VP)	Synthetic (SYN)	Difference, VP vs CON	Difference, VP vs SYN
Initial wt, lb.	88.8	94.0	92.8	+ 5.9%	+ 1.3%
Final wt, lb.	272.5	284.7	281.5	+ 4.5%	+ 1.1%
ADG, lb/p/d	1.86	1.93	1.91	+ 3.8%	+ 1.0%
F/G	2.55	2.50	2.59	- 2.0%	- 3.5%

Total of 23-24 pigs/pen and 11 pens/treatment, 99 d study, Villipro (VP): basal diet plus Villipro supplementation at 2 lb/t for grower and 1 lb/t for finisher diets; Synthetic (SYN): basal diet plus synthetic plant extract with MOS. Asche, 2013.

### Feeding Directions

Feed 3 lbs/ton to nursery pigs from 25 to 50 lbs, 2 lbs/ton to growing pigs from 50 to 150 lbs, and 1 lb/ton to finishing pigs from 150 lbs to market. Feed 1 lb/ton to gestation sows and 2 lbs/ton to lactating sows. Provide fresh, clean water at all times.

#### All Oregano is Not Equal!

The oregano essential oil in Villipro XL is all natural, containing carvacrol, thymol, and other naturally-occurring constituents contributing to its efficacy and activity, unlike some competitors that use synthetic sources and blends. Rigid testing and quality control ensure an effective and consistent product is delivered every time.







## Natural Appetite Stimulant that Supports the Immune System.

Research has shown oregano essential oil in Villipro® XL is an appetite stimulant that has antibacterial properties as well as supporting the pig's immune system, allowing for faster recovery and control of looseness associated with E. coli, clostridium, and salmonella. Additional improvement in digestibility of feed, along with anti-inflammatory properties allow for more nutrition to be designated for productive purposes.

### Dietary Inclusion of Villipro XL in Sows - Impact on Lactation and Litter Performance

Criteria Measured	Control (CON)	Villipro XL Oregano	Difference
Total born, #/litter	14.9	15.2	
Live born, #/litter	13.1	13.0	
Live birth weight, lb/p	2.75	3.04	+ 10.5%
Somatic cell count in milk /ml	1,300,000	660,000	- 49.2%
Piglet diarrhea score, %	2.1	1.0	-52.4%
Prewean mortality, %	12.9	11.2	-13.2%
Pigs weaned, #/litter	11.1	11.5	+ 3.6%
Total wean wt, #/litter	178.2	195.6	+ 9.8%
Avg wean wt, #/p	16.1	17.0	+ 5.9%



Total of 39 sows, oregano provided 1 wk pre-farrow until weaning (28 doa). (Wageningen, 2013)

## Dietary Inclusion of Villipro XL in Nursery Pigs - Impact on Performance and Digestibility

Criteria Measured	Control (CON)	Villipro XL Oregano	Difference
Initial wt, lb/p	13.9	13.9	
Wt, Ph 1, lb/p (d 13)	17.80	19.07	+ 7.1%
Wt, Ph 2, lb/p (d 41)	51.22	53.24	+ 3.9%
ADG, lb/p/d (d 0-41)	0.91	0.96	+ 5.4%
F/G, lb/lb (d 0-41)	1.47	1.44	- 1.7%
Fecal consistency	3.79	3.89	+ 2.6%
Dry matter digestibility, %	26.52	29.00	+ 9.4%
Crude protein digestibility, %	64.48	73.16	+ 13.5%
AID amino acid digestibility, %	71.49	78.68	+ 10.1%

 $200\,\mathrm{pigs}\,\mathrm{total}, 25\,\mathrm{doa}, 42\,\mathrm{d}\,\mathrm{trial}, \mathrm{each}\,\mathrm{treatment}$ :  $10\,\mathrm{reps}\,\mathrm{of}\,10\,\mathrm{pigs/pen}, \mathrm{oregano}\,\mathrm{concentration}$  of 0.0075% and 0.00375%, respectively, for Ph1 and Ph2 Villipro XL Oregano diets. (Zentek, 2017)



