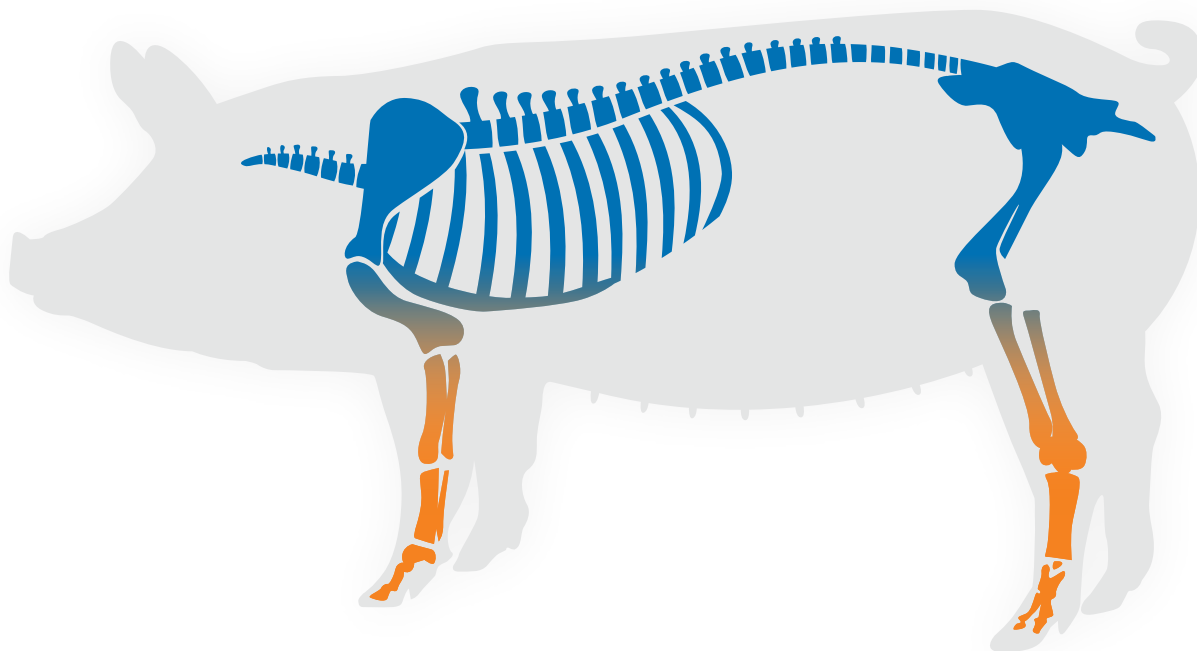


Hy•D®



STAND STRONG

FOR A LIFETIME OF PRODUCTIVITY

Vitamin D innovation that improves skeletal development and bone health, enhancing sow lifetime productivity.

BRIGHT SCIENCE. BRIGHTER LIVING.



Sow Longevity and Lifetime Productivity

Lifetime productivity is a function of the sow's genetic potential as well as her duration in the reproductive herd. Maintaining productive capacity over successive parities is fundamental to sow-herd profitability. The cost of gilt and sow development isn't covered until their 3rd or 4th parity, and those that aren't "paying for themselves" add costs to weaned pigs.

Industry experts encourage producers to measure sow productivity based on number of pigs born alive or weaned throughout a sow's lifetime. Fundamental to impacting these metrics is a producer's ability to maintain optimum vitamin D levels in the breeding herd, which is essential for better bone health and ultimately reduced culling rates among first litter gilts and parity 1 sows. Hy•D® can help animals maintain their structural soundness, resulting in greater longevity and lifetime productivity.

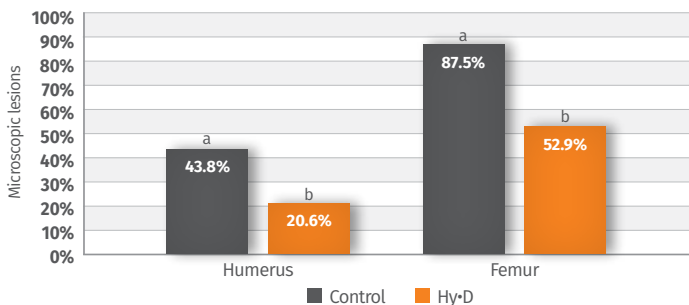
Help your gilts and sows Stand Strong with Hy•D

Hy•D optimizes skeletal development, bone health and mobility in gilts and sows, allowing them to produce more viable, higher performing pigs over their lifetime.

Hy•D is a pure and proprietary vitamin D metabolite called 25-OH D3, the circulating form of D3. Its unique chemical form eliminates the need for conversion of D3 in the liver, allowing 25-OH D3 to be absorbed more efficiently and consistently throughout a pig's lifetime. When compared to feeding vitamin D3 alone, Hy•D:

- Reduces bone lesions¹ (Figure 1)
- Improves gilts selection rates² (Figure 2)
- Reduces farrowing difficulties due to mobility issues³ (Figure 3)
- Increases birth and weaning weights⁴ (Figure 4)

Figure 1. Effect of Hy•D on the development of osteochondrosis in growing swine¹



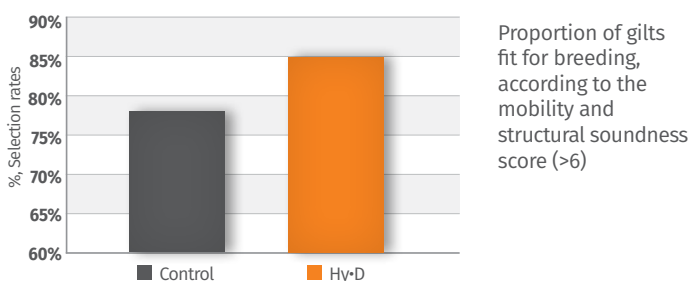
Control: 1,500 - 1,800 IU/KG vitamin D3 by phase
Hy•D: Control D3 + 50 ug/kg 25-OH D3

Key Point

When Hy•D was added to the normal levels of vitamin D, the incidence and severity of osteochondrosis (bone) lesions were reduced.

34.6% Reduction in bone lesions

Figure 2. Effect of Hy•D on gilt development²— selection rates based on mobility and structure



Proportion of gilts fit for breeding, according to the mobility and structural soundness score (>6)

Key Point

When Hy•D was added to normal levels of vitamin D, gilt selection rates were improved.

7% Improvement in gilt selection rates

Figure 3. Effect of Hy•D on farrowing interventions and frequency of post-farrowing complications³

Parameters		Control	Hy•D
Farrowing	Artificial stimulation of uterine contractions	34%	22%
	Palpations of birth canal	14% ^a	0% ^b
Post-Farrowing	Sow fever	31% ^a	11% ^b
	Lack of milk production	5%	0%
Total piglets born		14.9	15.1
Piglets born alive		13.7	13.9
25-OH-D3 in sows' milk (µg/kg)		0.8 ^a	1.1 ^b
Piglet daily gain (g)		247	252

Treatment sows were fed Hy•D in both gestation and lactation. Control: 2,000 IU/kg vitamin D3; Hy•D: 50 µg/kg 25-OH-D3; a,b – significant difference

Key Point

Feeding Hy•D during gestation and lactation reduces the need for farrowing interventions and the frequency of post-farrowing complications.

REDUCED
farrowing interventions and
post-farrowing complications

Figure 4. Effect of Hy•D on birth and weaning weights⁴

	Control	Hy•D
Average parity number	3.56	3.76
Pigs born alive/litter	15.4	15.1
Pigs born dead/litter	1.92	1.73
Mummified pigs/litter	0.38	0.42
Weaned pigs/litter	11.3	11.2
Mean pig weight, lbs.		
Birth	2.9^a	3.1^b
Weaning	16.8^a	17.2^b

a, b Means without a common superscript and significantly different ($P < 0.05$). Treatment sows were fed Hy•D in both gestation and lactation. Control: 2,000 IU/kg vitamin D3; Hy•D: 50 µg/kg 25-OH-D3

Key Point

Feeding Hy•D over two reproductive cycles resulted in heavier pig weights at birth and weaning.

7.7%
Improvement in
birth weights

2.6%
Improvement in
weaning weights

Recommended use directions

Hy•D Premix 62.5 mg/lb.	up to 0.8 lb. Hy•D/ton complete feed
Hy•D Premix 83.3 mg/lb.	up to 0.6 lb. Hy•D/ton complete feed
Hy•D Premix 45.4 mg/lb.	up to 1.0 lb. Hy•D/ton complete feed





How it works is the reason why it works

Metabolizing vitamin D more efficiently

When vitamin D is fed in the diet, it must go through two changes before it reaches the form that can be utilized by the animal. Inefficiencies in the first process reduce the effective amount of vitamin D available to the animal. Feeding Hy•D allows the first stage to be skipped, ensuring optimal levels for utilization compared to traditional vitamin D coming from sunlight exposure, feed ingredients or vitamin D3 supplementation. All the benefits associated with vitamin D are obtained faster and maintained longer by adding Hy•D⁵.

For more information about Hy•D, contact your DSM representative or call customer service at 1-800-526-0189.

STAND STRONG

FOR A LIFETIME OF PRODUCTIVITY

⁵Sugiyama, T., et al. 2013. Effects of 25-Hydroxy-cholecalciferol on the development of osteochondrosis in swine. Animal Science Journal 84, 341-349.
⁶Braná, D., et al. 2012. Nonruminant Nutrition: Vitamins and Minerals. American Society of Animal Science, Journal of Animal Science. Vol. 98, Supp 1. p. 114.
⁷Experimental trial, France, 2011-2012.
⁸Experimental trial, Germany, 2011-2012.
⁹Combs, G. 2008. The Vitamins. Fundamental Aspects in Nutrition and Health. Elsevier Academic Press. 3rd ed.
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DSM10-0617

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