

There's only one Hy•D[®] for lifetime productivity

When it comes to purity, performance and immunity, Hy•D[®] has been helping pigs and producers stand strong for years. As the proven source of pure 25-OH D3 for diet fortification, Hy•D is the fastest and most efficient way to provide pigs with essential vitamin D.



1

As the original pure source of 25-OH D3, Hy•D is a proven, safe and effective metabolite for improving vitamin D status in pigs

7+

Years on the market for swine in North America, with demonstrated safety and research for increasing vitamin D status

100+

Research trials demonstrating the safety and benefits of Hy•D in diets for poultry, swine, and ruminants globally

2.6 Million

Pigs fed Hy•D per year in North America, based on dsm-firmenich actual sales, recommended feeding rates and survey data

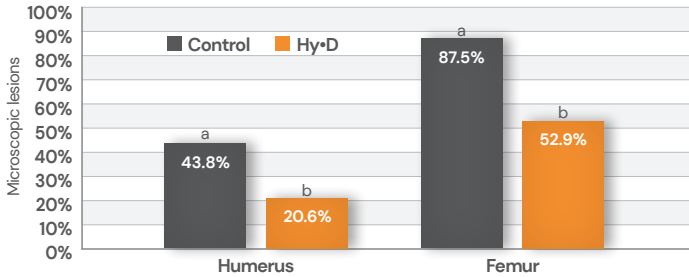
Help your gilts and sows improve lifetime productivity with Hy•D®

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)
- Increases birth and weaning weights³ (Figure 3)

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



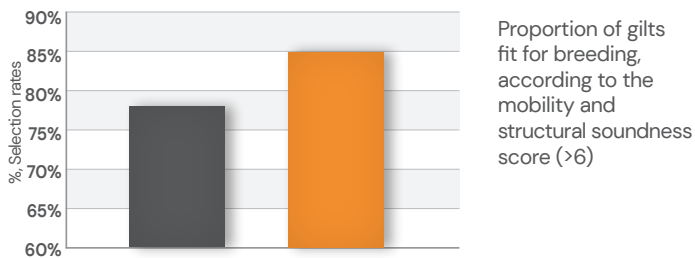
Control: 1,500 – 1,800 IU/KG vitamin D3 by phase:
Hy•D: Control D3 + 50 ug/kg 25-OH D3

Skeletal development

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 scores



Gilt selection rates

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 birth and weaning weights³

	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

^{ab} 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 ug/kg 25-OH D3

More viable pigs

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

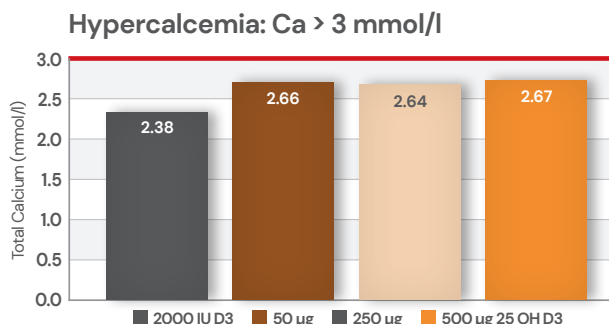
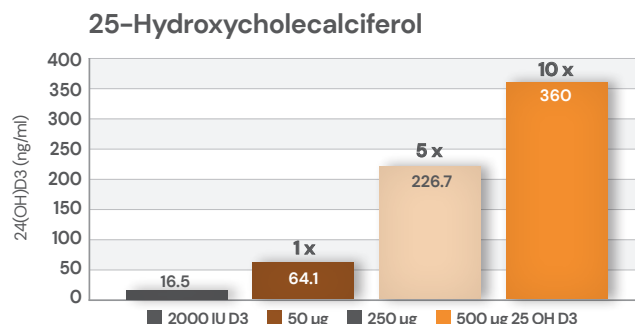
7.7% Improvement in birth weights

2.6% Improvement in weaning weights

Safely improve vitamin D status, performance and bone health with Hy•D®

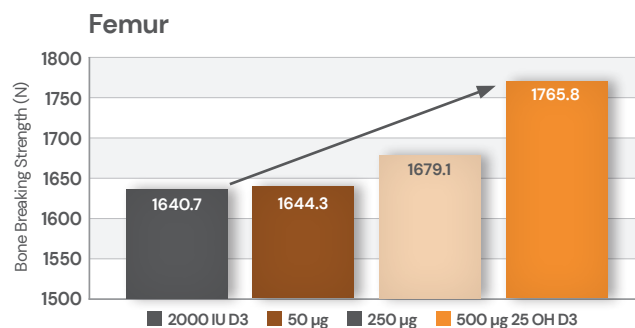
Safety studies show that using HyD at the maximum approved level of 50 mcg/kg diet will provide an optimum status vitamin D status (equal to or > 60 ng 25-OH D3/mL serum).

Hy•D: No risk of hypercalcemia⁴



Even when HyD was fed at 10x higher than the maximum inclusion level, there were no indications of hypercalcemia, either clinically or in serum.

Hy•D: No negative effects on bone health⁴



When Hy•D was fed at 10x higher than the maximum inclusion level, there was no significant differences between bone breaking strength compared to other treatments.

Use recommendations for the U.S. and Canada

- Hy•D 1.25% - concentrated form for use in formulating fortified premixes

Recommended dosages to achieve fortification at 22.7 mcg 25-OH D3/lb (907 IU vitamin D/lb) of complete diet, or 50 mcg 25-OH D3/kg (2,000 IU vitamin D/kg) of complete diet:

- Hy•D Premix 62.5 mg/lb - 0.73 lb/ton of feed, or 363 g/MT of feed
- Hy•D Premix 83.3 mg/lb - 0.55 lb/ton of feed, or 273 g/MT of feed

U.S. Only

- Hy•D Solution - 0.50 oz. per 128 gallons of drinking water (17.2 ppb)

Canada Only

- Hy•D WS - Concentrate: 20 g in 15.8 L of drinking water. Deliver 4L per 30 mL of water. 144 IU per L

Follow us on:



¹Sugiyama, T., et al. 2013. Effects of 25-Hydroxy-cholecalciferol on the development of osteochondrosis in swine. *Animal Science Journal* 84, 341-349.

²Braná, D., et al. 2012. *Nonruminant Nutrition: Vitamins and Minerals*. American Society of Animal Science, *Journal of Animal Science*. Vol. 98, Supp 1. p. 114.

³Experimental trial, Germany, 2011-2012.

⁴von Rosenberg, S.J., et al. 2015. Tolerance evaluation of overdosed dietary levels of 25-hydroxyvitamin D3 in growing piglets. *Journal of American Physiology and Animal Nutrition*, DOI 10.1111/pn.12355.

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