# Structural Issues and Sow Longevity in the Breeding Herd: The HyD® Opportunity

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Hy•D®

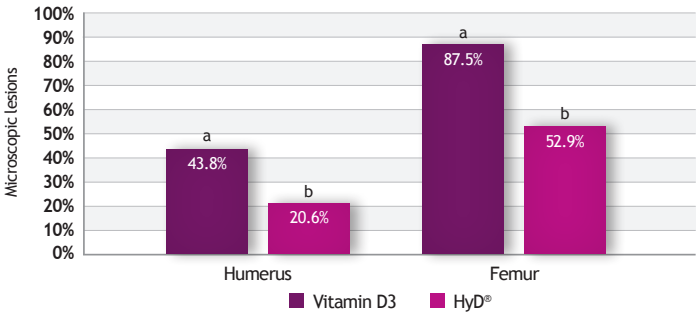
## HyD and Gilt Development

Successful swine herds are dependent on the next generation of females, with optimal skeletal development in gilts being a major goal. This includes the formation of adequate cartilage and bone matrix necessary for proper feet and leg conformation. And more fundamentally, sufficient vitamin D activity is essential for rapid cell differentiation during early bone formation because this is ultimately correlated with gilt mobility scores and gilt selection rates in swine herds.

Better bone development increases the number of high quality replacement gilts available at the time of replacement selection. The combination of a stronger skeletal frame and the maximization of pre-breeding vitamin D levels and mineral reserves is needed to reduce the culling rate associated with lameness in first-litter gilts and parity 1 sows.

Feeding HyD enables gilts to maintain optimum levels of vitamin D during this critical developmental period. The addition of HyD to feeds can also reduce osteochondrosis lesions in the late finishing period compared to vitamin D3, according to research (Figure 1)[1]. HyD can be a valuable tool in comprehensive gilt development programs because it promotes bone calcification and quickly elevates vitamin D status[2].

**Figure 1: Effect of HyD® on the development of osteochondrosis in growing swine[1]**




When HyD was added to the normal levels of vitamin $D_3$, the incidence and severity of osteochondrosis lesions were significantly reduced.

## HyD, 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 productivity capacity over successive parities is fundamental to sow profitability. The cost of gilt and sow development won't be covered until their 3rd or 4th parity, and those that aren't "paying for themselves" add cost to weaned pigs. Lameness issues are one of the major reasons for culling and technologies such as HyD, which can help animals maintain their structural soundness, can result in greater longevity and lifetime productivity.

The ability of HyD to maintain an optimum vitamin D status helps to improve structure and mobility scores, resulting in increased selection rates of quality gilts for the breeding herd (Figure 2). Reductions in the number of sows experiencing difficulties at farrowing have also been associated with HyD[3].

In addition to sow productivity improvements, an optimum herd parity structure has influence on pig finishing costs. Pigs from P2+ sows experience lower mortality and convert feed more efficiently, another unseen benefit to reduced replacement rates.

Greater longevity in the sow herd leads to increased productivity and profitability, and this starts with gilt development. HyD can be a tool in reaching this goal.



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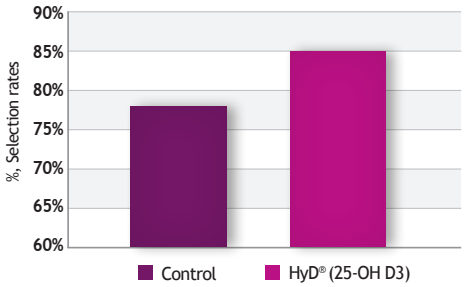
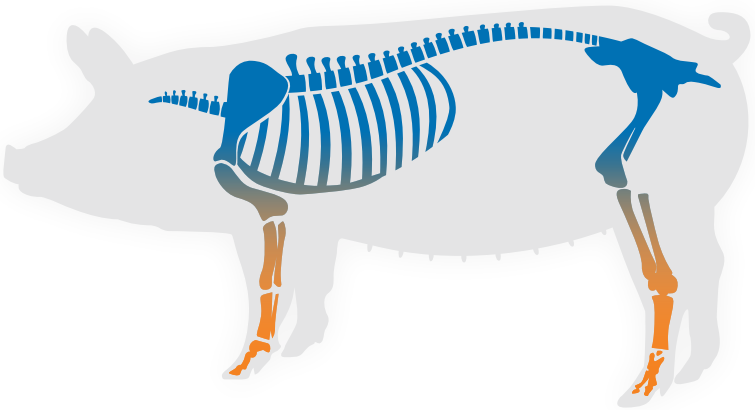
## Figure 2: Effect of HyD® on gilt development[4] — Selection rates based on mobility and structure scores




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

- Feeding HyD resulted in improved body weight gain, feed efficiency, bone ash, and structural soundness scores after 168 days of age compared to the Control
- The selection rate for replacement gilts was improved for those fed HyD

**Hy•D®** can be a valuable tool in comprehensive gilt development programs because it promotes bone calcification and quickly elevates vitamin D status.



[1]Sugiyama, T., et al. 2013. Effects of 25-hydroxy-cholecalciferol on the development of osteochondrosis in swine. Animal Science Journal 84, 341-349.
[2]Lauridsen, et al. 2010
[3]Meuter, A., et al. 2016.Effet d'une supplémentation en 25-hydroxycholécalciférol sur les performances des truies gestantes et allaitantes et de leurs portées. Journées Recherche Porcine. 48, p. 153-154.
[4]Brana, D., et al. 2012. Nonruminant Nutrition: Vitamins and Minerals. American Society of Animal Science, Journal of Animal Science. Vol. 98, Supp 1. p. 114.





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