Hy•D® FOR FEEDLOT CATTLE RECEIVING PROGRAMS

Vitamin D benefits in cattle

Active vitamin D has many functions inside growing cattle:

- Calcium and phosphorus absorption
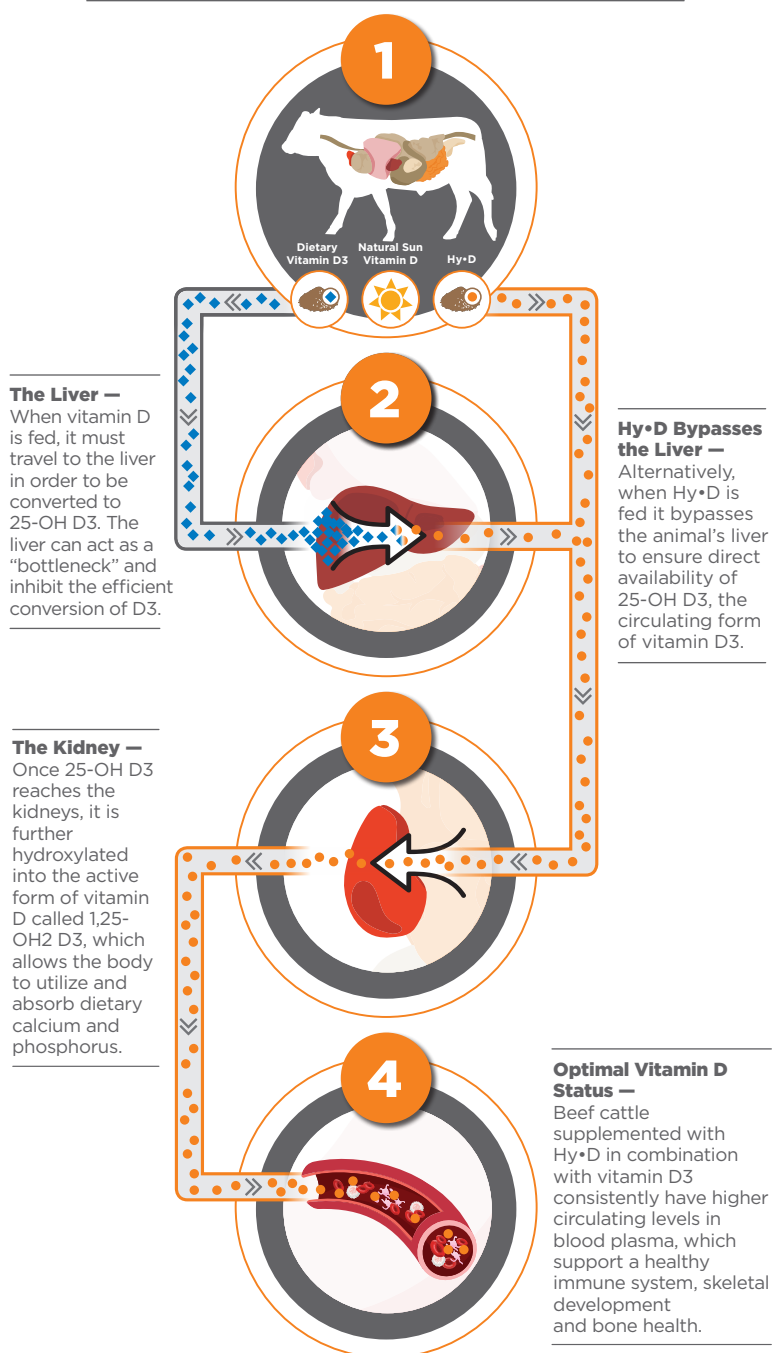- Skeletal development
- Immune support

There are two main sources used to help provide vitamin D to cattle: sunlight and vitamin D3 supplementation. Sunlight alone is not sufficient, and vitamin D3 undergoes many changes until it reaches a form that can be used in the animal's diet. These changes reduce its effectiveness.

Hy•D for beef cattle: A new solution for calcium management

Hy•D is a pure and proprietary vitamin D metabolite called 25-OH D3. A unique mode of action eliminates the need for conversion in the liver, thus directly providing the main circulating form of vitamin D. This allows for *faster, more consistent absorption of vitamin D* (see graphic) which supports immune function and VDRs (Vitamin D Receptors) in extra-renal tissues. No amount of sunshine or D3 can support these functions.

Unique Mode of Action for Faster, More Efficient Absorption

1

Dietary Vitamin D3   Natural Sun Vitamin D   Hy•D

The Liver — When vitamin D is fed, it must travel to the liver in order to be converted to 25-OH D3. The liver can act as a "bottleneck" and inhibit the efficient conversion of D3.

2

Hy•D Bypasses the Liver — Alternatively, when Hy•D is fed it bypasses the animal's liver to ensure direct availability of 25-OH D3, the circulating form of vitamin D3.

The Kidney — Once 25-OH D3 reaches the kidneys, it is further hydroxylated into the active form of vitamin D called 1,25-OH2 D3, which allows the body to utilize and absorb dietary calcium and phosphorus.

3

4

Optimal Vitamin D Status — Beef cattle supplemented with Hy•D in combination with vitamin D3 consistently have higher circulating levels in blood plasma, which support a healthy immune system, skeletal development and bone health.

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Hy•D is proven in multiple species around the world

- Used in numerous countries around the globe
- Improves vitamin D status in swine, poultry and dairy

Hy•D helps beef cattle thrive

Better calcium and phosphorus retention

Improves vitamin D status

Supports immune system
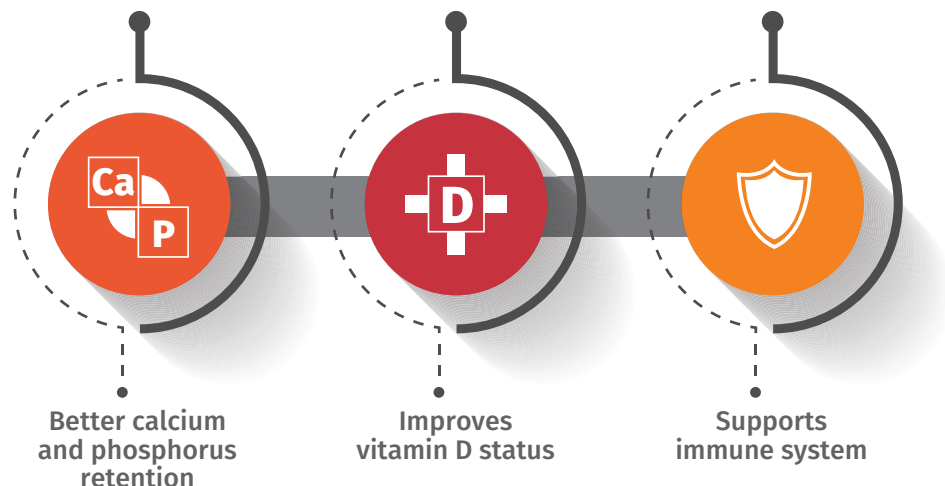
Hy•D nearly doubles calcium and phosphorus retention compared to control[1]

Calcium and phosphorus retention with and without Hy•D

		Hy•D	Control
Calcium (g/d)	Feed	66.4	65.7
	Feces	55.8	60.7
	Urine	2.5*	0.9
	Retained	8.1*	4.1
Phosphorus (g/d)	Feed	26.4	26.1
	Feces	17.2*	20.4
	Urine	1.1	0.9
	Retained	8.0*	4.9

*Means bearing an asterisk differ ($P < 0.05$)

When and how to feed Hy•D

- Should be fed to feedlot cattle in receiving programs
- 0.5 mg (20,000 IU) per 600 lb steer

[1] McGrath J, Savage D, Nolan J and Elliott R (2012). Phosphorus and calcium retention in steers fed a roughage diet is influenced by dietary 25OH-vitamin D. Journal of Animal Production Science 52(6-7), 636-640.

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