Date: September 8th 2021

Bailey's Bit About Nutrition

Milk Fever

Milk fever, also known as hypocalcemia is a common bovine metabolic disorder resulting from calcium deficiency. Cows usually experience milk fever when approaching calving or just after calving. Calcium demand for a cow starting lactation is almost double compared when she was not lactating and pregnant. Around calving, blood-calcium levels may drop below the normal range leading to homeostatic failure.

Calcium deficiency results in:

- Reduced smooth muscle tone and contractility of the gastrointestinal tract and the cardiovascular system.
- Reduced muscle tone in uterus causing retained placenta, metritis and endometritis.
- Reduced sphincter muscle tone at the teat end leading to milk leakage and entrance of bacteria causing mastitis.

With reduced calcium level, we also see reduction of appetite, an intensive negative energy balance, a high risk of ketosis and abomasum displacement. The blood calcium level is regulated and controlled by the parathyroid hormone and the production of 1,25-dihydroxycholecalciferol from vitamin D3.

Preventing Milk Fever

The best way to prevent milk fever is through a proper diet. During the dry period it is very important the cows gets the proper nutrition to recover from lactation and put nutrients and energy into her growing calf. Lactating cows are fed high calcium diets, but dry cows should not be fed the same diet. Dry cow diets should significantly drop the level of calcium fed. By continuing to provide more calcium than needed via diet, the parathyroid that is responsible for calcium mobilization goes into a dormant stage. Then when the body calls for high calcium levels at freshening, the parathyroid struggles to snap out of this latent stage to meet demand. During the dry period, don't feed high calcium mineral supplements or feed legume rich grass hay that is high in calcium. By being slightly calcium negative, her parathyroid doesn't go into that dormant stage to begin with. This means that the cow's body is already active in needing calcium and can more easily mobilize the calcium in her body and ramp up production.

Milk fever stage	Description	Signs and symptoms
Stage I	Early stage subclinical	Loss of appetite, nervousness, hypersensitivity, weakness, and shuffling of the hind feet.
Stage II	Subclinical	Lying down with head outstretched or laid in the flank, moderate depressed, coordination disorder, trembling muscles, constipation and a fast heart rate.
Stage III	Clinical	Lying flat on the ground, severely depressed, progressive loss of consciousness, comatose, death

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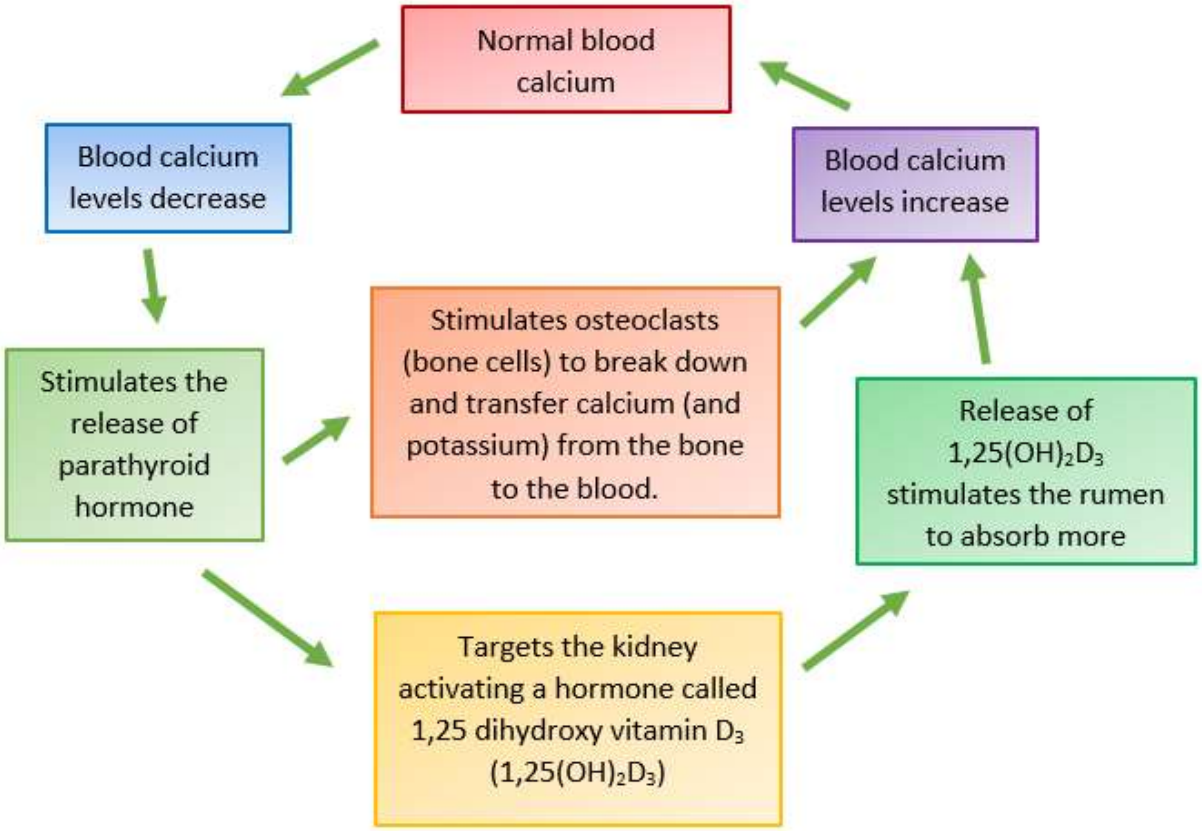
Regulation of blood calcium levels



Product of The Week

"O" D-R-R-R-Y Cow

Making sure cows during the dry cow period have the proper nutrition can prevent milk fever. "O" D-R-R-R-Y Cow is a mineral and vitamin product specifically formulated for dry cow nutrition programs. This mineral provides balanced calcium and phosphorus source designed to complement late-maturing and grass-blend forages typically fed to dry cows. It also contains Icelandic kelp as a source of over 60 trace minerals and vitamins. This mineral helps promote reproductive health, hoof health and immune system function. It contains yeast culture to help stabilize rumen fermentation and help the rumen recuperate and regenerate for the next lactation. This mineral meets daily trace mineral and vitamin needs, including vitamins A, D3, E and B complex. It contains selenium derived from selenium yeast to help support the immune system.