

NUTRACEUTICALS



What is a Nutraceutical?

The term nutraceutical comes from combining the words “nutrition” and “pharmaceutical,” and can be defined as “a food or part of a food that provides medical or health benefits.” Although the term is relatively new, the concept behind it is not.

Types of Nutraceuticals

Vitamins play an important role in metabolism and enzyme systems. Rumen bacteria provide some nutrients, while other vitamins can be incorporated into diets to provide health benefits.

- B Vitamins, which are produced by the rumen, are important in enzyme function, nerve function and metabolism
- Vitamin A can assist with reproductive function and help to maintain mucous membranes
- Vitamin D is important for calcium metabolism; it aids in the treatment and prevention of milk fever

Minerals are important for immunity, reproduction and growth.

- Selenium (Se): Widely used; shown to improve immune function and uterine health, and to increase pregnancy rates
- Copper (Cu): Incorporated into most milk replacers to aid in prevention of decreased immune function, diarrhea, reduced weight gain and discolored hair coat

Fats are becoming more commonplace in nutraceutical products because some have shown benefits in reproduction, production and relief of heat stress.

- Omega 3 and Omega 6 Fatty Acids: Can increase dry matter intake postpartum, increase milk production, decrease milk fat content and improve reproductive performance
- Conjugated Linoleic Acid (CLA): Can reduce inflammation, metabolic disease and infectious disease in the postpartum period when fed to periparturient cows

Antioxidants help prevent or stop cell damage caused by oxidants. Oxidants are free radicals that can be found in the environment, but they are also produced when the body is fighting off viruses and microbes. Vitamins C and E are the most widely recognized antioxidants.

- Vitamin C:
 - Stimulates recovery from acute mammary inflammation which reduces somatic cell counts
 - Improves calf health by decreasing navel infections, pneumonia and scours
 - Adequate colostrum intake can increase short-term stores of this vitamin because colostrum contains high levels
- Vitamin E:
 - Aids in immune function and mastitis prevention
 - Rations around freshening are fortified with higher amounts of Vitamin E to maximize this effect



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Prebiotics & Probiotics

The use of prebiotics and probiotics in animals has been shown to aid in digestion and immune function. Think of the rumen as a fermentation vat. Without the right population and balance of microbes, the fermentation process goes awry. The same is true of the cow rumen. If the microbes in the rumen are not balanced, the health of the animal can falter.

Probiotics or Direct-Fed Microbials (DFMs) are living organisms, like bacteria and yeast. They are commonly used in the following circumstances:

- After antibiotic treatment to help re-establish the gut microflora, because the antibiotics kill both good and bad bacteria
- To help with a fresh cow's transition period
- To establish a calf's good microflora and potentially outcompete infectious bacteria
- To assist in reducing disease incidence in pre-weaned calves
- To increase growth rates

Prebiotics are nondigestible sugars that can act as a nutrient source for the good bacteria/probiotics or help protect against bad bacteria. This allows the probiotics to grow in a more favorable environment, which can reduce the chance of harmful bacteria growing there.

- Mannan oligosaccharides (MOS) are the most common prebiotics. MOS do not feed the probiotics. Instead the bad bacteria are attracted to them, which helps the body to pass them, thus preventing them from colonizing the GI tract and causing disease.

Products

VFD FREE

Effective January 2017, the FDA changed the guidelines regarding antibiotics in feed or water. Antibiotics labeled to go into the water require a prescription, while antibiotics that go into the feed now require a Veterinary Feed Directive (VFD).

Due to the ruling, many producers are looking for alternatives to VFD products. Because nutraceuticals can help boost a calf's immune system, they can be a good option for producers who are looking for ways to prevent disease in their herd.

Armor Animal Health offers a variety of immunity-boosting products including vitamin and mineral supplements, nutraceuticals, prebiotics and probiotics. These products are available in many formulations including powder, liquid, gel, paste, capsule or bolus. Some can be used to promote the health of calves, cattle and other animal species; while others target specific conditions such as scours. Read labels carefully.

Note: Although Nutraceuticals help provide a safer food supply by allowing for decreased antibiotic use at the farm level, always be sure to do some research and consult your veterinarian before incorporating new products into your protocols.



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