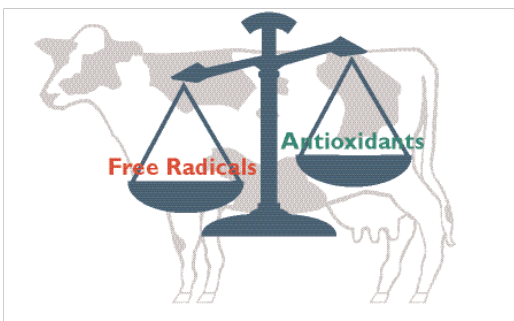


OXIDATION



The oxidation of iron or steel (rust) is a form that is most familiar.

Oxidation is a key natural process. It is essential for normal metabolic processes at the cellular level and for key immune system functions.



Animals maintain an internal balance between oxidants and natural antioxidants. When an imbalance between free radicals and antioxidants occurs, an oxidative chain reaction can occur. This directly affects animal health and productivity in two ways:

Directly: Peroxidative damage to lipids and macromolecules.

Indirectly: Changes in cellular membrane can modify metabolic pathways with altered physiology and pathology.

TO LEARN MORE

For more information on AGRADO Plus and other Novus products, contact your Novus sales representative or call 314-576-8886.



REDUCING OXIDATIVE
STRESS TO MAXIMIZE
PERFORMANCE



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PERFORMANCE THROUGH INNOVATION

CAUSES OF OXIDATIVE STRESS

- Disease challenge and immune response
- Compromised antioxidant capacity in the animal
- High metabolic demands
 - Calving
 - Initiation of lactation
 - Milk production
 - Fat mobilization
 - Environmental conditions
- Dietary free radicals



Antioxidants are widely recognized in human nutrition and medicine. Today's dairy diets contain high levels of animal and vegetable fats. Sophisticated diets even balance for rumen bypass fat as well as specific fatty acid profiles. These fats are highly susceptible to oxidation. Up to one third of the energy profile of these fats may be destroyed by oxidation. Worse yet, a cascade of free radicals can destroy fat-soluble vitamins.

You may be paying for ingredients that your animals can't utilize. Those same ingredients may be exacerbating the problem by releasing additional free radicals. Rather than improving performance, oxidized ingredients will cost you performance.



USING AGRADO PLUS IN YOUR TMR:

- Prevents the formation of harmful oxygen free radicals, peroxides, aldehydes, ketones and other secondary oxidation products that damage ingredients and attack cellular structures in the GI tract.
- Maintains the energy level and nutrient profiles of the TMR.
- Protects against oxidative loss of fat-soluble vitamins and pigments.
- Preserves natural antioxidants such as Vitamins A, E, and carotenoids, allowing them to be available for absorption and utilization in critical metabolic processes.

KEEP THE OXIDATIVE STRESS SCALE BALANCED



AGRADO Plus is not a drug or a hormone. It contains the first FDA approved antioxidant that may be used in the TMR of lactating dairy cows. AGRADO Plus is a proprietary blend of antioxidants with superior efficacy against both animal and plant sourced fats. By maintaining the integrity of key nutrients, AGRADO Plus helps control oxidative stress in the animal so cows utilize all of the ingredients you are paying for. This leads to more efficient, higher production.

USING AGRADO PLUS

Mix AGRADO Plus with your micro-ingredients into your TMR at the following rates:

Dry Granular

- Dairy Cattle
5.8 g/hd/d for lactating dairy cattle consuming 50 lb/d dry matter
- Beef Cattle
2.2 g/hd/day for growing cattle consuming 18 lb/d dry matter

Liquid

- Dairy Cattle
4.6 g/hd/d for lactating dairy cattle consuming 50 lb/d dry matter
- Beef Cattle
2.2 g/hd/day for growing cattle consuming 18 lb/d dry matter