

TECHNICAL BULLETIN

COW/CALF



TRACE MINERALS IN THE COWHERD



Providing a balanced nutrition program to the cowherd is important to maximize herd productivity. Often times, cow/calf producers rely on the use of high forage diets to maintain the cowherd and develop replacement animals. These forage-based diets when fed alone, do not provide adequate levels of minerals to support optimal reproduction, immunity, lactation, and growth (Corah and Ives, 1991; Anstegui et al., 1994).

At least 17 minerals are required by the cowherd. These minerals are broken into 2 groups; macro and micro minerals. Macrominerals are expressed as a percentage in a supplement and will fluctuate as cattle transition through various stages of production. Micro minerals are required in smaller quantities and listed as parts per million in the supplement. Unlike macro minerals, micro minerals do not fluctuate based on the stage of production.

Macrominerals required by beef cows are calcium (Ca), phosphorus (P), magnesium (Mg), potassium (K), sulfur (S), and the components of salt – sodium, and chloride. Micro minerals required by the cowherd are chromium (Cr), cobalt (Co), copper (Cu), iodine (I), iron (Fe), manganese (Mn), selenium (Se) and zinc (Zn). Each of the required minerals are involved in multiple physiological functions shown below (NRC, 2000). Mineral deficiencies, toxicities and imbalances have been associated with depressed immune responses, decreased conception rates, abortion, reduced milk and colostrum yield, and decreased feed efficiency (NRC, 2000).

Function	Mineral
Fertility	P, Cu, Zn, Se, Mn
Bone Development	Ca, P, Mg, Mn, Cu
Muscle Development	P, S, Zn, Se
Milk Production	Ca, P, Mg, Zn
Skin Health	Zn, Cu, Mn
Hair Coat	Cu, Zn, Se
Appetite	Mg, K, Zn, Co
Nervous System	Mg, P, Cu
Fetal Development	Cu, Zn, Mn, Se
Disease Resistance	Cu, Zn, Mn, Se

Adapted from NRC, 2000

When developing an effective mineral supplementation program for the cowherd, many variables should be considered. Such variables may include environmental conditions, management practices, forage type, water quality, genetics, and stage of production (Green et al., 1999). These variables may play a role in dietary requirements and/or mineral absorption efficacy.

Providing adequate amounts of essential minerals is critical in maintaining herd health, reproductive efficiency, and calf performance. QLF liquid supplements and Ignite tubs are an effective way of providing readily available forms of macro and micro minerals to the cowherd. Contact your local QLF representative for more information regarding these supplements.

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