

Multimin PUTS MICRO MINERALS ON THE MAP!

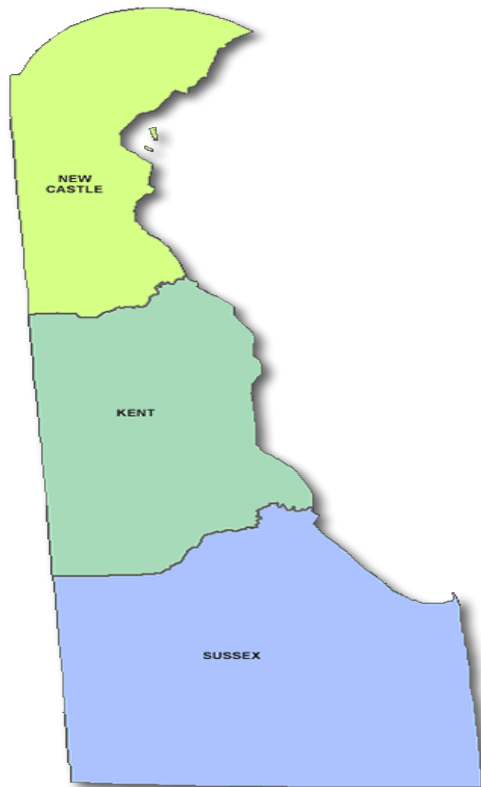
DELAWARE – Micro Minerals (Cu, Mn, Zn, Se) in Cattle:

Surveys done in the USA suggest that nearly all forages are deficient in one or more minerals and that there is a widespread occurrence of the deficient levels of copper and zinc for beef cattle grazing forages. Low availability of trace minerals may also play a role in deficiencies. Soil mineral level, soil pH, climatic conditions, plant species, and stage of plant maturity all factor into the trace mineral content and bioavailability for forages.

Legumes are usually higher in calcium, copper, zinc, iron, and cobalt than grasses. In contrast, grasses tend to be higher in manganese and molybdenum than legumes when grown on the same soil. Research has shown that even variety within a species affects mineral composition.

Forage trace mineral concentrations are more affected by maturity than that of grains. Generally, there is a rapid uptake of mineral during early growth and gradual dilution as the plant matures. Cobalt, copper, iron, molybdenum, and zinc are the most common minerals affected by plant maturity.

Copper, manganese, and zinc tend to be bound in plant tissues and are less susceptible to leaching than minerals like potassium and phosphorus. As forages stand through to fall and winter, typically leaves and seed heads will be lost and these portions of the plant often contain greater concentrations of the trace minerals than the stem. Consequently, the mineral concentration of standing forage usually decreases due to a change in leaf to stem ratio.



Cattle with trace mineral deficiencies often show no clinical signs until they are severely deficient, but a chronic deficiency inhibits performance and decrease production.

Clinical signs of copper deficiency include:

- Immune suppression – disease breakouts and failure to respond to vaccination
- Rough, red dull hair coat
- Anemia

Clinical signs of selenium deficiency include:

- Muscle degeneration (white muscle disease)
- Reproductive failure
- Immune suppression

Clinical signs of manganese deficiency include:

- Bone abnormalities
- Reduced growth rate
- Reduced fertility

Clinical signs of zinc deficiency include:

- Compromised hoof integrity
- Bull reproductive failure
- Anorexia and weight loss esp. in calves

Where does Multimin fit in?

- Multimin provides zinc, manganese, copper and selenium in a readily available form as an injection.
- Multimin rapidly increases trace mineral status of animals.
- Multimin rapidly increases liver storage of trace minerals following injection.
- Multimin bypasses antagonists in feed, forage, distillers grain and drinking water that can reduce the absorption of these critical trace minerals.

Reference :

Kinser A. The importance of trace mineral nutrition.