

Multimin PUTS MICRO MINERALS ON THE MAP!

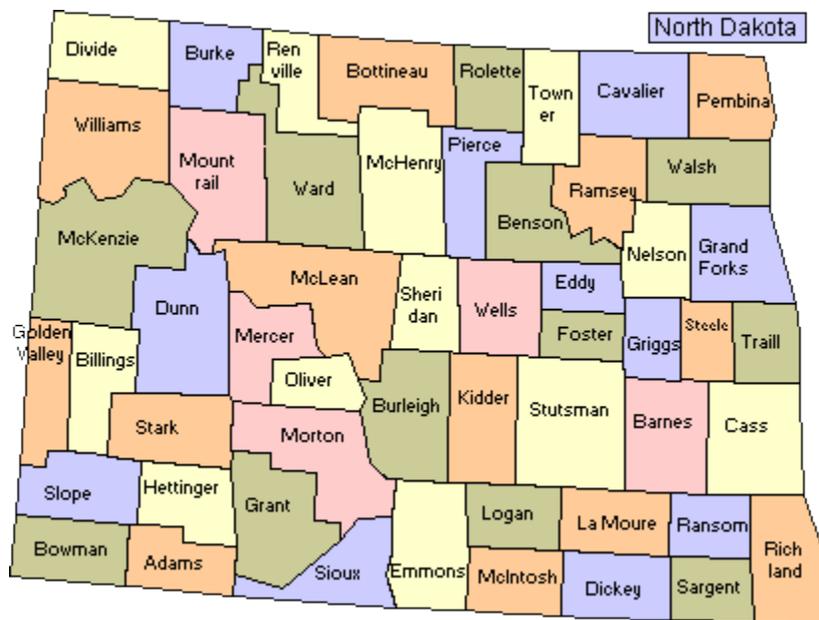
NORTH DAKOTA – Micro Minerals (Cu, Mn, Zn, Se) in Cattle:

Typically, primary Cu deficiencies (deficiencies that result from low dietary copper) are rare in the northern United States; however, many forages in North Dakota are low in Cu. As a result, producers commonly supplement the forages. Deficiency signs include lighter or faded hair coats, reduced conception rates, severe diarrhea, and brittle bones and reduced immune response.

Many soils contain approximately 1.5 ppm Mo, which is adequate in meeting the animal's needs. If a soil is alkaline (> 7.0, pH) or is high in Ca (> 1.5 percent), Cu availability is reduced. As a result, the Cu: Mo ratio can be altered and Cu supplementation may be needed. Semiarid regions, such as North Dakota, tend to be more alkaline

Toxicities and deficiencies are very dependent on soil composition. In the north-central United States, soil Se content is relatively high (> 2 ppm). As with Cu, Se levels in the soils and plants are greater in arid regions with high Ca content in the soil. In some of these regions, toxicities ("blind staggers," sloughing of hooves and hair, anorexia and a wide range of birth defects) can develop

When cattle are fed forage-based diets or when cattle are stressed, producers may need to provide Zn supplementation.



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 :

Ward M, Lardy G. Beef cattle mineral nutrition.