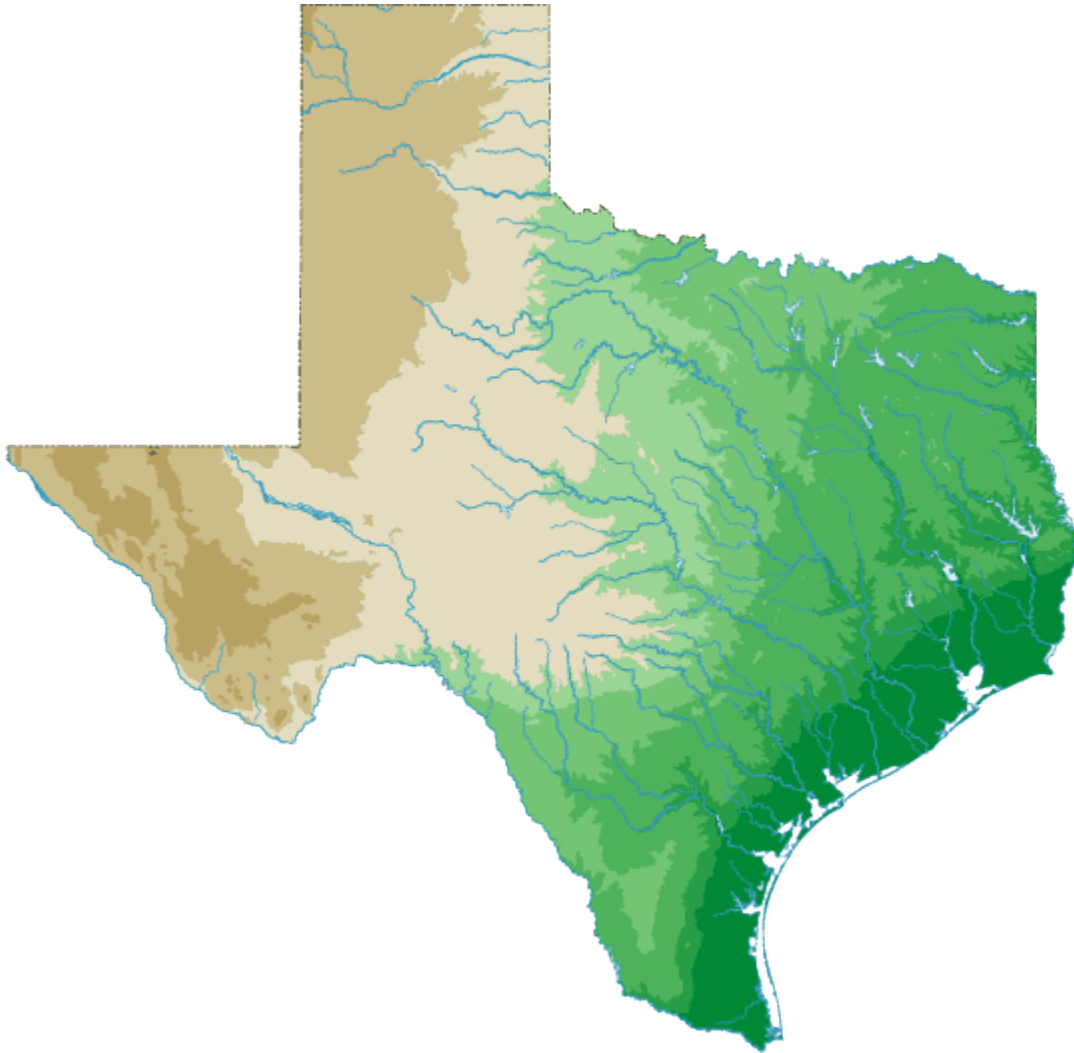


## Multimin PUTS MICRO MINERALS ON THE MAP!

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



Hardt et al reported that 76% of bermudagrass samples tested in Texas were deficient in copper and that half of these samples contained more than 0,3% sulfur. 35% of native forage samples in Texas were high in iron. Sulfur and iron are known antagonists of copper absorption. 97% of bermudagrass and 98% of native forages contained zinc levels below the recommended levels of 40ppm.

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 :

Daugherty S.R., Carstens G.E, Herd D.B., Barling, Randel R.D. Effects of prenatal and prebreeding trace mineral/vitamin E injections on calf health and reproductive performance of beef cows.

