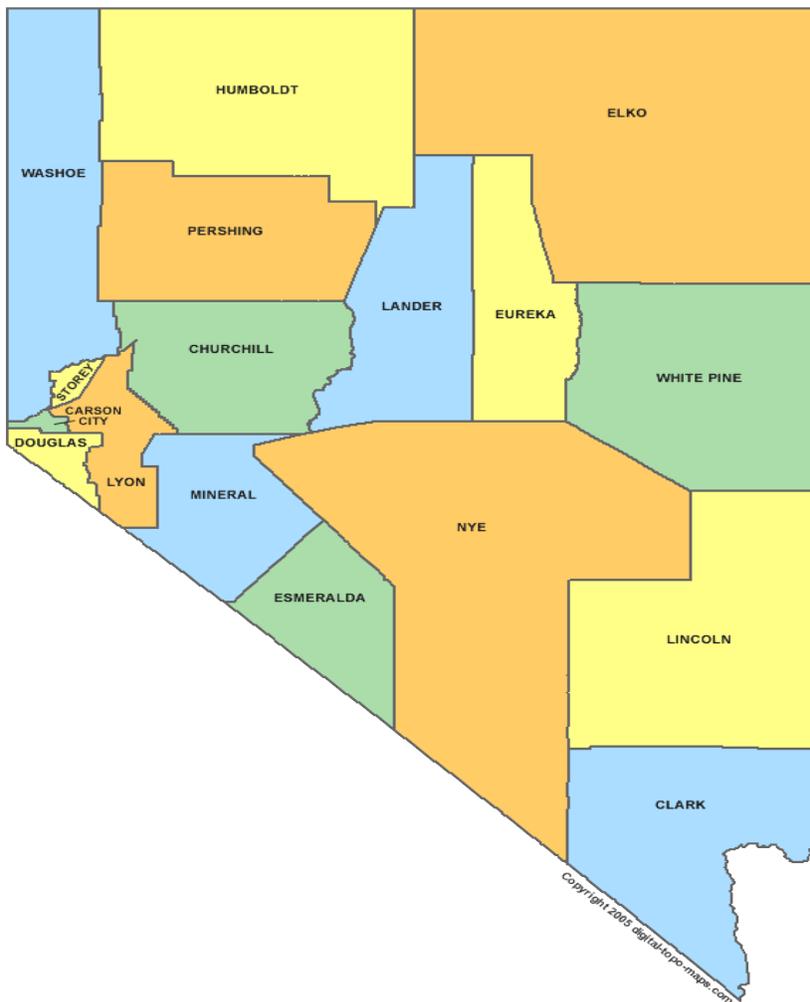


## Multimin PUTS MICRO MINERALS ON THE MAP!

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

Many types of forage across the U.S. are unable to supply adequate amounts of trace minerals to grazing beef cattle. Widespread analyses of forages for trace mineral concentrations have been compiled from across the U.S. by the National Animal Health Monitoring Service (NAHMS). Based on these data, researchers concluded that typical forage diets for cow/calf operations across the U.S. may not be adequate in zinc (Zn) and are marginal in copper (Cu). A reduction in the availability of Cu may also occur if forage contains Cu antagonists such as iron (Fe) and/or molybdenum (Mo). When data from all NAHMS forage samples were summarized, manganese (Mn) was adequate in 76.0% of samples, Zn was adequate in only 2.5% and 49.7% of samples were marginal in Cu. Relative to Cu antagonists, 9.2% of samples were very high in Mo, and 11.7% of samples were very high in Fe. These data indicate that many beef cows in the U.S. are not receiving adequate amounts of trace minerals via the forages they are consuming.



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 :

Washington State University – Should I be supplying trace minerals to my beef cows?