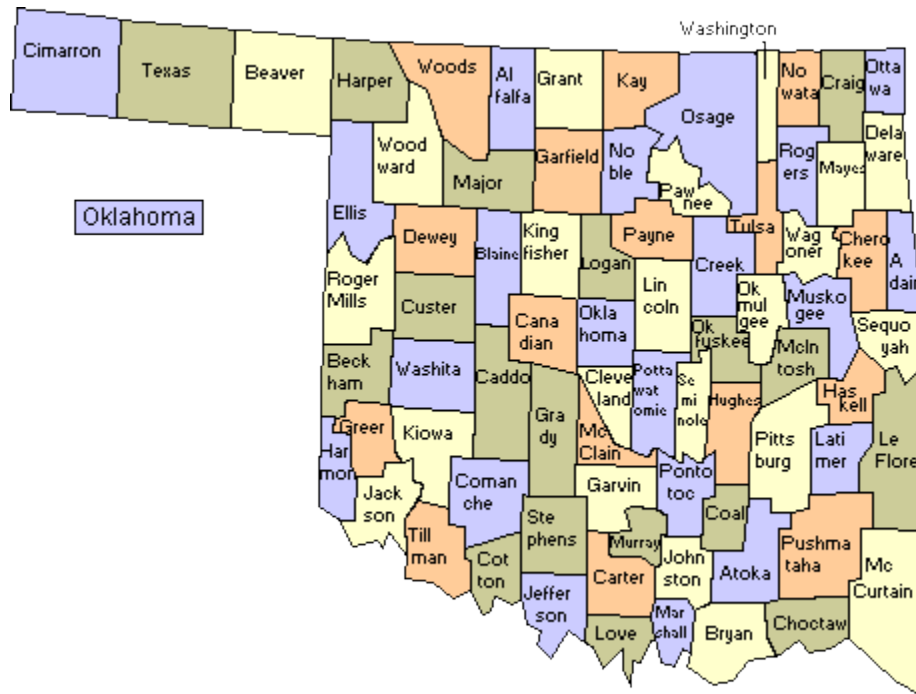


Multimin PUTS MICRO MINERALS ON THE MAP!

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



As a general rule, Oklahoma forages do not have severe mineral deficiencies or high levels of mineral antagonists compared to forage in many other states, however, forage trace mineral concentration is extremely variable and area specific mineral problems in Oklahoma have been identified. Most grasses common to Oklahoma are marginal to deficient in copper and zinc. Good quality legume-based forages require zinc supplementation depending on the amount of this type of hay provided in the total diet. Fescue forage is usually marginal to deficient in selenium and bermudagrass forage is marginal in selenium. During a survey done by OSU it was found that copper concentration of stockpiled bermudagrass forage was well below the NRC suggested requirement and concentration declined by 20% between Nov and March. Note that these values are averages and that there are variations from area to area. Therefore producers must make certain the beef cattle receive supplementation of trace minerals at critical times of growth, production and reproduction.

To summarize, the trace minerals that are most likely to be deficient for cattle grazing moderate to low-quality Oklahoma forage are phosphorous, potassium (for cattle grazing dormant standing forage), copper and zinc. Supplementation of manganese and selenium may also be necessary and magnesium supplementation may be needed in spring.

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 :

Lalman D. Vitamin and mineral nutrition of grazing cattle. Sept 2004.

