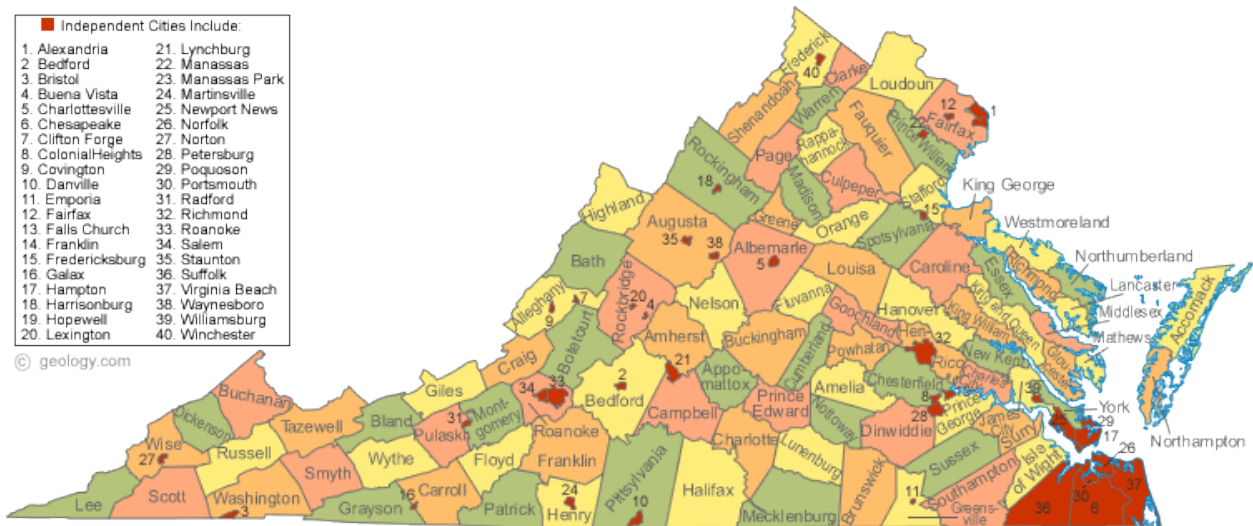


## Multimin PUTS MICRO MINERALS ON THE MAP!

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

The forage content of Se and I usually are inadequate in the Northeast. Other minerals, such as Zn and Cu, are frequently inadequate. These minerals should be provided to cattle. The results of a NAHMS survey indicated that the trace element most commonly deficient in forages in the 18 states sampled was zinc. Copper and cobalt levels were adequate in 36 and 34.1 of the diets respectively. In contrast, manganese levels exceeded 40 ppm in 76% of the samples, and was only deficient (below 20 ppm) in 4.7% of the samples collected. Antagonists such as iron and molybdenum were in the marginal or high classification for 28.7% and 57.8%, respectively, indicating that both of these elements are often present in levels that can cause a reduction in copper availability.



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 :

Rayburn E.B. Forage quality- minerals

Forage analyses from cow / calf herds in 18 states. Beef CHAPA Cow / calf health and productivity audit.