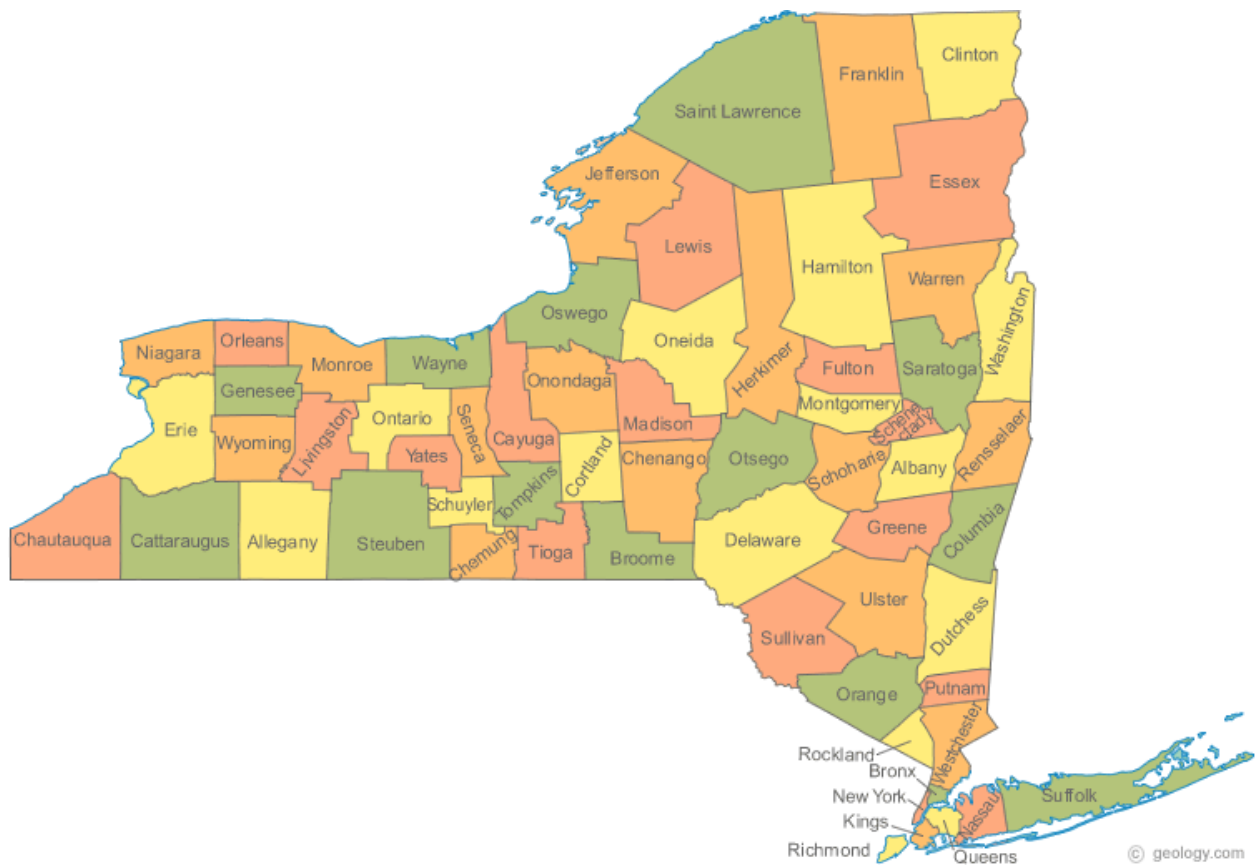


Multimin PUTS MICRO MINERALS ON THE MAP!

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

The soil of much of Western and Central Oregon, and parts of Washington, is quite deficient in selenium. The area around the Great Lakes and much of the Northeast part of the United States is also low. This means that forages grown in these areas are also generally low in selenium, so animals fed on them can develop deficiencies. In the United States, copper deficiencies are most common in Florida, Wisconsin, Michigan and New York where fruit and vegetables are grown. Manganese content of feedstuffs is variable and usually higher than the animals' requirement, but excess manganese supplementation does not create a problem because it is relatively non-toxic and has a wide margin of safety. Zinc is often deficient in forage-based diets. Other divalent cations (calcium, copper, manganese, iron) when found in the diet in excessive amounts can increase the requirement for zinc due to a reduced bioavailability. Diets containing excessive amounts of iron, molybdenum and sulfur result in significant increases in the requirement of copper and diets containing excessive amounts of copper will result in an increased requirement of zinc.



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 :

Krebs W. Selenium: What does it do and why should I supplement

Power J.F., Prasad R. Soil fertility management for sustainable agriculture.

Greene L.W, Johnson A.B., Paterson J., Ansotegui R. Role of trace minerals in cow-calf cycle examined