

GemStone® Mn 210 - Manganese Amino Acid Complex

... superior technology for today's nutritional challenges.

Guaranteed Analysis:

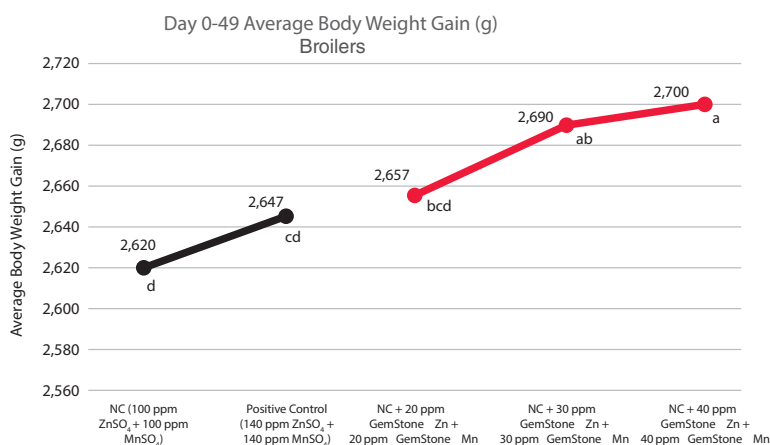
Manganese (Mn) min.....21.00%

Importance of Manganese in Animal Nutrition:

- Manganese is a functional component of many enzyme systems, including those involved with carbohydrate, protein, and lipid metabolism.
- Manganese is a component of the matrix of bone and essential for reproductive function.
- Manganese is necessary for utilization of biotin, vitamin B1, and vitamin C.

Typical Manganese Deficiency Symptoms in Animals:

- Abnormal skeletal growth/paralysis
- Poor reproductive performance
- Small, weak offspring
- Increased fat deposition
- Reduced milk production
- Poor egg shell formation
- Slipped tendons in poultry



Means with different superscripts are significantly different ($P < 0.05$)
NC = Negative Control

(AHPHARMA, 2014-2)

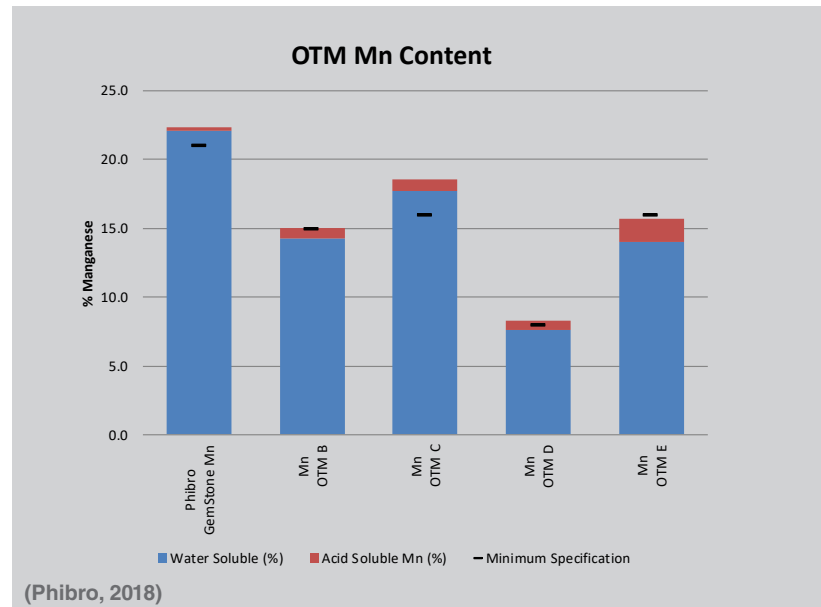
Feeding Recommendations (GemStone Mn 210)

Dairy Cattle	0.95 grams per head daily
Beef Cattle	0.95 grams per head daily
Broilers, Laying Hens, Turkeys	175 grams per US ton (192 grams per metric ton) of complete diet
Swine	80 grams per US ton (88 grams per metric ton) of complete diet
Horses	0.95 grams per head daily
Sheep	0.2 grams per head daily



Highly Concentrated

- Highest total manganese content
- Highest water soluble manganese
- Fastest dissolution rate
- No insoluble carriers



Consistency & Quality

- Similar particles size distribution
- Particle size provides uniform distribution and minimize segregation
- Desirable flow characteristics
- Lower dusting

