



Reviewed by the AAEP Horse Owner Education Committee in 2025

Trace Mineral Supplementation for Horses

Introduction: Trace minerals play a crucial role in maintaining a horse's overall health, performance, and wellbeing. While only needed in small amounts, they are essential for many physiological functions, such as immune system support, bone development, enzyme activity, and muscle function. Inadequate or imbalanced levels of these minerals can lead to deficiencies, metabolic issues, or even poor performance. This handout will help horse owners understand the importance of trace mineral supplementation and how to ensure their horses are getting the right amounts.

Essential Trace Minerals for Horses:

1. Zinc (Zn)

- **Function:** Supports immune function, enzyme systems, skin and hoof health, and wound healing.
- **Deficiency Symptoms:** Poor coat condition, poor hoof growth, reduced appetite, and slow healing of wounds.

2. Copper (Cu)

- **Function:** Works with zinc for collagen formation, supports bone health, and aids in the formation of red blood cells.
- **Deficiency Symptoms:** Reduced fertility, abnormal coat color, poor bone and joint health, and weak connective tissues.

3. Manganese (Mn)

- **Function:** Important for bone development, cartilage health, and enzyme activity.
- **Deficiency Symptoms:** Poor growth, joint pain, and impaired reproductive function.

4. Iron (Fe)

- **Function:** Essential for oxygen transport in the blood and muscle function.
- **Deficiency Symptoms:** Anemia, lethargy, and exercise intolerance.

5. Iodine (I)

- **Function:** Regulates thyroid function, influencing metabolism and growth.



- **Deficiency Symptoms:** Weight loss, lethargy, and hair coat changes.

6. Selenium (Se)

- **Function:** Works with vitamin E as an antioxidant to protect cells from damage, supports muscle function.
- **Deficiency Symptoms:** Muscle weakness (e.g., “tying up”), heart problems, and immune suppression.

7. Cobalt (Co)

- **Function:** Necessary for the production of vitamin B12, which is important for energy metabolism.
- **Deficiency Symptoms:** Poor coat, lack of energy, poor appetite, and reduced growth.

Why Trace Mineral Supplementation is Important:

- **Soil Deficiencies:** Many regions have soils that are deficient in one or more trace minerals, which can lead to deficiencies in the forage and feed.
- **Imbalance Risks:** Excessive amounts of one mineral can interfere with the absorption or function of others, leading to imbalances that could affect health and performance.
- **Diet Variation:** Horses in different life stages (foals, pregnant mares, geriatric horses) or those with specific workloads may require tailored mineral supplementation.

Sources of Trace Minerals:

1. **Commercial Supplements:**
Available in various forms—pellets, powders, or liquids. Ensure the product is specifically designed for horses, as formulations vary.
 2. **Fortified Feeds:**
Some complete feeds contain added trace minerals, but always check the label to ensure adequate levels for your horse’s specific needs.
 3. **Salt Blocks or Licks:**
Many salt blocks are enriched with essential minerals like selenium, iodine, and copper, offering an additional source of trace minerals.
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Signs of Mineral Deficiencies or Imbalances:

- Dull coat and poor hoof quality
 - Reduced energy levels or exercise intolerance
 - Reproductive issues (e.g., infertility)
 - Slow growth, joint pain, or muscle weakness
 - Poor appetite and weight loss
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Tips for Safe and Effective Supplementation:

- **Consult Your Veterinarian:** Before adding any supplements, discuss your horse's diet and health with a veterinarian to avoid over-supplementation or deficiencies.
 - **Use Quality Products:** Choose reputable brands and products designed specifically for horses, as they are balanced to meet equine needs.
 - **Monitor Your Horse:** Observe your horse's overall health, coat condition, and behavior regularly to spot potential signs of deficiencies or imbalances early.
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Conclusion: Ensuring that your horse receives the proper balance of trace minerals is key to maintaining their health, performance, and longevity. By providing a balanced diet, potentially supplemented with minerals as needed, you can help your horse thrive. Always monitor your horse's condition and seek expert advice when necessary.

For further questions, consult with your veterinarian or a qualified equine nutritionist.