

GUIDED NOTES: Macro Minerals (All Parts)

Where horses obtain most minerals: _____ & _____

CALCIUM

- _____ of Ca is found in the _____
- Calcium is involved in
 1. Muscle Contraction
 2. Function of cell membranes
 3. _____
 4. Regulation of _____
- True absorption efficiency declines with _____
- Absorption takes place in the _____
- Young horse absorption efficiency: _____
- Mature horse absorption efficiency: _____
- DEFICIENCIES:
 - Foals: _____
 - Mature horses: _____

PHOSPHORUS

- _____ of the skeleton
- Required for:
 - Energy transfer reactions
- Efficiency of true absorption: _____
- Variation in Absorption Efficiency:
 - _____
 - _____
 - _____
- More _____, more P absorption
- More _____, less P absorption
- DEFICIENCIES: _____
- EXCESSES: _____ (Hyperparathyroidism)
- MAXIMUM: _____

MAGNESIUM

- _____ of body mass
 - _____ in the skeleton
 - _____ in the muscle
- Important for:
 - Ion in the blood

- Co-enzyme factor
- Muscle contraction
- Absorption:
 - 40-60% in feedstuffs
 - Too much _____ can cause lower Mg absorption
 - Absorbed mainly in the _____ (majority) and _____
- Deficiencies
 - _____ and muscle tremors
 - Ataxia (_____)
 - Followed by: _____
 - Hypomagnesemia
 - Ca and P mineralization in the aorta
- Maximum:
 - Estimated at _____, but as much as _____ is tolerable

POTASSIUM

- Mostly found in the _____
- _____ and oilseeds generally contain 1 – 2% Potassium
- Foals require _____
- Mature horses require _____
- Deficiencies:
 - Foals: _____ and lose weight
 - Appearance will change (_____)
- Excesses:
 - Excreted readily via _____
 - Needs adequate _____
 - Can lead to hyperkalemia (Can cause _____)

SODIUM

- Major _____ involved in
 - Maintenance of acid-base balance
 - Osmotic regulation of body fluids
- Very small amount found in feedstuffs (_____)
- NaCl is often added to concentrates (_____)
- Prolonged exercise and elevated temperatures cause _____
- Deficiencies:
 - Chronic depletion results in _____
 - Slower _____
 - Decreased _____
 - Eventual _____
 - Acute depletion lead to _____, uncoordinated chewing and _____

CHLORIDE:

- Normally accompanies _____
- Essential component of _____ and HCl
- Requirements have _____
- Presumed adequate when _____ are met
- Common feedstuffs range:
 - _____ in corn
 - _____ in molasses

- DEFICIENCIES:
 - Not been described in horses
 - Clinical signs would include:
 - _____
- Horses are considered tolerant to
 - _____ in their diets
 - Given _____ water
- High _____ concentrations are
 - Sometimes used to limit feed intake
 - Example: _____
- _____ Salt = _____ Water intake

SULFUR:

- In the form of:
 - Sulfur-containing amino acids
 - _____
 - Heparin
 - Thiamin
 - _____
 - Chondroitin sulfate
- Makes up _____ of BW
- Requirements _____
- _____ usually provides at least _____ organic sulfur
- DEFICIENCIES:
 - Not described
- MAXIMUM:
 - Not described