



# Choosing the Right Mineral Supplement

By Jackie Nix

Mineral supplementation is a very important, yet often overlooked, facet of horse care. A horse's diet very rarely provides all of the needed macro- and micro-minerals without supplementation of some type. A combination of soil type, plant species and climatic conditions result in consistent deficiencies in certain geographical areas. Many soils around the country are routinely deficient in selenium, copper and phosphorus. Additionally, today's superior genetics result in animals that require higher amounts of minerals in order to perform up to their genetic potential than in past decades. For these reasons, it is imperative that a complete mineral supplement is offered to horses at all times for optimum performance and health.

When choosing a mineral supplement, it is very important to first know what minerals are typically deficient in your soils and within your feeding program. If you do not already know this information, contact your local feed store representative, Cooperative Extension agent, Extension Nutrition Specialist or veterinarian to learn typical mineral deficiencies for your situation.

## **What to Look For in a Mineral Supplement?**

When you walk in to the feed store, you are often assaulted by a wide variety of mineral supplement options. How does one choose? The following is a list of items to consider when comparing supplements in order to choose the right one for your situation.

1. **Mineral content.** Take a look at the guaranteed analysis, located on every tag by law in the United States, to find what minerals are guaranteed to be present and in what amounts. If minerals are listed in the ingredients section but not guaranteed you cannot be assured that your horses are receiving sufficient amounts of these minerals. Do you see the minerals that are deficient in your situation on the guaranteed analysis? If not, keep looking for another product.

Also consider the amount of desired consumption when comparing mineral concentrations. A product designed to be consumed at a rate of 3 oz. per head per day needs to be twice as concentrated as a product designed for a consumption rate of 6 oz. per head per day. Be sure to compare "apples to apples" when looking at mineral tags side by side.

2. **Mineral Form.** It does the horse no good if minerals are provided in a form that it cannot utilize. Take a look at the list of ingredients. As a general rule of thumb, the sulfate forms of most minerals are more bioavailable (able to be used by the body) than the oxide or chloride forms. Therefore, as an example, copper sulfate would be more desirable than copper oxide on the list of ingredients; however there are exceptions. For instance,

magnesium oxide is a highly available form of magnesium. As the bioavailability of the mineral decreases, the total amount of mineral needed increases. Contact a nutritionist, feed representative or Cooperative Extension agent for information on the availability of different forms of minerals.

3. **Palatability.** Are there ingredients included which would increase palatability like molasses, salt or protein? Many minerals are bitter and unpalatable to horses in their natural forms and need to be mixed with other ingredients that encourage consumption. When utilizing a complete mineral supplement it is important to **remove all other forms of salt** unless the label specifically states otherwise. This is because salt is used to encourage consumption and if the horses obtain salt from other sources, they will not receive the desired levels of essential minerals and vitamins provided by the complete supplement. Placing a white salt block in the stall or paddock with horses is one of the most common errors that result in poor mineral intake and thus poor mineral nutrition.

Another factor affecting consumption is block hardness. Is the block so hard that the animals cannot consume the desired amount? Hardness is often used to regulate consumption in mineral blocks. Blocks can become harder when exposed to high heat or are stored for an extended period. An opposite problem is over consumption of mineral supplements. Is the mineral supplement block in question too soft so that horse is eating too much?

Be sure to periodically check the consumption rate per head per day after a period of acclimation (1 to 2 weeks) to make sure that your horses are eating proper amounts of supplement. Wait for a few weeks because it is not unusual for over-consumption to occur when minerals are first offered after a long absence without them. Horses will typically consume from 2 to 6 oz. of mineral supplement depending on the product (always read and follow label directions). If they are not consuming recommended levels, either make management adjustments or consider another mineral product.

You can calculate the consumption rate by determining the amount of supplement consumed in one month (i.e. number of blocks or bags) and then multiply this number by the weight of the blocks or bags (For example 5 blocks @ 40 lb each = 200 lbs). Divide this figure by 30 days to determine the consumption per day ( $200 \text{ lb}/30 \text{ days} = 6.7 \text{ lb/day}$ ). Next, divide this figure by the number of horses exposed to the blocks or mineral to determine consumption per head per day ( $6.7 \text{ lb/day}/20 \text{ goats} = 0.335 \text{ lb/hd/day}$ ). To convert this into ounces, multiply by 16 ( $0.335 \text{ lb/hd/day} \times 16 \text{ oz/lb} = 5.36 \text{ oz/hd/day}$ ).

4. **Weather Resistance.** How weather resistant is your mineral choice? Will it dissolve in rain or snow? Will it blow out of feeders on windy days? Wastage can be a large production cost that must be considered.
5. **Feeding System.** What is your current feeding system? Do you feed daily and prefer a loose mineral to top dress over the feed or are horses in pastures where blocks would be the best choice?
6. **Cost.** Even though cost is a very big concern, don't let price be your main deciding factor. Look at the things discussed previously; minerals guaranteed, amounts, mineral forms, palatability and consumption factors, weather resistance and current feeding

systems in use. A cheaper mineral that doesn't guarantee the amount of minerals needed in usable forms won't be very useful.

Also, take a look at the consumption rate and calculate the cost per head per day. A more expensive product with a lower consumption rate may very well have a less expensive cost per head per day than a cheaper product that has a higher consumption rate. For instance, if a 50 lb. bag of mineral supplement costs \$12 and the target intake is 8 oz. per head per day, the cost per pound is \$0.24 and the cost per head per day would be \$0.12. Similarly, if a 25 lb. bag mineral supplement costs \$10 and the target intake is 4 oz. per head per day, the cost per pound is \$0.40 and the cost per head per day would be \$0.10. Even though the first product is cheaper per pound, the cost per head per day is 20% more than that of the "expensive" supplement. Also beware to make sure that the "cheap" supplements are providing the same array of mineral and vitamin fortification.

### **Choosing the Best Mineral Supplement**

When choosing a mineral supplement for your horses, consider the factors discussed previously. Do the minerals supplied match the needs of your horse? Are the minerals provided in a form that is bioavailable? Is the mineral palatable and is consumption guaranteed? Is the supplement weather resistant and finally is the cost per head per day competitive?

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*Jackie Nix is a nutritionist with Sweetlix (<http://www.sweetlix.com>). You can contact her at [jnix@sweetlix.com](mailto:jnix@sweetlix.com) or 1-800-325-1486 for questions or to learn more about the Sweetlix line of mineral and protein supplement products for horses, sheep, goats, cattle and wildlife.*

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