

## EVERGREEN OSTEO-AIDE™

Two of the major reasons we raise horses is for them to be athletes with a long life. As each new foal arrives, our hopes for a new generation of race, jumping, cutting, etc. horses emerge. Given the time, money, and emotion directed in getting these foals started correctly; allowing optimum bone growth is paramount in the future endeavors of these foals.

Osteo-Aide is a nutritional supplement designed for horses being trained for performance events. Osteo-Aide contains added calcium, phosphorus, copper, zinc, and manganese in a readily available chemical form; proteinate, sulfate, and carbonate demonstrated for decades to be critical in correct bone formation. These minerals are combined with glucosamine and chondroitin sulfate, proven effective nutrients that help support joint health. Osteo-Aide also contains added omega 3 fatty acid and yucca for additional analgesic effects. Vitamins C (Ester C) and E are also added as an immune system stimulator.

Unlike other supplements advertised for the young equine athlete, Osteo-Aide contains a bioavailable source of silicon (Si) along with the added minerals and joint nutrients. There is an ever growing volume of research demonstrating the effects of proper nutrition and planned exercise regimes on the bone development in young horses. While oats and hay can sustain and even grow horses, it probably will not provide optimum nutrition for correct skeletal formation. Optimal bone formation requires adequate mineral intake balanced with energy, protein and vitamin intakes.

Data from 1974 established the role Si has in proper bone formation (Carlisle, 1974). During the 1990's and early in the 21st century, research at Texas A&M (TAMU) and Michigan State demonstrated the positive benefits of a bioavailable source of Si on bone development. Work by several researchers has shown Si from Sodium Zeolite A (SZA) can increase plasma Si and bone density in weanling (Frey et al., 1992) and yearling horses ((Lang et al., 2001).Lang et al. (2001) also reported an increase in milk Si levels in mares supplemented with SZA coupled with an increase in plasma Si levels in nursing foals.

It is important to note, bioavailability of Si appears to be critical in the absorption of the mineral. Silicon is the second most abundant element in the earth's crust. Sand, silicon dioxide (SiO<sub>2</sub>), is not available as a nutrient to horses. In fact, excess sand ingestion may be a major cause of digestive problems in the horse leading to impaction in the large intestine. Sodium Zeolite A is the only bioavailable source of Si shown to be utilized by the horse. While zeolite is a much cheaper "source" of Si, there have not been any published reports demonstrating any bioavailability of the Si. For Si absorption to take place, the Si must be hydrated to orthosilicic acid for intestinal absorption. Do not be fooled by cheaper source of Si, Sodium Zeolite A is the only proven source of bioavailable Si for the horse to date.

Unlike other supplements for young equine athlete, Osteo-Aide contains bioavailable form of Si along with added minerals and joint nutrients that allow these future champions to realize their genetic potential for any athletic endeavor.

### References

- Carlisle, E.M., 1974. Silicon as an essential element. *Federation Proc.* 33:1758.
- Frey, K.S., G.D. Potter, T.W. Odom, D.M. Senor, V.D. Reagan, V.H. Weir, J. Elslander, S.P. Webb, E.L. Morris, W.B. Smith, and K.E. Wiegand. 1992. Plasma silicon and radiographic bone density in weanling quarter horses fed sodium zeolite A. *J. Equine Vet. Sci.* 12(5): 291.
- Lang, K.J., B.D. Nielsen, K.L. Waite, G.M. Hill, and M.W. Orth. 2001. Increased plasma silicon concentrations and altered bone resorption in response to sodium zeolite A supplementation in yearling quarter horses. *J. Equine Vet. Sci.* 21(11): 550.
- Lang, K.J., B.D. Nielsen, K.L. Waite, G.M. Hill, and M.W. Orth. 2001. Supplemental silicon increases plasma and milk silicon concentrations in horses. *J. Anim. Sci.* 79:2627.