TOXICOLOGIC EVALUATION OF CHRONIC SELENOSIS IN WYOMING HERBIVORES[1]

M.F. Raisbeck, D. O'Toole, E.L. Belden, J.W. Waggoner and E.T. Thorne[2]

Abstract: Much of the Western United States, including large areas of Wyoming, are underlain by selenium-rich geologic formation. Under certain conditions, sufficient selenium may accumulate in vegetation to result in poisoning of livestock and wildlife. Theoretically, disruption of seleniferous strata by processes such as surface mining may dramatically increase plant accumulation and result in poisoning of livestock and wildlife. Theoretically, disruption of seleniferous strata by processes such as surface mining may dramatically increase plant accumulation and result in poisoning of grazing animals. Considerable research and reclamation monies have been committed to alleviating this perceived problem, yet the definition of the targeted end point (mammalian toxicity) is largely based on questionable data. In order to devise useful protective strategies, we must first have a better idea what selenosis is. This project was undertaken to more accurately define the toxicity of selenomethionine (the predominate form of selenium in forage plants) typical grazing herbivores.

Additional Key Words: selenium, mammalian toxicity, selenosis, blind staggers, alkali disease.

---

[1]Poster presented at the 1995 National Meeting of the American Society for Surface Mining and Reclamation, Gillette, WY, June 5-8, 1995.

[2]M.F. Raisbeck, Toxicologist, Donal O'Toole, Pathologist, Lee Belden, Immunologist, Dept. of Veterinary Sciences, University of Wyoming, Laramie, WY 82071 and James Waggoner, Range Nutritionist, Dept. of Animal Science, University of Wyoming, Laramie, WY 82071. Tom Thorne, Research Veterinarian, Wyoming Division of Game and Fish.