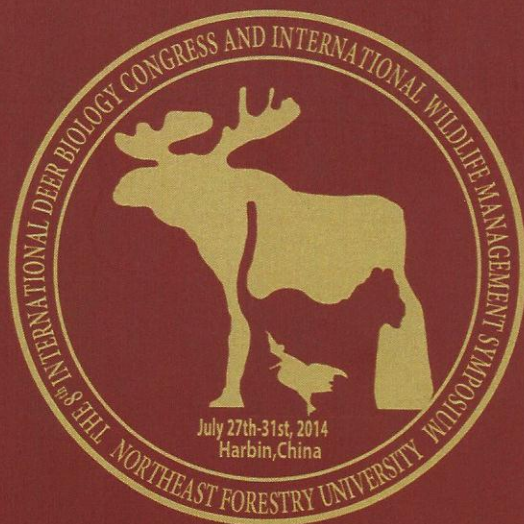


第八届国际鹿类生物学大会暨国际野生动物管理研讨会

THE 8TH INTERNATIONAL DEER BIOLOGY CONGRESS AND INTERNATIONAL WILDLIFE MANAGEMENT SYMPOSIUM

摘要集 Proceedings



**Proceeding of the 8th International Deer Biology Congress
and International Wildlife Management Symposium**



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July 27th-31st, 2014

Harbin, China, Northeast Forestry University



Key words: conservation, management, NGO, protected areas, umbrella species

D11 Soil selenium levels corroborate direct evidence of selenium deficiency in endangered Patagonian huemul deer (*Hippocamelus bisulcus*)

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The lack of recovery in most subpopulations of endangered huemul deer (*Hippocamelus bisulcus*) may relate to the marginal mineral nutrition of currently inhabited areas. Mineral nutrition is implicated by deficient antler development and osteopathology in at least 57% of adult huemul deer. At the same time, responsive Se deficiency in livestock has been reported in Southern Chile, including nutritional muscular dystrophy where most forages are Se deficient, and >60% of cattle production is developed on deficient pastures. Animal intake of Se depends on Se uptake by their forage plants. Uptake by plants depends on both the form and total concentration of Se in soil. In areas used for agriculture and livestock, huemul subpopulations generally subsist only at higher elevations, which generally provide decreased amounts of Se. Therefore, we measured Se concentrations in soils from high-elevation sites commonly used by extant huemul subpopulations. Using a microwave-assisted acid digestion method, total Se in samples and standards was measured in single-element runs by ICP-MS which has a limit of quantification 0.0125 mg/kg and instrumental detection limit of about 0.005 mg/kg. It was found that high-elevation soils had deficient Se levels averaging 0.19 mg/kg (SE 0.02, n=12), whereas a valley bottom sample had 0.80 mg/kg

