

Selenium-Accumulating Plants

Various plants including species in the **Astragalus** genus ([see the Milkvetches toxic plants page for more info](#)), **Machaeranthera** genus, **Haplopappus** genus, **Stanleya** genus, **Aster** genus, **Atriplex** genus, **Castilleja** genus, **Grindelia** genus, **Gutierrezia** genus, **Mentzelia** genus, and the species **Comandra** umbellate)

Species Affected: Horses, sheep, cattle, pigs, poultry

Growing Location: Selenium accumulation at toxic levels tends to occur in areas where soils are naturally high in selenium. In the U.S., these soils are mostly found in the Dakotas, Montana, Wyoming, Colorado, and Utah. The form of selenium which is present in the soil also makes a big difference in the amount available for plant uptake/accumulation.

Toxin: Selenium is a required dietary nutrient for humans and domestic animals, but ingesting large amounts of it can result in selenium poisoning or selenosis.

Toxic Plant Parts: All parts of the plants should be treated as potentially toxic.

Possible Effects on Livestock: Symptoms of acute poisoning may include abdominal pain, diarrhea, liver and lung issues/hemorrhages, rapid pulse and respiration, abnormal posture or gait, prostration, pale/blue mucous membranes, and death. Sheep typically do not exhibit any of these symptoms, but may show increased respiration, depression, and sudden death. Symptoms of long-term chronic poisoning may include hair/coat issues, overgrowth of hooves, emaciation, lameness, and a general lack of vitality.

Preventative Measures: The best means of prevention is to keep livestock out of areas known to have seleniferous soils and selenium-accumulating plants. Other possible approaches include supplementing animals' diets with higher protein feed and treating soils with sulfates (which can in some cases reduce selenium uptake by plants).

Resources: [Selenium-Accumulating Plants : USDA ARS](#)

[On the Ecology of Selenium Accumulation in Plants - PMC \(nih.gov\)](#)

[Effects of Excess Selenium - Selenium in Nutrition - NCBI Bookshelf \(nih.gov\)](#)

[Plants Poisonous to Livestock - Cornell University Department of Animal Science](#)



Princes Plume, a member of the Stanleya genus (Photo source: USDA)



Coast Saltbush, a member of the Atriplex genus (photo source: swanbayenvironment.org.au)