

## Departments

# ELK 101

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### **CAN PLANTS POISON ELK?**

Elk may be the ultimate switch-hitters of North American deer species. They browse, they graze, they eat everything from lichens and mushrooms to the needles and leaves of trees. In fact, they've been documented consuming more than 300 plant species. But every creature has its Achilles heel.

The milky sap from leafy spurge can lead to blindness if it gets in an elk's eyes. St John's wort makes elk ultrasensitive to the sun, causing sunburns on their eyes and nose. Cheatgrass and ripgut brome can cause ulcers and internal lesions in their mouth or stomach. When eaten by pregnant cows, corn lily and lupine can cause fetal deformities in calves. And plants like locoweed and milkvetch hold addictive properties and cause nutritional deficiencies that can lead to emaciation and death.

In extreme cases, entire herds have been poisoned. In the Idaho foothills during the 2016-2017 winter, 37 elk and more than 50 pronghorn died after eating Japanese yew, an exotic ornamental shrub. A heavy snowpack that year buried native forage, drawing them to the highly toxic yew in people's yards. Despite an ordinance restricting its planting, 11 more elk died this past January and February from ingesting yew near Hailey, Idaho. And in the 1980s, at least 15 tule elk died on California's Grizzly Island from eating poisonous hemlock—the same plant that killed Socrates.

"Typically, elk would eat a varied diet, but in the late winter and early spring, these plants might be the only thing available to them, and so they eat them in much higher concentrations than at other times of the year," said Lynn Kinter, the lead botanist at Idaho Department of Fish and Game.



And it's not just terrestrial plants. In 2013 more than 100 elk died within 24 hours from drinking out of a trough with a toxic algae bloom in New Mexico. But few mass poisonings compare to what took place in Wyoming's Red Desert in 2004. Tumbleweed shield lichen left some paralyzed and others scraping circles in the sagebrush, killing 450 elk in one mass event.

Luckily elk do have defenses. When most encounter an unfamiliar plant, they tend to sample it cautiously before eating more, and avoid plants that smell or taste bad. They also have microorganisms in their rumens that can develop over time to gradually build up immunity to some toxins, as well as chemicals in their saliva that counteract toxic effects.

If an elk eats a varied diet and only ingests a small amount of these plants, it's usually fine. But when extreme snow or prolonged droughts make certain plants the only option, things may get ugly.

— *Gentry Hale*