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Crazy Spring Weed

Be on the lookout for this extremely toxic locoweed

BY STACIE G. BOSWELL, DVM, DACVS

No, we're not referring to the crazy weed you can buy in Colorado... although the subject of this article is found throughout the West, particularly in the Rocky Mountain region. Locoweed has many names and there are many toxic varieties right here in New Mexico that can cause irreversible neurological damage to horses and even death. Woolly locoweed, rattleweed, milkvetch, and ground plum are a few names that these dangerous plants go by.

How to identify locoweed

According to the New Mexico State University Agricultural Extension Service, there are about 80 species of toxic locoweed in New Mexico. These perennial plants grow as a low, tight cluster with a single large root. Locoweed can be found in sandy or dry soil in plains regions extending into the foothills. Leaves of some species have a light, silvery covering of hair.

All varieties have a characteristic leaf structure that makes confirming the identification relatively straightforward: Small leaves grow in symmetrical pairs from each stem arising from the main root of the plant. Flower shades range from purple to white, and grow from a stalk without leaves. Large, shiny seed pods develop later in the season. If you are unsure about whether a plant in your field is locoweed, take either the plant or a photo to your county extension agent for definitive identification.

A spring hazard

Compared to other plants in the same field in the early spring, locoweed is greener sooner in the season. Horses have a preference for eating green forage compared to dried forage. Therefore, early spring is a time when horses may be more likely to ingest the plant.

Horses that have a caloric deficiency are also more likely to consume toxic plants. Typically, horses will avoid locoweed if there are plenty of other food choices available. However, once they eat the plant, some horses will seek it out. It isn't

clear why they do this. And, the plant remains toxic after it is dried – it needs to be removed from horse areas, not just killed.

Toxin and signs

The toxin swainsonine is present in all parts of the plant, and affects all cells in a horse's body. Swainsonine inhibits intracellular enzyme activity that is involved with the metabolism and processing of certain sugars. This causes buildup of abnormal metabolic products in the cells, and impairs cellular and organ function.

Because of the way swainsonine builds up metabolic by-products, the onset of locoweed poisoning can be hard to detect. The horse may eat the plant for several weeks before any uncharacteristic behavior or change in appetite is noticed. Duration of exposure is important to the telltale development of characteristic neurologic damage. There is a certain "dose" of toxin that is necessary to develop signs, but different species of locoweed can vary in the amount of toxin they contain, so predicting poisoning based on the number of plants in a field is impossible. The only really safe number of locoweed plants is zero.

"Loco" is the Spanish word for crazy. When the swainsonine from locoweed affects the brain, a wide range of neurologic and behavioral abnormalities can be observed in livestock. Horses may be disoriented, listless, inattentive to their surroundings, and exhibit depression. Conversely, they can also have erratic behavior with a stressful event (such as putting on a halter and moving the horse). They may get very excited, be easily frightened, and become violently over-reactive. These horses can be dangerous to handlers. Impaired vision or apparent blindness, tremors, head bobbing, and convulsions may occur. An affected horse may have an abnormal or exaggerated gait, or a drunken-appearing ataxic gait, stumbling, aimless wandering,



TOP PHOTO: White locoweed.
BOTTOM: Pods of the locoweed.
Courtesy of Donna Catterick.

and loss of coordination. Permanent nervous system damage can occur.

Swainsonine does build up in other organs, such as the liver and gastrointestinal organs. This causes a decreased appetite overall, and resultant weight loss.

Treatment

Sadly, there is no specific anti-toxin or treatment for animals that are affected – this is one reason why plant identification and removal is so important. Affected horses may be kept in a quiet area with limited stimulation. Feeding a high-quality diet is important. Supportive care, such as intravenous fluids, may help. Some horses, especially those severely affected, may only make a partial recovery.

Stacie G. Boswell, DVM, DACVS is a board-certified large animal surgeon who has written for Horse Around New Mexico for several years. This is her final column, as she has moved to Montana. You can thank her for her educational articles by emailing her at: stacieboswell@gmail.com.