

Loco, La Yerba Mala

Paul E. Patterson

Five semi-trucks rolled into the ranch in late October with yearling replacement heifers. They had summered on irrigated pasture in the southern part of the state and were in good shape. Bulls had been with them, and they were to start calving next spring. After unloading, they were tucked into a fresh pasture which had been reserved for them, and the ranch crew went on about the business of the fall work.

In late November, the heifers were brought in for a pregnancy examination. Other than periodic checks of the water, salt, and mineral, the heifers had received no special treatment since arriving. The cowboys commented while driving the heifers to the corral how dead their hair looked, how dead-headed they were, and how their condition had slipped in the past few weeks. There was still plenty of grass in the pasture, and it had cured out well. There had been no big snow storm to shrink the cattle. All generally agreed that it was the result of moving cattle from south to north and from irrigated grass pastures to native grass range.

The bulls had been off of the heifers about a hundred days. The pregnancy check revealed seventy-two percent bred. They were turned out in a pasture closer to the camp for the winter. In a few days the campman called headquarters to report one of the heifers had aborted. The fetus looked to be about five months along. After the second abortion was reported, a veterinarian was summoned. A freshly aborted fetus was gathered, blood samples were taken from the aborters, and a history of the cattle was discussed. The first suspect causes were vibrio, leptospirosis, and brucellosis, which were hot subjects with most veterinarians at that time. Subsequent lab examinations ruled these possibilities out.

The abortions continued. Neither the veterinarian nor the diagnostic lab were able to find a definite cause. A search of the pastures was conducted to see if it might be caused by a poisonous weed. There was the answer! Locoweed! They were grazing it right into the ground.

Why had locoweed not been suspected before? It was overlooked for several reasons: the loco plant had been a part of the native vegetation of this area for as long as anyone could remember, and the ranch had been under the same management for the past 8 years without experiencing cattle grazing loco. Also, the initial symptoms of the problem were rough coat, listless attitude, and abortion—not the commonly thought of signs of loco poisoning. Therefore, the investigators were hunting for something that caused abortion and not staggering gait or crazy actions.

Insidious, an adjective meaning dangerous, tricky, treacherous, may be used to describe locoweed; but it is hardly

the type word used by stockmen when they discuss *la yerba loca* and its devastating effects on their livestock operations.

According to scientists, there are hundreds of different plants that fall into the genera *Astragalus* and *Oxytropis*, commonly known as locoweed, crazyweed, or rattleweed. Plants of these genera are found over the western half of the United States, northern Mexico, and into British Columbia. Over most of the area, they can be classed as part of the climax vegetation. That is, they are native, not always an invader brought in as a result of poor pasture management or disturbed native range.

Locoweed is a member of the Legume family. They have a long tap root and may be annual, biannual, or perennial. Most are perennial. They are often a part of the flora of a well-managed native range.

Most species of loco, either while growing or after maturity, are toxic to livestock, which may graze on one species and not touch another.

The first case of locoweed poisoning was recorded in 1873. It has been a serious problem since the time that domestic stock was introduced to the ranges of western America. Considering the length of time with the problem and the volumes of research done, it is inconceivable, but a fact that the toxic part of the plant has never been isolated and identified!

Horses, cattle, sheep, goats, and some wildlife are affected by locoweed. The master's eye on his stock will bring to light some facts about loco poisoning which are not always found in published journals. It is a fallacy to think that stock will not eat loco unless they are starved to it, or that stock native to an area where loco is found will never graze it.

Livestock are not attracted to loco by its scent, which is the sense that determines what stock will or will not eat; so what starts an animal to grazing on loco? Stock can, of course, be starved to a point that they will eat almost anything, including locoweed. But this is not the only explanation. The most apparent reason seems to be the desire for something green or succulent when pasture grasses are mature and dry. Since the span of the growing season for the loco plant exceeds that of most native grasses, both in the spring and fall, the loco will be green when pasture grasses are dormant.

Some have advanced the theory that the animal's system or diet lacks a necessary mineral that the loco plant provides. However, it is a fact that neither mineral nor protein supplementation will stop an addicted animal from grazing on loco.

Whatever the reason or reasons for livestock starting to feed on loco, there are several results that are as sure as the sunrise: once they have a taste of the malefactor they will never leave it alone, they will never build an immunity to the poison, and one addicted animal will start others in the herd to grazing on locoweed. Animals that graze the plant will eat it almost to the exclusion of all else. They become so uncoor-

About the Author: The author is a ranch manager for the Diamond A Cattle Company, a large livestock operation headquartered in Roswell, New Mexico. His job is to oversee cattle operations on over a quarter million acres of ranchland in New Mexico and Colorado. His duties include the management of registered and commercial Brangus cattle on range and irrigated pastures. He has been with the Company for over 20 years.

minated that they cannot ingest food. As a consequence, even though locoweed has about the same crude protein level as alfalfa, the animal will die of starvation.

Horses seem to be the most apt to graze on loco with the least provocation. Much has been said and written about the symptoms of loco poisoning on horses. Addicted horses can be removed from access to the plant and they will mend to a limited extent. Their central nervous system does not seem to ever recover completely. They will exhibit signs of the malady for years, especially when they become overheated from exertion. They should never be considered sound.

Loco poisoning takes a great toll from the livestock operations in the western states. The actual death loss may not be as great as with some more potent and lethal plants because most locoed animals are recognized at some stage before death and are shipped to town. However, the loss of weight gains and abortions caused by grazing on loco are significant and result in a great monetary loss to the livestock industries.

Stocker yearlings are most affected due to the nature of stocker operations. The yearlings are most often transients, and they generally arrive on native ranges in the early part of spring before the grasses have sufficient green growth to satisfy their appetite. If the stockers have been off feed for an appreciable length of time while in transit, it has been found to be a good management practice to give them an ample feed of hay before turning them out to pastures containing locoweed.

Some symptoms of loco poisoning, other than those already mentioned are: drooping ears, lethargic behavior, a vacant stare (resembles a "wino" on the morning after payday), a loose jointed paddling gait of the front feet when running or turning suddenly, trembling and lack of coordination, lesions on the lower lip from grazing the plant to the ground, and on cattle, a heavy covering of horn flies over the entire body.

Pregnant cows and ewes have additional problems. They may abort or they may suffer hydrops amnia, more commonly called "water belly" by the cowboys. In the case of hydrops amnia, the uterus continues to fill beyond normal with placental fluids. This fill continues until the animal eventually gets so heavy she breaks down in the back, goes down and is unable to rise. She never loses this excess fluid until she either aborts or has a normal delivery. If she is taken away from locoweed and fed alfalfa hay, the buildup of fluids is stopped, but the excess is not absorbed. If this affected dam is picked up early enough and put on good feed, she will have a good chance of having a full-term delivery.

If a locoed pregnant animal does not abort, she may deliver a normal off-spring, or she may deliver one showing signs of the loco toxins. The baby may be physically deformed or it may show all the appearances of a vitamin A deficiency. The dam will, more than likely, not clean properly after birth; all of which points to the probability that loco toxins affect adversely the assimilation of vitamin A. A baby following a

mother that is grazing loco will soon show the effects of loco toxins absorbed through the milk.

Most animals that are suffering from loco poisoning can be salvaged, to an extent, if they are gathered off the plant before they reach the point of no return—the earlier the better. The toxic substance seems to eventually dissipate, although it may leave some permanent damage to the central nervous system and to some body organs. After a period away from locoweed, locoed females will show estrus, will conceive, and will raise a healthy off-spring if all other factors are right. If she remains a member in good standing of Locos Anonymous and stays off the weed, she will survive and be productive.

If you are faced with the problem of your stock eating locoweed and consult your veterinarian or county agent, they will probably advise you to move your stock to a clean pasture. This is much easier said than done in most areas. Spraying the plant with 2,4-DButyl ester mixed with either diesel or water has shown good results. One application, however, will not be the end of the problem forever. The plant may come back into the pastures after about 3 or 4 years, depending on the weather. Some ranchers who already have livestock grazing the weed will try to graze it out of a pasture by employing very heavy stocking rates for short periods of time, the idea being that most of the animals will become addicted and no one animal will be able to eat enough loco to cause serious harm. This high-density grazing will weaken the vigor of the plant to where competition will crowd it out, if proper stocking rates are followed. There is also a grub worm that works on the roots of locoweed and will kill it out, but they do not appear to be in sufficient numbers to handle their work load.

There is no doubt, locoweed is one of the most destructive plants poisonous to livestock. This fact is due to wide distribution rather than greater toxicity. Effects on livestock are multifaceted. Even though the reported death loss to loco poisoning is not as great as that charged to some other more lethal plants, the total monetary loss to the livestock industries is staggering.

The Poison Plant Research Lab of the USDA at Logan, Utah, under the direction of Dr. Lynn James, has worked with the problem for several years. However, Dr. James explains that their assignment is to work with all poisonous plant problems, and that their budget will only cover a small staff and limited research work. Therefore, most of their energies go towards those plants showing the greatest toxicity, because those plants receive the most publicity.

The locoweed problem has plagued stock growers for one hundred and seventeen years and there is still no better solution to it than there is to the common cold. There can be no antidote until the researchers learn what toxin or toxins cause the problem. It is up to the people that are paying the cost of locoweed poisoning to remedy this situation.

The squeaking wheel gets the grease. ●