

Larkspur Poisoning

Larkspur (*Delphinium*) spp.

Signs and Lesions of Larkspur

- Nervousness
- Weakness and staggering gait; the animal may fall suddenly
- Salivation
- Muscular twitching
- Nausea and vomiting may occur
- Bloating may also occur
- Rapid, irregular pulse
- Animal may die suddenly; excitement intensifies all the signs of poisoning
- Lack of gross lesions
- Pulmonary congestion

Larkspur mainly affects cattle

Larkspur, especially tall larkspur, is a significant cause of cattle poisoning on rangelands in the western United States

Larkspur is highly palatable to cattle, and losses can be expected when cattle are allowed to graze larkspur infested ranges. Especially where the plant is abundant or grows in large, dense patches. Cattle consume tall larkspur most often after plants begin flowering; consumption increases into the pod stage.

Losses occur; however, rare in sheep or horses, but if subjected to sudden physical activity after ingesting large amounts of larkspur, these animals may show clinical effects.

The Larkspur plants are most toxic during early growth, but toxicity gradually declines over the growing season. Also, all parts of the plant are poisonous, but new growth and the seed contain the highest concentrations of the toxic substance.

The toxic substances are alkaloids, and over 40 of these compounds have been evaluated. The relative toxicity and concentration of individual alkaloids varies among species. The toxic alkaloid causes death by muscular paralysis, leading to respiratory failure or bloat.

Three types of Larkspur

- Tall larkspur
 - *D. barbeyi*
 - *D. occidentale*
 - *D. glaucum*
- Low larkspur
 - *D. nelsonii*

- o *D. andersonii*
- o *D. nuttallianum*
- Plains larkspur
 - o *D. geyeri*

Where and When Larkspur Grows

- o Tall Larkspur
 - o Is found on hillsides and in meadows about 7,000 ft. It ranges in height from two to six feet. A hollow stem distinguishes larkspur from poisonous monkshood (which has similar blue or purple flower without a spur).

Low Larkspurs tend to grow at lower elevations where they mature and become dormant before the soil moisture is depleted. They begin growing in early spring, often before other forage begins growth. It grows best when springs are cold and wet. They can reach a height of two feet.

Plain Larkspur is found primarily on the high plains of Colorado and Wyoming. It begins growth in spring before other plants.

How Larkspur Affects Animals

Plain larkspur may be eaten by cattle at any time during summer, but early green growth and pods may be most appealing to the cattle. Both low and plain larkspurs may be the only green herbage available to cattle in early spring.

Larkspur contains a number of alkaloids varying toxicity. The most toxic of them is MSAL (methyl succidimino acetyl lycoctonine), which includes methyllycaconitine.

How to reduce losses

Placing the affected animal on its brisket or chest with its head uphill may reduce some of the bloating. Treatment for bloating is intubation or rumen puncture with a trocar may save some animals. Avoid unduly exciting affected animals.

Low larkspur losses may be prevented by deferring grazing until plants lose their flowers and pods, as they rapidly senesce after producing pods.