



# Flathead Reservation Extension Newsletter

## Range

Low larkspur by Steve Dewey, Utah State University, Bugwood.org



Tall larkspur by William M. Ciesla, Forest Health Management International, Bugwood.org



Lupine by William M. Ciesla, Forest Health Management International, Bugwood.org



Locoweed by Mary Ellen (Mel) Harte, Bugwood.org

## Pretty Flowers, Deadly Consequences for Livestock: *Poisonous Range Plants in Montana*

Spring has arrived, bathing the rangeland in green and dotting the pastures with wildflowers. While most are innocently beautiful, a few harbor deadly poisons behind their showy flowers. Exotic weeds are often touted as being toxic, however, the most dangerous poisonous plants to livestock are native to the state and occur naturally on rangeland. A few of the most common Montana range plants that are poisonous to cattle include:

**Low larkspur** (*Delphinium bicolor*) is a low growing, perennial forb with showy blue flowers with a long spur. The plant initiates growth early in spring and is most toxic during its early growth stages. Signs of poisoning include nervousness, stiffness, staggering, and falling as the front legs frequently give way. The toxicity of the plant declines rapidly as plants mature, and poisonings rarely occur after the plants have flowered. **Tall larkspur** (*Delphinium occidentale*) is a large, erect perennial for that can reach 3-7 feet in height. The flowers of tall larkspur are white to light blue and the plant is easily identified by its hollow stem. Poisoning from tall larkspur occurs most often in midsummer when the plant is flowering. Cattle losses may be more prevalent in early fall when snow storms cover up more desirable forage. The signs of poisoning are the same as for low larkspur. Several species of **lupine** (*Lupinus spp.*) are abundant throughout Montana. The most common impact of lupine on cattle occurs when pregnant cows consume sub-lethal quantities and give birth to calves having marked congenital deformities. This syndrome is known as "crooked calf disease." Almost all cattle losses occur under circumstances where animals consume large quantities of mature (podded) lupine in a short time period. Managers should avoid grazing cattle in pastures where lupine is prevalent and other forage is limited. **Locoweed** (*Astragalus* and *Oxytropis spp.*) plants derive their name from the Spanish word "loco" which means crazy. Poisoned animals commonly display strange behavior including, loss of muscular control, shying at familiar objects, jumping imaginary hazards and violent actions when disturbed. Locoweed is poisonous at all stages of growth with the greatest losses occurring in the spring when other green forage is limited. Although it has not been proven, many people suggest that animals once poisoned are "addicted" to locoweed and will actively seek it out on rangeland. Despite research and educational efforts, poisonous



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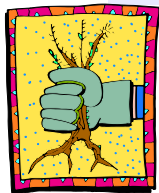


plants remain a serious problem facing ranchers in Montana. This is largely because the circumstances surrounding livestock poisonings can be very different from year to year and from plant to plant. Consequently, no single management strategy can prevent losses to poisonous plants. However, there are a few general management techniques that can greatly reduce livestock losses from poisonous plants:

- Do not overgraze rangeland. Many poisonous plants become more prevalent as rangeland condition declines.
- Be cautious when introducing new livestock to your ranch. Cattle that are from another area may not be familiar with some poisonous plants and are more likely consume those plants.
- Do not turn hungry cattle into pastures with dense populations of poisonous plants.
- Provide adequate quantities of salt and other necessary minerals.
- Provide plenty of clean water to help dilute toxins.
- Do not feed hay containing poisonous plants to livestock.
- Be aware that snow or other environmental conditions can change the way cattle forage, increasing the chances of poisoning.
- And lastly, know the poisonous plants on your ranch and watch those plants for evidence of grazing. Also know the symptoms and signs of toxicity so early treatment can be administered and losses minimized.

By Rachel Frost, Post Doctoral Range Research and Extension Associate

## Weed Management



### 10 Steps to Improved Weed Management

Although farming is a year-round activity, spring is the time when many critical crop and weed management decisions are made. Hopefully, the following simple and practical tips will help you to successfully manage your weeds and secure a good harvest.

**1. Establish a healthy crop.** A well-established and healthy crop that develops a uniform stand is perhaps the most effective tool you have against weeds. Use the best available agronomic practices to get a good and early start and a close crop canopy. More and more studies are showing that a highly competitive crop shades out late emerging weeds, reducing the need for rescue treatments and the overall cost of herbicides.

**2. Know your weeds and match specific problems to specific solutions.** Periodic scouting will allow you to know what weeds are present across your crop acreage. Be aware that "windshield scouting" will not give you a precise assessment of the various weed species that grow in your fields, their size, location and

density. You need to walk or four-wheeler drive your fields in a systematic pattern. Take a field map with you and trace the location of the different weed patches. This map will allow you to spot treat a field instead of using a blanket application.



### 3. Time your management practices.

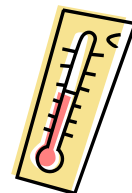
Another benefit of periodically scouting your fields is that you will be able to better determine the most appropriate time to implement a weed management practice. If a weed community is dominated by early-emerging species such as prickly lettuce, common lambsquarters, field pennycress or common sunflower; postponing planting will allow you to eliminate these seedlings with tillage or herbicide. On the other hand, early planting is a reasonable approach to managing late-emerging species such as the morning glory, yellow foxtail, and common cocklebur. The early planting lets the crop to get ahead of the weeds. Be aware that if you postpone your postemergence treatments too much with the goal of controlling late emerging weeds, you may need to use higher herbicide rates. Moreover, you may have significant yield reductions due to early season competition.

### 4. Calibrate your sprayer and check each nozzle individually.

Usually, growers calibrate their equipment to make sure they apply the correct amount of gallons per acre. However, individual nozzle output may vary. For example, nozzles may over-apply by 10 to 30 percent due to poor calibration and worn tips. Although checking each individual nozzle takes time, doing so will result in more accurate applications and reduce the risk of weed escapes or crop injuries.

**5. Check the weather.** An actively growing weed is a key factor to getting good control, whatever the herbicide being used, and it may be necessary to wait until temperature and moisture conditions are suitable to achieve good control. As a general rule, burn-down herbicides should not be applied when temperatures are in the low 50s or upper 70s. Likewise, do not spray postemergence herbicides when there has been a prolonged dry period or temperatures are in the high 90s. Usually this causes excessive crop damage and is not very effective at controlling weeds.

**6. Know your soils.** Soil-applied preplant incorporated and preemergence herbicides are valuable tools to manage early season weeds and, if they are residual, can provide season-long weed control. However, miscalculations could cause crop injury or fail to control weeds. Among the many factors that determine the concentration and persistence of soil-applied herbicides are soil factors such as texture, acidity (pH), moisture and organic matter. As general rule, soils high in organic matter or clay may require higher rates or more frequent herbicide applications than sandy and coarse soils.





Also, the risk of herbicide carryover varies with soil pH.

**7. Avoid cosmetic control practices.**

The main goal of a weed management program should be to secure crop yields. Before managing your weeds, take into

account that factors such as soil moisture, weather, and crop and weed stage will influence how competitive a weed is. For example, late emerging weeds tend to have little or no impact once the crop has formed a closed canopy. Thus, postemergence control practices should be concentrated during the early stages of the crop development and late emerging plants could be disregarded. Yet, extremely large and heavy infestations should not be tolerated. This is particularly true in when dealing with highly competitive and difficult to control weeds such as jointed goatgrass, Canada thistle and field bindweed.

**8. Work against herbicide resistance.** Weeds, like any other living organism, are variable. Some of them have an innate ability to survive and reproduce after a treatment with a dose of herbicide that would normally be lethal. Every time you apply a herbicide you are killing the susceptible plants and selecting potential herbicide resistant individuals. If during several years you use the same herbicide over and over again, you are increasing the selection pressure and speeding development of herbicide resistant weeds. To reduce the risk of selecting herbicide resistant biotypes, you should rotate among herbicides with different site of action, applied either as tank mixes, premix formulations or sequential applications. Also, you should rotate management practices, such as the incorporation of timely cultivation. Finally, crop rotation is an excellent tool to reduce the selective pressure on herbicide resistant weeds.

**9. Minimize weed seed production.** There is an old proverb that says "one year's seeding, seven years weeding." Weeds can produce anywhere from a couple of hundred to many thousands of seeds per year. Thus, preventing seed production is a key component in the development of a successful long-term weed management program. This is particularly true when dealing with weed species that have a persistent seedbank such as field pennycress and common lambsquarters.



**10. Be a good neighbor.** Building a strong relationship with your neighbors, local Extension agents, ag chem dealers and seed representatives can help you make sound decisions and save money. For example you could benefit from early pay and bulk discounts. Also, they are an invaluable source of information on new alternatives to manage your weeds.

In summary, a good weed management programs starts with a healthy crop. Integrating practices is essential to increase the success of a weed management program and secure high yields.

In doing so, you need to combine cultural, mechanical, and chemical control practices to limit the introduction and spread of weeds, help the crop compete with weeds, and make it difficult for weeds to adapt to the specific growing conditions of crop fields.

By Fabian Menalled. Cropland Weed Specialist, Dated: 05/12/2005

**Northern Gardening Tips**



**Keep the bloom, but lose the crab apples**

The white and pink flowers of crab apples are a welcome contrast to gray winter days, but the bloom boom means that fruit will follow. Nowadays, with fewer people making crab apple jelly, some consider prolific crab apple fruit to be a sidewalk nuisance. In the long run, the easiest way to enjoy the flowers but avoid the fruit is to plant one of the flowering crab cultivars that produce no fruit.

On existing trees, you can prevent fruit from forming, but you have to be on the ball to apply the right amount of plant hormone at the right time. Plant hormones, natural or synthetic, are not pesticides, so they don't kill anything except the maturing ovaries of the crab apple tree. One synthetic plant hormone, called Naphthalene acetic Acid (NAA, for short), causes young fruit to abort while doing no harm to the tree or to surrounding plants or insects. Follow the concentration recommendations on the label. Ethephon is a plant-growth regulator found in products such as Florel. It readily decomposes to produce the natural plant hormone ethylene, which interferes with the fruit's growth.

Whatever product you use, it's very important to follow the label directions and spray those trees within 10 days after they begin to bloom. If you apply the wrong concentration, or do it at the wrong time, nothing will happen. He who waits is lost!

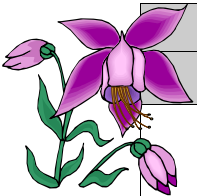


For more yard and garden resources from MSU Extension, contact the Flathead Reservation Extension Office at 275-2756 or send and email to [flatheadreservation@montana.edu](mailto:flatheadreservation@montana.edu).

It was really humid in the woods, so the two hiking buddies remove their shirts and shoes. But when they spot a sign saying "Beware of bears," one of them stops to put his shoes back on.  
 "What's the point?" the other says.  
 "you can't outrun a bear."  
 "Actually," says his friend, "all I have to do is outrun you."

**Making a Difference on the Flathead Indian Reservation**

MSU Extension is an equal opportunity/affirmative action provider of educational outreach.



MAY 2010						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13 <b>Women's Wellnes Fair @ Joe McDon- ald Fitness Center</b>	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31 <b>Office Closed</b>					

