

# Flathead Reservation Extension Newsletter

## Agriculture



### Harvesting Your Alfalfa

Alfalfa, queen of forage crops, is the nation's most important forage, and Montana's leading hay crop. Most authorities believe that alfalfa, which means "Best Fodder" in Arabic, originated in southwestern Asia. Alfalfa was brought to the New World by 16th Century Spaniards and introduced to the United States by missionaries from Mexico. Alfalfa was reportedly grown in the Yellowstone

Valley as early as 1884. Quality alfalfa can be harvested in several ways. The harvest system can significantly affect forage quality, and quantity. The most common systems include:

**Hay**-Alfalfa dried in the field to a dry matter content of 80 percent or greater (less than 15 to 20 percent moisture).

**Haylage**-Alfalfa swathed, chopped and stored in an oxygen-limiting structure at 40 to 60 percent dry matter.

**Silage**-Alfalfa swathed, chopped and stored in a silo at 30 to 40 percent dry matter.

Quality alfalfa hay should possess several observable characteristics: leafiness, bright green color, pleasant aroma, fineness and pliability of stems, absence of foreign material and freedom from mold. Livestock production can be substantially increased when forage is harvested at the proper stage, properly cured, or harvested as haylage or silage and stored to avoid exposure to rain or snow. Unfavorable weather during hay harvesting, which is likely in Montana in June, can result in excessive dry matter losses and poor feeding quality. USDA studies show that alfalfa hay harvested without rain damage has substantially more protein. Most losses occur when leaves and small stems are shattered during harvesting. A good haying operation may capture 60 percent of the leaves, while a silage system can retain 80 percent. Rain damage that required several turnings can result in only 40 percent of the leaves ending up in the stack.

A uniform, even job of cutting is important for proper curing of hay. Conditioning equipment on the swather reduces the field drying time by one-half to two-thirds, depending upon weather. Weather damage losses can be reduced by using harvest equipment that reduces field curing time and using weather aids or preservatives. Hay and silage preservatives can reduce storage losses and improve feed quality, under certain conditions. For example, if rain is imminent when hay is to be baled, preservatives will allow baling at a higher moisture content. There are many good preservatives on the market, but none are "miracle cures." They will not improve poor forage or substitute for good management. Before spending money for a preservative, producers should be sure that weather conditions or management restrictions warrant its use. Select a preservative on the basis of sound research and apply it at the recommended rates.

This is an excerpt from an article written by Donald E. Baldrige, Howard F. Bowman and Raymond L. Ditterline. The entire article can be found at [http://www.msueextension.org/ruralliving/ag\\_alf\\_grow.html](http://www.msueextension.org/ruralliving/ag_alf_grow.html).



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Photo by Clemson University—USDA Cooperative Extension Slide Series, [Bugwood.org](http://Bugwood.org)

## The Alfalfa Weevil

During the spring, crop damage due to the alfalfa weevil can take a heavy toll on central and eastern Montana alfalfa producers. The alfalfa weevil is the most destructive insect of alfalfa hay in the Intermountain western region of the United States. Both larvae and adults feed on the alfalfa; the larval stage is the damaging stage, lowering

yield and quality.

**Identification:** **Adult** weevils are snout beetles approximately  $\frac{3}{16}$  inch long; they are light brown with a dark brown stripe from the head to about three-quarters down the back, narrowing as it progresses down the back. When temperatures warm to about 48°F (9°C) in the spring, the weevils become active. The females chew holes in alfalfa stems, laying from 5 to 20 eggs in each hole. The **eggs** are tiny, about  $\frac{1}{50}$  inch long, oval yellow in color when first laid and turning dark brown before hatching. Egg clusters can be found by first checking for small punctures and splitting open the lower 1/3 of stems. Egg laying begins in April (warmer areas) or May (cooler areas, Montana) and extends through June or later. Each female will lay between 400 and 1,000 eggs. New larvae hatch and emerge from stems after seven to 14 days, depending on temperature. Weevil **larvae** are about  $\frac{1}{20}$  inch long when



Photo by Clemson University—USDA Cooperative Extension Slide Series, [Bugwood.org](http://Bugwood.org)

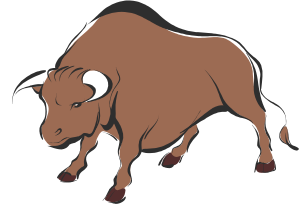
they first hatch. They range in color from cream, to pale green, and are curved with shiny black heads. A white stripe running down the middle of the back may be visible and becomes more distinctive as the larva matures. Fully-grown larvae are up to  $\frac{3}{8}$  inch long and are wider in the midsection than at either end of the body.

### **Plant Response and Damage:**

Larvae feeding in the folded leaves can heavily damage stem terminals, but initial damage is not always clearly visible. The closed, overlapping foliage of the stem terminals should be unfolded to detect feeding damage. Heavily infested stands have a grayish or frostlike appearance due to the dried, defoliated leaves. At high weevil densities, foliage can be stripped; leaving only skeletonized and ragged leaf fragments and stems. Yield losses of 30 to 40 percent of the standing hay crop are possible under extreme population levels.

For more information, contact the Flathead Reservation Extension Office 675-2700 x1247 or email at [flatheadreservation@montana.edu](mailto:flatheadreservation@montana.edu). This article is an excerpt from "Alfalfa X-1: Alfalfa Weevil" by Sue Blodgett and Frank B. Peairs (revised); Mike Brewer, Frank Peairs and Jay Donahue (original) <http://highplainsipm.org/HpIPMSearch/Docs/AlfalfaWeevil-Alfalfa.htm>

## Study Done on the Effects of Spring Elk Grazing on Summer Cattle Forage



Foothill rangeland is an extremely valuable seasonal habitat for both cattle and Rocky Mountain elk. Elk consume nearly 80% graminoids in spring on foothill rangeland, while cattle consume 75-85% graminoids in summer on foothill rangeland. The existing spatial and dietary overlap of these species on foothill rangelands warrants an elevated level of attention. Increasing elk populations, urban sprawl, conversion of native rangeland to cropland, and increased recreational activity exacerbate the impacts of spatial and dietary overlap among wild and domestic ungulates. Bluebunch wheatgrass is an important forage species on foothill range throughout the Pacific Northwest and the Rocky Mountain West for cattle in summer and for elk in spring. Spring elk grazing of bluebunch wheatgrass could delay cattle turn-out dates onto summer range, increasing annual feeding costs, lowering summer cattle stocking rates, and/or lowering summer livestock performance. Ultimately, excessive levels of grazing may threaten the sustainability of the existing resources. The objectives of this study were to compare the effects of early and late spring defoliate on at various levels for a single year on plant yield and plant vigor of bluebunch wheatgrass in the summer on foothill rangeland in Montana, and to compare the cumulative effects of early and late spring defoliation at various levels on plant yield and plant vigor of bluebunch wheatgrass in the summer on foothill rangeland in Montana.

The results indicate that elk grazing of bluebunch wheatgrass plants in April will not decrease their yield or vigor in June or July. Therefore, cattle grazing management (e.g., turn-out date, stocking rate, etc.) in June or July need not be adjusted to compensate for elk use in April. Elk grazing of bluebunch wheatgrass plants for more than two successive years in May to less than 2-inch stubble heights will decrease plant yield and vigor in June. Therefore, in areas that receive May use by elk that are to be grazed by cattle in June, grazing management needs to be altered in order to sustain the forage resource. One option is to encourage elk

to use the site earlier in spring or to delay cattle use until later in summer. Another option is to reduce stocking rates of either elk in spring or cattle in summer. Resource managers, wildlife biologists and ranchers should carefully monitor bluebunch wheatgrass vigor in foothill areas that receive elk



use in May, especially sites that are subsequently grazed by cattle in June or July, in order to sustain the resource for both species.

This article can be found at <http://www.animalrangeextension.montana.edu/articles/beef/q&a2002/beef7-5.pdf> and was written by Tracy K. Brewer and Jeffrey C. Mosley, Department of Animal and Range Sciences, Montana State University; Daniel L. Lucas, Montana State University Extension Service, Phillipsburg; and Lisa R. Schmidt, Montana Farmer-Stockman, Whitehall.

## Agriculture

### St. Johnswort

St. Johnswort (*Hypericum perforatum*), is also known as common goatweed or Klamath weed. This species was introduced for ornamental and medicinal purposes and since has invaded the western rangelands. St. Johnswort is a taprooted perennial weed



Photo by Carol DiSalvo, USDI National Park Service, [Bugwood.org](http://Bugwood.org)

which reproduces by seed and short runners. Plants can grow from 1 to 5 feet tall with numerous, rust-colored branches that are woody at the base. Their leaves grow opposite each other, are oblong and generally not more than 1 inch long. The leaves also have tiny perforations which can be seen when held up to a light source. The flowers, which turn from east to west as the sun crosses the sky, occur in an open flat-topped group. They are bright yellow with five petals. Peak flowering occurs mid to late June but flowering begins in May and continues through September. St. Johnswort can be a problem in pastures and rangelands because when desired forage is scarce, livestock will consume the weed and may suffer from severe dermatitis. Animals affected by the St. Johnswort lose weight, are difficult to manage and lose market value. St. Johnswort is best managed by adopting a preventive weed management strategy.



Photo by Richard Old, XID Services, Inc., [Bugwood.org](http://Bugwood.org)

On small, isolated infestations, hand pulling or digging of young plants may be effective. Pulled or dug plants should be removed from the area and burned to prevent vegetative regrowth and/or seed dissemination. Mowing is ineffective as a management tool but may discourage the spread of the plant if done before seeds form. Burning may increase the density and vigor of St. Johnswort infestations. Four biological control agents are currently recommended for St. Johnswort in Montana.

They are: *Chrysolina hyperici*, a foliage feeding beetle; *Aplocera plagiata*, a foliage and flower feeding moth, *Agrilus hyperici*, a root-boring beetle; and the flea beetle. Herbicides can be used on small infestations of St. Johnswort, however; if herbicides are to costly, herbicide application on a large scale may not be economically justifiable, especially if repeated applications are necessary. An integrated weed management program should be employed to adequately manage for St. Johnswort in large scale infestations. Integrated weed management involves the use of several control techniques in a well-planned, coordinated and organized strategy to reduce the impact of noxious weed on rangelands.

For more information on the control of St. Johnswort contact your local weed coordinator Dan Jackson, Weed Specialist, CSKT Noxious Weed Management Program 675-2700 ext 1252; or the Flathead Reservation Extension Office 675-2700 ext 1247.

This article was written by Jane Krueger, research associate, and Roger Sheley, assistant professor and Extension weed specialist, Department of Land Resources and Environmental Sciences. The article and its entirety can be found at <http://www.montana.edu/wwwpb/pubs/mt9810.html>.



Photo by Norman E. Rees, USDA Agricultural Research Service, [Bugwood.org](http://Bugwood.org)

## Community



### Wells & Septic Systems

Good drinking water is a high priority for most of us. About 15% of the United States gets drinking water from private wells, and in some Montana counties, more than 60% of residents rely on private wells for drinking water. Well and septic system owners have a direct connection to ground water resources, and play a critical role in protecting those resources. While people on public water supplies have professionals that test the quality of their water, and ensure that their sewage is treated properly, private well owners do not enjoy these services. It is the responsibility of the homeowner to regularly test the quality of their drinking water, and to care for and maintain their septic systems. It's interesting talking to homeowners on this topic. When they learn that their septic tank is recharging the same aquifer that their well pulls drinking water from, it tends to get their attention. The Montana Department of

Environmental Quality has estimated that there are over 120,000 septic systems in Montana. If properly installed and maintained, these systems can effectively treat wastewater. On the well and drinking water side of things, homeowners should inspect the wellhead, or the part of the well where the casing pipe meets the surface. The cap should fit tightly, and there should not be gaps for bugs or rodents to enter the well. The ground surface should slope away from the well so that surface water won't accumulate or run past the well head, and the casing should extend 12-18 inches above the ground surface. Contaminants such as chemicals and animal waste should also be kept away from the wellhead. On the septic wastewater treatment side of things, the septic tank should be pumped on a regular basis, about every 3-5 years depending on the size of the family and the size of the tank. On newer tanks, there's an effluent filter which should be cleaned at least every year to prevent solids from leaving the septic tank and clogging the drain field. Inside the house, people should be aware of what they put down the drain. A good general rule is, if it didn't come out of you, it shouldn't go down the drain. This means not using garbage disposals, or putting coffee grounds, unused pharmaceuticals or other wastes down the drain. Conserving water and fixing leaks is also a way to reduce the amount of water that the septic system has to treat. For more information regarding how our well and septic systems are connected to groundwater, your Flathead Reservation Extension office at (406) 675-2700 ext 1247 or email [flatheadreservation@montana.edu](mailto:flatheadreservation@montana.edu).



been infected by a single-celled, spore-producing parasite called *Nosema ceranae*. *Nosema's* spore has a tough resistant wall protecting it from conditions in the host and in the environment. Conditions in the bees' intestines trigger the release of spores and their contents into the cells of the host bee. The *Nosema* nuclei divide repeatedly inside the infected bee, producing large amoeba-like organisms with multiple nuclei. Some of the organisms mature into spores, completing the lifecycle.

There is an antibiotic that kills the parasite in its active, reproducing state, but no method of killing its spores. The spores are extremely hardy and can survive freezing, dehydration and extreme heat. During the winter when bees are hibernating, sick bees often defecate in the hive, greatly increasing the chances that other bees will be exposed.

Several different compounds have been tested to find out what beekeepers can use to kill the *Nosema ceranae* spores. It has been found that a 10 percent bleach solution worked the best. Beekeepers can use it to clean their hives and equipment. It is inexpensive and readily available. Another compound with potential against *Nosema ceranae* spores is formic acid. Some beekeepers already use it to kill other bee pests. The bees picked up in Polson will be used for CCD projects and will be kept on the MSU campus at the Montana Agricultural Experiment Station.

This story was written by Melynda Harrison, MSU News and can be found at <http://www.montana.edu/cpa/news/nwview.php?article=7181>

## Nutrition

### Milk—Where's Your Mustache?

Why has milk become so popular? Many of us are familiar with the milk mustache advertisements, and the *Got Milk?* commercials. Milk and the calcium it provides is critical for healthy bones and teeth. It is also a major factor in the prevention of osteoporosis. Teens are drinking less milk today (bad news), while soft drinks, designer teas and other beverages seem to be booming. Trouble is, most of these drinks provide "refreshment" but little else. USDA studies show that 8 out of 10 teenage girls and 6 out of 10 teenage boys are not getting enough calcium during this critical time of growth and development. Studies have also shown that



This article is an excerpt from MSU's Extension radio program and was presented by Adam Sigler research associate with Montana State University Extension Water Quality. To hear the complete radio program please go to <http://www.msueextension.org/msunews/soundbites/wellsseptic.mp3>.

### Buzz about Colony Collapse Disorder

At the end of April 2009 MSU graduate student Joanna Gress drove from Polson to Bozeman with 50,000 honeybees in her car. Gress brought the bees to MSU to study the cause of, and develop a management strategy for, Colony Collapse Disorder (CCD). The main symptom of CCD is a rapidly depopulated beehive. The queen and immature bees remain but all the others are gone. There are no dead bees in the hive and often there is still honey. According to the USDA, some beekeepers began reporting losses of 30 to 90 percent of their hives in late 2006. "Overnight, the bees are just gone and you don't know what happened," said Gress.

One possibility is that the bees may have



# June is National Dairy Month—Let's Hear it for Milk!

Osteoporosis, also known as "brittle bone disease" can be caused by too little calcium in the diet. Listed below are several ways to get calcium in your diet.

- Serve milk with meals (instead of juice or soda)
- Snack on cheese, yogurt or hot chocolate
- Add a slice of cheese to sandwiches
- Make hot chocolate and soups with milk instead of water
- Use yogurts in salads as a salad dressing
- Prepare pudding or custard for dessert
- Put grated cheese on baked potatoes, casseroles and fruit
- Use cheese as an ingredient in pizza, tacos, omelets, and creamed vegetables

## Start Your Day with Milk— Create your own Breakfast Shake

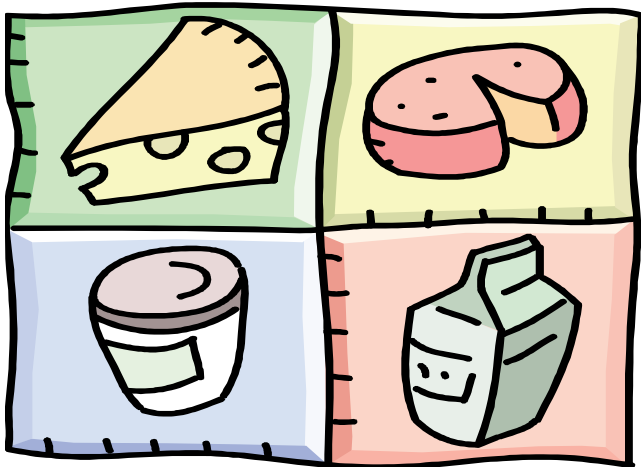


Combine and Blend  
1 Cup 100% Fruit Juice of Your Choice  
1/2 Cup Milk  
Ice Cubes (optional)

Or

3/4 Cup 100% Juice of Your Choice  
1/2 Cup Vanilla or Fruit Flavored Yogurt  
1/2 Cup Canned or Fresh Fruit of Your Choice

This article is from FSNEP which has been brought to you by the Food and Nutrition Service, Montana Department of Public Health and Human Services, and MSU Extension Service. For more information on this subject please go to <http://www.msuextension.org/nutrition>.



## Health Update

### The H1N1 Flu

Lake County Public Health has been actively involved with the Montana Department of Public Health and Human Services in an effort to identify and prepare for Swine Flu (H1N1) in Montana. As a precautionary measure, a portion of Montana's allotment of antiviral medication and personal protective equipment from the national stockpile will be moved to storage in the state. This is preparation in the event medication or equipment is needed. Also being done locally, Lake County Public Health and CSKT Tribal Health have set up a joint hotline for the public with basic information regarding Swine Flu (H1N1). This recording will be updated as information is received and deemed necessary public knowledge. The number is (406) 883-7292...please feel free to pass the number along in an attempt to cut down on calls to health care providers with basic questions. The option is available to leave a message along with name and phone number with any further question to be answered. The messages will be checked frequently.



### Symptoms of H1N1 Flu

- Sudden temperature of above 100 F
- Cough
- Sore Throat
- Stuffy nose
- Headache
- Chills
- With or without muscle aches
- Fatigue



### Protect Yourself

- Cover nose & mouth with tissue/arm when coughing or sneezing DO NOT USE BARE HANDS!
- Wash hands often—Alcohol-based hand cleaners are also effective
- Avoid touching eyes, nose or mouth
- Try to avoid sick people—Influenza is thought to spread person-to-person
- If sick—STAY HOME!

This article has been brought to you by the Lake County Health Department and CSKT Tribal Health. You may also contact Lake County Public Health at (406) 883-7288 or contact CSKT Tribal Health at (406) 745-3325.





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## Making a Difference on the Flathead Indian Reservation

The Montana State University Extension Service is an ADA/EO/AA/Veteran's Preference Employer and Provider of Educational Outreach.

June 2009						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15 Project Learning Tree—St. Ignatius School	16 Project Learning Tree—St. Ignatius School	17 Project Learning Tree—St. Ignatius School	18 Project Learning Tree—St. Ignatius School	19	20 Cloverbud Camp
21	22 Multi County Camp—Loon Lake	23 Multi County Camp—Loon Lake	24 Multi County Camp—Loon Lake	25 Multi County Camp—Loon Lake	26 Multi County Camp—Loon Lake	27
28	29 Food Safety Class	30				

**MSU's Resource on the Flathead Indian Reservation**