



Flathead Reservation Extension Newsletter

Agriculture

Alfalfa Growers: Watch Your Last Hay Cutting Date



Alfalfa hay is a major crop for Montana livestock producers. In 2009, wet growing conditions delayed alfalfa harvesting widely across Montana. Many growers experienced significant rain damage to first-cut hay, and second and third cuttings of irrigated alfalfa are severely delayed. Alfalfa under irrigation always faces a survival issue in the late summer in Montana. The timing of late summer harvests is very critical for optimum alfalfa winter survival in northern areas. Alfalfa and all perennial plants require a proper "hardening" period in late summer and fall to assure that they are healthy next year. Hay values are anticipated to maintain at fairly high levels during the winter of 2009-2010, so there is the important decision for growers to make between taking a valuable crop of alfalfa hay or preserving alfalfa stand life.

Retired MSU Professor, Dr. Ray Ditterline recommends the following three-step program for optimal alfalfa stand life:

1. Determine your average, long-term date of **first** frost (mid-September),
2. avoid cutting or grazing **30 to 45 days prior to** average first frost, **until**
3. several consecutive mornings of mid-twenty degrees (mid-October).

In most of Montana, this means not harvesting alfalfa between mid-August and mid-October. ***So what are the consequences of a poorly-timed harvest in late summer?*** Dr. Ditterline and other MSU researchers completed numerous trials to lead them to the recommendations above. We have evaluated the effects of harvesting irrigated alfalfa on September 1 at Bozeman, MT. Paired plots of all 63 varieties in the MAES yield trials seeded in 2000, 2001, 2002 and 2004 at Bozeman were evaluated. The paired plots were managed identically in our normal three-cut system (2 cuts by August 1), but half received their third cut on September 1 ("intensive"), and the other half received their



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Table 1: Hay Yield in 4th Year as an Indicator of Stress

Planted:	Tons Dry Matter/Acre		% Loss
	"Normal" (3rd cut in October)	"Intensive" (3rd cut Sept. 1)	
4-21-2000	Yield in 2003, 3 cuts: 4.37	Sept 1 harvest in 2000, 2001, and 2002 Yield in 2003, 3 cuts: 2.68	39%
4-25-2001	Yield in 2004, 3 cuts: 6.14	Sept 1 harvest in 2002 and 2003 Yield in 2004, 3 cuts: 5.21	15%
4-30-2002	Yield in 2005, 3 cuts: 6.78	Sept 1 harvest in 2003 and 2004 Yield in 2005, 3 cuts: 5.35	21%
5-7-2004	Yield in 2007, 3 cuts: 5.32	Sept 1 harvest in 2005 and 2006 Yield in 2007, 3 cuts: 4.03	24%

third harvest in October after a “killing frost” as per our recommendation (“normal”). Forage yield in the final year is used to measure the effects of poorly-timed summer harvests. To date, the results have been very striking (see Table 1 on previous page).

These results confirm that poor harvest scheduling in late summer reduces subsequent alfalfa yields. Obviously the impact is more severe when improper harvest occurs repeatedly. Aside from yield, the harvest on September 1 resulted in increased weed invasion (Fig. 1), more root and crown rot, and lower stand densities—all factors that reduce stand life. Under “normal” or ideal harvest scheduling, the range between the highest and lowest-yielding varieties was about 18%, so crop management can be more important than differences among varieties.

Figure 1



Field demonstration of the effects of September 1 harvest on alfalfa stands. Photo taken May 20, 2005 in the 2002 trial (see Table 1). ‘Shaw’ alfalfa is shown in the foreground in plots where the third harvest occurred on September 1 (“Intensive”) or in October (“Normal”) as per our normal recommendation.

The calendar date (September 1) of these trials is not as important as the alfalfa growth stage during frost—the alfalfa should either be dormant or have a minimum of 12 inches of growth when 20-degree weather occurs (unpredictable in August). The 30 to 45 day period prior to first frost assures that significant regrowth should occur prior to freezing weather. If hay or pasture is desperately needed, then late summer cutting should **only** occur on older fields destined to be replaced earlier—avoid this practice on newer productive stands that are needed long-term.

Note that dryland alfalfa would behave similarly, however early dormancy is induced by our typically dry conditions in late summer which restricts forage regrowth.



This information is from Dennis Cash, Mark Manoukian and Rachel Soto, MSU Extension Forage Specialist and Agricultural Agents, Phillips and Meagher Counties.

How Shrink Happens

It is September, the time of year when producers begin to ship calves to feedlots in the Midwest. Producers will often ask how much shrink they can expect on their calves. The following tables are from an article written by Becky Mills and Steve Cornette from Beef Today (December 2005) entitled “Shrink Happens.” These tables give you a place to start...

Table1: Shrink of a 600lb calf which was penned, sorted, weighed, and transported for 8 hours

<i>Factor of Shrink</i>	<i>% Shrink</i>	<i>Pounds Lost</i>
30 min. preliminary sorting	0.5	3
Weighing & loading	3.0	18
First 4 hrs trucking	4.0	24
Second 4 hrs trucking	1.0	6
<i>Total shrink</i>	<i>8.5</i>	<i>51</i>

Table 2: Time in Transit and Cattle Shrink

<i>Hours in Moving Truck</i>	<i>% Shrink</i>	<i>Days Required to Recover Pay Weight</i>
1	2	0
2-8	4-6	4-8
8-16	6-8	8-16
16-24	8-10	16-24
24-32	10-12	24-30

This information is from Prime Cuts Newsletter Vol 1. #7 and is available online at: <http://animalrangeextension.montana.edu/articles/beef/Prime%20Cuts/Prime%20Cuts%20September%2010.pdf>

USDA Implements Farm Storage Facility Loan Program

Bruce Nelson, State Executive Director of USDA’s Farm Service Agency in Montana announced that changes to the Farm Storage Facility Loan (FSFL) program have been implemented in accordance with the 2008 Farm Bill. The USDA Farm Service Agency (FSA) administers FSFL on behalf of the USDA Commodity Credit Corporation (CCC). “This program helps to ensure that producers have adequate capacity to store their harvested production until they sell it on the open market,” said Nelson. “USDA is committed to providing the necessary resources to keep producers financially solvent before, during and after each crop year.”

The FSFL Program provides low-interest financing for producers of eligible commodities to build



or upgrade farm storage and handling facilities. The maximum principal amount of a loan through FSFL is \$500,000. Participants are required to provide a down payment of 15%, with CCC providing a loan for the remaining 85% of the net cost of the eligible storage facility and permanent drying and handling equipment. Loan terms of 7, 10, or 12 years are available depending on the amount of the loan. Interest rates for each term may be different and are based on the rate which CCC borrows from the Treasury Department. Partial funding can be made after a portion of the construction has been completed. The final fund disbursement will be made when all construction is completed. The maximum amount of the partial disbursement will be 50% of the projected and approved total loan amount. Applications for FSFL must be submitted to the FSA county office that maintains the farm's records. An FSFL must be approved before any site preparation or construction can begin.

The following commodities are eligible for farm storage facility loans:

- Corn, grain sorghum, rice, soybeans, oats, peanuts, wheat, barley or minor oilseeds harvested as whole grain
- Corn, grain sorghum, wheat, oats or barley harvested as other-than-whole grain
- Pulse crops—lentils, small chickpeas and dry peas
- Hay
- Renewable biomass
- Fruits (including nuts) and vegetables—cold storage facilities

For more information about FSFL or other FSA price support program, please contact your FSA county office 676-2811, or visit www.fsa.usda.gov/mt.

This information is from an August 2009 FSA news release.

Weed Corner

Look Out for White Bryony

A plant specimen recently collected in Bozeman has been identified as white bryony (*Bryonia alba*) by Montana State University's Schutter Diagnostic Lab. This invasive species is listed as a noxious weed in Idaho and Washington. It has also been found in Oregon, Nevada and Montana, although its range in Montana is very limited. Prior to the recent find, white bryony had only been reported in Big Horn, Missoula, Park, Stillwater and Sweet Grass counties.

White bryony was introduced to the United States in the 1970s and has been called the "Kudzu of the Northwest." It is a perennial climbing vine capable of growing up to 6 inches per day. This rapid growth allows it to quickly cover the sides and tops of many tree species. The rooting system can be up to 18 inches in length and resembles a white turnip. This species has

dark green, palmately lobed leaves, each with an associated tendril. The flowers are small, yellow-green or yellow-white, and are located in the leaf axils. The fruit is a round berry, which will turn black as it ripens. These fruits are eaten and spread by birds, but they are highly toxic to humans and livestock.



"This plant is capable of causing a variety of damage to the host species," said Melissa Graves, plant identification diagnostician at MSU's Schutter Diagnostic Laboratory. "Due to its rapid growth, it can eventually block all light to the host plant. Additionally, heavy winter snow accumulation on bryony can lead to branch loss from breakage. This type of injury can also lead to invasion of the host species by disease and insects. The spread of white bryony can reduce wind protection for people and livestock and lead to loss of wildlife habitat," Graves said.

Control measures for white bryony include:

- Wear protective gear when handling (gloves, long sleeves, etc.). The plant can be a skin irritant.
- Broadleaf herbicides like Roundup can be effective but can be hazardous to the host species. In this situation, pull the vine away from the host plant prior to herbicide application to avoid injury. Several applications may be required for control.
- White bryony regenerates from the root, so severing the vines is not effective.
- Root damage is the most effective control method and should be done in autumn after the leaves have died back. The roots should be severed 3-4 inches below the soil surface. Watch for new plants or regrowth and repeat this process immediately.

If you believe this plant is on your property, samples with leaves, flowers and fruit should be sent to the Schutter Diagnostic Laboratory for identification. This can be done through the Flathead Reservation Extension Office, or samples can be sent directly to Melissa Graves, 121 Plant Bioscience Building, Bozeman, MT 59717.



Aquatic Plant Management Training

An Aquatic Plant Management Training sponsored by MSU Extension, Flathead Reservation and the Montana Department of Agriculture will be held in Ronan, MT. The training will be held on **September 9th-10th in the Ronan Community Center.**

This training course has been approved for [six \(6\) recertification training credits for pesticide applicators licensed in the Aquatic Pest Control, Right of Way Pest Control and Regulatory Weed Pest Control, and Demonstration and Research licensing categories. The training has also been approved for 6 Private applicator recertification credits.](#) Snacks will be provided.

This training course will present information concerning:

- aquatic plant identification
- best management practices for an aquatic environment
- permitting processes needed when using vegetation controls in an aquatic environment
- reviewing several research and vegetation management projects that are on-going in western Montana
- pesticide product representatives will be discussing chemical control options

The cost is \$25.00 and pre-registration is required. For registration and further information, please contact the Flathead Reservation Extension Office at (406) 675-2700 ext. 1247 or 1246; or send an email to: flatheadreservation@montana.edu; or register online at <https://app.mt.gov/pest/>

Community



Food & Fitness Celebration

The Confederated Salish and Kootenai Tribes Food Distribution Program cordially invites you to the "Food & Fitness Celebration" on **Wednesday,**

September 23 beginning at 8:00 a.m. This event will be held in the **Joe McDonald Health & Fitness Center, Highway 93, Pablo, Montana.**

The Celebration will overlap Salish Kootenai College new student orientation. Following a welcome, the event kicks off with a 5k walk/run followed by a day packed with health and fitness activities. These activities will include: a farmers market, samples of a variety of healthy recipes combining commodity foods with locally grown produce, native games, and a motivational talk given by Darryl Tonemah, Ph.D from the University of Oklahoma Health Sciences Center.

Booths, table displays and health screenings will include: CSKT Tribal Health and Human Services, the Lake County Health Department, St. Joseph Hospital, St. Luke Hospital, CSKT Fitness Center, and the SKC Prevention Taskforce on STD's. Services being provided will include testing and information on blood pressure, blood sugar, cholesterol, cardiovascular issues, and flu shots. This is a small sampling of the events and services that will take place during the Food and Fitness Celebration. We will wind up the day with a small concert in the SKC Theatre with Darryl Tonemah performing from 6:00 to 7:00 pm.

To request disability accommodations or to inform us of special dietary needs, please contact the Flathead Reservation Extension Office at 675-2700 ext. 1247; flatheadreservation@montana.edu; P.O. Box 335 Pablo, MT 59855.

Canning and Freezing May Be in Store



More people are gardening to save money on their grocery bills. If the harvest is bountiful this summer, freezing and canning excess produce is an option. However, certain guidelines need to be followed to assure that produce remains safe and of high quality. University of Nebraska-Lincoln (UNL) food safety specialist, Julie Albrecht weighs in on the subject.

When it comes to preserving food, Albrecht said the easiest thing to try is freezing. "If you have never canned before, I really recommend freezing if you have a stand-alone freezer," Albrecht said, "It is safer." The stand-alone freezer is key. A freezer that is part of a refrigerator really isn't meant for long term storage. "You really need to have a freezer that reaches zero degrees or less. A freezer with a refrigerator just isn't going to get that cold," she said. "These freezers really can only keep food fresh for about three months or less." Freezing is also less expensive because you don't have to purchase a pressure cooker. When canning vegetables, the only safe way to preserve them is with a pressure canner. This is the only way to destroy the deadly spores of the bacterium, *Clostridium botulinum*, which causes the illness called Botulism. More detailed information about canning, including altitude adjustments and processing times can be found in the Montana State University Montguide MT200905HR "Home Canning Pressures and Processing Times" available at the Flathead Reservation



Extension Office or online from MSU publications <http://msuextension.org/publications>.

"Using a hot water bath, the oven, or anything else for canning vegetables is not safe," said Albrecht. It is safe to can fruit, jams, jellies and pickles using a hot water bath because of the higher acid content of fruit and the pickled product. Tomatoes can be canned in a hot water bath because of their acid content. However, more and more newer tomato varieties have lower acid content, so it is now recommended to add some lemon juice or citric acid to the jars. "Acid inhibits the spores from Clostridium botulinum growing out," she said. Caution should also be given when canning salsas. Be sure to follow the recipe; for example, don't throw in more peppers because it will reduce the acid content. The safety of canning in a hot water bath really depends on the acid content. Use current recipes as they are safe to process in a boiling water bath.

When freezing vegetables, they first need to be blanched (boiled in water for a short period of time). This is because the enzymes in the vegetables continue to break down even when frozen. If the vegetables are not blanched, corn will begin to taste like the cob and broccoli will smell awful, for example. "Blanching inactivates those enzymes and also allows you to get more vegetables into a container," Albrecht said. When freezing vegetables, be sure to use freezer storage bags or containers that are freezer safe. When blanching, bring water to a boil and then drop the vegetables in. You will want to use about one gallon of water per pound of vegetable. Water should return to a boil within one minute or too many vegetables are being used. Cook times for some vegetables include: green beans, 3 min; broccoli, 3 min; corn on the cob, 11 min; corn cut off the cob, 4 min; peas, 2 min. After cooking, plunge into ice cold water, drain, package, and place containers one layer deep in the freezer to quickly freeze. For more detailed information on blanching times for different vegetables and freezing instructions check out the MSU Montguide "Freezing Vegetables" MT200908HR online or contact the Flathead Reservation Extension Office (406) 675-2700 ext. 1247, flatheadreservation@montana.edu.

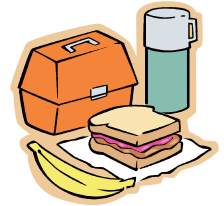


Is Your Pressure Canner Ready to Go?

With summer coming to an end and the abundant garden harvest needing attention, your thoughts may be turning to canning. If you have a dial gauge pressure canner, you can bring your dial gauge in to the Flathead Reservation Extension Office and have it tested. Your dial gauge should be tested annually to ensure accuracy. Weighted gauge pressure canners are constant and do not need to be tested. To test your dial gauge, simply bring your pressure canner gauge in to

the office and let us test it for you. Then you can sail into your canning with the knowledge that your canned goods will be processed accurately and safely.

5 Easy Ways to Bag a Waste-Free Lunch



The Environmental Protection Agency (EPA) estimates that the typical brown-bag school lunch would generate 67 pounds of waste per child over a school year. Whether you take a lunch to work or school, here are some easy ways to go greener at every meal.

1. Start with a reusable bag or box.

Forget those boring old brown bags (unless you like them, reuse them many times, and then recycle the paper). The options for lunch bags and boxes now come in cool colors with funky designs for all ages. They are made of a variety of materials; you can find bags from cotton, bamboo, or recycled plastic bags as well as boxes from stainless steel and BPA-free plastic.

2. Add reusable containers.

Once you've got the outside covered, it's time to choose reusable containers for food and drinks. Some of the snazzy new lunch boxes come with smaller eco-friendly boxes, tubs, and bags already nestled inside. Washable margarine tubs and other reusable food packages are a no-cost option. A small insulated beverage bottle is a great investment for hot or cold drinks.

3. Maximize use of leftovers.

Now that we have eco-friendly bags and containers, what about the food? One green way to cut back on kitchen waste is to use leftovers in packed lunches. Entrées can be divided into single servings and put directly into containers for lunch. Meat, fish, or chicken can be sliced for sandwiches, made with leftover salad greens, perfect on an extra whole grain dinner roll.

4. Buy lunch items in bulk.

Single-serve items may seem convenient, but they cost a lot more and make a lot more waste. Save money and the environment by purchasing the largest package you can use. Divide food into your own reusable containers at home. Take a little time on the weekend to make enough small containers of cheese slices, baby carrots, and trail mix for weekday lunches.

5. Keep food safety in the bag.

Food safety should be top-of-mind whenever you pack a lunch. Keep food fresh (hot foods hot and cold foods cold) to prevent foodborne illness. It will also help the environment, since you won't have to throw away spoiled food. Use insulated bottles (for cold drinks and hot soups) along with re-freezing gel packs or small water bottles that can be frozen solid.

This article is from the September 2009 issue of Eat Right Montana's Healthy Families Newsletter and is available online at: <http://www.eatrightmontana.org/eatrighthealthyfamilies.htm>



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Making a Difference on the Flathead Indian Reservation

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

September 2009						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9 Aquatic Plant Management Training-Ronan	10 Aquatic Plant Management Training-Ronan	11	12
13	14	15	16	17	18	19
20	21	22	23 Food & Fitness Celebration	24	25	26
27	28	29 Serve Safe Food Safety – MMFEC Ronan	30			

MSU's Resource on the Flathead Indian Reservation