

Montana Pesticide Bulletin



MONTANA
STATE UNIVERSITY

EXTENSION

December 2008

Colony Collapse Disorder in Montana

by Patricia Denke, Pest Management Supervisor, Montana Department of Agriculture

Montana has a large beekeeping industry. The beekeepers from Montana provide about 10 percent of the bees for California's pollination needs. Also, Montana is generally in the top 10 honey producers in the nation, often in the top five. This honey is in high demand, because it is "light" in color and taste. This means it can be blended with darker honeys to make the honey we see on the supermarket shelf.

Over 200 people keep the 150,000 to 200,000 beehives in Montana. The number of colonies kept by a single beekeeper ranges from one to over 10,000. All of these people have been hit by the situation known as colony collapse disorder (CCD).

Colony collapse disorder is characterized by the sudden disappearance of worker bees from the hive. One week, the bees appear to be doing great, with plenty of workers, lots of brood and activity. When the beekeeper comes back in a couple weeks, all the workers have disappeared, so the brood is dead or dying of cold. There may be a few workers, huddled around the queen, trying to keep her and each other warm. There is plenty of honey stored in the hive, and there is no sign of the disappeared bees.

Since CCD first appeared, beekeepers in Montana have experienced it firsthand. Some commercial beekeepers throughout the state have lost over 75 percent of their colonies. Although the situation seems to be more stable now, beekeepers are still reporting losses, and sometimes, these beekeepers are not commercial operations.

We still do not know the cause of CCD, although there are several viruses that

appear to be relatively common in colonies with CCD. Tender loving care does seem to help colonies that still have enough workers to keep the queen and part of the brood warm. While there is a report of a material that may help bees fight CCD, there is very little scientific evidence to support its use at this time.

Most of the Montana bees that are going to California are now gone, headed for green pastures with flowers.

Hopefully, there will be no more reports of CCD in Montana bees, or bees from anywhere else. In reality, there probably will be. In order to maintain our pollinators, including honeybees, everyone needs to work together to make sure these vital animals can survive.

To help pollinators survive, use plants that will provide them with nectar and pollen in your yard. Try to avoid using insecticides. When you do use insecticides, apply them when the bees are not active - when the temperature is below 55oF, or when the sun is not completely up. Overcast days are also better than sunny days. You should also look at the flowers - even weeds - to see if various types of pollinators are visiting them. When making decisions about crop management, keep these "little creatures" in mind. Some insecticides are less likely to kill pollinators - contact your county extension agent, agricultural chemical dealer, local master gardener, other local resources, or the Montana State University pesticide specialist for help in determining which material to use.

For additional information contact Dr. Patricia Denke (406-444-5400, pdenke@mt.gov).



D. CAPPAERT, MICHIGAN STATE UNIVERSITY,
BUGWOOD.ORG

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Schutter Diagnostic Laboratory

by Kara Schile, Plant Disease Diagnostician, Plant Sciences and Plant Pathology Specialist, MSU

Montana State University and Extension provide plant pest identification through the Schutter Diagnostic Lab. Services provided by the clinic include the identification of plant diseases, insects, plants, and mushrooms. They also aid in the diagnosis of cultural problems and provide management recommendations for agricultural producers and homeowners. The specialists use a wide range of techniques for diagnosis including visual identification, pathogen culture, microscopic identification, and biochemical detection. They also supply clients with recommendations to produce productive crops and a healthy landscape.

Kara Schile is the new Plant Disease Diagnostician in the lab, replacing Dr. Nina Zidack, who is now Director of the Montana Potato Improvement Lab and Potato Seed Certification Program. Kara grew up in Geraldine, Montana, a small farming community in the Golden Triangle where her father grows winter wheat and barley and her mother raises registered Black Angus cattle. Kara came to the Diagnostic Lab from the Gallatin County Extension office where she worked for the past four years as an Assistant County Extension Agent specializing in horticulture.

To submit a plant disease specimen to the Schutter Diagnostic Clinic, please contact your local county Extension office. Extension Agents use the **Plant Diagnostic Information System (PDIS)** (www.pdis.org) to submit specimen information. This system can often diagnose common plant problems without submitting a sample. Extension agents can also submit appropriate images to PDIS for digital diagnosis. Often a diagnosis can be ascertained the same day a sample is brought in if the lab has appropriate information.

The Schutter Diagnostic Lab is supported by funding from the USDA-CSREES funded National Plant Diag-

nostic Network (NPDN). NPDN is a national network of diagnostic labs that function together to prepare for, identify, and mitigate threats to the biosecurity of American agriculture. We also monitor for invasive landscape pests and train first detectors to identify and submit samples of these pests so we can stop their spread as early as possible. We work closely with our Department of Agriculture and APHIS (Animal and Plant Health Inspection Service) as well as other government agencies to communicate about plant health threats in a secure manner. The NPDN provides funds for equipment to aid in sample handling and diagnosis such as a Web-enabled microscope. With this microscope, experts from all over the world could log onto a Web site and aid us in identifying a pest threat. The NPDN also provides training opportunities for pest identification and enhanced communication among diagnostic labs. One recent activity of the NPDN includes hiring a national epidemiologist, who takes data from the PDIS system to help us model pest movement in the United States and predict the movement of pests such as leaf rust, so we can predict how severe the disease epidemic will be and alert our producers about potential problems and how to control them.

NPDN recently released a free online professional development program that teaches how to monitor and respond to high-risk plant diseases, insects and weeds in crops including food, horticultural, and the home landscape. First Detector Training promotes awareness and early detection of exotic pests in the field. You can become a first detector by going to www.npdn.org and clicking on First Detector Training.

Kara Schile can be reached by calling the lab at (406) 994-5150 or emailing diagnostics@montana.edu. If you need to speak to a specialist:

Mary Burrows, PhD., Plant Pathologist, (406) 994-7766, mburrows@montana.edu

Barry Jacobsen, PhD., Plant Pathologist, (406) 994-5161, uplbj@montana.edu

Kevin Wanner, PhD., Extension Entomologist, (406) 994-5663, kwanner@montana.edu

Cathy Seibert, MSU Herbarium, (406) 994-4424, cseibert@montana.edu

Cathy Cripps, PhD., Mycologist, (406)994-5226, ccripps@montana.edu

Guidelines for sample submission:

1. Send in whole plants with roots whenever possible.
2. Collect samples with mild, moderate, and severe symptoms as well as a healthy comparison.
3. Keep some soil around the root ball; wrap this in plastic and secure with rubber band around the base of the plant. Loosely enclose the foliage in plastic or paper.
4. Try to package samples so that when they arrive in the Clinic, we could replot them and have the plants survive.
5. Try to keep sample as fresh as possible until you can get it to the county agent: refrigerate if possible.
6. Include photographs or videotapes illustrating the problem if possible.
7. Mail plant disease specimens to:

**Schutter Diagnostic Lab-Plant Disease
Montana State University
121 Plant BioScience Bldg.
Bozeman, MT 59717-3150**

Please include background information. Plant problems often are influenced by many different factors, so include as much information as possible:

- Plant and variety
- Irrigated or dryland
- Soil type
- Crop history
- Seeding date, rate, and row spacing
- Chemicals used with names, rates, and dates
- Rainfall, temperature extremes, heavy winds
- Pattern of symptoms in the field
- Previous problems in the field

Use Caution with Glyphosate around Trees

by Cecil I. Tharp, Pesticide Education Specialist, MSU Animal and Range Science

Glyphosate products have been a major tool in the control of weeds in urban and ornamental landscapes; however care should be taken around your woody plants. These products if applied improperly cause 'split bark'. Split bark causes over 6.6 million dollars in losses to the U.S. nursery industry annually. This was thought to be mainly due to cold injury, but new research conducted by Ohio State University indicates glyphosate products to be a contributing factor.

Glyphosate (Roundup) has been used for over 3 decades in the control of weeds in ornamentals. Since then, over 45 generic glyphosate products are available. Many of these new formulations have increased surfactant activity which can be harmful to trees.

The surfactants found in many glyphosate products seem to be increasing the prevalence of this problem. While using glyphosate

products around your woody plants, use formulations which contain no adjuvant load. There are many products to choose from depending on your use including: Backdraft, Campaign, Expert, Extreme, Fallowmaster, Fallow Star, FieldMaster, Glypro, Landmaster BW, Land Star, ReadyMaster ATZ, Rodeo, Roundup Custom, and RU SoluGran. If they ask to add an adjuvant, DON'T! Products containing adjuvants are the worse choice for use around ornamental plants with green barks or other woody plants.

Many other symptoms can occur when your woody plants are exposed to a sub-lethal dose of glyphosate. These symptoms include: witches broom, stunting, loss of apical dominance, or chlorosis. Keep in mind these symptoms may take up to 2 years to occur in woody plants. Ohio State University indicates that there are many susceptible varieties to glyphosate uptake including: Prunus species, especially Yoshino cherry and Kwanzan cherry; Crab apples;

Sycamore; Serviceberry; Hawthorn; Mountain Ash; Paper bark maple; Japanese maples, Norway maples; Red Maples; Dogwood; and Magnolias.

To avoid glyphosate uptake follow these steps around your woody plants:

1. Use pre-emergence herbicides instead of post-emergence herbicides (glyphosate).
2. Use post-emergence herbicides sparingly and with caution.
3. Avoid contact of post-emergence sprays on green bark.
4. Avoid use of glyphosate products containing surfactants.
5. Never use glyphosate for sucker removal. Use Scythe (pelargonic acid).



J. PETRY 10-26-08



Wireworm Control in your Small Grain Crops

by Cecil I. Tharp, Pesticide Education Specialist, MSU Animal and Range Science



FRANK PEAIRS, CSU, BUGWOOD.ORG

Wireworms (Elateridae) are a recurring problem for Montana producers in beans, cole crops, corn, potato, peas, and small grains. This insect is also known as the click beetle, with larvae causing damage by feeding on seeds, underground stems, and small roots. Plants may show stunting or shriveling or at times emergence may be inhibited altogether.

The ¼ to ¾ inch larvae are initially white, but will turn yellow to brown as they mature. One generation of larvae may be present in a field for 2 – 5 years prior to becoming adults, depending on the species. Adults overwinter in the soil until the following spring before emerging and depositing eggs in the soil among grass roots.

Wireworm densities are usually predictable due to this multi-year lifecycle unless a management tactic is used. Some treatment strategies that will reduce wireworm densities are tillage, clean summer fallow, flooding, and chemical seed treatments. At times producers may wish to stay in a continuous no-till system and are dependent on chemical seed treatments. In small grains, lindane

was a low cost alternative which was very effective in controlling wireworms until 2007. EPA has had a critical eye on all chemicals classified as organochlorine insecticides due to the persistent nature of these chemicals in the environment. Lindane finally lost its registration in small grains in 2007, thereby eliminating one of the most effective tools for wireworm control.

Alternative seed treatment products are needed due to the loss of lindane for the control of wireworms. Currently, Gaucho 600 FS and Cruiser 5FS are

labeled for use as seed treatments for the protection of plants from wireworm damage. The higher rates are recommended for high wireworm populations.

In 2008, an MSU investigation did show promise for a new product called Enhance AW. Plots treated with this product maintained the highest plant densities when compared to all other treatments in this study (Table 1). This product has received a federal EPA registration and should be available to producers in the spring of 2009.

Seed treatments have not been shown to eliminate wireworm densities in future seasons. Crop losses may be evident even with the use of seed treatments in extremely high wireworm densities. In these cases non-chemical options are the best alternative.

Call your local dealers for more information on prices in your area.

For any questions related to this article contact Cecil Tharp, Pesticide Education Specialist, 406-994-5067, ctharp@montana.edu.

Table 1. Results of MSU wireworm investigation on irrigated wheat near Conrad, MT, 2008.

Treatment/Formulation	Rate	1st leaf	4th leaf
Untreated	NA	71.3 ± 15.8	77.0 ± 12.5
Dividend Extreme 0.96FS Cruiser 5FS	15 GAI/100kg 0.26 oz/cwt	85.8 ± 16.2	106.3 ± 27.3
Raxil MD-W 0.23 FS	5.1 oz/cwt	94.3 ± 9.4	107.0 ± 7.3
Enhance AW	250 g/100kg	126.3 ± 18.6	131.3 ± 8.0
UBI 4362	250 g/100kg	93.8 ± 19.8	105.0 ± 25.1
UBI 4365	325 ml/100kg	116.8 ± 25.2	132.8 ± 30.3

EPA Administrative Activities in our Area of the Nation in Recent Months

These are only short excerpts of EPA news stories of local interest. Complete EPA news stories can be viewed online at <http://www.epa.gov/newsroom/index.htm>. Other miscellaneous pesticide news stories of Montana interest are located on the MSU PSEP website at <http://www.pesticides.montana.edu/News/Miscellaneous/>.

• April 15th, 2008

Latest Summary of EPA Actions to Ensure Safe Drinking Water for Montana Residents. EPA and Montana work together to identify the public water systems against which EPA will take federal action. The following public water systems must comply with drinking water regulations and need to take action to comply with administrative orders from EPA. EPA has issued orders to the following locations in Montana:

- Brockway Supper Club, Circle, MT
- Sam's Café Pryor Creek Bar, Huntley, MT
- Ram's Head Saloon and Fine Dining, Inc., Huntley, MT
- Neihart, Town of, Neihart, MT
- Winston Bar, Winston, MT
- Branding Iron Saloon, Roundup, MT
- River Bend, Libby, MT
- Church of Christ, 48th St. West, Billings, MT
- Black Angus Restaurant, Kalispell, MT
- Ramble Inn, Inc., Sun River, MT
- Blain's Mobile Home Court, Inc., Billings, MT
- Silver City Saloon, Helena, MT

For more information contact Diane Sipe, (303) 312-6391, sipe.diane@epa.gov or David Janik, (303) 312-6917, janik.david@epa.gov.

• May 22nd, 2008

EPA Issues Emergency Order to Ensure Cleanup of Flathead Lake Gasoline Spill. EPA issues order to cleanup gasoline spill after a tractor trailer spilled 6,380 gallons of gasoline on Highway 35 near Polson, MT on April 3rd, 2008. EPA has placed Keller Transport in charge of clean up of this spill in addition to installing monitoring wells. The local drinking water is not suspected to have been impacted as of May 22nd, 2008.

For more information contact Mark Chalfant, (303) 312-6177.

• August 19th, 2008

Libby, Montana's Air Quality Violates Federal Fine Particulate Matter Standard. Libby, MT is proposed as a nonattainment area for failing to meet the PM2.5 air standard set by EPA. PM2.5 is a particulate approximately the size of a human hair that has been shown to aggravate heart and lung diseases. EPA recognizes Libby's efforts in a woodstove change out program. The state of Montana had 60 days to respond to this order prior to an official designation of non-attainment with this standard.

Recommendations from states or tribes regarding this issue are available online at www.epa.gov/pmdesignations/2006standards/index.htm. For more information contact Callie Videtich, (303) 312-6434, videtich.callie@epa.gov.

• September 30th, 2008

North Dakota Developer Fined for Discharges of Pollutants to Lake Elsie Wetlands. David J. Paulson (Northeast Ridge Development Company), in an agreement with EPA, will pay a fine of \$15,000 for unauthorized discharges of dredged and fill material to wetlands near Lake Elsie, near Hankinson, ND. Northeast Ridge is also responsible for all costs incurred for cleanup of the exposed wetlands.

• October 27th, 2008

Fort Peck Tribes are First Tribe in Nation to Assume Key Groundwater Protection Responsibilities. EPA approved Fort Peck tribes UIC (Underground Injection Control) program. This makes the Fort Peck tribe the first tribe in the nation to adopt their own program which protects underground water systems. As a result, they are able to administer and enforce their own Class II injection wells.

For more information contact Douglas Minter, (303) 312-6078 or Richard Mylott, (303) 312-6654.



Future Statewide Private Applicator Program Opportunities

Billings, MT. January 12 – 13:
2009 Sugarbeet Symposium (3 private pesticide recertification credits).

Billings Hotel and Convention Center. This 2-day program opportunity focuses on wheat, barley, as well as sugarbeets. Guest speakers will speak on topics such as managing insects, diseases, weeds, optimizing returns from irrigation, fertilizer prices, strip tillage, and Roundup ready technology. For more information contact Dr. Barry Jacobson, (406) 994-5161, upljb@montana.edu.

Billings, MT. January 12 – 14:
2009 MWCA Annual Meeting (3 private pesticide recertification credits).

Crowne Plaza. Topics include weed control, chemical updates, etc. Contact Jack Eddie (jeddie@co.beaverhead.mt.us) or see the online agenda at <http://mtweed.org/docs/2008-nov-ten-agenda.pdf>.

Bozeman, MT. January 6 – 9, 2009:
Crop Pest Management School (4 private applicator recertification credits, 21 CCA credits):

This 3-day program opportunity is designed to help participants learn to recognize the damage caused by pests, and to integrate alternate management methods, economic thresholds and environmental issues in decision making. For more information contact: Dr. Kevin Wanner, Extension Entomologist, Department of Plant Science and Plant Pathology, MSU, kwanner@montana.edu.

Choteau, Galata & Fort Benton, MT. January 19 (Country Club: Choteau) & January 20 (Galata Community Center: Galata) & January 20 (Ag. Museum: Fort Benton):
Grassy Weeds Workshop (2 private pesticide recertification credits).

Presentations on Cheatgrass Control and Jointed Goat Grass Control. 2-hour sessions. Contact Mark Major (406) 466-2138 for more information.

Chester, Shelby, Cutbank, Choteau, Conrad, Great Falls, & Fort Benton. January 13th (Chester), January 14th (Shelby & Cutbank), January 15th (Choteau & Conrad), and January 16th (Great Falls & Fort Benton):
Triangle Cropping Tour (4 private pesticide recertification credits).

This 4 credit program opportunity brings in specialists to speak on insect control, cropping systems, rodent control, and soil fertility. Contact your local extension office for more information on this program opportunity.

Havre, MT. January 7:
2009 Initial Farm Applicator Pesticide Training (6 private pesticide recertification credits).

MSU-Northern Campus. This 6-hour private applicator training qualifies for certifying individuals as private pesticide applicators with courses in pesticide safety, calibration, environmental concerns, and the private applicator license. For further information contact Joe Broesder at (406) 265-5481 x233.

Havre, MT. January 6:
2009 Crop Production Update (3 private pesticide recertification credits).

Applied Technology Center, MSU-Northern. This recertification opportunity presents information on cheatgrass control, fertilizer economics, cropland insects, and information on the Farm Bill. For further information contact Joe Broesder at (406) 265-5481 x233.

Missoula, MT. December 13, 2008:
Private Applicators Pesticide Recertification (6 private pesticide recertification credits).

This program is a last chance opportunity for private applicators within Region 1 to accumulate credits (other than online credits) prior to the deadline on December 31st, 2008. Speakers will present pesticide safety, cheatgrass control, herbicide use and revegetation of landscape, reading and understanding pesticide labels, and biological control of weeds. For further information contact Steffany Rogge-Kindseth, (406) 258-4211, steffany@missoulaeduplace.org.

Agendas can be viewed on the MSU PSEP website at www.pesticides.montana.edu. Simply select your region of interest from the map of Montana, and select the program you are interested in.

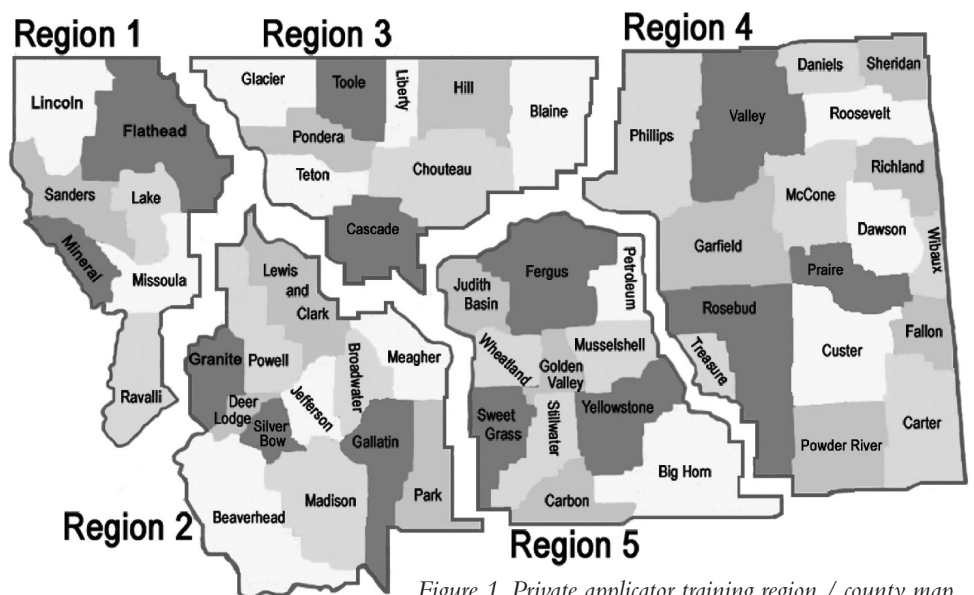


Figure 1. Private applicator training region / county map.

Comments and/or Questions from the Public

By Cecil I. Tharp (Pesticide Education Specialist, MSU)

Q: *Kalispell, MT.* I attended a chemical update meeting that informed me that I would gain recertification credits from attending the seminar; however I have not been accredited for this seminar. What is going on?

A: Make sure that you know what category they are offering recertification credits within prior to attending program. Remember, there are many different categories that may offer credit; including the private (farm), demonstration and research, agricultural plant pest, aerial, dealer, rodent control, and right of way. Program credit worth does not always extend from one category to another. If you are unsure of the credits available for a program, simply go to the PSEP website at www.pesticides.montana.edu and select the program you are interested in. This Web site posts all programs that have been approved for private applicator recertification credits.

Q: *Joliet, MT.* If the pesticide I'm using is labeled for use on grasshoppers in wheat, can I use it for grasshoppers in my garden?

A: NO! This perspective has caused unneeded accidents and phytotoxic risks to non-target plants. The product label specifically states what sites the chemical can be used on, what rates are acceptable, and safety precautions to follow. You must read and follow the product label. The label is the law. Simply using the product on the same pest in different crops is not legal. Toxic effects to crops (sites) not listed on the product label are common.

Q: *Plains, MT.* My certification lapses on December 31st of this year and I only have 4 recertification credits. There are no longer programs available in my area. How can I obtain additional credits to qualify for recertification?

A: Remember, it is the private applicator's responsibility to accumulate 6 recertification credits prior to your region's deadline. Your qualification is good for 5 years once you requalify and pay your \$50 fee. If you look online at www.pesticides.montana.edu and cannot find a program that is available in your area, remember you have 2 other options available. You can either pass the closed book exam at the local extension office, or you can take online exams. Online exams are available at www.pesticides.montana.edu by simply selecting 'private' then select the 'online exam' link. Online exams are each worth 1 recertification credit. You may accumulate 2 recertification credits through this process. Contact your local extension office for more information on future programs in your area and the number of credits you have currently accumulated.

Do you have comments or questions regarding pesticides?

If you do, send to:

Cecil Tharp
Pesticide Education Specialist
P.O. Box 172900
Montana State University
Bozeman, MT 59717-2900
Phone: (406) 994-5067
Fax: (406) 994-5589
Email: csharp@montana.edu
Web: www.pesticides.montana.edu

Janet Kirkland
Certification & Training Officer
Montana Department of Agriculture
Agricultural Sciences Division
PO Box 200201
Helena, MT 59620-0201
Phone: (406)-444-5400
Email: jakirkland@mt.gov
Web: <http://agr.mt.gov/licensing/commercialapp.asp>



Montana Pesticide Bulletin

MSU PESTICIDE SAFETY & EDUCATION PROGRAM

TRAINING & REFERENCE MATERIALS

Personal Information

Name: _____
 Address: _____
 County of Residence: _____
 Phone: _____
 Email: _____

Complete PSEP Training Packet	Total Cost = \$11.00	Check box if needed
INITIAL PRIVATE APPLICATOR CERTIFICATION (STUDY MATERIALS) Montana Private Pesticide Certification Handbook EPA How to Comply with the WPS (CD) EPA How to Comply with the WPS (Book) MSU Pesticide Recordkeeping Booklet USDA Recordkeeping Manual for Private App MontGuide: The Montana Private Applicator Program		

Reference Materials	Cost	#	Total
Montana Private Pesticide Certification Handbook	\$7.00		
EPA How to Comply with the WPS (CD)	\$1.00		
EPA How to Comply with the WPS (Book)	\$3.00		
MSU Pesticide Recordkeeping Booklet	\$1.50		
USDA Recordkeeping Manual for Private App	\$1.50		
Montana Pesticide Bulletin	\$1.00		
MontGuide: The Montana Private Applicator Program	\$1.00		
MontGuide: Assessing Pesticide Safety	\$1.00		
MontGuide: Chemicals and Animal Safety	\$1.00		
TIPS for Fighting Weeds on Small Acreages in Montana	\$3.00		
TOTAL COST			

If you wish to have the *Montana Pesticide Bulletin* emailed to you for free contact the MSU PSEP office: chtharp@montana.edu.

Please send this form with cash or check payment to:

MSU Pesticide Safety Education Program
 PO Box 172900
 Montana State University
 Bozeman, MT 59717-2900



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 Montana State University
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