

Environmental Management Program Manual

Montana Migrant and Seasonal Farmworker Council

**ENVIRONMENTAL MANAGEMENT PROGRAM
MANUAL**

Developed by the Montana Migrant & Seasonal Farmworker Council, Inc.
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Billings Montana 59101
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Prepared with funding from the Rural Community Assistance Program

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INTRODUCTION

This manual is designed to provide educational information, particularly on pesticides that workers are likely to contact while working in alfalfa, cherries, and sugar beets in Montana. The contents of this guide includes information on pesticide poisoning screening, as well as emergency and non-emergency numbers for more information. It is intended this guide be used with the Environmental Protection Agency (EPA) Manual, "Recognition and Management of Pesticide Poisoning," by Donald P. Morgan, Ph.D., March 1989, and the "Pesticide Labels and Material Safety Data Sheets Manual for Farmworker Crops," which was compiled by the Montana Migrant Council, Inc.

This manual is divided into five sections:

PART 1: EPA TOXICITY CATEGORIES

Illustrates toxicity levels indicated in the literature. Throughout the literature you will see toxicity levels indicated by I (DANGER), II (WARNING), III (CAUTION), IV (CAUTION). According to EPA toxicity categories, this is based on what is called, "LD50," --the dose at which half of the test population, usually mice or rats, will be killed.

PART 2: CHARTS OF PESTICIDES USED IN MONTANA ON ALFALFA, CHERRIES AND SUGAR BEETS

These charts, at a glance, note the commercial name by which the chemical is known; the type of pesticide (insecticide, herbicide, fungicide, rodenticide, fumigant); the chemical class; the toxicity level; the name of the chemical manufacturer; the reference page, referring to the "Recognition and Management of Pesticide Poisonings," manual, EPA, 1989. Each chapter of the "Recognition and Management of Pesticide Poisoning" manual is devoted to a different class of pesticides, and provides succinct information on commercial products, toxicology and manifestation of poisoning, confirmation and treatment. A final chapter provides a chart which lists the chemicals associated with particular manifestations. The index at the back of the book lists pesticides by both their product and chemical names, making it possible to rapidly determine the classification and proper treatment where the pesticide is known. These charts are of particular interest to providers, but may be given to interested patients.

PART 3. **EMERGENCY TELEPHONE NUMBERS**

Emergency telephone numbers are provided for information on treatment and pesticide product information. In most cases the victim should be taken to the nearest hospital immediately, however, if the circumstances limit help only through the telephone, these numbers will be invaluable.

PART 4. **INFORMATIONAL RESOURCE TELEPHONE NUMBERS**

This section provides telephone numbers of informational resources for research.

PART 5 **MONTANA MIGRANT AND SEASONAL FARMWORKERS' COUNCIL, INC -- CLINICAL FORMS RELATED TO PESTICIDE POISONING**

Evaluation of Pesticides Exposure (for use when patient identifies or provider suspects pesticides poisoning exposure)

Exposure to Dangerous Conditions
at Home/Work (for use when etiology is unclear)

Patient Education Sheet on
Pesticide Hazard Prevention (general handout that should be provided to patients as a matter of course)

PART 6. **CROP SHEETS OF PESTICIDES USED ON ALFALFA, CHERRIES AND SUGAR BEETS**

The crop sheets include general information on the most commonly used chemicals; when they are applied; re-entry times (meaning when it is expected one can safely enter the field after the pesticide has been applied; some common acute poisoning symptoms; basic prevention information; telephone numbers in the state of Montana for more information; emergency numbers.

The resources section at the end of this document will provide you with the sources of information used to develop the material before you.

AN OVERVIEW OF THE SITUATION

Over one thousand workers are killed annually in agriculture, and disability rates are nearly 3 times that of the general population. Agriculture is therefore identified as the single most dangerous occupation in the nation. Every year, the United States employs about five million farm workers. Workers may be exposed to insecticides, fungicides, or herbicides, together, these are known as pesticides. Pesticides are composed of two types of ingredients: 1) "Active" - meaning, they are intended to kill specific organisms, these "active" ingredients must be listed on the pesticide product label (see material safety data sheets manual). 2) "Inert" - covers everything else. Inert ingredients may include a variety of chemicals necessary to the particular properties of a given pesticides product. Seldom do these inert ingredients show up on a label. Pesticides manufacturers can claim the ingredients are trade secrets, and as such, they are not required to be listed on the label, even though they may make up half or more of the pesticides ingredients. Such practices are real trouble to health care providers trying to treat pesticides poisoning. (2)

Currently, approximately 23,000 commercially available products, composed of 1200 active ingredients are registered with the Environmental Protection Agency (EPA), and more are added each year. There is little to no record on how these pesticides can harm humans if misused, because of their newness on the market. (2)

EPA reports that pesticide exposure causes up to 300,000 acute illnesses and injuries among farm workers each year. Some of the biggest problems with pesticides are that 1) poisonings are rarely reported, as their symptoms often mimic other ailments, and providers often do not realize the patient is experiencing pesticide poisoning; 2) if pesticide poisoning is confirmed, it is risky to treat as often, some of the pesticides ingredients are unknown, chemicals react differently with each person, and presently, treatment, itself, can be toxic. The best way to avoid problems with pesticides is to use them properly, and to know the dangers of even those considered benign, i.e., those used for spot weed killing, house cleaning, etc. (1)

All pesticides, by law, are to come with a label that informs the user as to what dangers are inherent with the chemical. Signal words such as "Danger," "Warning," and "Caution," should be printed on the label. These words correspond with EPA toxicity categories: DANGER - indicates highly toxic materials and is often illustrated by a skull and crossbones, this chemical can kill by inhalation, skin contact, or ingestion. WARNING- means moderately toxic, still potentially lethal. CAUTION--indicates low or slightly toxic, seldom lethal, but can cause serious medical problems. (1)

RECOGNIZING POISONING SYMPTOMS

Persons whose work is directly influenced by pesticides, should educate themselves and their families on the steps to take should pesticide poisoning occur, as there is little time to act when it does happen. The following are five important points recommended by the Yellowstone County Extension Office, that all pesticide users should know before they use pesticides:

1. Recognize the signs and symptoms of pesticide poisoning for those pesticides commonly used.
2. If pesticide poisoning is suspected, immediately take the victim to the local hospital, or call the local poison control center--take no chances with a child; poison works fast in little bodies.
3. In securing help, be able to identify the name of pesticide used, the amount used, and how exposure took place. Give this information to the medical authority. Ideally, bring the pesticide label with you.
4. Know emergency measures, for example, those listed on the label, that you can take until help arrives or the victim can be taken to the hospital, i.e., cardio-pulmonary resuscitation. (2)

THE MOST COMMON CATEGORIES OF PESTICIDES USED IN MONTANA

The four most common categories of pesticides used in Montana are: 1) organophosphates; 2) carbamates; 3) dipyridyls; 4) organochlorines. (2)

COMMON SYMPTOMS OF ORGANOPHOSPHATE AND CARBAMATE POISONING

How a person reacts to exposure to pesticides depends on a variety of factors, such as, the patient's physical proportions, their health condition, the type of exposure, and the characteristics of the pesticide. (6)

Organophosphates and carbamates are the two most commonly used chemical classes of pesticides used in Montana. Many pesticides in the organophosphate class are extremely toxic and cause damage by inhibiting, acetylcholinesterase, the naturally occurring enzyme, necessary for nerve impulse transmission from nerve fibers to muscle and gland cells, and also to other nerve cells in autonomic ganglia and in the brain. Although symptoms may vary, health effects and treatment are common for most organophosphate poisoning. Organophosphates include such pesticides as Parathion, Diazinon, Vapona, Coral, and Counter. (5)

Carbamates are similar to organophosphates, unlike organophosphates, however, they are reversible acetylcholinesterase inhibitors. Carbamates also have symptoms and treatment in common within the class. Carbamates include such pesticides as Furadan, Bux, and Sevin. When a person is poisoned by pesticides, damage occurs quickly, so treatment must begin immediately. Examples of symptoms that occur in mild exposure are as follows:

- 1) Headache, fatigue, dizziness, loss of appetite with nausea, stomach cramps and diarrhea.
- 2) Blurred vision, associated with excessive tearing.
- 3) Shrinking pupils.
- 4) Excessive sweating and salivation.
- 5) Reduced heartbeat, often fewer than 50 per minute. (2)

In more severe poisoning, symptoms may be accompanied by respiratory problems, external weakness, including the inability to walk, unconsciousness, local or generalized seizures, excessive nasal secretions accompany the symptoms. Also, pupils reverse and become widely dilated (2).

If an organophosphate or carbamate is ingested, the stomach symptoms appear first. But if exposure is by skin contact, the respiratory and stomach symptoms often occur at the same time. Antidotes should be available at emergency treatment centers and hospital centers. (5)

Applicators applying organophosphates should have a cholinesterase test before each spray season, and at least every other week thereafter, especially if working with materials bearing the signal words, DANGER, WARNING OR CAUTION. A blood serum sample also should be submitted following extensive exposure or if splashed by organophosphate concentrates. (5)

DIPYRIDYLS

The most common dipyridyls used are diquat and paraquat. Paraquat has been discontinued, but some people may still have some and use it. These materials harm human cells of the skin, nose, respiratory and gastrointestinal tract. These chemicals irritate these areas and crack and dry the skin. Prolonged exposure often causes fingernails to turn black, continued irritation of the throat and nose which causes bleeding and lung damage, causing respiratory problems and muscle aches. Without treatment, severe kidney, liver and lung damage will eventually occur, cannot be reversed and often leads to death. (5)

ORGANOCHLORINES

Organochlorines, such as DDT, accumulate in plant and animal systems, and as a class, have been largely banned or restricted. Organochlorines that most commonly result in pesticide poisoning are endrin, toxaphene, chlordane and heptachlor. These materials act on the human nervous system as stimulants or convulsants. Initial symptoms of organochlorine poisoning include nausea and vomiting, followed by hyperactivity, loss of coordination, and convulsions involving the large muscles, which resemble epileptic seizures. Presently, no antidotes are available for organochlorine poisoning (5).

PROTOCOLS AND PROCEDURES FOR LAY PERSONS.
REGARDING PESTICIDES POISONING

Exposure Occurring at Work Site.

- 1) With regard for your own safety, if victim has been exposed in an enclosed area, wear protective clothing or find someone experienced to remove victim from exposure site into open air.
- 2) If unconsciousness is a danger, try to keep victim alert.
- 3) Monitor breathing. Should breathing stop, initiate CPR. Ideally, use a mouth guard.
- 4) Call 911 or the emergency number in your area, let their office tell you whether it would be better to wait for an emergency team to come to the victim, or if it would be better to take the victim to the hospital.
- 5) Under no circumstances, allow victim to go alone to the hospital.

Patient presenting at Clinic.

- 1) If patient presents as an emergency, refer to health provider immediately. If health provider is unavailable, call 911 or the emergency number in your area. Let their office instruct you as to whether it is better to wait until an emergency team reaches you, or if it would be best to drive to the closest hospital or medical doctor.
- 2) If clothes are known or suspected of being contaminated, remove them, including shoes. Clothing should be placed in a plastic bag, and accompany patient to the hospital. If exposure occurred through skin, wash patient's, hair, skin, fingernails, with soap and water. Do not abrade skin as this may encourage further exposure. If eyes are contaminated, flush with clean water for 15 minutes. Make sure eyes are flushed in such a manner that water and contamination does not run into other eye.
- 3) Anyone attending patient should wear protective clothing, including gloves. Follow regular procedures regarding prevention of exposure to bodily fluids.
- 4) As much as possible, complete "Evaluation of Farmworker Pesticide Exposure," form. Be sure to follow-up on patient referral. If patient does not know the name of the pesticide, contact the grower, applicator, or Montana Department of Agriculture at (406) 444-3144. Request copies of the appropriate Material Safety Data Sheets and labels for documentation and to place in our own MSDS manual, if we do not have them.

EPA TOXICITY CATEGORIES

EPA TOXICITY CATEGORIES				
	I	II	III	IV
Oral LD50	< 50 mg/kg	50-500 mg/kg	500-5000 mg/kg	> 5000 mg/kg
Inhalation LD50	< 0.2 mg/L	0.2-2 mg/L	2-20 mg/L	> 20 mg/L
Dermal LD50	< 200 mg/kg	200-2000 mg/kg	2,000-20,000 mg/kg	> 20,000 mg/kg
Eye Effects	Corrosive corneal opacity not reversible within 7 days	Corneal opacity reversible within 7 days; irritation persisting for 7 days	No corneal opacity; irritation reversible within 7 days	No irritation
Skin Effects	Corrosive	Severe irritation at 72 hours	Moderate irritation at 72 hours	Mild or slight irritation at 72 hours
SIGNAL WORDS	DANGER	WARNING	CAUTION	CAUTION

**CHARTS OF PESTICIDES USED IN
ALFALFA, CHERRIES AND SUGAR BEETS**

MONTANA MIGRANT & SEASONAL FARMWORKERS' COUNCIL, INC.

CHART OF PESTICIDES USED IN ALFALFA PRODUCTION IN MONTANA (1994)

Commercial Name	Type	Class	Toxicity Level	*Reference Page	Manufacturer
Ambush	Insecticide	Pyrethroids	II	34	ICI Americas, Inc.
BT	Insecticide	Unlisted	IV	Unlisted	Zoecon/Sandoz
Capture	Insecticide	Unlisted	II	Unlisted	FMC
Comite	Insecticide	Propargite	I	44	Uniroyal
Cygon	Insecticide	Organophosphate	II	2	Drexel
Diazinon	Insecticide	Organophosphate	II	2	FMC
Dibrom	Insecticide	Organophosphate	I	2	Chevron
Dylox	Insecticide	Organophosphate	II	2	Mobay
Furadan 4F	Insecticide	N-Methyl Carbamate	I	12	FMC
Kelthane	Insecticide	Solid Organochlorine	II	17	Rhom & Haas

*Reference with "Recognition & Management of Pesticide Poisonings," EPA Toxicity Level: (I) - "Danger" Highly Toxic (II) - "Warning" Moderately Toxic (III) - "Caution" Slightly Toxic (IV) - "Caution" Relatively Non-Toxic

MONTANA MIGRANT & SEASONAL FARMWORKERS' COUNCIL, INC.

CHART OF PESTICIDES USED IN ALFALFA PRODUCTION IN MONTANA (1994)

Commercial Name	Type	Class	Toxicity Level	*Reference Page	Manufacturer
Malathion	Insecticide	Organophosphate	III	2	Platte
Metasystox	Insecticide	Organophosphate	II	1	Mobay
Methoxychlor D	Insecticide	Solid Organochlorine	IV	17	Wilbur-Ellis, Co.
Parathion	Insecticide	Organophosphate	I	1	Chevron
Phosdrin	Insecticide	Organophosphate	I	1	Amvac
Pounce	Insecticide	Pyrethroids	III	34	FMC
Sevin	Insecticide	N-Methyl Carbamate	III	12	Rhone-Poulenc
Systox	Insecticide	Organophosphate	I	1	Unlisted
Thiodan	Insecticide	Solid Organochlorine	I	17	Hoechst

*Reference with "Recognition & Management of Pesticide Poisonings," EPA Toxicity Level: (I) - "Danger" Highly Toxic (II) - "Warning" Moderately Toxic (III) - "Caution" Slightly Toxic (IV) - "Caution" Relatively Non-Toxic

MONTANA MIGRANT & SEASONAL FARMWORKERS' COUNCIL, INC.

CHART OF PESTICIDES USED IN ALFALFA PRODUCTION IN MONTANA (1994)

Commercial Name	Type	Class	Toxicity Level	*Reference Page	Manufacturer
2, 4-DB	Herbicide	Chlorophenoxy	III	63	Rhone Poulenc
Balan	Herbicide	Fluorodinitro-toluidine	IV	85	Dow-Elanco
Banvel	Herbicide	*see reference page	II	64, 84	Sandoz
Chem-Hoe	Herbicide	Unlisted	Unlisted	Unlisted	Unlisted
Eptam	Herbicide	Carbamate/Thiocarbamate	III	84	ICI Americas, Inc.
Furloe	Herbicide	Carbamilate	Unlisted	84	Unlisted
Karmex	Herbicide	Urea Derivatives	II	87	Du-Pont
Kerb	Herbicide	Benzamide	IV	84	Rohm & Haas
Paraquat	Herbicide	Paraquat	II	76	ICI Americas, Inc.
Princep	Herbicide	Triazines	IV	86	Ciba-Geigy

*Reference with "Recognition & Management of Pesticide Poisonings," EPA
 Toxicity Level: (I) - "Danger" Highly Toxic (II) - "Warning" Moderately Toxic
 (III) - "Caution" Slightly Toxic (IV) - "Caution" Relatively Non-Toxic

MONTANA MIGRANT & SEASONAL FARMWORKERS' COUNCIL, INC.

CHART OF PESTICIDES USED IN ALFALFA PRODUCTION IN MONTANA (1994)

Commercial Name	Type	Class	Toxicity Level	*Reference Page	Manufacturer
Roundup	Herbicide	Phosphonates	II	85	Monsanto
Sencor	Herbicide	Triazines	II	86	Miles
Sinbar	Herbicide	Uracils	IV	86	Dow-Pont
Treflan	Herbicide	Fluorodinitro-toluidine	II	85	Dow-Elanco
Velpar	Herbicide	Unlisted	I	Unlisted	Du-Pont

*Reference with "Recognition & Management of Pesticide Poisonings," EPA Toxicity Level: (I) - "Danger" Highly Toxic (II) - "Warning" Moderately Toxic (III) - "Caution" Slightly Toxic (IV) - "Caution" Relatively Non-Toxic

MONTANA MIGRANT & SEASONAL FARMWORKERS' COUNCIL, INC.

CHART OF PESTICIDES USED ON CHERRIES IN MONTANA (1994)

Commercial Name	Type	Class	Toxicity Level	Reference Page	Manufacturer
Diazinon	Insecticide	Organophosphate	II	2	FMC
Dimethoate	Insecticide	Organophosphate	II	2	FMC
Malathion	Insecticide	Organophosphate	III	2	Universal Cooperatives, Inc.
Sevin	Insecticide	N-Methyl Carbamate	III	12	Rhone Poulenc
Roundup	Herbicide	Phosphonate	II	85	Monsanto
Benomyl	Fungicide	No listing	III	112	Dupont
Captan	Fungicide	Thiophthalimides	IV	102	ICI Americas
Polyram (Sulfur)	Fungicide	*see reference page	II	101	BASF

*Reference with "Recognition & Management of Pesticide Poisonings," EPA
 Toxicity Level: (I) - "Danger" Highly Toxic (II) - "Warning" Moderately Toxic
 (III) - "Caution" Slightly Toxic (IV) - "Caution" Relatively Non-Toxic

MONTANA MIGRANT & SEASONAL FARMWORKERS' COUNCIL, INC.

CHART OF PESTICIDES USED ON SUGAR BEETS IN MONTANA (1994)

Commercial Name	Type	Class	Toxicity Level	*Reference Page	Manufacturer
Antor	Herbicide	No listing	II	No Listing	NOR-AM
Avadex	Herbicide	Carbamate/ Thiocarbamate	II	84	Monsanto
Betamix	Herbicide	No listing	II	No Listing	NOR-AM
Betanex	Herbicide	No listing	II	No Listing	NOR-AM
Eptam 7-E	Herbicide	Carbamate/ Thiocarbamate	III	84	ICI Americas, Inc.
Norton EC	Herbicide	No listing	I	No Listing	NOR-AM
Norton SC	Herbicide	No listing	I	No Listing	NOR-AM
Poast	Herbicide	Cyclohexenone derivative	II	85	BASF
Ro-Neet	Herbicide	Carbamate/ Thiocarbamate	III	84	ICI Americas, Inc.
Roundup	Herbicide	Phosphonate	II	85	Monsanto

*Reference with "Recognition & Management of Pesticide Poisonings," EPA
 Toxicity Level: (I) - "Danger" Highly Toxic (II) - "Warning" Moderately Toxic
 (III) - "Caution" Slightly Toxic (IV) - "Caution" Relatively Non-Toxic

MONTANA MIGRANT & SEASONAL FARMWORKERS' COUNCIL, INC.

CHART OF PESTICIDES USED ON SUGAR BEETS IN MONTANA (1994)

Commercial Name	Type	Class	Toxicity Level	*Reference Page	Manufacturer
Stinger	Herbicide	No listing	II	No Listing	Dow-Elanco
Treflan EC	Herbicide	Fluorodinitrotoluidine	II	85	Dow-Elanco
Counter 15G	Insecticide	Organophosphate	I	1	American Cyanamid
Counter 20CR	Insecticide	Organophosphate	I	1	American Cyanamid
Dyfonate 4EC	Insecticide	Organophosphate	I	1	ICI Americas, Inc.
Furadan 15G	Insecticide	N-Methyl Carbamate	I	12	FMC Corporation
Lorsban 15G	Insecticide	Organophosphate	II	1	Dow-Elanco
Malathion	Insecticide	Organophosphate	III	2	Universal Cooperatives, Inc.

*Reference with "Recognition & Management of Pesticide Poisonings," EPA Toxicity Level: (I) - "Danger" Highly Toxic (II) - "Warning" Moderately Toxic (III) - "Caution" Slightly Toxic (IV) - "Caution" Relatively Non-Toxic

MONTANA MIGRANT & SEASONAL FARMWORKERS' COUNCIL, INC.

CHART OF PESTICIDES USED ON SUGAR BEETS IN MONTANA (1994)

Commercial Name	Type	Class	Toxicity Level	*Reference Page	Manufacturer
Sevin XLR Plus	Insecticide	N-Methyl Carbamate	III	12	Rhone Poulenc
Thimet 20G	Insecticide	Organophosphate	I	1	American Cyanamid
Telone II	Nematicide	* see resource page	II	132	Dow-Elanco
Temik 20G	Nematicide	N-Methyl Carbamate	I	12	Rhone Poulenc

*Reference with "Recognition & Management of Pesticide Poisonings," EPA
 Toxicity Level: (I) - "Danger" Highly Toxic (II) - "Warning" Moderately Toxic
 (III) - "Caution" Slightly Toxic (IV) - "Caution" Relatively Non-Toxic

EMERGENCY RESPONSE

**EMERGENCY RESPONSE
24-HOURS - 7 DAYS A WEEK**

911

ST. VINCENT HOSPITAL
1233 North 30th Street
Billings, MT 59101
(406) 657-7000

DEACONESS HOSPITAL
2800 10th Avenue North
Billings MT 59107-7000
(406) 657-4000

GLENDIVE MEDICAL CENTER
202 Prospect
Glendive MT
(406) 365-3306

COMMUNITY MEMORIAL HOSPITAL
216 14th Avenue South West
Sidney MT 59270
(406) 482-2120

**ROSEBUD COMMUNITY
HOSPITAL**
383 North 17th
Forsyth MT
(406) 356-2161

**BIG HORN COMMUNITY
MEMORIAL HOSPITAL**
17 North Miles
Hardin MT 59034
(406) 665-2310

**KALISPELL REGIONAL
HOSPITAL**
310 Sunnyview Lane
Kalispell MT
(406) 752-5111

HOLY ROSARY HOSPITAL
2101 Clark
Miles City, Mt
(406) 232-2540

ST. JOSEPH HOSPITAL
Skyline
Polson MT
(406) 883-5377

**HELP EMERGENCY MEDICAL
RESPONSE**
(helicopter & airplane)
1-800-538-4357
1-800-JET-HELP

**MONTANA POISON CONTROL
ROCKY MOUNTAIN POISON
AND DRUG CENTER**
DENVER, COLORADO
(eastern Montana)
1-800-525-5042

SPOKANE POISON CENTER
SPOKANE, WA
1-800-572-5842
(western Montana only)

AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (ATSDR)
1-404-639-0615. Emergency Response Assistance. Twenty-four hour access for toxicology and medical management information, mostly for physician use.

INFORMATIONAL RESOURCE TELEPHONE NUMBERS

INFORMATIONAL RESOURCE TELEPHONE NUMBERS

MONTANA PREGNANCY RISK LINE

1-800-521-2229

Monday-Friday; 8:30 a.m. to 4:30 p.m. (mountain)

Provides information on possible effects on the unborn when the mother is exposed to drugs or infection during pregnancy. Operated through the Utah Department of Health and the University of Utah Health Sciences Center

CHEMTREC

1-800-424-9300

Monday - Friday from 9:00 a.m. to 6:00 p.m. (Eastern time).

Provides technical assistance from chemical industry product safety specialists, toxicologists, physicians, etc., to mitigate incidents involving chemicals. For contacting private companies/manufacturers (non-emergency: 800-262-8200). The line is staffed

MONTANA DEPARTMENT OF AGRICULTURE

(406) 444-3730

Open 8:00 a.m. to 5:00p.m.. Maintains a complete set of pesticide labels and Material Safety Data Sheets for pesticide products registered in Montana. Information will be immediately provided to health care providers in the case of an emergency. All other requests must be made in writing.

NATIONAL PESTICIDE TELECOMMUNICATIONS NETWORK

1-800-858-7378

8:00 a.m. to 6:00 p.m. (central time) Monday-Friday

Staffed by toxicologists. Specialize in being information resource to providers regarding pesticide mode of action.

NATIONAL INSTITUTES OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

1-800-356-4674

Information and publications

**MONTANA MIGRANT & SEASONAL
FARMWORKERS' COUNCIL, INC**

**-- CLINICAL FORMS RELATED
TO PESTICIDE SCREENING AND POISONING**

EVALUATION OF FARMWORKER PESTICIDE EXPOSURE FORM

**The Evaluation of Farmworker Pesticide Exposure Form is used
when the patient identifies pesticide poison
exposure, or the clinician strongly suspects such poisoning.**

MONTANA MIGRANT COUNCIL, INC.
Evaluation of Farmworker Pesticide Exposure

**PATIENT
ID**

Name: _____ DOB: _____ SS#: _____
 Address/phone: _____
 Employer name/phone: _____

**EXPOSURE
INFO**

Date of exposure: _____ Period of employment _____
 Pesticide exposed to: _____
 Exposure: ☐ Self-caused spill ☐ Drink/eat ☐ Aerial spray
☐ Hand spray ☐ Spray rig ☐ Drift ☐ At home
☐ Other _____
 Other workers involved? ☐ Yes ☐ No Who? _____
 Had patient received training under the Worker Protection Standard?
☐ Yes ☐ No

SYMPTOMS

☐ Weakness ☐ Drooling ☐ Blurred vision ☐ Chest pain
☐ Skin rash ☐ Tiredness ☐ Excessive sweating ☐ Red eyes
☐ Headaches ☐ Nausea ☐ Loss of consciousness
☐ Convulsions ☐ Dizziness ☐ Shortness of breath
☐ Abdominal pain ☐ Productive cough ☐ Vomiting
☐ Muscle twitches ☐ Confusion ☐ Other _____
 How long after exposure did symptoms occur? _____
 Other workers exposed who developed symptoms? ☐ Yes ☐ No

**PHYSICAL
SIGNS**

☐ Hypotension ☐ Bradycardia ☐ Dermatitis ☐ DTRs
☐ Confusion ☐ Convulsions ☐ Ataxia ☐ Paralysis
☐ Muscle weakness ☐ Drooling ☐ Fasciculations ☐ Red eyes
☐ Sweating ☐ Bronchospasm ☐ Constricted pupils
☐ Bronchial exudation ☐ Visual accommodation ☐ Other _____
 Cholinesterase testing: Date: _____ Results: _____
 Follow-up test ordered? ☐ Yes ☐ No Date: _____ Results: _____

**PROVIDER
ID**

Health Project Provider Signature: _____ Date: _____
 Clinic Site: _____ Phone: _____
 Level of off-site treatment needed - (location and date):
☐ Doctor office/clinic _____ ☐ Hospital _____
 Provider's name and diagnosis: _____

g:\wpdata\rcap\pexp.94 (attach this sheet to patient record)

**EXPOSURE TO DANGEROUS CONDITIONS
AT HOME/WORK**

The following is for use in cases where etiology is unclear.

MONTANA MIGRANT COUNCIL, INC.
EXPOSURE TO DANGEROUS CONDITIONS AT HOME/WORK
(for use when etiology is uncertain)

Name/file number: _____ Date of Birth: _____ Job Title (field laborer, factory worker, etc): _____

Name, address and telephone of present employer: _____

Starting Date: _____ Ending Date: _____ Describe your work: _____

Do you believe anything in your work or home environment may be causing you illness or injury? Describe (how exposure may have occurred, frequency).

What protective equipment do you use at work? (i.e., gloves, mask, boots, coveralls - specify):

Have you missed work because of illness or injury? Please describe and give dates:

Have any of your co-workers or family members contacted an illness or injury similar to yours? Please describe. Please indicate numbers of people and whether they are co-workers or family.

Have you ever lived near or in a place you believe may have been dangerous to your health, i.e., industrial plant, field or orchard where pesticides were used? If yes, identify how many feet or miles you were; dates; exposure type.

Any contact with pesticides, dusts, fumes, gases, chemicals, noise, vibration, temperature extremes, etc? (specify):

Do you have any hobbies which may be dangerous to your health? If yes, please identify hobby, dates; type of exposure.

Provider comments (on-site referral):

Off-site referral (location/date/contact/reason for referral):

Provider Signature: _____ Date: _____ Follow-up date (result) _____

(attach to patient's medical record)

PATIENT EDUCATION SHEET ON PESTICIDES HAZARDS

**Give to patient on first encounter as part of prevention education,
and periodically thereafter.**

PATIENT EDUCATION SHEET ON PESTICIDE HAZARDS

Pesticides are chemicals used in agriculture to kill such pests as insects, weeds, rats and nematode (small worms). If mishandled, they can make people sick and cause death. To find out what problems a pesticide may cause for you or your family if it is mishandled, bring to the Montana Migrant Health Project (406)248-3149 clinic, labels off pesticide containers you are working with or around. Even if you don't know what the pesticide is, come to the clinic with any questions you may have.

YOU CAN PREVENT PESTICIDE POISONING

AT HOME:

- *Keep pesticides out of childrens' reach.
- *Keep pesticides in their original containers.
- *Wear gloves when using pesticides.
- *Ventilate well indoor areas after pesticides use.

AT WORK

- *If you work with pesticides, wear clothes that cover your skin, including lined gloves and rubber boots.
- *Use crop sheets from the clinics.
- *Obey re-entry signs.
- *At the end of each day, wash work clothes separately from other clothes and take a shower with soap and water.
- *Avoid living next to where pesticides are known to be applied.

Pregnant women and children under 8 should get their drinking and cooking water from the city water supply.

If you have an EMERGENCY because of pesticide poisoning:

- 1) Call 911, or other emergency hospital number.
- 2) Remove contaminated clothing.
- 3) Check breathing. If you are the victim and are having trouble breathing, immediately find someone to drive you to the hospital. Try to calm yourself. If you are with the victim and they have trouble breathing, immediately take them to the hospital.

If breathing has STOPPED, CPR (cardiopulmonary resuscitation) MUST BEGIN. Wear a mouth guard if possible.



















If victim does not show physical symptoms that necessitate going to the hospital immediately, do the following:

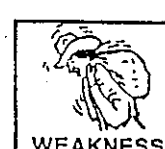
- 3) Victim must shower with soap and water, and rinse eyes with clean water for 15 minutes.
- 4) Take the label from the container of pesticide you were poisoned with, or know the name of the pesticide when you go to the hospital.

After the emergency has passed call the Montana Migrant Council at (406) 248-3149 (collect calls accepted) to inform us. For more information on pesticide poisoning, call POISON CONTROL CENTER AT 1-800-525-5042 IN EASTERN MONTANA, OR AT 1-800-572-5842 IN WESTERN MONTANA.

ALFALFA

This sheet lists some pesticides commonly used on alfalfa. The health problems listed may be caused by other than pesticides. If you feel sick after exposure to pesticides, contact a doctor or clinic. PLEASE READ AND SAVE.

HERBICIDE	MONTHS APPLIED												DO NOT ENTER SPRAYED FIELDS	COMMON SYMPTOMS OF ACUTE POISONING
	J	F	M	A	M	J	J	A	S	O	N	D		
2, 4 - DB													**	    
Balan													**	
Banvel													**	 
Chem-Hoe													**	**
Eptam													**	    
Furloe													**	
Karmex													Until spray has dried	  
Kerb													**	



If you are exposed to pesticide spray or drift:

- * Immediately rinse exposed skin with nearest clean water.
- * Take a shower and wash with soap and water as soon as possible.
- * Put on clean clothes after showering. Wash contaminated clothes separately from other clothes before wearing them again.

If you feel sick after exposure to pesticides:

- * Wash exposed skin with soap and water.
- * Rinse eyes with clean water for at least 15 minutes.
- * Go to a doctor or clinic. Have someone go with you.
- * Tell the doctor you believe you were exposed to pesticides and give the name of the pesticide, if known. You have the right to get this information from your employer.

FOR EMERGENCY INFORMATION ABOUT PESTICIDE POISONING CALL: (eastern Montana) 1-800-525-5042; (western Montana) 1-800-572-5842























To file a complaint regarding illegal exposure to pesticides from a spray application or drift, call the Montana State Department of Agriculture at: (406) 444-3730

For information regarding worker protection laws, call the Montana State Department of Agriculture at: (406) 444-2944

** Contact the Montana State Department of Agriculture at (406) 444 - 2944, or the chemical manufacturer

ALFALFA

This sheet lists some pesticides commonly used on alfalfa. The health problems listed may be caused by other than pesticides. If you feel sick after exposure to pesticides, contact a doctor or clinic. PLEASE READ AND SAVE.

HERBICIDE	MONTHS APPLIED												DO NOT ENTER SPRAYED FIELDS	COMMON SYMPTOMS OF ACUTE POISONING
	J	F	M	A	M	J	J	A	S	O	N	D		
Paraquat													**	    
Princep													Until spray has dried	  
Roundup													Until spray has dried	  
Sencor													Until spray has dried	  
Sinbar													For 12 hours	  
Treflan													**	  
Velpar													**	 



If you are exposed to pesticide spray or drift:

- * Immediately rinse exposed skin with nearest clean water.
- * Take a shower and wash with soap and water as soon as possible.
- * Put on clean clothes after showering. Wash contaminated clothes separately from other clothes before wearing them again.

If you feel sick after exposure to pesticides:

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



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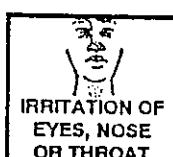
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ALFALFA

This sheet lists some pesticides commonly used on alfalfa. The health problems listed may be caused by other than pesticides. If you feel sick after exposure to pesticides, contact a doctor or clinic. PLEASE READ AND SAVE.

INSECTICIDE	MONTHS APPLIED												DO NOT ENTER SPRAYED FIELDS	COMMON SYMPTOMS OF ACUTE POISONING
	J	F	M	A	M	J	J	A	S	O	N	D		
Ambush													For 24 hours	**
BT													**	**
Capture													Until spray has dried	**
Comite													**	**
Cygon													**	**
Diazinon													Until spray has dried	   
Dibrom													**	   
Dylox													**	   
Furadan 4F													24 hours	  
Kelthane													**	**



If you are exposed to pesticide spray or drift:

- * Immediately rinse exposed skin with nearest clean water.
- * Take a shower and wash with soap and water as soon as possible.
- * Put on clean clothes after showering. Wash contaminated clothes separately from other clothes before wearing them again.

If you feel sick after exposure to pesticides:

- * Wash exposed skin with soap and water.
- * Rinse eyes with clean water for at least 15 minutes.
- * Go to a doctor or clinic. Have someone go with you.
- * Tell the doctor you believe you were exposed to pesticides and give the name of the pesticide, if known. You have the right to get this information from your employer.

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




























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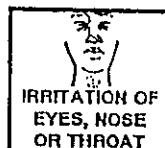
For information regarding worker protection laws, call the Montana State Department of Agriculture at: (406) 444-2944

** Contact the Montana State Department of Agriculture at (406) 444-2944, or the chemical manufacturer

ALFALFA

This sheet lists some pesticides commonly used on alfalfa. The health problems listed may be caused by other than pesticides. If you feel sick after exposure to pesticides, contact a doctor or clinic. **PLEASE READ AND SAVE.**

INSECTICIDE	MONTHS APPLIED												DO NOT ENTER SPRAYED FIELDS	COMMON SYMPTOMS OF ACUTE POISONING
	J	F	M	A	M	J	J	A	S	O	N	D		
Malathion													Until spray has dried	   
Metasystox													**	   
Methoxychlor D													Until spray has dried	  
Parathion													**	   
Phosdrin													For 48 hours	   
Pounce													Until spray has dried	  
Sevin													Until spray has dried	    
Systox													**	    
Thiodan													**	  



If you are exposed to pesticide spray or drift:

- * Immediately rinse exposed skin with nearest clean water.
- * Take a shower and wash with soap and water as soon as possible.
- * Put on clean clothes after showering. Wash contaminated clothes separately from other clothes before wearing them again.

If you feel sick after exposure to pesticides:

- * Wash exposed skin with soap and water.
- * Rinse eyes with clean water for at least 15 minutes.
- * Go to a doctor or clinic. Have someone go with you.
- * Tell the doctor you believe you were exposed to pesticides and give the name of the pesticide, if known. You have the right to get this information from your employer.

FOR EMERGENCY INFORMATION ABOUT PESTICIDE POISONING CALL: (eastern Montana) 1-800-525-5042; (western Montana) 1-800-572-5842





















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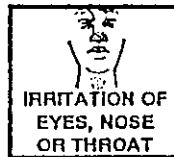
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CHERRIES AND/OR APPLES

This sheet lists some pesticides commonly used on cherries and apples. The health problems listed may be caused by other than pesticides. If you feel sick after exposure to pesticides, contact a doctor or clinic. PLEASE READ AND SAVE.

PESTICIDE	MONTHS APPLIED												DO NOT ENTER SPRAYED FIELDS	COMMON SYMPTOMS OF ACUTE POISONING
	J	F	M	A	M	J	J	A	S	O	N	D		
Diazinon													Until spray has dried	     
Dimethoate													For 96 hours	     
Malathion													Until spray has dried	     
Sevin													Until spray has dried	 
Roundup													**	Minimal toxic & irritant properties. Regardless, wear protective clothing.
Benomyl													**	Minimal toxic & irritant properties. Regardless, protective clothing.
Captan													For 96 hours	Relatively non-toxic. Regardless, wear protective clothing.
PolyRam (Sulfur)													For 24 hours	Workplace experience with this product is limited. Acute symptoms not currently available



If you are exposed to pesticide spray or drift:

- * Immediately rinse exposed skin with nearest clean water.
- * Take a shower and wash with soap and water as soon as possible.
- * Put on clean clothes after showering. Wash contaminated clothes separately from other clothes before wearing them again.

If you feel sick after exposure to pesticides:

- * Wash exposed skin with soap and water.
- * Rinse eyes with clean water for at least 15 minutes.
- * Go to a doctor or clinic. Have someone go with you.
- * Tell the doctor you believe you were exposed to pesticides and give the name of the pesticide, if known. You have the right to get this information from your employer.

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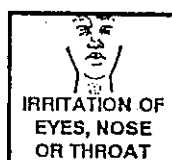
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SUGAR BEETS

This sheet lists some pesticides commonly used on sugar beets. The health problems listed may be caused by other than pesticides. If you feel sick after exposure to pesticides, contact a doctor or clinic. **PLEASE READ AND SAVE.**

PESTICIDE	MONTHS APPLIED												DO NOT ENTER SPRAYED FIELDS	COMMON SYMPTOMS OF ACUTE POISONING
	J	F	M	A	M	J	J	A	S	O	N	D		
Antor													**	**
Betamix													Until spray has dried	**
Eptam 7-E													**	 
Norton EC													For 12 hours	  
Norton SC													For 12 hours	  
Poast													Until spray has dried	 
Ro-Neet													Until spray has dried	 



If you are exposed to pesticide spray or drift:

- * Immediately rinse exposed skin with nearest clean water.
- * Take a shower and wash with soap and water as soon as possible.
- * Put on clean clothes after showering. Wash contaminated clothes separately from other clothes before wearing them again.

If you feel sick after exposure to pesticides:

- * Wash exposed skin with soap and water.
- * Rinse eyes with clean water for at least 15 minutes.
- * Go to a doctor or clinic. Have someone go with you.
- * Tell the doctor you believe you were exposed to pesticides and give the name of the pesticide, if known. You have the right to get this information from your employer.

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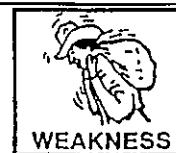
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PESTICIDE	MONTHS APPLIED												DO NOT ENTER SPRAYED FIELDS	COMMON SYMPTOMS OF ACUTE POISONING
	J	F	M	A	M	J	J	A	S	O	N	D		
Roundup													**	Minimal toxic and irritant properties
Stinger													**	
Counter 15G													**	    
Counter 20CR													**	    
Dyfonate 4EC													For 144 hours	    
Furadan 15G													24 hours	Lacrimation, salivation, anorexia, vomiting, uneasiness, restlessness
Malathion													Until spray has dried	Lacrimation, slight corneal injury. Repeated exposure: organ damage
Telone													72 hours	Malaise, muscle weakness, dizziness, sweating, nausea, vomiting, abdominal pain, diarrhea, blurred vision
Temik 20G													48 hours	  



If you are exposed to pesticide spray or drift:

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RESOURCES

We are grateful to the following resources which helped us compose this manual. Some of the information, for example, clinic forms, are based on those already existing in other health centers.

- 1) California Environmental Protection Agency, Department of Pesticide Regulation Agency, Worker Safety Branch. 1220 North Street, Suite 620, Sacramento, California, 95814. (916) 654-0445.
- 2) Farmworker Health and Safety Project of Texas Rural Legal Aid, Inc. Pesticide Poisoning Recognition, Diagnosis and Treatment Workshop. 1993.
- 3) National Migrant Resource Program, Inc, 2512 South, I.H. 35, Site 220, Austin, Texas, 78704. 1-800-531-5120.
- 4) Montana Department of Agriculture, Agricultural Sciences Division. P.O. Box 200201, Helena, Montana. 59620-0201. (406) 444-3144.
- 5) Montana State University, Yellowstone County Extension Service. *Recognizing Pesticide Poisoning*. Montguide. March 1984.
- 6) Morgan, P. Donald, M.D., Ph.D., *Recognition and Management of Pesticide Poisonings*. Fourth Edition. Health Effects Division, Office of Pesticide Programs, United States Environmental Protection Agency. Washington, D.C. 20460.
- 7) Texas Department of Agriculture. P.O. Box 12847, Austin, Texas 78711. 1-800-832-7374.
- 8) Washington State Department of Health. Office of Toxic Substances, Airdustrial Center, Building 4. P.O. Box 47825, Olympia, Washington, 98504-7825.