

Pesticides and Environmental Concerns

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North Dakota Department of Agriculture



Topics

- Surface Water – environmental hazards
- Label requirements
 - PPE
 - Drift language
- Recordkeeping
- Calibration
- Storage and Disposal
- REI & PHI
- Regulatory Priorities

Surface Water

- Surface water-definition
- Spraying ditches-be aware of water
- Labels specify in the Environmental Hazards section

****Clean Water Act allows citizen lawsuits
also steep fines**

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

PRECAUTIONARY STATEMENTS (*continued*)

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4–6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic organisms and toxic to wildlife.

For terrestrial uses: do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

soon as possible, wash thoroughly and change into clean clothing.

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PPE

- ⦿ Wear what label requires-for your safety
- ⦿ Enclosed cab counts as PPE-if windows open then need PPE on
- ⦿ Study of low exposure over long period of time and effects

Label Requirements

SPRAY DRIFT REQUIREMENTS

Wind Direction and Speed

Only apply this product if the wind direction favors on-target deposition.
Do not apply when the wind velocity exceeds 15 mph.

- Label must be at application site and available upon request

Droplet Size

Use only medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

Additional Requirements for Ground Applications

Wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.

For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy.

This means

Wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.

you

The spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or 80% rotor diameter.

Flight speed and nozzle orientation must be considered in determining droplet size.

Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a cross-wind, the swath will be displaced downward. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.





07,06,2010

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06/29/2010

ND Dept of Health Contacts

- ◎ Dave Glatt

- Chief, Environmental Health Section

701- 328-5150

- ◎ Dennis Fewless

- Director, Division of Water Quality

701-328-5210



Recordkeeping

- Commercial and Public Applicators must keep records of every application
- Right of Way need to record weather and location every 2 hours
- Records must be retained for 3 years

Requirements found in N.D.A.C. 60-03-01-07

Recordkeeping



PESTICIDE APPLICATION RECORDS
 NORTH DAKOTA DEPARTMENT OF AGRICULTURE
 PESTICIDE DIVISION
 SFN 53456 (1-08)

Name John Doe		Date 7-7-10
Address Bismarck Ave		City TimbukTu
State ND		Zip Code 55555
Equipment Used Rogator I396		
Product #1 Warrior with Tech	EPA Registration Number 100-1112	Rate 3 fl oz/Ac
Product #2	EPA Registration Number	Rate
Product #3	EPA Registration Number	Rate
Product #4	EPA Registration Number	Rate
Product #5	EPA Registration Number	Rate
Product #6	EPA Registration Number	Rate
P.P.E. Requirements		R.E.I.
Commodity Applied To: Wheat		Pest Controlled Grasshoppers
Notification: Name		Water/Acre 10 gal/Ac
Date	Time	Pesticide Supplier Farmer Elevator Inc
		Acres 160 Ac
		Legal Description SW 1/4 T800N R751E
		Application Date 7-7-10
		Wind Speed 7 mph
		Wind Direction NE
		Temperature 70
		Applicants Certification Number 10027954
		Applicants Signature <i>john doe</i>
Time of Day	Start 11 am	Stop 1:30 pm

PROTECTIVE CLOTHING REQUIRED - KEY

- | | |
|---|--|
| 1. Long-sleeved shirt and long pants | 9. Respirator DM = dust/mist (MSHA/HIOSH # #TC-21C |
| 2. Shoes plus socks | OV = organic vapor (MSHA/NIOSH #TC-23C or TC-14G |
| 3. Waterproof gloves | 10. Coveralls over short-sleeved shirt and short pants |
| 4. Chemical resistant gloves | 11. Coveralls over long-sleeved shirt and long pants |
| 5. Chemical resistant footwear plus socks | 12. Chemical resistant headgear for overhead exposure, if applicable |
| 6. Coveralls | 13. Chemical resistant coveralls |
| 7. Protective eyewear | 14. Cotton Gloves (Fumigants) |
| 8. Chemical resistant apron | |



RIGHT OF WAY RECORDS DAILY REPORT
 NORTH DAKOTA DEPARTMENT OF AGRICULTURE
 PESTICIDE DIVISION
 58N 50020 (1-03)

County/Township		Equipment	Date
Applicator Name		Certification Number	Name of Driver

									Cells Start Time	Cells Stop Time
Time (Hourly)										
Temperature (Hourly)										
Wind (Velocity)										
Wind (Direction)										
From N, E, S, or W Edge of Section	CR	Mile Marker								
To N, E, S, or W Edge of Section	CR	Mile Marker								
On N, E, S, or W Edge of Road										
Gallons Diluted Material Used										
Weeds Controlled										
Acres/Square Feet										

Load Number				
Chemical # 1				
Supplier of Pesticide				
EPA Reg Number Chemical # 1				
Chemical # 2				
Supplier of Pesticide				
EPA Reg Number Chemical #2				
Carrier Gallons				
Total				

Applicator Signature
X

	6	5	4	3	2	1
	7	8	9	10	11	12
TOWNSHIP	18	17	16	15	14	13
	19	20	21	22	23	24
	30	29	28	27	26	25
	31	32	33	34	35	36

Calibrating Sprayer

- Make sure to calibrate to follow label
- Remember to maintain speed after calibration to avoid off label use
- Failure to do so can result in burn-downs/damage and/or efficacy issues



08/03/2010 11:04



08/03/2010 11:15



Direct Supervision

- General Use Products Only
- Must be within immediate contact by phone
- No further than 30 minutes from application site
- Certified Applicator Responsible

Storage and Security

- Storage area must be posted as a pesticide storage area
- No open drain-must be covered or contained



Pesticide Storage

- Pesticides must be secured in a manner to prevent children, unauthorized persons, or animals from gaining entry or access to them



AgriSOLUTIONS
2,4-D Amine 4

Herbicide

2 x 2.5 GALLON
2 x 9.46 LITERS

UP2510100

Dow AgroSciences
Redeem R&P

Herbicide

2 x 2.5 gal

FLAMMABLE
KEEP FIRE AWAY

USE CORRECT CABINETS
SAFETY STORAGE CABINET
FOR FLAMMABLE LIQUIDS



Secure Transport



2010/7/23 13:01



2010/7/23 13:06

Disposal

- ⦿ Containers not triple rinsed-hazardous waste - find contractor to accept or landfill that will accept hazardous waste
- ⦿ Law requires that nonreturnable containers be triple rinse on day of use and follow disposal instructions per the label
 - Secondary use is prohibited (so long as that use does not endanger humans, animals, or the environment)

Pre-Harvest Interval

- Read label to review the PHI and/or any grazing/haying restrictions
- And if so...
- Notify land owners of spraying
 1. Run ad in county newspaper or closest paper at least twice for 2 consecutive weeks-preferably 3 times
 2. Use two other media sources-Posters, flyers, website, radio, etc.

PRESS RELEASE

FOR IMMEDIATE RELEASE:

Cass County Weed Control has begun spraying for noxious weeds in the county, state and township road right-of-ways. Commercial applicators will be spraying the state, county and township road ditches. The spraying operations will be conducted over the course of the summer and into the fall.

Landowners and livestock owners wishing to hay road ditches are advised that some of the herbicides used may have haying and grazing restrictions, requiring a certain amount of time after application before haying and grazing can be undertaken. Operators are asked to contact the Weed Control Office to find out what if any restrictions are in place for the areas they wish to cut for hay.

The public is also advised to be watchful of equipment working on the road shoulders and road ditches.

For further information call Stan Wolf, Weed Control Officer at 701-298-2388 or email at wolfs@casscountynd.gov.

Restricted Entry Interval

- Purpose – minimize contact & exposure

If there is a likelihood of people entering a treated area, you must provide REI notification

i.e. oil Sites-open communication (may use posters or maintain presence until REI expires)

The Ag/Urban/Oil Interface

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JAMES MacPHERSON / Associated Press archive

A combine cuts durum wheat near an oil well in Tioga, N.D. State and oil industry officials say the state's oil production, already at record levels, could double in the next decade, pushing it past Alaska and trailing only Texas.

Pesticide Regulatory Priorities

◎ Pesticide drift

- Responding to drift complaints
- Stressing the need to be responsible applicators
- Probable revisions to our penalty matrix

Some misperceptions:

- “Drift happens”... Especially in ND
- It’s only a crop injury issue
- Some small amount of drift is OK as long as it’s not prohibited by the label

In Addition to any Label Restrictions...

60-03-01-06. Pesticide mixing, loading, and application - Storage -Transportation - Disposal.

b. Pesticide applications shall be made in a manner that prevents off-target discharges of pesticides.

and

d. Applications shall not occur when the atmospheric conditions favor the off-target drift of pesticides or prevent the proper deposition of pesticides to the target area.



Photo credit: Airphoto-Jim Wan

Trends Affecting the Ag/Urban Interface

- A decreased connection to agriculture
 - Fewer people employed by agriculture
 - More rural North Dakotans moving to urban areas
 - Absentee recreational landowners
 - More generations removed from the farm
 - Less patience and understanding

Trends Affecting the Ag/Urban Interface

- ◎ Urban encroachment
 - Competition for space
 - Competition for roads
 - More opportunities for ag/urban interaction
 - Drift
 - Smell
 - Noise

Trends Affecting the Ag/Urban Interface

- ◎ An increasing number of people questioning conventional agriculture
 - Questions about food safety
 - Water quality
 - Nutrients in groundwater and surface water



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Clouds of Doubt: Questions about enforcement of pesticide laws

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Clouds of Doubt: Questions about enforcement of pesticide laws
by [Dan Gunderson](#), Minnesota Public Radio
February 17, 2003

Moorhead, Minn. — Millions of pounds of pesticides are used in Minnesota every year. They're used on a variety of farm crops across rural Minnesota. Pesticides are also commonly used on lawns, parks and golf courses.

Every year some of those chemicals are misused. Sometimes people and animals are exposed to pesticides. Those incidents often violate state and federal law.

The Minnesota Department of Agriculture is the only state agency responsible for enforcing those laws. But an MPR investigation finds violations of the law are often unpunished, and sometimes ignored.

It happens to people working in farm fields, and children at school. An accidental or careless application exposes them to dangerous pesticides.

"The big cloud of pesticide was just on top of us. It was just fumigating us totally. It covered our bodies," Griselda Lopez, a migrant farm worker, recalls a 1993 incident involving her family. "We started yelling and jumping so the guy could see us -- and he never stopped, so we started running to the truck."

Lopez says the five workers were sick by the time they reached the edge of the field. But instead of getting help from the Ag Department, Lopez says she felt as though the department was working against them.

The Minnesota Department of Agriculture's lead



- [Clouds of Doubt: Questions about enforcement of pesticide laws](#)
- [Listen to the story](#)
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- [Investigating human exposure](#)
- [Undue corporate influence?](#)
- [Pesticide records are protected](#)
- ['Same old, same old?'](#)
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[Clouds of Doubt: Questions about](#)

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Jun-03-2010 18:36

ADD, ADHD and Autism Causation: Could it be Chlorinated Hydrocarbon Pesticides

Dr. Phillip Leveque Salem-News.com

I feel that it is time for the pediatric researchers of ADD/ADHD and Autism to investigate the chlorinated hydrocarbons.

(MOLALLA, Ore.) - I believe the above title has driven many physicians and psychologists to end up with a similar problem.

ADD is classified in The Merck Manual as a developmental disorder but Autism is classified as a psychiatric disorder. I'm not going to get caught up in the semantics of this and it may be simplistic of me to lump them together but I'm doing it anyhow, you'll find out why later.

Actually there seem to be several of inter-related syndromes so I'm not going to touch them either.



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http://www.pesticide.org/the-buzz/exposure-to-fungicides-linked-with-nerve-damage

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Filed Under: Farmworkers Fungicides Nerve damage

Most researchers agree that high levels of exposure to certain pesticides damage nerves, but there has been more controversy about whether long-term moderate exposure to pesticides can damage our nervous system. A new review compiles research showing that this kind of exposure to insecticides, fungicides, and fumigants is

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Trends Affecting the Ag/Urban Interface

- ◎ A litigious society
 - A growing mindset that there are no accidents....
Somebody must be responsible
 - Creating regulation and policy through the courts
 - Ag groups spending more time playing defense

The Reality

- ⦿ Increasing public concerns over how pesticides are used and regulated
 - Lawsuits
- ⦿ More use restrictions on labeling
 - Site-specific, chemical-specific, technology-specific
- ⦿ More important than ever for users to read & comply with labeling



These pictures are part of an educational photo series developed by the Colorado State University Environmental Pesticide Education Program (CEPEP). The importance of properly cleaning work clothes and pesticide application equipment to reduce the transfer of pesticides to common household objects and families is highlighted. Glo-Germ® was used to simulate pesticide residue transfer. All photos are available by contacting CEPEP at 970-491-3947. The High Plains Intermountain Center for Agricultural Health and Safety (HICAHS) funded the photo series.

NDDA Pesticide Contacts

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