

# PESTICIDE LABELS

## INTERPRETATION AND IMPLEMENTATION



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# Pesticide Labels Interpretation



## TRIMEC Plus POST-EMERGENT GRASS & BROADLEAF HERBICIDE

ACTIVE INGREDIENTS	
Hexachlorocyclopentadiene	16.0%
Dimethylamine salt of 2,4-dichlorophenoxyacetic acid	5.8%
Dimethylamine salt of 1-(2,4,6-trichlorophenoxy)ethane	5.8%
glyphosate	5.0%
Concentrate salt of dicamba (2,4-dichloro-phenoxy acetic acid)	1.4%
<b>INERT INGREDIENTS</b>	<b>71.0%</b>
<b>TOTAL</b>	<b>100.0%</b>

**THIS PRODUCT CONTAINS:**  
 1.00 lb. of hexachlorocyclopentadiene per gallon or 10.20%  
 Total hexachlorocyclopentadiene in water solution 5.20%  
 0.44 lb. of 2,4-dichlorophenoxyacetic acid equivalent per gallon or 4.40%  
 0.44 lb. of 1-(2,4,6-trichlorophenoxy)ethane equivalent acid equivalent per gallon or 4.40%  
 0.17 lb. of 2,4-dichlorophenoxyacetic acid equivalent per gallon or 1.70%  
 Other salts to ADJ. Weight.



CONTAINS SINGLE BOMBS FORM OF HEXACHLOROCYCLOPENTADIENE

TRIMEC™ is a registered trademark of FMC Services Corporation.

### KEEP OUT OF REACH OF CHILDREN WARNING-AVISO

Do not use this pesticide in aquatic areas. Before a dipnet state can be used in a United in detail. If you do not understand the label, first state and to explain it to you in detail.

#### FIRST AID

<b>If Irritated:</b>	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sit or stand in fresh air.</li> <li>Do not induce vomiting unless told to by a poison control center or doctor.</li> </ul>
<b>If in Eyes:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present after the first 5 minutes, then continue rinsing.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on Skin:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If Inhaled:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

Have the product container or label with you when calling a poison control center or doctor or going to hospital.

See below for additional Precautionary Statements.



READ THE ENTIRE LABEL FIRST.  
OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.

#### PRECAUTIONARY STATEMENTS

##### Hazards to Humans and Domestic Animals

**WARNING:** Causes irritation but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed. Harmful if absorbed through skin.

##### Personal Protective Equipment (PPE):

**SAFETY GEAR AND OTHER PROTECTIVE MEASURES:** Long-sleeved shirt and long pants • Chemical-resistant gloves category A (such as nitrile or butyl) • Shoes plus socks • Protective eyewear • Chemical-resistant apron when cleaning equipment, mixing or loading.

**Use Restrictions in Treated Areas:** • A respirator with an organic vapor-filtering cartridge with a prefilter approved for pesticides (MSHA/NIOSH approved number prefix TC-21C) or a canister approved for pesticides (NIHA/NIOSH approved number prefix TC-14C), or a NIOSH approved respirator with an organic vapor (OC) cartridge in combination with any N, R, P or HE filter.

**Use Restrictions:** • Dusted filtering respirator (MSHA/NIOSH approved number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are provided and hot water, keep and wear PPE separately from other laundry.

##### Engineering Control Statements for WPE Users:

Containers over 7 gallons and less than 55 gallons in capacity: Users and handlers who do not use a mechanical system (pump and siphon) to transfer the contents of this container must wear gloves or a chemical-resistant apron in addition to the other required PPE.

Containers of 5 gallons or more in capacity: Do not open-pour from this container. A mechanical system (such as a pump and siphon or siphon) must be used for transferring the contents of this container. If the contents of a nonflexible pesticide container are emptied, the pump must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(a)), the handler PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(a)-(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 product is toxic to aquatic invertebrates. Dirt or silt may adversely affect aquatic invertebrates and benthic plants. Do not apply directly to water or to areas where surface water is present or to treated areas before the next high water mark. Do not contaminate water when disposing of equipment washings. When cleaning equipment, do not pour the wash-water on the ground, apply or drain over a large area away from wells and other water sources. Do not apply when weather conditions favor drift from treated area. Do not contaminate water used for domestic consumption, or by wildlife or aquatic life, or for irrigation purposes.

Most cases of groundwater contamination involving phenylx herbicides such as 2,4-D and MCPP have been associated with reapplying and dispersal sites. Caution should be exercised when handling 2,4-D and MCPP pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring the pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impermeable pad to contain spills will help prevent groundwater contamination.

##### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

##### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and orchards of agricultural pesticides, to certain requirements for training, communication, notification, and emergency assistance. It also contains specific instructions and restrictions pertaining to the labeling on the label about personal protective equipment (PPE) and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.**

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: • Coveralls • Chemical-resistant gloves category A (such as nitrile or butyl) • Shoes plus socks • Protective eyewear

# Pesticide Labels

- ▣ Label Interpretation
  - Formulations
    - Active ingredient
    - Ester versus Amine
  - PPE (Personal Protective Equipment)
  - Proper Storage and Handling
  - Pesticide Record-keeping
  - Precautions/Recommendations
    - Timing
    - Rates
    - Spray Volumes
    - Mixing
    - Etc..



Specialty Herbicide

®Trademark of Dow AgroSciences LLC

# Pesticide Labels

- ▣ Formulations
  - Several common formulations of Pre-emergent Herbicides for Crabgrass
    - ▣ Pendulum 60WDG
    - ▣ Barricade 4FL
    - ▣ Dimension EC
    - ▣ Barricade 65WG
  
  - What do these mean???

# Pesticide Labels

- ▣ Formulations
  - Represent the active ingredient in the product as well as whether it is a liquid or a solid.

## Liquid Formulations

- ▣ Liquid (L), Flowable, (F or FL), Emulsifiable Concentrate (EC), Sprayable (S), Soluble Liquid (SL), etc...

## Dry Formulations

- ▣ Water Dispersible Granule (WG or WDG), Wettable Powder (WP), Water Soluble Powder (WSP), Pellet (P), Granule (G), etc...

# Pesticide Labels

- ▣ Why is it important to know the product formulation?

# Pesticide Labels

- ▣ Why is it important to know the product formulation?
  - Preference of applicator (Liquid or Solid)
  - Calibration and Calculation of rates
  - Cost analysis



# Pesticide Labels

## Calculating Rates of Dry Formulations

- ▣ When using dry formulations the number on the label refers to % active ingredient by weight..
  - Example:  
Barricade 65 WDG is 65% by weight prodiamine (ai)
  - Therefore:
    - ▣ 100 lbs of Barricade 65 WDG contains 65 lbs of prodiamine
    - ▣ 1 lb Barricade 65WDG contains .65 lbs of prodiamine



# Pesticide Labels

## Calculating Rates of Liquid Formulations

- ▣ When using liquid formulations the number on the label refers to lbs of active ingredient per gallon of product
  - Example:
    - Barricade 4FL has 4 lbs prodimine (ai) per 1 gallon of product
  - Therefore if you have a 2.5 gallon jug of Barricade 4FL you have 10 lbs prodimine.

$$\frac{4 \text{ lbs ai}}{1 \text{ gallon}} \times 2.5 \text{ gallons} = 10 \text{ lbs ai}$$

# Pesticide Labels

- ▣ How does product formulation affect application rates?
- ▣ Let's say you want to apply Pendulum 3.3EC at 3lbs ai/acre for crabgrass control. How much product do you apply to a 2 acre soccer field?

# Pesticide Labels

- ▣ Pendulum 3.3EC (Liquid)
  - 3.3 lbs ai/gallon of product

2 acres x 3 lbs ai = 6 lbs ai needed  
acre

$$\frac{3.3 \text{ lbs ai}}{1 \text{ gallon}} = \frac{6 \text{ lbs ai}}{x \text{ gallons}}$$

**x = 1.8 gallons Pendulum 3.3EC**

# Pesticide Labels

- ▣ If this were Pendulum 60 WDG it would be:

$$2 \text{ acres} \times \frac{3 \text{ lbs ai}}{\text{acre}} = 6 \text{ lbs ai needed}$$

$$\frac{0.6 \text{ lbs ai}}{1 \text{ lb Pend}} = \frac{6 \text{ lbs ai}}{x \text{ lbs Pend}}$$

$$x = 10 \text{ lbs Pendulum 60WDG}$$

# Pesticide Labels

Formulations are also important to know for cost analysis because it puts products on a 'level' playing field.

# Cost Analysis – Brown Patch Control

Product	Cost per lb
Heritage 50WG	\$365
Compass 50WDG	\$300
Banner MAXX	\$289 (gal)
Bayleton 50DF	\$81
Eagle 40WP	\$73
Prostar 70WP	\$50
Systar 80WDG	\$43
3336 50WP	\$22
ConSyst 67WDG	\$12

# Cost Analysis – Brown Patch Control

<u>Product</u>	<u>Rate (oz/1000 ft<sup>2</sup>)</u>	<u>Cost per lb</u>	<u>Cost per 1000 ft<sup>2</sup></u>
Heritage 50WG	0.1	\$365	\$2.28
Eagle 40WP	0.6	\$73	\$2.75
Compass 50WDG	0.15	\$300	\$2.81
Banner MAXX 1.24MC	2	\$289 (gal)	\$4.52
<b>Heritage 50WG</b>	<b>0.2</b>	<b>\$365</b>	<b>\$4.56</b>
Compass 50WDG	0.25	\$300	\$4.69
Bayleton 50DF	1	\$81	\$5.06
3336 50WP	4	\$22	\$5.46
ConSyst 67WDG	8	\$12	\$6.23
<b>Systar 80WDG</b>	<b>3</b>	<b>\$43</b>	<b>\$8.06</b>
<b>Prostar 70WP</b>	<b>3</b>	<b>\$50</b>	<b>\$9.38</b>



# Pesticide Labels

Common pre-emergence herbicide formulations.

Product	Price	Cost/acre
Barricade 65WDG	\$38.95/lb	\$59.68
Dimension EC	\$116.50/gallon	\$58.25
Pendulum 3.3EC	\$36.95/gallon	\$33.54
Pendulum 60WDG	\$9.51/lb	\$47.55
Pendulum Aquacap 3.8AS	\$46.71/gallon	\$36.80
Proclipse 65WDG	\$27.50/lb	\$42.25
Ronstar 2G	\$1.50/lb	\$300

# Weeds in Turf

## Control of Broadleaves and Perennials

- Common post-emergent herbicides include:

Trade name

Chemical Name

Cool-Power (Ester formulation)

MCPA, Triclopyr, Dicamba

Horsepower (Amine formulation)

MCPA, Triclopyr, Dicamba

Trimec Classic

2,4-D, Mecoprop, Dicamba

Lesco Three-Way

2,4-D, Mecoprop, Dicamba  
or MCPA, Triclopyr, Dicamba

\*All of these products are labeled for use in both warm and cool-season turf.


# Pesticide Labels

## Price analysis

Product	Price	oz/1000 sq ft	Cost/acre
Trimec Classic	\$29.77/gallon	1.25	\$12.63
Coolpower	\$47.75/gallon	1.25	\$20.04
Speedzone	\$55.19/gallon	1.25	\$23.09
Escalade 2	\$46.82/gallon	1.25	\$15.00

# Pesticide Labels

## Ester versus Amine Formulations



**Riverdale®**  
**COOL POWER®**  
SELECTIVE HERBICIDE

A THREE-WAY POST-EMERGENT SELECTIVE BROADLEAF HERBICIDE  
FOR USE ON GOLF COURSES, PARKS, ORNAMENTAL TURF LAWNS, ROADSIDES, AND SIMILAR TURF AREAS.  
CONTROLS (OR KILLS) DANDELIONS, CHICKWEEDS, PLANTAINS, OXALIS, SPURGE AND  
MANY OTHER BROADLEAF WEEDS, SOME OF WHICH ARE LISTED ON THIS LABEL.

CONTAINS MCPA, TRICLOPYR AND DICAMBA  
ONE GALLON COVERS UP TO 3.2 ACRES

**ACTIVE INGREDIENTS:**

Isooctyl (2-ethylhexyl) Ester of 2-Methyl-4-Chlorophenoxyacetic Acid*	56.14%
Butoxyethanol Ester of 3,5,6-Trichloro-2-Pyridinyloxyacetic Acid**	5.00%
Dicamba (3,6-Dichloro-o-Anisic Acid)***	3.60%
	35.26%
<b>INERT INGREDIENTS:</b>	
<b>TOTAL:</b>	<b>100.00%</b>

Contains Petroleum Distillates

Isomer Specific AOAC Method, Equivalent to:

*2-Methyl-4-Chlorophenoxyacetic Acid	36.0%	3.0 lbs./gal
**3,5,6-Trichloro-2-Pyridinyloxyacetic Acid	3.6%	0.3 lbs./gal
***3,6-Dichloro-o-Anisic Acid	3.6%	0.3 lbs./gal

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

SEE INSIDE BOOKLET FOR FIRST AID AND  
ADDITIONAL PRECAUTIONARY STATEMENTS

# HORSEPOWER®

## SELECTIVE HERBICIDE

FOR SELECTIVE BROADLEAF WEED CONTROL IN ORNAMENTAL LAWNS  
AND TURF GRASSES. CONTROLS BLACK MEDIC, CHICKWEED, CLOVER  
COCKLEBUR, DANDELION, KNOTWEED, OXALIS, PLANTAIN, THISTLE AND  
MANY OTHER SPECIES OF BROADLEAF WEEDS; SOME OF WHICH ARE  
LISTED ON THIS LABEL.

CONTAINS MCPA, TRICLOPYR AND DICAMBA

**ACTIVE INGREDIENTS:**

Dimethylamine Salt of 2-Methyl-4-Chlorophenoxyacetic Acid*	48.99%
Triethylamine Salt of 3,5,6-Trichloro-2-Pyridinyloxyacetic Acid**	5.59%
Dimethylamine Salt of Dicamba (3,6-Dichloro-o-Anisic Acid)***	4.82%
<b>OTHER INGREDIENTS:</b>	<b>40.60%</b>
<b>TOTAL:</b>	<b>100.00%</b>

By Isomer Specific AOAC Method, Equivalent to:

*2-Methyl-4-Chlorophenoxyacetic Acid	40.0%	3.80 lbs./gal.
**3,5,6-Trichloro-2-Pyridinyloxyacetic Acid	4.0%	0.38 lbs./gal.
***3,6-Dichloro-o-Anisic Acid	4.0%	0.38 lbs./gal.

FOR USE BY PROFESSIONAL TURF MAINTENANCE PERSONNEL,  
LANDSCAPING OR COMMERCIAL APPLICATORS ONLY

**KEEP OUT OF REACH OF CHILDREN  
DANGER - PELIGRO**

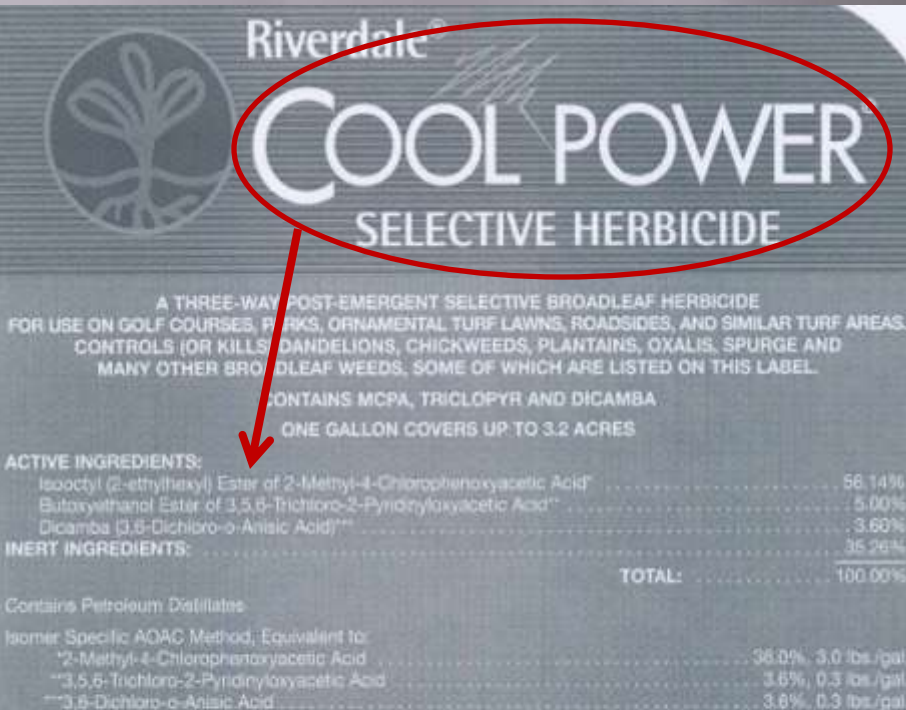
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300  
For Medical Emergencies Only, Call (877) 325-1840

# Pesticide Labels

## Ester versus Amine Formulations



**Riverdale**  
**COOL POWER**  
SELECTIVE HERBICIDE

A THREE-WAY POST-EMERGENT SELECTIVE BROADLEAF HERBICIDE FOR USE ON GOLF COURSES, PARKS, ORNAMENTAL TURF LAWNS, ROADSIDES, AND SIMILAR TURF AREAS. CONTROLS (OR KILLS) DANDELIONS, CHICKWEEDS, PLANTAINS, OXALIS, SPURGE AND MANY OTHER BROADLEAF WEEDS, SOME OF WHICH ARE LISTED ON THIS LABEL.

CONTAINS MCPA, TRICLOPYR AND DICAMBA.  
ONE GALLON COVERS UP TO 3.2 ACRES

**ACTIVE INGREDIENTS:**

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Dicamba (3,6-Dichloro-o-Anisic Acid)***	3.60%
INERT INGREDIENTS:	35.26%
<b>TOTAL:</b>	<b>100.00%</b>

Contains Petroleum Distillates

Isomer Specific AOAC Method, Equivalent to:

*2-Methyl-4-Chlorophenoxyacetic Acid	36.0%	3.0 lbs./gal.
**3,5,6-Trichloro-2-Pyridinyloxyacetic Acid	3.6%	0.3 lbs./gal.
***3,6-Dichloro-o-Anisic Acid	3.6%	0.3 lbs./gal.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

SEE INSIDE BOOKLET FOR FIRST AID AND  
ADDITIONAL PRECAUTIONARY STATEMENTS

# HORSEPOWER® SELECTIVE HERBICIDE

FOR SELECTIVE BROADLEAF WEED CONTROL IN ORNAMENTAL LAWNS AND TURF GRASSES. CONTROLS BLACK MEDIC, CHICKWEED, CLOVER COCKLEBUR, DANDELION, KNOTWEED, OXALIS, PLANTAIN, THISTLE AND MANY OTHER SPECIES OF BROADLEAF WEEDS; SOME OF WHICH ARE LISTED ON THIS LABEL.

CONTAINS MCPA, TRICLOPYR AND DICAMBA

**ACTIVE INGREDIENTS:**

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FOR USE BY PROFESSIONAL TURF MAINTENANCE PERSONNEL,  
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For Medical Emergencies Only, Call (877) 325-1840



# Pesticide Labels

- How does this difference affect product selection and application?

## Ester Formulations

- Act much quicker (Good thing)
  - Upcoming events
- Volatilize easier (Bad thing)
  - Damage to non-target plants
  - Blooming flowers, trees, or shrubs.
- Recommended for use in cooler weather

# Pesticide Labels

- ▣ How does this difference affect product selection and application?

## Amine Formulations

- ▣ Take longer to see results
- ▣ Volatilization not as big of a concern
- ▣ Safer than esters in warmer weather



# Pesticide Labels

## Spray Volumes

- ▣ Pesticide applications require different spray volumes depending on the specific product
- ▣ Usually given on the label as ranges
  - Trimec Classic:
    - ▣ “20 to 260 gallons of water/acre”
  - Drive:
    - ▣ “At least 20 gallons of water per acre”
  - Heritage
    - ▣ “87 to 174 gallons per acre”

# Pesticide Labels

- ▣ Spray volume depends on:
  - Target organism
    - ▣ Disease, weed, insect
  - Host crop
    - ▣ Bermuda athletic turf or tall fescue home lawn turf
  - Pesticide absorption
    - ▣ Foliar v/s root
  
- ▣ Directions on irrigation will also be on label:
  - Ex: “Product should be watered in immediately with 0.5 inches of water”

# Pesticide Labels

- ▣ What is one simple way to change your spray volume?

# Pesticide Labels

- ▣ What is one simple way to change your spray volume?

Change your nozzles

# Pesticide Labels

## GPA and GPM Equations

$$\square \text{ GPA} = \frac{\text{GPM} \times 5940}{\text{MPH} \times \text{NSI}} \quad \text{or} \quad \text{GPM} = \frac{\text{GPA} \times \text{mph} \times \text{NSI}}{5940}$$

Where :

GPA= gallons per acre

GPM = gallons per minute

MPH = miles per hour

NSI = nozzle spacing in inches

# Pesticide Labels

## GPA and GPM Equations

XR11002 nozzle

$$\text{GPA} = \frac{0.2 \times 5940}{3 \text{ mph} \times 18''}$$

$$\text{GPA} = 22 \text{ GPA}$$

XR11004 nozzle

$$\text{GPA} = \frac{0.4 \times 5940}{3 \text{ mph} \times 18''}$$

$$\text{GPA} = 44 \text{ GPA}$$

# Pesticide Labels

## PPE and REI

PPE-Personal Protective Equipment

REI- Restricted Entry Interval



READ THE ENTIRE LABEL FIRST.  
OBSERVE ALL PRECAUTIONS AND  
FOLLOW DIRECTIONS CAREFULLY.

### PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals

**WARNING:** Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed. Harmful if absorbed through skin.

#### Personal Protective Equipment (PPE):

Applicators and other handlers must wear: • Long-sleeved shirt and long pants • Chemical-resistant gloves category A (such as nitrile or butyl) • Shoes plus socks • Protective eyewear • Chemical-resistant apron when cleaning equipment, mixing or loading.

For exposures in enclosed areas: • A respirator with an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.**

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: • Coveralls • Chemical-resistant gloves category A (such as nitrile or butyl) • Shoes plus socks • Protective eyewear.

Note: REI for Dimension is 12 hours.



# Pesticide Labels

## Specimen Label

 Dow AgroSciences

**Dimension<sup>®</sup> Ultra 40WP**

### **Personal Protective Equipment (PPE):**

**Applicators and other handlers (other than mixer loaders) must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

**Mixer and Loaders must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/ maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs or aircraft in a

# Pesticide Storage

## Proper Storage and Handling

- North Carolina's Pesticide Storage Regulation has 3 parts.
  - 1.) Storage Requirements for all pesticides
  - 2.) Commercial Storage of restricted use pesticides
  - 3.) Large commercial storage of 10,000 lbs or more of restricted use pesticides (RUPs)

# Pesticide Storage

## Storage Requirements for all pesticides

- 1.) Store pesticides to prevent leaking and to facilitate inspection.
- 2.) Do not store pesticides in unlabeled containers.
  - a. Common chemical name
  - b. Percent active ingredient
  - c. EPA registration number
  - d. Signal word (Caution, Warning, or Danger)
  - e. Use classification (Restricted or general use)
- 3.) Do not store pesticides in food, beverage, or medicine containers.

# Pesticide Storage

## Storage Requirements for all pesticides (con't)

- 4.) Do not store pesticides in a way that they could cause contamination of food, beverages, seeds, fertilizers, etc.
- 5.) Store pesticides in accordance with their label.
- 6.) Store pesticides to prevent unauthorized access.
- 7.) Store pesticides in dry and well-ventilated areas.
- 8.) Store pesticides in an area free of combustible materials such as gasoline, kerosene, etc. as well as away from operations that present a fire hazard (welding, burning, etc)

# Pesticide Labels

## Proper Storage of Restricted Use Pesticides

All of the previous requirements PLUS:

1.) Posted warning signs:

“Pesticide Storage”, “In case of Emergency Call”, etc.

2.) Pesticide absorptive materials like kitty litter, sand, sawdust, lime, etc must be kept on site.

3.) Pesticides must be stored to prevent contact with water resulting from storm water, leaks, flooding, etc.

4.) Pesticides must not be stored within 100 horizontal feet of a public water supply or 50 horizontal feet of a private water supply.

# Pesticide Labels

## Proper Storage of Restricted Use Pesticides

The person responsible for the pesticide storage facility will also be responsible for:

- 1.) Compliance with all state and local fire and building codes.
- 2.) Development of a fire plan for the storage facility.
- 3.) Notifying NCDA & CS as well as local fire/emergency personnel of any emergencies or spills.
- 4.) Maintenance of a current inventory list (every 30 days)

# Pesticide Labels

## Pesticide Record-Keeping

The USDA and NCPL require that private and commercial applicators, dealers, and agricultural employers record and maintain certain pesticide information.

The NCDA & CS administers and enforces recordkeeping provisions under state law, and NCDA pesticide inspectors are authorized to inspect records kept by applicators.



# Pesticide Labels

## Pesticide Record-Keeping

What constitutes adequate record-keeping?

This can vary, but common information includes:

Brand/product name

EPA registration number

Total amount used

Date of application

Area treated

Size of area treated

Name/address of property  
owner

Name of applicator

Name of licensee or supervisor

Certification Number

Restricted Entry Interval (REI)

# Pesticide Labels

## Pesticide Record-Keeping

A record-keeping form that meets requirements for restricted use pesticides is available at the following address:

<http://ipm.ncsu.edu/pesticidesafety>

You can also contact the NCDA at:

(919) 733-3556 or <http://www.ncagr.com/pesticide>

# Pesticide Storage

## Disposal of Pesticides and Pesticide Containers

- ❑ It is ILLEGAL in NC to dispose of pesticides or pesticide containers on land, in landfills, in fresh water, or in the ocean.
- ❑ Any unused pesticides must be sprayed in a manner in accordance with the label prior to container disposal.

# Pesticide Storage

## Disposal of Pesticides and Pesticide Containers

- ❑ The only 2 LEGAL means of pesticide disposal are:
  - ❑ Labeled spraying of the pesticide followed by the “triple-rinse method”.
    - ❑ Rinse container 3 times and cut holes in bottom.
    - ❑ Container can then be disposed of in sanitary landfill

OR

# Pesticide Storage

## Disposal of Pesticides and Pesticide Containers

- Contacting the NCDA & CS Pesticide Disposal Assistance Program for collection of banned, out-dated, or unwanted pesticides.
- They can be contacted at the following #:  
(919) 733-7366

# Pesticide Labels

- ▣ Proper interpretation of pesticide labels allows:
  - Effective control of target pest(s)
  - Proper use, handling, and storage
  - Environmental responsibility

- ▣ Useful websites

[www.cdms.net](http://www.cdms.net)

[www.greenbook.net](http://www.greenbook.net)

- ▣ Any questions???

