

# 1998 RUTGERS Turfgrass Proceedings



THE NEW JERSEY TURFGRASS ASSOCIATION

In Cooperation With

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# **1998 RUTGERS TURFGRASS PROCEEDINGS**

**of the**

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The Rutgers Turfgrass Proceedings is published yearly by the Rutgers Center for Turfgrass Science, Rutgers Cooperative Extension, and the New Jersey Agricultural Experiment Station, Cook College, Rutgers University in cooperation with the New Jersey Turfgrass Association. The purpose of this document is to provide a forum for the dissemination of information and the exchange of ideas and knowledge. The proceedings provide turfgrass managers, research scientists, extension specialists, and industry personnel with opportunities to communicate with co-workers. Through this forum, these professionals also reach a more general audience, which includes the public. Articles appearing in these proceedings are divided into two sections.

The first section includes lecture notes of papers presented at the 1998 New Jersey Turfgrass Expo. Publication of the New Jersey Turfgrass Expo Notes provides a readily available

source of information covering a wide range of topics. The Expo Notes include technical and popular presentations of importance to the turfgrass industry.

The second section includes research papers containing original research findings and reviews covering selected subjects in turfgrass science. The primary objective of this section is to facilitate the timely dissemination of original turfgrass research for use by the turfgrass industry.

Special thanks are given to those who have submitted papers for this proceedings, to the New Jersey Turfgrass Association for financial assistance, and to those individuals who have provided support to the Rutgers Turf Research Program at Cook College - Rutgers, The State University of New Jersey.

Dr. Ann B. Gould, Editor  
Dr. Bruce B. Clarke, Coordinator

## LABEL COMPREHENSION: PESTICIDE SAFETY TRAINING

Susan P. Whitney<sup>1</sup>

Every pesticide applicator must read the pesticide label five times: when you buy the product, before you store the product, when you mix and load, before you apply, and again before you dispose of the empty, rinsed container. Refer to the handout, "The ABC's of a Pesticide label" and we will discuss the parts of the pesticide label.

**A.** Every label must have the name of the manufacturer who made the chemical.

**B.** Every label will also have a brand name or trade name such as "Blammo."

**C.** The formulation of the pesticide is important to know. If the formulation is "2 EC," that means that there are two pounds of active ingredient in each gallon of product. A formulation of "4 EC" would mean four pounds of active ingredient per gallon. If the pesticide 4EC were on sale for the same price as the 2EC container of that pesticide, would you buy it? You would be getting twice as much pesticide for the same price! That sounds good, doesn't it! But what if you use half the jug this year and EPA cancels the product next year? You'll be stuck with canceled pesticide to dispose of. Buy only what you need for one season, one month, or one week. Have it delivered if you can.

**D.** Be sure that you are using the right type of pesticide for the job. The label will tell you if it is an insecticide, herbicide, fungicide, nematocide, rodenticide, molluscicide, avicide, or piscicide. What do these pesticides kill (or repel)? An-

swer: insects, weeds, plant pathogens, nematodes, rodents, snails and slugs, birds, and trash fish.

**E.** The reason you are here today is because you are all licensed applicators. Only certified and licensed applicators may use Restricted-Use-Pesticides (RUPs). If the pesticide label says that it is an RUP, find out why. Is it because of ground water concerns? Or, perhaps, endangered species restrictions? The RUP statement on the label will explain the reason for the classification. This will help you decide how to use the chemical to prevent environmental and human contamination.

**F.** The common name is what we use when we refer to a pesticide. It is the same word for all manufacturers. You know you will always get the same chemical when you ask for it by common name.

**G.** Inert ingredients must be listed, because they may be toxic to some people.

**H.** The EPA registration number tells you that the product has been registered (not approved) by the EPA. That means that the product is legal to use according to the label. The EPA establishment number tells you the exact facility where this particular batch of the product was created. This is important information to know if you think there is something wrong with what you bought. The establishment number will help you track down the problem. So, never separate the label from the container.

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<sup>1</sup> Extension Specialist - Pesticides. Department of Entomology and Applied Ecology, University of Delaware, Newark, DE 19717-1303. E-mail address: [swhitney@udel.edu](mailto:swhitney@udel.edu).

**I.** There are several places on the label where you can get information to help you decide how to protect yourself and the public from exposure. Every pesticide label must remind you, "Keep out of reach of children."

The signal word is the most important word on the pesticide label for you to read. It tells you how toxic the product is to you, the applicator. This is not necessarily how toxic the product is to the pest. The signal word "Danger" or "Danger, Poison" means that this product is an extremely toxic chemical to you. The signal word "Warning" means that this chemical is somewhat toxic to you. The signal word "Caution" means that this chemical has a low toxicity to you, the applicator. But remember, it is still a poison.

Here is a quiz: You have to choose between two pesticides to control chinch bug in turf. Both are known to do about the same job on chinch bugs. One pesticide has a signal word "Caution." The other has a signal word "Warning." Which one should you use? And why? Answer: "Caution." It will have a lower toxicity to you, the applicator. The product with the signal word "Warning" may actually be less toxic to the pest, but it will certainly be more toxic to you.

Remember that there are four routes of entry for pesticide exposure: dermal, eyes, respiratory, and ingestion. The "Route of Entry" statement helps you to pick personal protective equipment (PPE). If the label says "fatal if swallowed," what PPE would you choose? Answer: a face shield. The "Specific Action" statement also helps you choose PPE. If the label says "do not get in eyes," what PPE would you pick out? Answer: goggles or face shield. If the label says "don't breath vapors and mists," use a respirator. The site of greatest absorption on your body is the groin. The face, and especially the forehead, are the next sites with high absorption potential. Be sure to protect these areas.

**J.** After you have read the Precautionary Statements, look for the PPE section on the label. This will help you finalize your selection. When mixing and loading pesticides, there is a certain

amount of pesticide contamination that lands on your body. The forearms get 13% of this contamination. The hands get 85%. This adds up to 98% of exposure that could be completely avoided by wearing rubber gloves and forearm protection. The very minimum PPE is long legged pants, long sleeved shirt, nonabsorbent hat, gloves, and footwear. How many of you wear a baseball cap while applying pesticides? If you do, it will absorb pesticides. That hat will contaminate you every time you wear it. What happens if you wear leather workboots? The same thing. And what happens if you wear shorts and a tank top? Pesticide drift lands on your skin.

**K.** Read the "User safety recommendations." Sometimes even the right PPE is not enough. Don't wipe your forehead with your shirtsleeve. It may have pesticide contamination on it. Never eat, smoke, or drink while applying pesticides. Wash hands before toileting.

**L.** You need to know first aid procedures before you have an accident. Keep a copy of the label on a clipboard in the storage/mixing/loading area. Keep the clipboard with you in the truck while on a job. The Delaware Pesticide Law requires you to show a label to anyone upon being asked. You must have a copy of the label with you and your service container must have a label with it.

**M.** Pesticides may be hazardous to water, pollinating insects, birds, and other wildlife. Make sure you plan ahead and scout the area.

**N.** The directions for use will tell you what equipment to use, the rate, when to apply and how. This is the section you will use the most.

**O.** A new statement on many labels is the "Agricultural Use Requirements for Worker Protection Standards" (WPS). You will find it in a box in a prominent place on the label. WPS covers farms, forests, nurseries, and greenhouses. Your product may say you are exempt from WPS. Read the box very carefully. There may

be a non-agricultural use requirement that gives your Restricted Entry Interval (REI). It may say "Don't let children or pests contact treated surfaces until sprays have dried."

**P.** The storage and disposal statement will tell you to store and dispose of pesticides correctly. Always store containers in a cool, dry, well ventilated facility. Avoid freezing. A sealed concrete floor will prevent spills from reaching the ground water. Make sure the facility is locked and posted for fire fighters. In case of fire, they need to know that the fumes are toxic fumes. They should not hose down a pesticide fire. You'll want stainless steel shelving for your containers. They are easy to clean and don't absorb odors like wood shelves will. And last, but not least, put spill clean-up equipment and a clipboard with labels and emergency numbers in the storage facility. But don't store any PPE inside the facility. PPE will become contaminated from pesticide odors and fumes.

Keep pesticide products separated by type—herbicides in one area, insecticides in another. Place heavy bottles and cans near bottom. Bags should be up off the floor. The storage and mix area should have secondary containment in case of spills.

When it is time to dispose of empty containers, triple or jet rinse them. Take them to a recycle site or sanitary landfill. Some states have chippers for plastic jugs to turn them into fence posts or drainage pipes.

**Q.** Some labels may have general information that does not fit in other sections.

**R.** Mixing directions may also be under the directions for use statement.

**S.** The "Approved Uses" section is very important. Check here first to make sure that you can use this pesticide for the job. You may apply a pesticide only to the site that is on the label.

Here is a quiz: You have a problem with crickets in turf on one of your accounts. You read the label on Zappo. It says it kills crickets pretty well. It lists corn and cotton on the label. Can you use it in turf? Answer: NO. The site must be on the label.

Labels also have:

**T.** Address of manufacturer.

**U.** Phone numbers.

**V.** Net contents

**W & X.** New statements on pesticide labels are "Endangered/Threatened Species Label Restrictions," and "Groundwater Advisory Statements." Check with your county extension agent for assistance.

**Y & Z.** Sometimes pesticides are chemical or physical hazards. Make sure there are no sparks or fire hazards in the area and make sure your pesticide does not get too hot or too cold.

## THE ABC's OF A PESTICIDE LABEL

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| A. MANUFACTURER  | L. FIRST AID   |
| B. BRAND NAME OR TRADE NAME  | M. ENVIRONMENTAL HAZARDS   |
| C. FORMULATION   | N. DIRECTIONS FOR USE  |
| D. TYPE OF PESTICIDE:<br>INSECTICIDE<br>HERBICIDE  | O. AGRICULTURAL USE REQUIREMENTS<br>FOR WPS<br>RESTRICTED ENTRY INTERVAL (REI) |
| E. RESTRICTED-USE PESTICIDE<br>CLASSIFICATION STATEMENT  | P. STORAGE AND DISPOSAL  |
| F. ACTIVE INGREDIENT:<br>COMMON NAME<br>CHEMICAL NAME  | Q. GENERAL INFORMATION   |
| G. INERT INGREDIENTS   | R. MIXING DIRECTIONS   |
| H. EPA REGISTRATION NUMBER<br>EPA ESTABLISHMENT NUMBER   | S. APPROVED USES<br>SITES<br>PESTS<br>RATES<br>APPLICATION EQUIPMENT           |
| I. PRECAUTIONARY STATEMENTS:<br>KEEP OUT OF REACH OF CHILDREN<br>STATEMENT<br>SIGNAL WORDS:<br>DANGER<br>WARNING<br>CAUTION<br>ROUTE OF ENTRY STATEMENTS<br>("fatal if swallowed")<br>SPECIFIC ACTION STATEMENTS<br>("do not get in eyes") | T. ADDRESS OF MANUFACTURER   |
| J. PERSONAL PROTECTIVE EQUIPMENT<br>(PPE) STATEMENT  | U. PHONE NUMBERS   |
| K. USER SAFETY RECOMMENDATIONS   | V. NET CONTENTS  |
|  | W. ENDANGERED/THREATENED SPECIES<br>LABEL RESTRICTIONS                         |
|  | X. GROUNDWATER ADVISORY STATEMENT  |
|  | Y. CHEMICAL HAZARDS  |
|  | Z. PHYSICAL HAZARDS  |
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**MAKING PESTICIDE APPLICATION DECISIONS FROM THE LABEL  
TAKE TO WORK QUIZ**

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LOOK AT THE LABEL OF THE MOST COMMON PESTICIDE THAT YOU USE IN YOUR WORK.

PRODUCT NAME \_\_\_\_\_

1. WHAT PEST MAY YOU CONTROL WITH THIS PRODUCT?
  
  
  
  
  
  
  
  
  
  
2. WHERE MAY YOU APPLY THIS PRODUCT?
  
  
  
  
  
  
  
  
  
  
3. WHAT PERSONAL PROTECTIVE EQUIPMENT WILL YOU USE WHILE MIXING AND APPLYING THIS PRODUCT?
  
  
  
  
  
  
  
  
  
  
4. WHAT SHOULD YOU DO IF SOMEONE ACCIDENTALLY SWALLOWS THIS PRODUCT?
  
  
  
  
  
  
  
  
  
  
5. HOW WILL YOU DISPOSE OF EMPTY CONTAINERS FROM THIS PRODUCT?

## MAKING PESTICIDE APPLICATION DECISIONS FROM THE LABEL TAKE HOME QUIZ

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LOOK AT THE LABEL OF A PESTICIDE THAT YOUR FAMILY USES AT HOME.

PRODUCT NAME \_\_\_\_\_

1. WHAT PEST MAY YOU CONTROL WITH THIS PRODUCT?
  
  
  
  
  
  
  
  
  
  
2. WHERE MAY YOU APPLY THIS PRODUCT?
  
  
  
  
  
  
  
  
  
  
3. WHAT PERSONAL PROTECTIVE EQUIPMENT WILL YOU USE WHILE MIXING AND APPLYING THIS PRODUCT?
  
  
  
  
  
  
  
  
  
  
4. WHAT SHOULD YOU DO IF A MEMBER OF YOUR FAMILY ACCIDENTALLY SWALLOWS THIS PRODUCT?
  
  
  
  
  
  
  
  
  
  
5. HOW WILL YOU DISPOSE OF EMPTY CONTAINERS FROM THIS PRODUCT?