

The background of the cover features a detailed, monochromatic illustration. On the left, a sunflower head is shown in profile, with its seeds clearly defined. To the right, a grasshopper is depicted in a similar style, showing its long hind legs and antennae. The overall aesthetic is that of a technical or scientific drawing, rendered in shades of gray.

ILLINOIS
COMMERCIAL
LANDSCAPE
TURFGRASS PEST
MANAGEMENT
HANDBOOK
1998-1999

UNIVERSITY OF ILLINOIS EXTENSION ♦ UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

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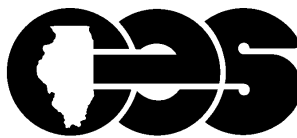
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The information in this handbook was prepared by specialists employed by the Illinois Cooperative Extension Service, College of Agricultural, Consumer and Environmental Sciences at the University of Illinois at Urbana-Champaign, and the Illinois Natural History Survey. The suggestions herein are intended to provide guidelines for pest management in Illinois during the current calendar year only.

Because of changing laws and regulations, the Illinois Cooperative Extension Service assumes no liability for the suggestions for using pesticides that are included in this handbook. These suggestions are incomplete; therefore, they should be used only as guidelines. Complete instructions for the use of a specific pesticide are on the pesticide label. Read and follow the label directions and precautions before applying any pesticides. The pesticide user is responsible for applying pesticides according to label directions, as well as for problems that may arise through misapplication or misuse of the pesticide.

Not all pesticides registered for landscape and turf pests are included in this handbook. Effective pesticides that do not present an undue hazard to the user and the environment are suggested whenever possible. Trade names have been used for clarity, but their use does not constitute an endorsement by the University of Illinois, nor does it imply discrimination against other products.

Label changes, product cancellations, and changes in suggestions may have occurred since the publication of this handbook. Check with your nearest Extension office if you are in doubt about a pesticide that you plan to use. Announcement of new registrations, label changes, and changes in suggestions will be made through newsletters and appropriate media sources. **A summary of updates to this handbook will be available (at no charge) beginning January 1999 on the *Home, Yard and Garden Pest Newsletter* Web Site (<http://www.ag.uiuc.edu/cespubs/hyg/>). Written updates will be also be available for sale beginning January 1999 through ACES Information Technology & Communication Services, 1301 West Gregory Drive, Urbana, IL 61801, (217)333-2007 or toll-free (800)345-6087.**



Cooperative Extension Service
University of Illinois at Urbana-Champaign

Helping You Put Knowledge to Work

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Conversions

Linear

$\frac{1}{6}$ fluid ounce (oz) = 1 teaspoon (tsp)
 $\frac{1}{2}$ fluid ounce = 1 tablespoon (tbs) = 3 teaspoons
 1 fluid ounce = 2 tablespoons = $\frac{1}{8}$ cup
 8 fluid ounces = 1 cup = $\frac{1}{2}$ pint (pt)
 16 fluid ounces = 2 cups = 1 pint
 32 fluid ounces = 4 cups = 1 quart (qt)
 128 fluid ounces = 16 cups = 1 gallon (gal)

Linear

1 inch = $2\frac{1}{2}$ centimeters (cm) = 25 $\frac{1}{2}$ millimeters
 1 foot = 12 inches (in)
 1 yard (yd) = 3 feet (ft)
 1 rod = $5\frac{1}{2}$ yards = 16 $\frac{1}{2}$ feet
 1 mile = 320 rods = 1,760 yards = 5,280 feet

Weight

1 ounce = $28\frac{1}{3}$ grams (g)
 1 pound (lb) = 16 ounces = 453 $\frac{1}{2}$ grams
 $2\frac{1}{5}$ pounds = 1 kilogram = 1,000 grams
 1 ton = 2,000 pounds = 907 kilograms

Area

144 square inches = 1 square foot
 9 square feet = 1 square yard
 $30\frac{1}{4}$ square yards = 1 square rod = $272\frac{1}{4}$ square feet
 43,560 square feet = 1 acre
 4,840 square yards = 1 acre
 160 square rods = 1 acre
 640 acres = 1 square mile

Dilution Tables

Amount of Liquid Pesticide Product Required to Obtain Recommended Rate

Recommended pesticide active ingredient (a.i.) per acre or 100 gallons of water

$\frac{1}{4}$ pound $\frac{1}{2}$ pound 1 pound 2 pounds 3 pounds

Concentration of liquid formula

Amount of Pesticide Required

Concentration of liquid formula	$\frac{1}{4}$ pound	$\frac{1}{2}$ pound	1 pound	2 pounds	3 pounds
1 pound/gallon	1 quart	2 quarts	1 gallon	2 gallons	3 gallons
$1\frac{1}{2}$ pounds/gallon	$1\frac{1}{3}$ pints	$1\frac{1}{3}$ quarts	$5\frac{1}{3}$ pints	$5\frac{1}{3}$ quarts	2 gallons
2 pounds/gallon	1 pint	1 quart	2 quarts	1 gallon	6 quarts
4 pounds/gallon	8 ounces	1 pint	1 quart	2 quarts	3 quarts
6 pounds/gallon	6 ounces	10 ounces	$1\frac{1}{3}$ pints	$1\frac{1}{3}$ quarts	2 quarts
8 pounds/gallon	4 ounces	8 ounces	1 pint	1 quart	3 pints

Amount of Dry Pesticide Product Required to Obtain Recommended Rate

Recommended pesticide active ingredient (a.i.) per acre or 100 gallons of water

$\frac{1}{4}$ pound $\frac{1}{2}$ pound 1 pound 2 pounds 3 pounds

Concentration of dry formula

Amount of Pesticide Required

Concentration of dry formula	$\frac{1}{4}$ pound	$\frac{1}{2}$ pound	1 pound	2 pounds	3 pounds
15%	$1\frac{2}{3}$ pounds	$3\frac{1}{3}$ pounds	$6\frac{1}{2}$ pounds	13 pounds	20 pounds
25%	1 pound	2 pounds	4 pound	8 pounds	12 pounds
40%	10 ounces	$1\frac{1}{4}$ pounds	$2\frac{1}{2}$ pounds	5 pounds	$7\frac{1}{2}$ pounds
50%	8 ounces	1 pound	2 pounds	4 pounds	6 pounds
65%	6 ounces	12 ounces	$1\frac{1}{2}$ pounds	3 pounds	$4\frac{1}{2}$ pounds
75%	$5\frac{1}{3}$ ounces	11 ounces	$1\frac{1}{3}$ pounds	$2\frac{2}{3}$ pounds	4 pounds
80%	5 ounces	10 ounces	$1\frac{1}{4}$ pounds	$2\frac{1}{2}$ pounds	$3\frac{3}{4}$ pounds

Poison Resource Center

The Poison Resource Center listed below has been established to provide information about the treatment of poisoning cases. Anyone with a poisoning emergency can call the toll-free telephone number for help. Personnel at the Resource Center will give you first-aid information and direct you to local treatment centers if necessary.

The Poison Information Resource Center supplements, but does not replace, local emergency medical services. Do not delay calling local emergency medical personnel to request immediate assistance or transportation. If possible, have the pesticide container and label present when you call or reach a treatment center or hospital.

Illinois

Rush-Presbyterian-St. Luke's Hospital
1653 West Congress Parkway
Chicago, IL 60612
Telephone: (312)942-5969
(within the 312 calling area)
(800)942-5969 (outside the 312 calling area)

