

ERRATA

Corrections to errors in *The Safe and Effective Use of Pesticides*, 3rd Edition, UC ANR publication 3324:

CHAPTER 3

PAGE 93

In Sidebar 3-1, the description of pH Level “6.1-7.0:” should read, “Adequate for immediate spraying of most pesticides. Do not leave the spray mixture in the tank for more than 1 to 2 hours, to prevent loss of effectiveness.”

The description of pH Level “Above 7.0:” should read, “Add a buffer or acidifier.”

CHAPTER 6

PAGE 133

The last subsection under “Training” entitled “Legal Information and Worker Protections” should read, “Legal Information and Worker Rights”

PAGE 154

The title of Sidebar 6-2 should read “Techniques for Washing Pesticide-Contaminated Clothing and PPE”

The third sentence of Part A, Step 5, should be deleted and the next sentence should read, “Never use bleach or ammonia to wash contaminated clothing—they do not remove most pesticides, and when mixed with pesticides, they release toxic vapors that can kill you.”

Part A, Step 6 should read, “If you notice pesticide odor, visible spots, or stains, repeat step 5 several times until clothing is fully clean.”

The introduction to second set of instructions in Part A should read, “Do not attempt to wash heavily contaminated clothing; destroy it by transporting it to an approved disposal site. These suggestions will help you reduce the likelihood that your family’s laundry will be contaminated by pesticides:”

PAGE 159

In Chapter 6 Review Questions, choice c in question 3 should read “using pesticides safely, emergencies and health, and legal information and worker rights”

CHAPTER 7

PAGE 179,

Sidebar 7-4 should contain an additional step:
7. Puncture container to prevent reuse.

CHAPTER 8

P 195,

In the 4th bullet point under Liquid Application Equipment, the sentence should read “on some equipment, fans, pressure regulators, filter screens or strainers, control valves, agitators, booms, hoses, and fittings to improve pesticide handling, mixing, and application (Fig. 8-1).”

P 235,

Under the subsection Preventing Problems, in the paragraph beginning “*Properly clean nozzles.*”, the 5th sentence should read, “Remove stuck particles with a soft brush.” Disregard the reference to the use of toothpicks for cleaning nozzles.

PAGE 236

In Figure 8-63, **disregard** Photo A and the reference to toothpicks in the caption. The caption should read, “To clean a clogged nozzle, use compressed air or water for flushing the orifice. Never put your mouth to a nozzle. Use a soft brush to remove stuck objects. Do not use any type of metal device to remove debris, because you may damage the orifice.”

PAGE 242

Question 16, option c. should read “soft brush”.

CHAPTER 9

PAGE 252

The second table (step 2) in Sidebar 9-5, should have a column for “Actual gpm” after the “Nozzle” column. Below is the corrected table.

Nozzle	Actual gpm	÷	Rated gpm	=	1.012	-	1.00	=	0.012	×	100	=	Percent variation
1	.253	÷	0.250	=	1.012	-	1.00	=	0.012	×	100	=	1.2
2	.250	÷	0.250	=	1.000	-	1.00	=	0.000	×	100	=	0.0
3	.293	÷	0.250	=	1.172	-	1.00	=	0.172	×	100	=	17.2
4	.261	÷	0.250	=	1.044	-	1.00	=	0.044	×	100	=	4.4
5	.328	÷	0.250	=	1.312	-	1.00	=	0.312	×	100	=	31.2
6	.255	÷	0.250	=	1.020	-	1.00	=	0.020	×	100	=	2.0

PAGE 253

The first table (step 1) in Sidebar 9-6 has been mislabeled. The “(fl oz)” column should read “Output (fl oz)” and “(sec)” should read “Time (sec)”.

Below is the corrected table.

Nozzle	Output (fl oz)	÷	Time (sec)	=	Output per sec	×	0.4688	=	gpm	
1	12.5	÷	23.2	=	0.539	×	0.4688	=	0.253	
2	12.0	÷	22.5	=	0.533	×	0.4688	=	0.250	
3	13.3	÷	24.5	=	0.543	×	0.4688	=	0.255	
4	14.5	÷	26.1	=	0.556	×	0.4688	=	0.261	
5	15.2	÷	28.3	=	0.537	×	0.4688	=	0.252	
6	13.0	÷	23.9	=	0.544	×	0.4688	=	0.255	
Total output									=	1.525

The second table (step 2) in Sidebar 9-6 has an error in the 10th column label. It should read “Nozzle actual flow rate”.

Below is the corrected table.

Nozzle	Actual gpm	÷	Rated gpm	=	1.012	-	1.00	=	Nozzle actual flow rate	×	100	=	Percent variation
1	0.253	÷	0.250	=	1.012	-	1.00	=	0.012	×	100	=	1.2
2	0.250	÷	0.250	=	1.000	-	1.00	=	0.000	×	100	=	0.0
3	0.254	÷	0.250	=	1.016	-	1.00	=	0.016	×	100	=	1.6
4	0.261	÷	0.250	=	1.044	-	1.00	=	0.044	×	100	=	4.4
5	0.252	÷	0.250	=	1.008	-	1.00	=	0.008	×	100	=	0.8
6	0.255	÷	0.250	=	1.020	-	1.00	=	0.020	×	100	=	2.0

PAGE 255

The 6th sentence of the Swath Width subsection should read, “You can also calculate swath width by multiplying the number of nozzles by the nozzle spacing, if nozzles are evenly spaced.”

PAGE 261

Step 1 in Sidebar 9-8 should read,

“Determine the area that can be treated in 1 minute. Multiply the spray swath width by the travel speed, then divide that number by

43,560 (the number of square feet in 1 acre). The result will be the acres treated per minute. In the example in Sidebar 9-3, the travel speed was calculated to be 128.25 feet per minute.”

The example in step 1 should read

$$(12 \text{ ft} \times 128.25 \text{ ft/min}) \div 43,560 \text{ sq ft/ac} = 0.0353 \text{ ac/min}$$

The example in step 2 should read:

$$1.525 \text{ gal/min} \div 0.0353 \text{ ac/min} = 43.2 \text{ gal/ac}$$

CHAPTER 9 *continued*

PAGE 264

In the Changing Output Pressure subsection, the reference to Sidebar 9-4 is incorrect. It should refer to Sidebar 9-5 instead.

PAGE 264

There are errors in the first two paragraphs of the Calibrating Dry Applicators section. These should read,

The methods for calibrating dry applicators are similar in many ways to those used for liquids. Granules vary in size and shape from one pesticide to the next, influencing their flow rate from the applicator hopper. You should calibrate granule applicators for each type of granular pesticide you apply. Also, recalibrate this equipment each time weather or field conditions change, especially if humidity increases.

Before starting to calibrate a dry applicator, be sure that it is clean and all parts are working properly. Most equipment requires periodic lubrication. Calibrating granule applicators involves using actual pesticides, so wear the label-prescribed PPE. Some formulations are dusty and may require respiratory protection. Always wear chemical-resistant gloves to prevent contact with residues on the equipment. You must measure three variables when calibrating a dry applicator:

PAGE 265

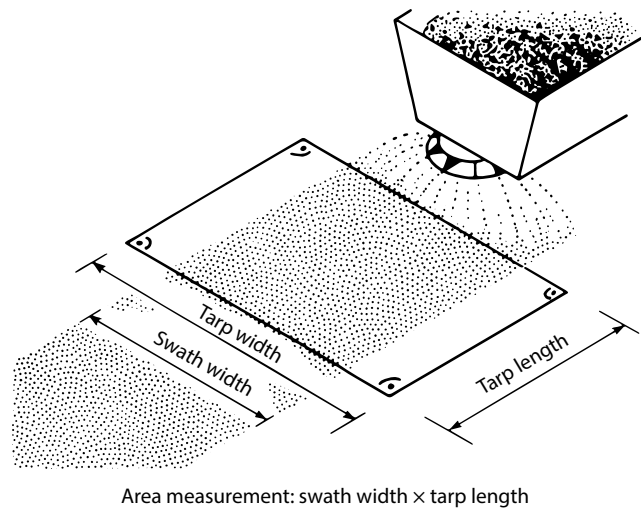
In the paragraph beginning **Travel Speed**, the second sentence should read:

Follow the instructions given in Sidebar 9-3.

Figure 9-20 has been updated. The caption should read,

To determine the area of granules being applied, measure the swath width across a plastic tarp and multiply this by the length of the tarp.

The corrected figure is below:



PAGE 266

There are several errors in Sidebar 9-10. The corrected sidebar is below:

SIDEBAR 9-10

CALCULATING GRANULE OUTPUT RATE BY MEASURING THE QUANTITY APPLIED TO A KNOWN AREA

Step 1. Spread a large plastic tarp on the ground. Make sure the tarp is wide enough to contain all the granules that will be distributed by the applicator and is at least 10 feet long. This example uses a tarp 15 feet wide and 10 feet long.

Step 2. Fill the hopper or hoppers of the applicator, adjust the output ports to the correct opening according to the label, and move the applicator across the entire length of the tarp at an even pace while broadcasting granules. Note the travel speed.

Step 3. To determine the swath area, measure the swath width of the granules on the tarp and multiply it by the length of the tarp (the distance traveled). In this example, the swath width is 12 feet.

EXAMPLE

$$\text{Swath area} = 10 \times 12 = 120 \text{ sq ft}$$

Step 4. Transfer the granules on the tarp to a container and weigh them. In this example, the granules on the tarp weighed 4 ounces.

Convert the output in the swath area to a per-acre application rate by converting the weight of the granules to pounds and multiplying by 43,560 (the number of square feet in 1 acre) and dividing by the swath area.

EXAMPLE

$$4 \text{ oz} \div 16 \text{ oz (1 lb)} = 0.25 \text{ lb}$$
$$0.25 \text{ lb} \times 43,560 \text{ sq ft} \div 120 \text{ sq ft} = 90.75 \text{ lb/ac}$$

In this example, the applicator is broadcasting 90.75 pounds of granules per acre. The label of this product calls for an application rate of 80 pounds per acre. To lower the application rate to the listed rate, close the port some or increase the travel speed. Once an adjustment has been made, repeat the calibration procedure to ensure your applicator is calibrated to apply the exact rate required by the label.

CHAPTER 9 *continued*

PAGE 267

In step 4 of Sidebar 9-11, the number of ounces per pound should be 16, not 165.

PAGE 271

There are several errors in Sidebar 9-15. The corrected sidebar is to the right.

PAGE 272

The second paragraph of the Active Ingredient Calculations section should read:

Labels of pesticides give the percentage by weight of a.i. (Fig. 9-21, p 270). The labels of liquid pesticides also tell how many pounds of a.i. are in 1 gallon of formulation. Use the calculations in Sidebar 9-15 (p 271) to make a.i. calculations with liquid formulations. Use Sidebar 9-16 (p 271) for dry (powder) formulations and Sidebar 9-17 for granular formulations.

SIDEBAR 9-15

CALCULATING LIQUID FORMULATIONS

Assume that a sprayer has been calibrated and found to spray 7.5 acres per tank. You have a recommendation to apply 1.5 pounds of a.i. of chlorothalonil per acre to control rust on snap beans and have been supplied with a liquid formulation containing 4.17 pounds a.i. per gallon. How much chlorothalonil should you put in the tank?

Step 1. Determine the number of gallons of liquid needed per acre by dividing 1 gallon by the pounds of a.i. per gallon and multiplying that by the pounds a.i. per acre.

EXAMPLE

$$(1 \text{ gal} \div 4.17 \text{ lb/gal a.i.}) \times 1.5 \text{ lb a.i./ac} = 0.360 \text{ gal/ac}$$

Step 2. Multiply the known acre capacity of the tank by the gallons per acre.

EXAMPLE

$$7.5 \text{ ac/tank} \times 0.360 \text{ gal/ac} = 2.7 \text{ gal/tank}$$

This is the number of gallons of formulated chlorothalonil that should be put into the tank for spraying 7.5 acres of crop.

PAGE 274

The section head “Parts per Million Solutions” should read “Parts per Million Dilutions” instead.

PAGE 278

Question 13, option b. should read “40.3 acres”.

CHAPTER 12

PAGE 342

There is a misstatement in the last sentence of the 4th bullet point of the subsection “What to Do When Leaks and Spills Occur.” The sentence should read:

If you have access to the proper PPE, reenter the building to open doors and windows and set up a portable fan.

ANSWERS TO REVIEW QUESTIONS

PAGE 349

The answer to Chapter 9, question 13, is b.



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