

# TECHNICAL NOTES

NATURAL RESOURCES CONSERVATION SERVICE – WYOMING

**AGRONOMY NO. 17**

**Dec 5, 2007**

**SUBJECT:** Pest Management Recordkeeping and Calibration Fact Sheets

This Tech Note has been upgraded to add recordkeeping forms for

- Integrated Pest Management
- Restricted Use Pesticides
- Commercial Applicators

University of Wyoming Pesticide Education Program Fact Sheets can be found on the website: <http://www.uwyo.edu/plants/wyopest/factsheets.html>

- MP-93.1     USDA Record Keeping Requirements for Restricted Use Pesticides
- MP-93.10    Record Keeping Requirements and Practices for Commercial Applicators
- MP-93.3     Calibrating Multiple Nozzle Boom-type Sprayers
- MP-93.4     Calibrating Hand Sprayers and High Pressure Hand Guns

**INTEGRATED PEST MANGEMENT RECORDKEEPING FORM**

Crop Grown	Field Number and Acres	Target Pest	Suppression Method for Non-chemical control	Pesticide Applied and WinPST rating		Date Applied	Reduced Environmental Risk -Mitigations
Corn Example	#1 23.0 acres	West Corn Root Worm	Crop Rotation Bt Corn variety Irrigation timing - IWM	Furadan 4F	H	4/23/07	Soil applied insecticide 4am application for bees

Producer Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

Date: \_\_\_\_\_  
 Attach location map.



## The Law Requires You to Record

- 1. The brand or product name of the restricted use pesticide and its EPA registration number.** (Federal law does not require that you record general use pesticide applications -- only restricted use pesticides.)
- 2. The total amount applied.** Record the total quantity of the product used -- not the quantity after water or other substances were added. Amount does not refer to percent of active ingredient. Use the pesticide label for reference and record the amount in quantities similar to label language. For example, if the label states the pesticide is to be measured in pints or ounces, then record the amount in that measurement.
- 3. The size of the area treated.** This information should be recorded in a unit of measure such as acre, linear feet, bushel, cubic feet, square feet, number of animals, etc. which is normally expressed on the pesticide label in reference to the application being made. For special applications such as alternate middles, weed wicks or band application, record the total area covered. For example, if an 80 acre grove is treated using an alternate middle approach, the entire 80 acres would be recorded as the "size of area treated."
- 4. The crop, commodity, stored product, or site to which the pesticide was applied.** Refer to the pesticide label for guidance if you are unsure how to record this information.
- 5. The location of the application.** Record the location of the treated area, not the address of the farm or business. Your goal is to be able to identify the exact area of the application two years later if requested. The law allows any of the following designations: - county, range, township, and section; - maps or written descriptions; - a USDA identification system such as those used by the Natural Resources Conservation Service or the Consolidated Farm Service Agency (formerly SCS and ASCS) which involves maps and a numbering system to identify field locations; •the legal property description.
- 6. The month, day, and year of the application.**

- 7. The applicator's name and certification number** if applicable (some states do not assign numbers). If the application was made by someone who is not certified, then record the name and number of the certified applicator who supervised the application.

### **How to Record Spot Applications**

If you apply restricted use pesticides on the same day in a total area of less than one-tenth of an acre, you are required to record only the following: - brand/product name, EPA registration number - total amount applied - month, day, year of the application - identification of the application as a spot application and a general description of the location (for example, "treated fire ant mounds in the lower creek pastures") along with the words "spot application."

**This spot application provision excludes greenhouse and nursery applications** which are required to keep all of the data elements.

### **Additional Requirements**

The information must be recorded within 14 days following the pesticide application. It will be easier to accurately record the data if you record it promptly.

**You must keep the records for two years from the date of the pesticide application.**

There is no required form. Any form (handwritten or on computer) is acceptable as long as the required data is included.

### **Records by Commercial Applicators**

If you hire a commercial applicator, note that the regulations require commercial applicators to give clients a copy of their pesticide application record within 30 days of the application.

### **Access to the Record Information Is Limited to:**

- USDA-authorized representatives who present identification;
- State-authorized representatives who present identification;
- Attending licensed health care professionals, or those acting under their direction, when treating individuals who may have been exposed to restricted use pesticides.

### **Civil Penalties:**

A certified applicator who violates any provision of the regulations will: •For the first offense, be subject to a fine of not more than \$550; •For subsequent offenses, be subject to a fine of not less than \$1,100 for each violation. The penalty

shall be less than \$1,100 if the Administrator of USDA Agricultural Marketing Service, or his or her designee, determines that the certified applicator made a good faith effort to comply.

### **For Additional Information**

For additional information about the Pesticide recordkeeping Program, contact the: Pesticide Records Branch, USDA, Agricultural Marketing Service, 8700 Centreville Road, Suite 202, Manassas, VA 20110-8411, phone (703) 330-7826, fax (703) 330-6110.

or contact your local county Cooperative Extension Service.

C:\Program Files\Adobe\Acrobat 4.0\Acrobat\help\OpenAll\Transform\comp\Private\Recordkeeping.npd

## COMMERCIAL APPLICATOR RECORDKEEPING FORM

Crop Treated	Location on attached Map. Field # and Acres	Target Pest	Pesticide Applied by Brand Name	Pesticide EPA Registration Number	Amount of Pesticide Used	Rate of Application	Method of Application	Date Applied and time	Weather Conditions: Temperature, Wind Direction Velocity
Alfalfa Example	#1 23.0 acres	Alfalfa Weevil	Lorsban 4E	@#\$\$%^&*~	17#	.75#/ac	Foliar applied with Boom sprayer	5/15 8:00am	57 degrees North 15 mph

Producer Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

Date: \_\_\_\_\_  
 Location: See Attached map.

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## Pesticide Education Program Fact Sheet

MP-93.1

August, 1998

Prepared by M.A. Ferrell, UW Cooperative Extension Pesticide Coordinator

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# USDA Record Keeping Requirements for Applicators Who Apply Restricted Use Pesticides

The Agricultural Marketing Service of the U.S. Department of Agriculture has implemented the National Pesticide Record Keeping Program as mandated by the 1990 Farm Bill. The Pesticide Records Branch has developed answers to the most frequent questions asked concerning the record keeping requirements. The attached questions and answers are provided to assist in clarifying the regulations.

### **Why were these regulations implemented for pesticide record keeping?**

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The 1990 Farm Bill or the Food, Agriculture, Conservation, and Trade Act of 1990, subtitle H, section 1491 states that the Secretary of Agriculture in consultation with the administrator of the Environmental Protection Agency (EPA) "shall require certified applicators of **restricted use pesticides (RUPs)** . . . to maintain records comparable to records maintained by commercial applicators of pesticides in each state." Certified applicators include both commercial and private applicators. EPA currently requires certified commercial applicators to keep records under regulations implementing the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). EPA's regulations do not require cer-

tified private applicators to maintain records. However, some individual states require certified private applicators to maintain records.

### **What is the difference between a certified commercial applicator and a certified private applicator?**

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A certified private applicator is defined as one who uses or supervises the use of a RUP for the purpose of producing any agricultural commodity on property owned or rented by the applicator or if applied without compensation, other than trading of personal services between producers of agricultural commodities on the property of another person. A certified commercial applicator is defined in the proposal as one who uses or supervises the use of a RUP on property other than as provided by the definition of "private applicator."

Some examples of commercial applicators under the proposed regulations would be applicators certified under categories such as forest, demonstration and research, ornamental and turf, industrial, institutional, structural and health related, right-of-way, and seed treatment.

## What information would a certified applicator be required to maintain on a RUP?

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### *The law requires you to record:*

1. **The brand or product name of the restricted use pesticide and its EPA registration number.** (Federal law does not require that you record general use pesticide applications—only restricted use pesticides.)
2. **The total amount applied.** Record the total quantity of the product used—not the quantity after water or other substances were added. Amount does not refer to percent of active ingredients. Use the pesticide label for reference and record the amount in quantities similar to label language. For example, if the label states the pesticide is to be measured in pints or ounces, then record the amount in that measurement.
3. **The size of the area treated.** This information should be recorded in a unit of measure such as acre, linear feet, bushel, cubic feet, square feet, number of animals, etc., which is normally expressed on the pesticide label in reference to the application being made. For special applications such as alternate middles, weed wicks, or band application, record the total area covered. For example, if an 80-acre grove is treated using an alternate middle approach, the entire 80 acres would be recorded as the “size of area treated.”
4. **The crop, commodity, stored product, or site to which the pesticide was applied.** Refer to the pesticide label for guidance if you are unsure how to record this information.
5. **The location of the application.** Record the location of the treated area, not the ad-

dress of the farm or business. Your goal is to be able to identify the exact area of the application two years later if requested. The law allows any of the following designations: county, range, township, and section; maps or written descriptions; a USDA identification system such as those used by the Natural Resources Conservation Service or the Consolidated Farm Service Agency (formerly SCS and ASCS), which involves maps and a numbering system to identify field locations; or the legal property description.

6. **The month, day, and year of the application.**
7. **The applicator’s name and certification number if applicable** (some states do not assign numbers). If the application was made by someone who is not certified, then record the name and number of the certified applicator who supervised the application.

### **How to record spot applications**

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If you apply restricted use pesticides on the same day in a total area of less than one-tenth of an acre, you are required to record only the following: brand or product name; EPA registration number; total amount applied; month, day, and year of the application; identification of the application as a spot application; and a general description of the location (for example, “treated fire ant mounds in the lower creek pastures”) along with the words “spot application.”

**This spot application provision excludes greenhouse and nursery applications,** which are required to keep all of the data elements.

### **Additional requirements**

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The information must be recorded within 14 days following the pesticide application. It will be easier to accurately record the data if you record it promptly.

#### ***You must keep records for two years from the date of the pesticide application.***

There is no required form. Any method (handwritten, typed, or computer generated) is acceptable as long as the required data is included.

#### ***Records by commercial applicators***

If you hire a commercial applicator, note that the regulations require commercial applicators to give clients a copy of their pesticide application record within 30 days of the application.

#### ***Access to the record information is limited to:***

USDA authorized representatives who present identification; state-authorized representatives who present identification; and attending licensed health care professionals, or those acting under their direction, when treating individuals who may have been exposed to restricted use pesticides.

#### ***Civil penalties:***

A certified applicator who violates any provision of the regulations will for the first offense, be subject to a fine of not more than \$550 or for subsequent offenses, be subject to a fine of not less than \$1,100 for each violation. The penalty shall be less than \$1,100 if the administrator of USDA Agricultural Marketing Service or his or her designee determines that the certified applicator made a good faith effort to comply.

### **How will the records be surveyed?**

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USDA's National Agricultural Statistics Service (NASS) is currently conducting agricultural pesticide use surveys. NASS intends to continue its surveying with the additional purpose of developing a data base on the use of RUPs. The data base developed by NASS will be used to produce annual reports on the national use of RUPs to Congress.

### **Who will be responsible for surveying the non-agricultural uses of RUPs?**

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EPA will survey non-agricultural uses of RUPs.

### **Will agricultural producers be identified in reports generated from the survey?**

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No. The proposed regulations prohibit federal or state agencies from releasing information obtained under the proposal that would directly or indirectly reveal the identity of producers of commodities to which RUPs have been applied.

### **For additional information**

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For additional information about the pesticide record-keeping program, contact the Pesticide Records Branch, USDA, Agricultural Marketing Service, 8700 Centreville Road, Suite 202, Manassas, VA 20110-8411, phone (703) 330-7826, fax (703) 330-6110, or contact your local county Cooperative Extension Service.

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**Pesticide Education Program Fact Sheet**

MP-93.10

Prepared by M.A. Ferrell, UW Cooperative Extension Pesticide Coordinator

August, 1998

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## Record Keeping Requirements and Required Practices for Commercial Applicators

### Section 13. Reports and Records

(b) Commercial applicators shall maintain and retain accurate and legible records of all pesticides applied during commercial applications for a period of two years.

(e) Certified commercial applicators who are involved in the commercial application of pesticides shall maintain office records giving such information with respect to:

1. Name and address of person for whom the application was made, and if applicable, who purchased the pesticide(s)
2. Location of the pesticide application
3. Commodity or site treated
4. Pest controlled
5. Pesticide applied
  - a. Brand name
  - b. EPA registration number
  - c. Amount of pesticide used
  - d. Rate of application
  - e. Method of application
6. Date and time of application

7. Weather conditions at the time of application

- a. Temperature
- b. Wind direction and velocity

### Section 14. Required Practices for Commercial Applicators and Private Applicators

(a) Certified commercial applicators and private applicators shall notify the department of any change of business address within seven days.

(b) Prior to application shall inform the customer of the following items:

1. Pesticide(s) applied
2. Possible residue hazards
3. Any restricted entry periods
4. Any waiting periods prior to harvest
5. Application dates and times
6. Post-application label safety precautions
7. Other applicable label requirements (posting, worker protection)

Material taken from: *Wyoming Applicator Certification Rules and Regulations*. A complete set of rules and regulations is available from the Wyoming Department of Agriculture, 2219 Carey Avenue, Cheyenne, WY 82002-0100.

**Pesticide Education Program Fact Sheet****MP-93.3**

Prepared by M.A. Ferrell, UW Cooperative Extension Pesticide Coordinator

August, 1998

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## 1/128 Method of Calibration Calibrating Multiple Nozzle Boom-type Sprayers

Because a gallon = 128 ounces and the test area to be sprayed is 1/128th of an acre, ounces collected = gallons per acre.

This method of sprayer calibration gives sprayer output in gallons per acre when nozzle discharge is measured in ounces over a course length (D) determined from Table 1.

**STEP 1.**

Adjust the sprayer pressure (30 to 40 psi for most sprayers) and check for uniformity. Operate sprayer for one minute and measure spray from each nozzle. Clean or replace any nozzle tip that delivers 5 percent more or less than the output required for a new nozzle in good working condition.

**STEP 2.**

Measure the spray band width or nozzle spacing (W) in inches on the boom to determine the course length (D) in feet as shown in column 2 of Table 1. The area to be sprayed must equal 1/128th of an acre. An acre = 43,560 ft<sup>2</sup>. Therefore, 1/128th of an acre would equal 43,560 divided by 128 = 340 ft<sup>2</sup>. If the nozzle spacing = 20 inches then the distance to travel to equal 1/128th of an acre would be 204 feet. This can be determined by the following formula:

$$\frac{4084}{W \text{ (nozzle spacing in inches)}} = D \text{ (distance in feet)}$$

or 
$$\frac{4084}{20 \text{ inches}} = 204 \text{ feet}$$

Or from Table 1. W = 20 inches and D = 204 feet.

**STEP 3.**

Catch the spray from one nozzle while operating the sprayer under field conditions or for the time required to travel the needed distance at a desired speed. Time required to travel distance (D) at selected speeds is shown in Table 1. Time required for other speeds may be calculated with the following formula:

$$\text{time (seconds)} = \frac{0.682 \times \text{distance (feet)}}{\text{speed (miles per hour)}}$$

**STEP 4.**

Measure the spray collected in ounces. The number of ounces collected is the same as the number of gallons per acre.

**EXAMPLE**

You have a sprayer that has 15 nozzles on 30-inch spacings. How would you calibrate it using the 1/128th method?

Using the formula from Step 2 above:

$$\frac{4084}{30 \text{ inches}} = 136 \text{ feet}$$

Or from Table 1. W = 30 inches and D = 136 feet.

Therefore, you would need to time how long it takes for your sprayer to travel 136 feet. Travel this distance several times in the field and get an average time. Perhaps it takes an average of 31 seconds to cover 136 feet.

You would then collect the spray from one nozzle in a container for 31 seconds. Measure the water collected in ounces. The amount collected in ounces equals gallons per acre. If in 31 seconds you collected 20 ounces your sprayer output would be 20 gallons per acre.

### Determining how much pesticide to add to the spray mixture

The recommendation from the label is to apply 1 quart of 2,4-D per acre.

The sprayer is applying 20 gallons per acre. Therefore, you will need to add 1 quart of 2,4-D to each 20 gallons of water.

Your sprayer holds 200 gallons. So how much pesticide will you need to add to the 200 gallon spray tank?

*200 gallons divided by 20 gallons = 10 quarts of 2,4-D*

How large an area can be sprayed by your 200 gallon tank?

*200 gallons divided by 20 gallons per acre = 10 acres*

**Table 1.** Distance (D) to travel and seconds required for selected speeds when nozzle coverage is (W) inches so that discharge from one nozzle measured in ounces equals gallons per acre.

W (in)	D (ft)	Seconds to travel (D) feet at a speed of:			
		2 mph	3 mph	4 mph	5 mph
5	817	279	186	139	111
6	681	232	155	116	93
7	583	199	133	99	80
8	510	174	116	87	70
9	454	155	103	77	62
10	408	139	93	70	56
11	371	127	84	63	51
12	340	116	77	58	46
14	292	100	66	50	40
16	255	87	58	43	35
18	227	77	52	39	31
20	204	70	46	35	28
22	186	63	42	32	25
24	170	58	39	29	23
26	157	54	36	27	21
28	146	50	33	25	20
30	136	46	31	23	19
32	128	44	29	22	17
34	120	41	27	20	16
36	113	39	26	19	15
38	107	36	24	18	15
40	102	35	23	17	14

## Pesticide Education Program Fact Sheet

MP-93.4

Prepared by M.A. Ferrell, UW Cooperative Extension Pesticide Coordinator

August, 1998

# 1/128 Method of Calibration

## Calibrating Hand Sprayers and High Pressure Hand Guns

Because a gallon = 128 ounces and the test area to be sprayed is 1/128th of an acre, ounces collected = gallons per acre.

### STEP 1.

Measure out an area equal to 1/128th of an acre. Approximately 340 ft<sup>2</sup> or an area 18.5 feet by 18.5 feet.

### STEP 2.

Measure the time it takes to spray the measured area, **with water only**. Repeat several times and take the average time.

### STEP 3.

Spray into a container for the same amount of time it took to spray the measured area. Measure the water collected in ounces. The amount collected in ounces equals gallons per acre.

**EXAMPLE:** Hand sprayer

### STEP 1.

Measure area. 18.5 by 18.5 feet = 340 ft<sup>2</sup>

### STEP 2.

Time to spray area = 51 seconds

### STEP 3.

Amount collected = 40 ounces; therefore, 40 ounces = **40 gallons per acre**

### Determining how much pesticide to add to the spray mixture

The recommendation is to apply 1 quart of 2,4-D per acre.

The sprayer is applying 40 gallons per acre; therefore, you will need to add 1 quart of 2,4-D to each 40 gallons of water.

Your sprayer only holds 1 gallon of spray mixture. So how much pesticide will you need to add to the gallon of water?

*1 quart (32 ounces) divided by 40 gallons = 0.8 ounces.*

1 fluid ounce = 2 tablespoons; therefore, you will need approximately 2 tablespoons of 2,4-D per gallon of water.

1 fluid ounce also = 29.57 milliliters (ml); therefore, if measuring in ml, you would need 0.8 ounces times 29.57 ml per ounce = **24 ml per gallon of water.**

How much area will 1 gallon spray? There are 43,560 ft<sup>2</sup> per acre. If 40 gallons will spray one acre then one gallon will spray an area 1/40 that size or 43,560 ft<sup>2</sup> divided by 40 = **1089 ft<sup>2</sup>.**