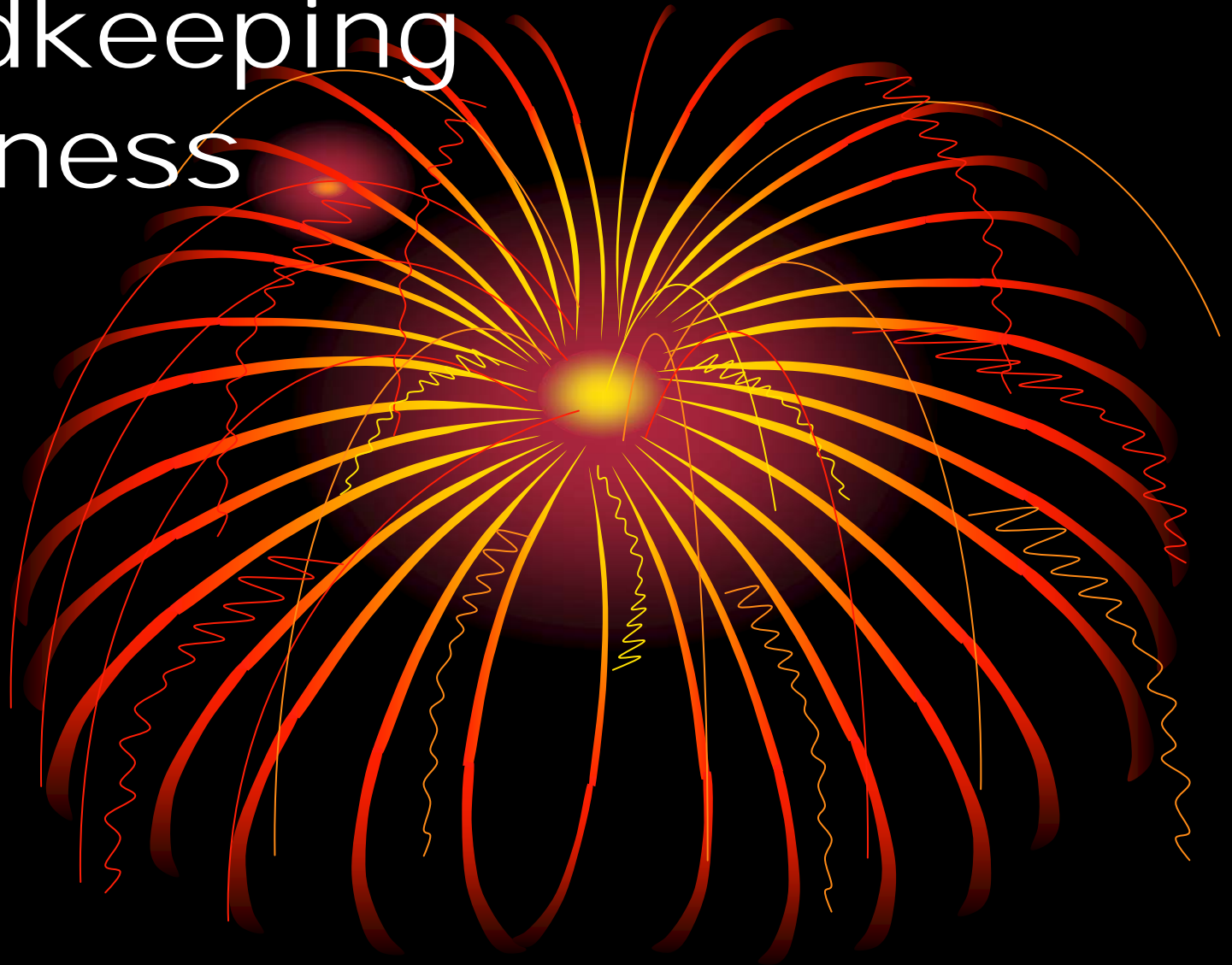


# Recordkeeping Awareness



Carol Ramsay

Washington State University

# National RUP Requirements

- Name and address of the person for whom the pesticide was applied
- Physical Location of Treated Area
- Crop, Commodity, Stored Product, or Site
- Date of Application
- Brand Name/Product Name
- EPA Registration Number (EPA Reg. No.)
- Amount Applied



- Rarely do enforcement staff find flawless records
  - errors and omissions are a violation of state or federal law
- SMART - Consider the importance of recording each detail that describes
  - materials applied
  - how they were applied and who applied them
  - how the equipment was set up
  - any special circumstances that occurred before, during, and after the application
- Don't forget to record the times when application was rescheduled or aborted



# Smart Items



- Spray tank concentration
  - Total volume of spray batch - note both amount of product and the total spray volume mixed
  - For example, 2 pints in 30 gallons water; or 4 pounds in 50 gallons water.
- Surfactants and other Adjuvants
  - Adjuvant name(s) and spray mix rate
    - buffers, surfactants, wetting agents, spreaders, dyes, oils, etc.
  - Use this information to assess placement, efficacy and possible damage

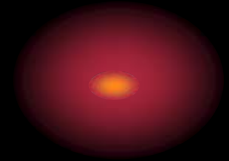
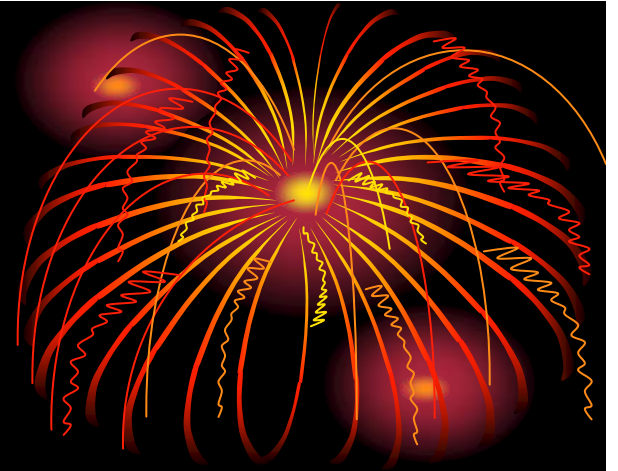
# Smart Items

- Start and stop times
  - Start a new application record
    - if you take an hour break for lunch or for any other reason.
  - Stop time defines the application time block which can be compared to environmental and other conditions/occurrence that happened during that period
- Sprayer operating pressure
  - Document drop size
- Flight or ground speed
  - Document application rate



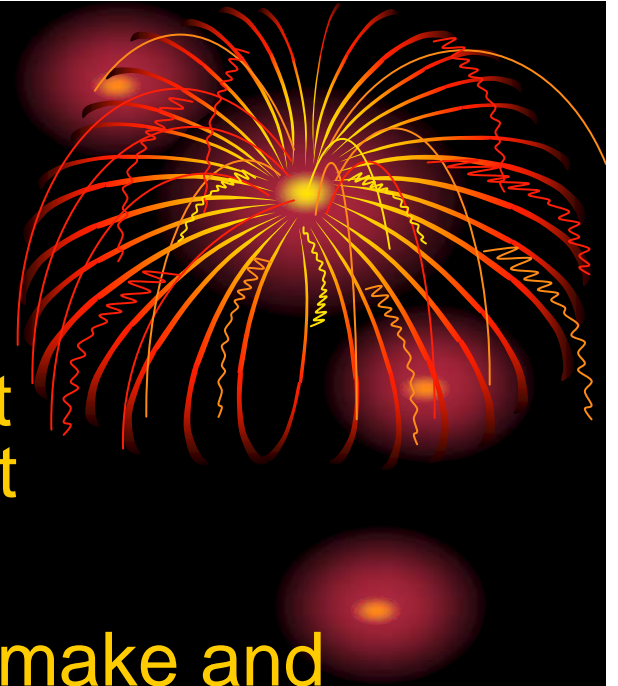
# Smart Items

- Wind speed during the application taken in the area of the application
  - Purchase a quality anemometer or wind meter to measure wind speed. There are several in the market ranging from \$40-\$120.
  - Take readings several times during the application and record the range, for example, 4.5-5.8 mph
  - Do not simply report calm or gusty
  - Some labels have lower and upper wind speed restrictions



# Smart Items

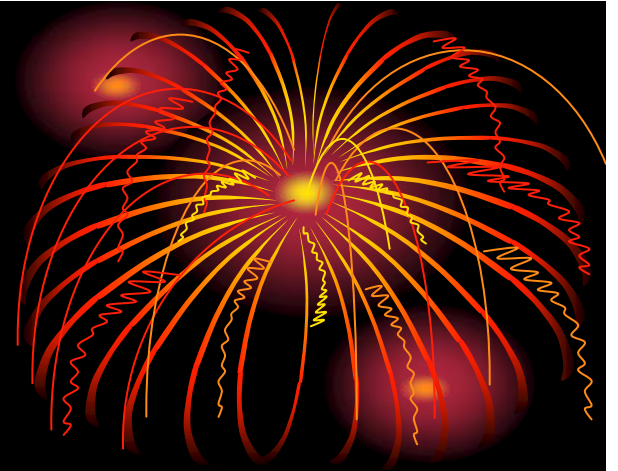
- Nozzle manufacturer, make and size
  - Document your equipment was set up to deliver label-specified droplet size or spray volume
  - Note nozzle manufacturer, nozzle make and size. For example, XR8004, CP03
- Required spray droplet classification
  - Check nozzle manufacturer literature for spray droplet classification based on nozzle size, pressure and speed. Document droplet size and how your equipment was set up to deliver it.
  - Many herbicide labels require a Medium or Coarse droplet





# Smart Items

- Air temperature during the application - taken in the area of the application
- Record the temperature in Fahrenheit. Take readings several times during the application and note the time of these recordings
- Do not rely on weather stations that are not directly associated with the field. For roadside applications, take a reading close to the pavement and not at chest height.
- Some labels have restrictions on air temperatures.



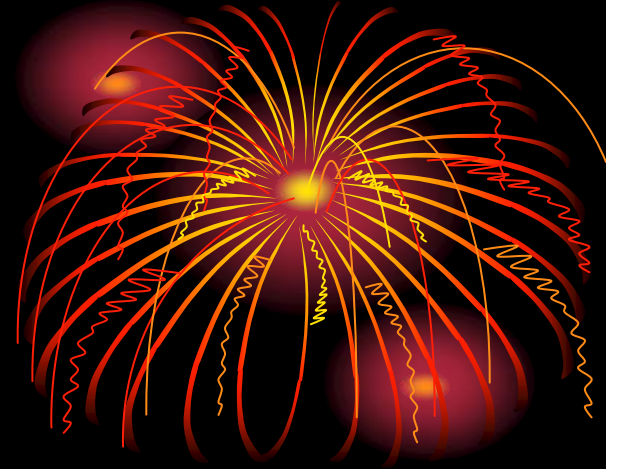


- Wind direction during the application, taken in the area of the application



- Record the direction from which the wind is blowing.
  - For example, if you are looking eastward and the wind and flagging is blowing toward you FROM the east, you record an East Wind.
- When you apply in areas with concerns for off-target movement, consider actually getting a compass reading for wind directions, say for an east wind, 80-95 degrees from the east.
- Also note any other wind direction indicators, such as smoke plumes, dust, or flags in the near vicinity of the application area.
- Radio and TV reports do not suffice.

# Smart Items



- Crop variety
  - If you plant a new crop variety or cultivar, it may be good to record this change since sensitivities to chemicals and pests are known to occur between varieties.
- Cloud conditions
  - Make note of sun, partial sun or clouds. Climatic conditions directly influence pesticide efficacy.

# Smart Items

- Sensitive areas downwind of treatment area
  - Note any sensitive site that you recognized to protect in your records. These could include, but are not limited to schools, daycares, organic crops, sensitive plants, wildlife preserves, etc.
- Pest timing
  - Record the pest stage when application was made.
    - Herbicide example – seedling, bolt stage, budding, flowering, rosette, etc.
    - Insecticide example – egg, first/second instar, third/fourth instar, adult



# Smart Items

- Mapping of treatment area
  - Hand draw maps if necessary
  - Collect GPS coordinates
  - Download GIS mapping is best method for recording accuracy of application
- Mapping of nearby sensitive areas
  - Indicate you recognized sensitive areas
  - Mark sensitive areas on your maps



# Smart Items



- Reasons for delaying an application
  - For example, due to the sensitive crop that sits just north of the field, I waited until June 12 to make this application when there was a 5 mph North wind.
- Reasons for halting an application
  - For example, stopped application at milepost 29 when the school bus approached at 3:35 and waited until 3:40 when the bus had passed one mile away.
- Reasons for terminating an application
  - For example, stopped application at 2:15 pm since the wind shifted from the Southeast to the Southwest.

# CO. and ALF seed COMPANY Bugs

McCUBBINS

## LOAD MEMO

ne CUBBY Enterprises

Acres 241 ac Total

Field Maiden + Vandoren 215 ac

Name Conkey Hill 26 ac

Chemical

Chemical

Chemical

Chemical

Carrier

Remarks

Aircraft

EPA Reg # 400-104

1QT Comite per acre

1003/100 gal SILWET

91888

45492

Tach 1002

WORK  
DATE

CHEMICALS

CARRIER

TOTAL  
LOAD

ACRES  
PER  
LOAD

WIND  
DIR.

MPH

TEMP.

AIRCRAFT TIME

TAKE OFF

LAND

PILOT

6-27-02

6-30-02

6-29

6-30

✓

Comite

9 1/8 gal

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WR4 4gts per 100  
 Banvil 1pt per 100  
 Talstar EZ

DATE 6-27-01	TIME IN	OUT	ACCOUNT NO.	ROUTING
NAME Don Deacon			ACCOUNT TYPE	
ADDRESS 14467 Dolsen			<input type="checkbox"/> REGULAR <input type="checkbox"/> RESIDENTIAL <input type="checkbox"/> INDOOR <input type="checkbox"/> 1-TIME <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> OUTDOOR	
CITY, STATE, ZIP Ephrata			FREQUENCY	
PHONE 754 2946			<input type="checkbox"/> ANNUALLY <input type="checkbox"/> 6 MONTHS <input type="checkbox"/> 3 MONTHS <input type="checkbox"/> MONTHLY <input type="checkbox"/> B-MONTHLY <input type="checkbox"/> WEEKLY	
<input type="checkbox"/> INSPECTION <input type="checkbox"/> TREATMENT <input type="checkbox"/>				
TARGET PEST(S)	SITE TREATED	APPLICATION METHOD	APPLICATION RATE	
Soil webworm	Wind	Time	Temperature	
		1230	90°	
B.L. weevil		1230	90°	
CHEMICALS USED		AMOUNT	%	EPA NUMBER
Faid 7288				
DESCRIPTION / REMARKS				AMOUNT
Soil web worm spray				85.00
Broad leaf weed spray				60.00
SUB-TOTAL				145.00
TAX				11.31
TOTAL				
ACCOUNT BALANCE				
WE CHARGE 1.5% INTEREST PER MONTH ON ALL OUTSTANDING BALANCES OVER 30 DAYS OLD				
SERVICES BY	JOB #	<input type="checkbox"/> CASH    AMOUNT PAID <input type="checkbox"/> CHECK #		
CUSTOMER SIGNATURE	606 28	BALANCE DUE		156.31

SERVICE ORDER / INVOICE

1566





AMERICAN MEDICAL RESPONSE

453-6561 / 1-800-662-0818

SPRAYED on the  
5- <sup>th</sup> 12-13<sup>th</sup> - 04  
2 lbs. Guthion  
1 qt. CA metalosate  
1 pt. Nu-Film 17  
40 oz SORBA mg  
PER ACRE

RECEIVED

JUN 28 2004

Pesticide Management Division



AMERICAN MEDICAL RESPONSE

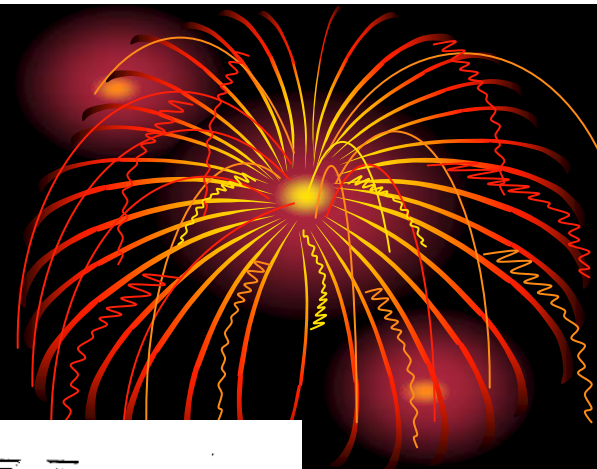
453-6561 / 1-800-662-0818

SPRAYED on the  
6- 2<sup>nd</sup>-3<sup>rd</sup> - 04  
2 lbs Guthion  
1 qt. CA metalosate  
1 pt. Nu-Film 17  
40 oz. SORBA mg  
PER ACRE

RECEIVED

JUN 28 2004

Pesticide Management Division



LIC ALA # 70112001



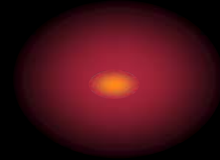
# ALL AMERICAN LAWN-N-TREE CARE

PRIDE IN OUR WORK IS OUR PRIORITY.

	AMOUNT	
LAWN MAINTENANCE		
TREE CARE		
SHRUB TRIMMING		
FERTILIZING		
WEED CONTROL		
THATCHING		
INSECT CONTROL		
SPRING/FALL CLEAN UP		
SALES TAX		
TOTAL		

REMARKS: Timed Iron Sulfate Vitamins  
 Root Iron Fertilizer 10/10/07  
 1906 Luther & Lass  
 943-3572 Green Tree Care  
 5000 for 90 days  
 125001

FOR FREE ESTIMATE CALL: Keith Amack (509) 943-3572



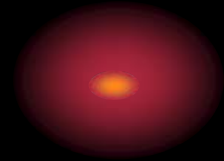
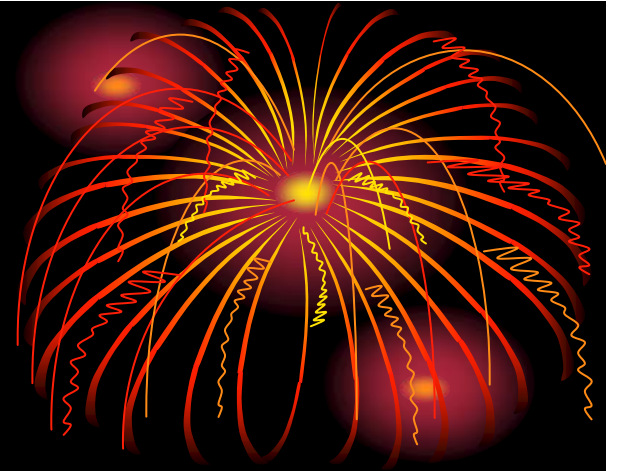
385604

ALL HANDS

CUSTOMER'S ORDER NO.		DATE	
NAME		11-2-2001	
ADDRESS		F.E. STIBBLEFIELD	
CITY, STATE, ZIP		5702 W. UMATILLA AVE	
SOLD BY		KENNEWICK WA 99336	
CASH	C.O.D.	CHARGE	ON ACCT.
		MDSE. RETD.	PAID OUT
QUAN.	DESCRIPTION	PRICE	AMOUNT
1			
2			
3			
4	injection		
5	Good for		75.00
6			
7			
8			
9			
10			
11			
12			
RECEIVED BY		J. Stubblefield	

Adams 4705

KEEP THIS SLIP FOR REFERENCE



SERVICE ADDRESS:

Paul Koeller  
1013 Thuy Vu  
Richland, WA

☐ Regular ☐ Call back or follow-up ☐ Start/Initial  
☒ Odd job

CHECK#

☐ PEST EVIDENCE FOUND, SPECIFY:

ANTS

COMMENTS:

Trunk for ANTS

CUSTOMER

TIME IN

TIME OUT

TEMP

WIND

DATE 10/6/09

OPERATOR

Paul Koeller

PLEASE PAY FROM THIS INVOICE Thank You!

"Where Honesty & Integrity are not just words."

SERVICE INVOICE

CUSTOMER NO.

ROUTE NO.

TECH NO.

PAST DUE

SERVICE 65.00

TAX 5.20

SUB.TOTAL 70.20

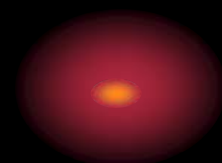
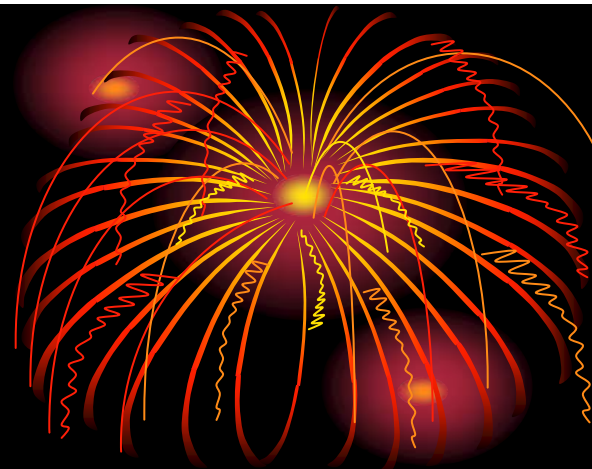
MISC.

TOTAL DUE 70.20

AMT.COLL'D

MATERIAL

CHEMICAL	MFG. & EPA #	QTY.
TEMPO SC ULTRA	MILES INC. Cyano(+)-thio 3125-498 <input type="checkbox"/> 0.05% <input type="checkbox"/> 0.1%	10"
TEMPO 20 WP	MILES INC. 3125-380 <input type="checkbox"/> 0.05% <input type="checkbox"/> 0.1%	
TEMPO DUST	MILES INC. 3125-410 Cyfluthrin 0.01%	2"
EQUITY TERMITICIDE	Dow Agrosciences Chlorpyrifos 62719-167 <input type="checkbox"/> 0.005% <input type="checkbox"/> 0.005% <input type="checkbox"/> 0.1%	
NIBAN FINE GRANULAR BAIT	NISUS 64405-2 Orthoboric acid 0.01%	
PICAM 2 1/2 G GRANULE	AgEvo 45649-150 Carbamate 01.5%	
STRIKE FORCE HPX	WATERBURY INC. 9444-184 Chlorpyrifos 0.01%	
WHITMIRE FT 565 PLUS XLO	WHITMIRE 499-210 Pyrethrin 0.25% d-trans Allethrin 0.25%	
WHITMIRE FT 600 OPTIM	WHITMIRE 499-204 Cyfluthrin <input type="checkbox"/> 0.005% <input type="checkbox"/> 0.05% <input type="checkbox"/> 0.1%	
IONIX OIT 2FM	ATO CHEM 4581-335 Diazinon Flowable Micro <input type="checkbox"/> 0.05% <input type="checkbox"/> 0.05% <input type="checkbox"/> 0.1%	10L
ZONE DEFENSE (Boric Acid Dust)	INCIDE TECH 44757-3 Orthoboric Acid 64%	
PICAM D (Dust Insecticide)	AgEvo 45639-3 Bendiocarb 0.1%	
CONTRAC BLON	BELL LABS 12455-79 Bencnadione 0.005%	
MAXFORCE FC Roach Killer Bait Gel	MAXFORCE 64248-14 Fipronil 0.01%	
DRAX ANT KIL GEL/TH	WATERBURY INC. 9444-121/9444-135 Cyfluthrin Acid 0.01%	
CHEMICAL USED	<input type="checkbox"/> 0.05% <input type="checkbox"/> 0.1%	





*[Signature]*

DATE 5-28-00 TIME 8:03

N 15570

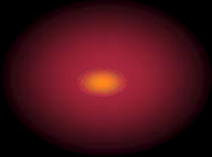
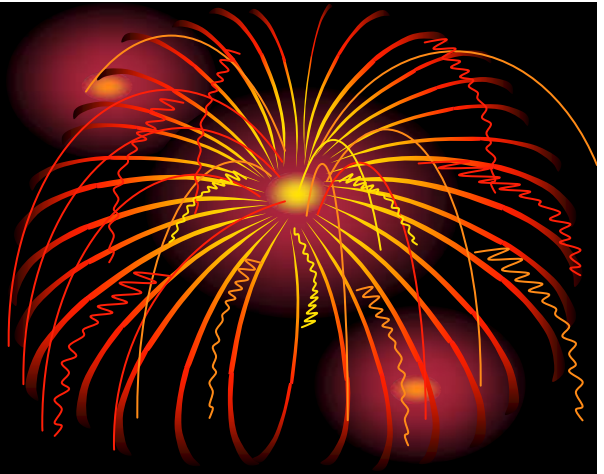
TEMP. 58

WIND SW 4

~~FOLK~~ DISPER (25)

~~SEXTON~~ (5)

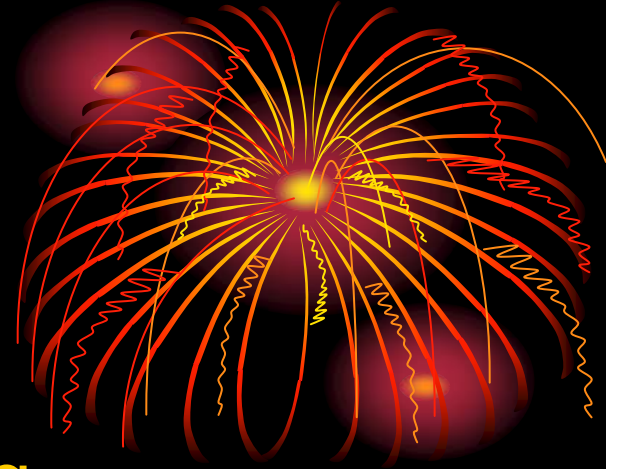
~~MILAKI~~



# Benefits of Recordkeeping

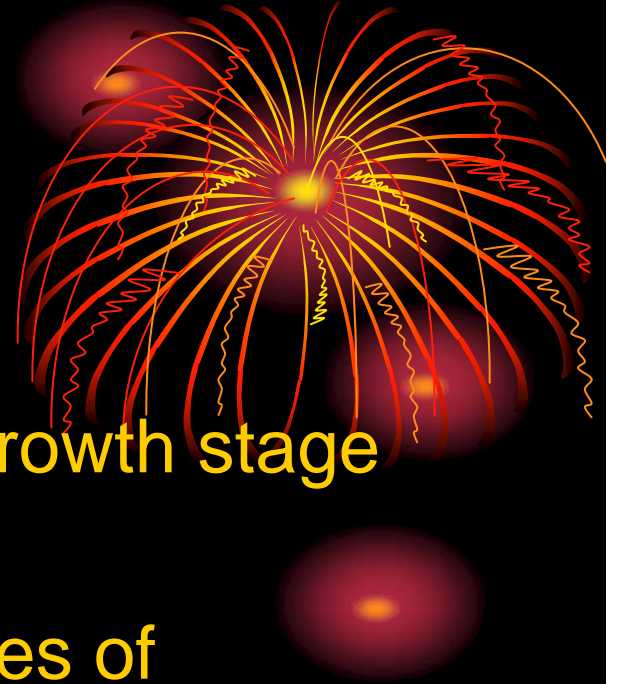
- **Pest Management Decisions**

- Assess best performance of pest control tactics and timing
- Plan for pesticide (insecticide, fungicide, herbicide) resistance management
- Know and plan for replant restrictions due to residual soil activity and the carry-over concerns for subsequent crops



# Benefits of Recordkeeping

- **Application Efficacy – how well did the chemical work**
  - Timing for the pest – what pest growth stage is best controlled
  - Track the success of reduced rates of application
  - Track adjuvant use and rates
  - Record alternative application techniques such as electrostatic sprayers, shrouds, injection, etc.
  - Assess nozzle type and sizes which can impact coverage and off-target movement





# Benefits of Recordkeeping

- **Application Efficacy – how well did the chemical work**
  - Record weather factors related to efficacy
    - cool and dry conditions may reduce pest control
    - hot or cold temperatures can reduce selectivity of certain herbicides
    - hot temperatures can increase volatility
    - cloudy days can impact plant growth and influence herbicide efficacy
    - rainfastness: timing of subsequent irrigation or rainfall, or lack thereof



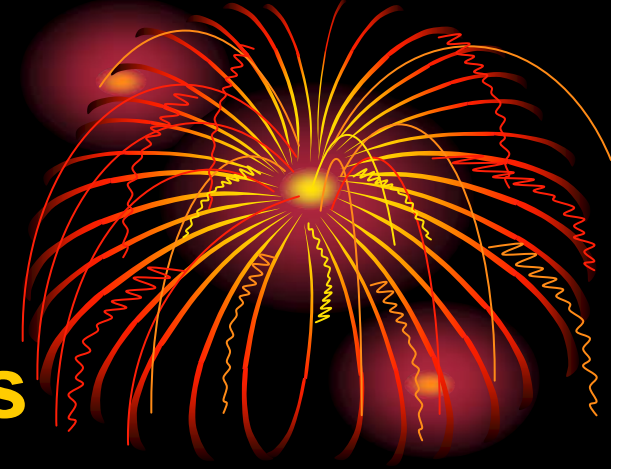
# Benefits of Recordkeeping



- **Liability Protection**

- Documents proper use (rates, volumes, timing, protective measures)
- Verify your professionalism (due care and concern)
- Good records have stopped compliance investigations immediately
- Each missing record item is a violation

# Benefits of Recordkeeping



- **Inventory Control and Dollars**
  - Better estimate your needs by knowing what you used in previous years
  - Don't buy more than needed; minimize disposal headaches
  - Lenders and land developers often require records to evaluate potential environmental liability before lending money or buying land

# Benefits of Recordkeeping

- **Pesticide use data resource**
  - Impact future availability of some pesticides through re-registration
  - Support national use survey by USDA National Agricultural Statistic Services
  - Respond to the public's concern regarding pesticide use



