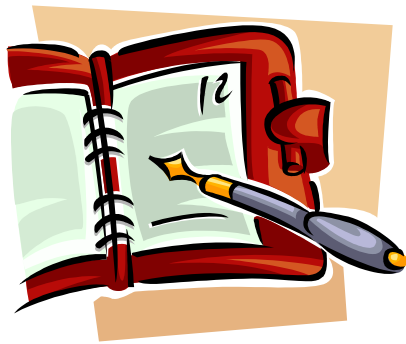


University of Idaho

- **Our Mission**
 - The University of Idaho Extension improves people's lives by engaging the university and our communities through research-based education.
- **Agriculture, Horticulture, Family and Consumer Sciences, 4-H, Community Development and Outreach**
- **Land Grant University – Smith Lever Act**

Pesticide Safety



Cindy A. Kinder
Area Extension Educator

Overview

- Pesticides
- Control Practices - Plants
- Record Keeping
- Parts of a Label
- Reading Labels
- Reducing Pesticide Exposure
- Disposal

What is a Pesticide

- Herbicide
- Insecticide
- Fungicide
- Rodenticides
- Repellents
- Disinfectants



Pesticide Formulations

- Dusts
- Granules
- Aerosols
- Ready to use liquids
- Wettable powders
- Water-soluble liquids
- Dry flowables

Pesticide Categories

- General Use Pesticides
 - Can be applied by anyone
 - Can still be hazardous if applied wrong
- Restricted Use Pesticides
 - Must have a license

Pesticide Uses

- Prevention
- Suppression
- Eradication





Know Your Stuff

- Identify your pest!
- Life cycle of pest
 - Plants
 - Annual, perennial, broadleaf, grass
 - Insects
 - pupa, adult, instar stage
- Control practices - plants
- Pesticide mode of action
 - Systemic- compounds move within the plant
 - Contact- compounds cause damage by contact

Control Practices - Plants

- Mechanical
 - Hand-pulling, mowing, flaming/burning, tillage
 - Purpose is to disrupt root system and allow plants to dry out before re-rooting.
- Chemical
 - Timing is key, need to kill the root
 - Vinegar

Control Practices - Plants

- Biological
 - Insects, Goats, Sheep
- Cultural
 - Planting schemes, crop rotation, competition, land & water management
- Integrated approach

Record Keeping

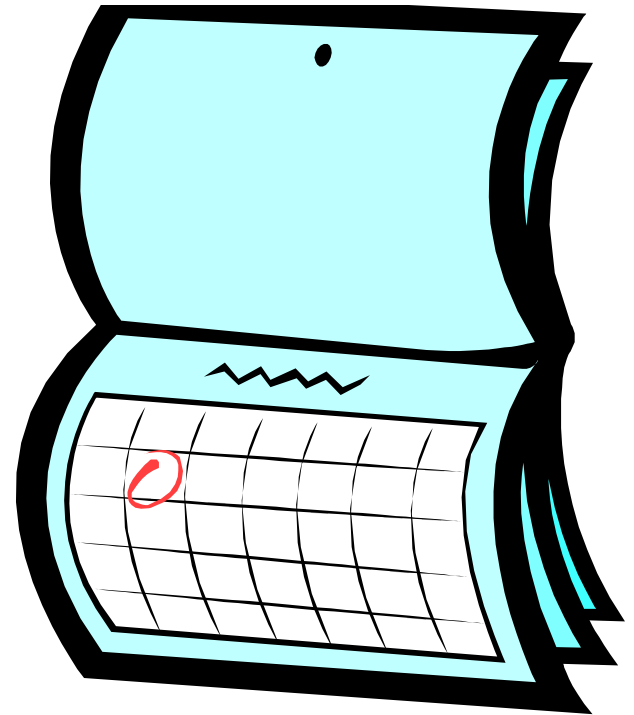
- Required for private and commercial applicators Ag. and non-Ag
 - Good management tool
 - Easy to photo copy and new land owners know history of fields
 - Required for Chemigation
 - Pesticide/Fertilizer applied through irrigation system
- Required for federally restricted use pesticides (RUP)

Benefits

- Helps grower determine the best pesticide management program
- Evaluate your results
- Helps prevent resistant pests

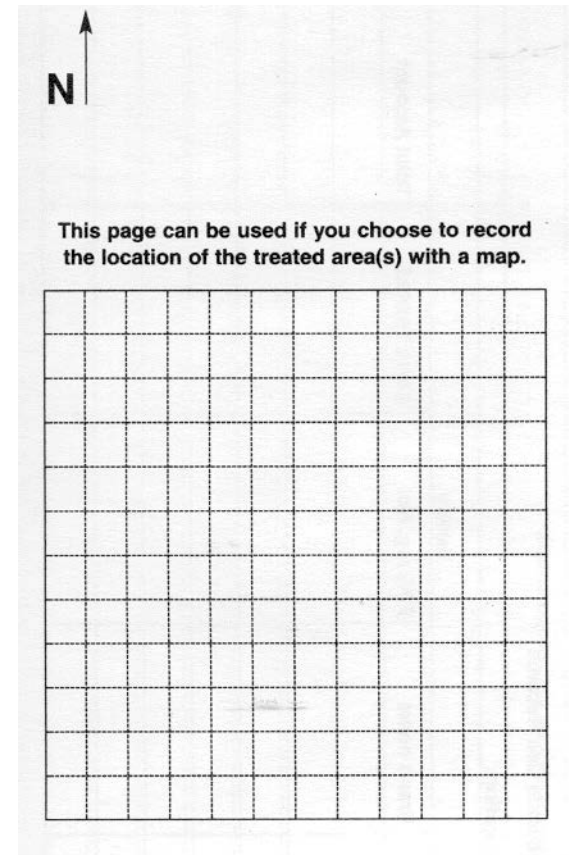
Required Records

- Brand name: product is sold by
 - Example: Banvel, Escort, Weed-be-Gone
- EPA registration number
 - Example: 3120-280-AA-0850
- Field Treatments or Spot Treatments
- Total amount applied
- Date /Time



Required Records

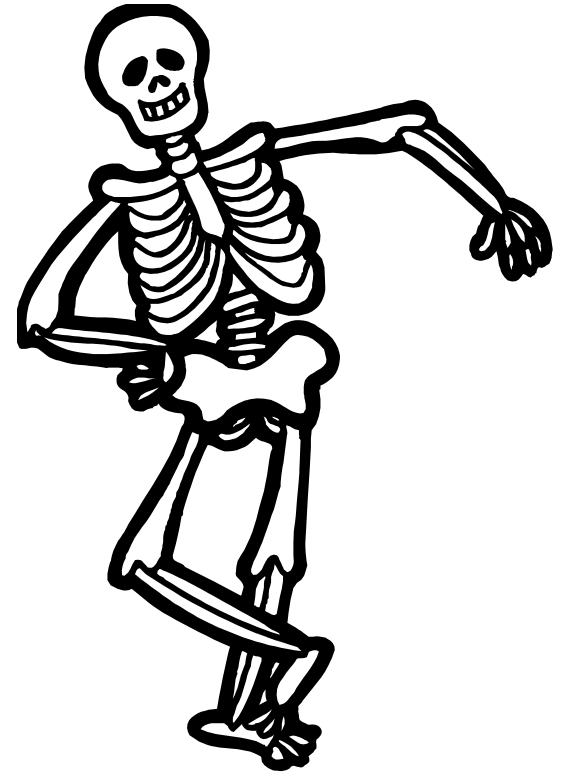
- Size of area treated
- List of crop to which the pesticide was applied
- Location of application
 - To be able to identify the exact area of application after two – three years
- Note wind
 - Direction



N ↑

This page can be used if you choose to record the location of the treated area(s) with a map.

Parts of a Label





Brand and Chemical Name

- Brand – shows up plainly on the front panel of the label
 - Example: Sevin, Escort, Poast
- Chemical – identifies the chemical components and structure of the herbicide

Common Name

- Common – a shorter version of the chemical name or chemical family
 - Example:

Weed-be-Gone/ 2,4-Dichlorophenoxyacetic acid/ 2,4-D

Banvel/ 2-methoxy-3,6-dichlorobenzoic acid/dicamba

Classification

- Pesticides are classified by the EPA
- “general use pesticide” - (GUP)
- “restricted use pesticide” - (RUP)
 - Must have a license to use
 - Prominently placed statement on the label.

Ingredients Statement

List of what is in the pesticide.

- Active ingredients and percentage
- Inert ingredients and percentage
- Total ingredients and percentage

Has official chemical name &/or common name.



Type of Pesticide

- Indicates the kind of pest that the product will control
 - Example:
 - Herbicide for control of certain weeds in rice, small grains and peas.
 - Herbicide for the control of trees, brush and weeds

Registration & Establishment Numbers

- EPA Reg. No. 3120-280-AA-0850
 - 3120: manufacturer's identification number
 - 280: product identification number
 - AA: may be required by some states
 - 0850: is the distributor's identification number
- EPA Est. No. 5840-AZ-1
 - Identifies the facility that produced, repackaged, or relabeled the product

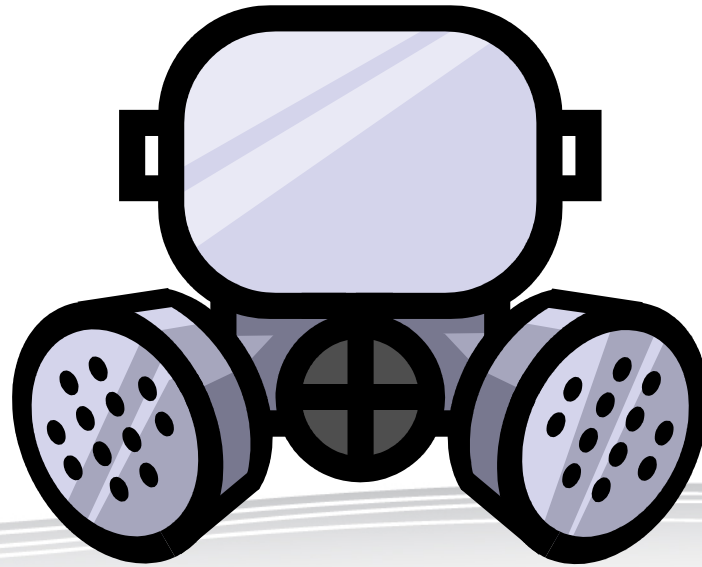
Signal Words

- CAUTION
 - Low toxicity
- WARNING
 - Moderately toxic
- DANGER
 - Highly toxic
- **DANGER-POISON**
 - Most dangerous
 - Highly poisonous through all body routes of entry



Precautionary Statement

- Safety recommendations
- First aid



Route of Entry Statement

- Tells you which route(s) of entry to protect mouth, skin, lungs, eyes etc.
 - Example:
 - DANGER – may be fatal if swallowed or inhaled
 - DANGER – Corrosive – causes eye damage & severe burns
 - Rapidly absorbed through skin

Hazards

- Wildlife
 - Toxic to bees, birds, fish
- Environment
 - Ground water
- Physical/Chemical
 - Tells any special fire explosion or chemical hazard
 - Flammable – do not use, pour, spill, or store near heat or open flame
 - Corrosive – store only in a corrosion-resistant tank


Clothing and Equipment

- Statements vary, some are very specific others are not
- Be sensible when selecting protective equipment
- Note weather conditions when deciding on clothing and equipment to wear
 - “wear goggles while handling”



First Aid or Treatment

- Gives first aid treatment in case of poisoning
- List of poison signs/symptoms
- Note to physicians or antidote
 - Example:
 - In case of contact with skin wash immediately with plenty of soap and water
 - Flush eyes with water for 15 minutes



Re-Entry Statement

- Gives the amount of time which must pass before people can re-enter treated areas without protective clothing
- Minimum waiting period - sprays are dry or dusts have settled

Storage & Disposal

- Store in original container with intact label
- Don't store feed in same building
- Store at temperatures above 32° F
- Have list of stored chemicals handy in case of fire
- Do not reuse containers
- Check containers regularly for corrosion holes and leaks
- Triple rinse & take to approved disposal site

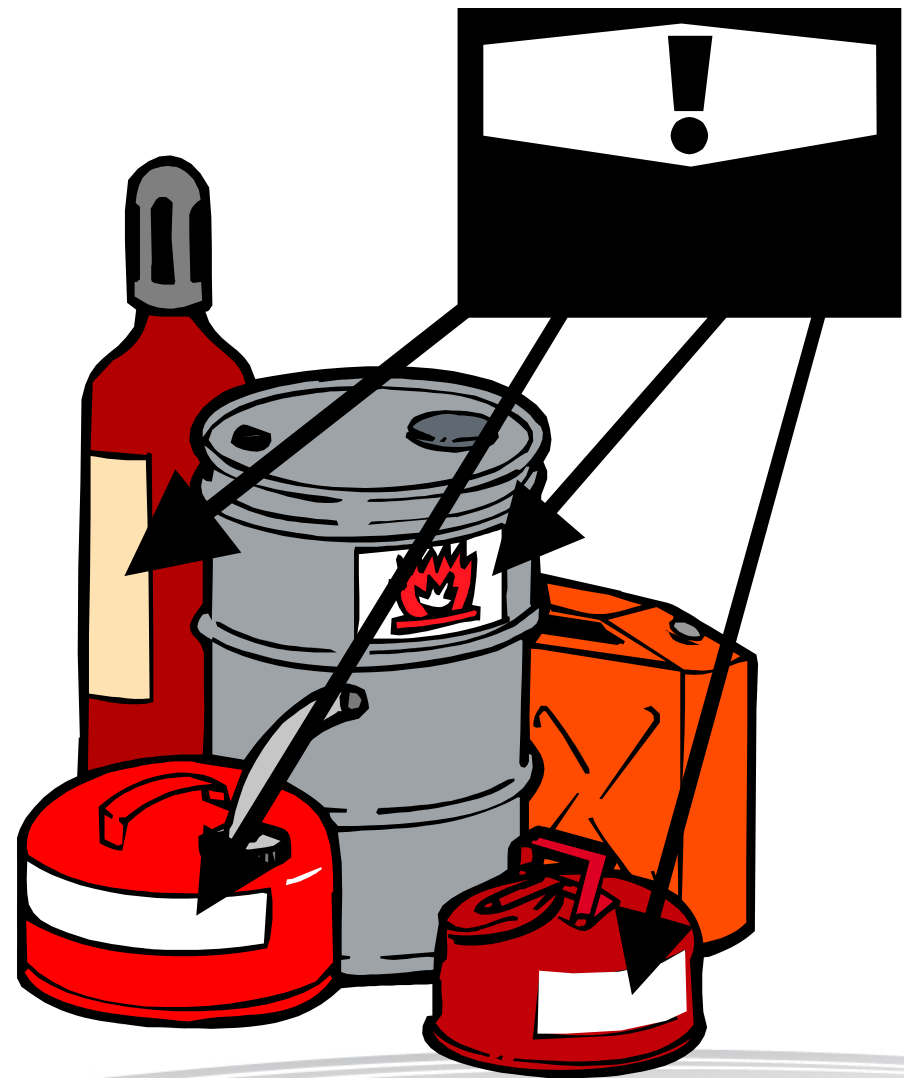


Direction for Use

- Mixing directions
- Information on protective equipment
- Restricted entry
- Posting of use
- States pests to be controlled
- States what is to be protected
- When to apply pesticide
- No. of days between last application and harvest or grazing



Reading Labels

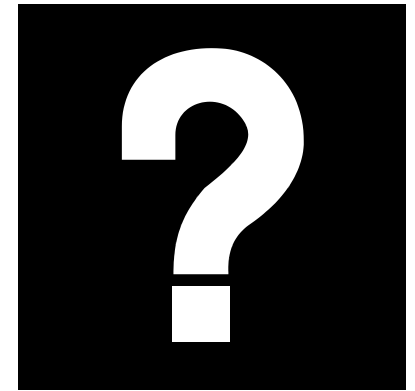


Who Uses the Label

- Manufacturer – license to sell
- State & federal government- way to control distribution, storage, sale, use and disposal
- Buyer/user – source of facts, how to use correctly and legally
- Physician – identification & information for proper treatment of poisoning cases

When to Read Label

- When the crop turns yellow
- On your way to the hospital



- Before buying the pesticide
- Before applying the pesticide
- As you fill the tank

Reason for the Label

- Tool for safe and effective use of pesticides
- Provide protection to applicator, consumer, and environment
- Identification of chemical hazards
- Registered uses
- Recommended doses
- Compatibility

Obtaining Labels

- Minimum of 6 years and cost of \$20-40 million dollars
- Efficacy or performance tests
 - How well pesticide will control pests in different environments
 - Provide information on plant/crop varieties, soil types, application method, rates, number of required applications, no injury on non-target

Obtaining Labels

- Degradation, mobility and residue test
 - How long to degrade into harmless materials
 - How moves in the soil and through plants and roots
- Test for toxicity or toxicological
 - To determine how poisonous or dangerous to humans, wildlife, and other non-target organisms

Reduce Exposure to Pesticides

- Replace leaky hoses, valves, and connections
- Calibrate and clean application equipment
- **READ THE LABEL**
- Handle and mix outside
- Use other control methods

Reduce Exposure to Pesticides

- Don't smoke, eat or drink
- Clothing
 - Cover entire body
 - Nonabsorbent hat
 - Unlined gloves
 - Eye protection
- Remove or close all items that are not to be sprayed
- Minimize Drift

Cleaning Pesticide-Contaminated Clothing

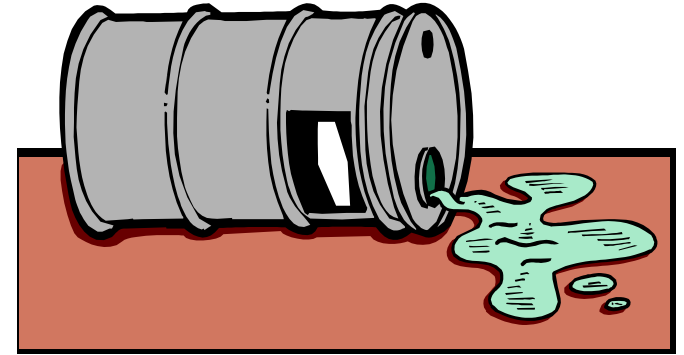


Reduce Exposure to Pesticides

- Throw them away!
- Wash separately from the family wash
- Pre-rinse and Pre-soak
- Detergent (heavy duty liquids)
- Use HOT water (120° -140°)
- Wash up to 3 times
- Rinse washing machine with empty load
- Hang on clothesline

Chemical Spills

- Require immediate action
- Protective clothing
- Contain spilled material
- Clean & remove contaminated material & soil
- DEQ authorized disposal site
- Soap & water available
- Spill kit



Spill Kit

- Protective clothing and gloves
- Kitty litter or other absorbent material
- Plastic bag and buckets
- Shovel
- Fiber brush & screw in handle
- Dustpan
- Detergent



Disposal

- Use them up
- Buy small amounts
- Triple rinse container
- Wrap in newspaper and dispose of in garbage (read label)
- ISDA has a RUP pick up

MG Pesticide Recommendations

- Your pesticide recommendations must be made in accordance with the pesticide guidelines provided on the pesticide label.
- Limit to home, yard and garden pest control

Making Recommendations

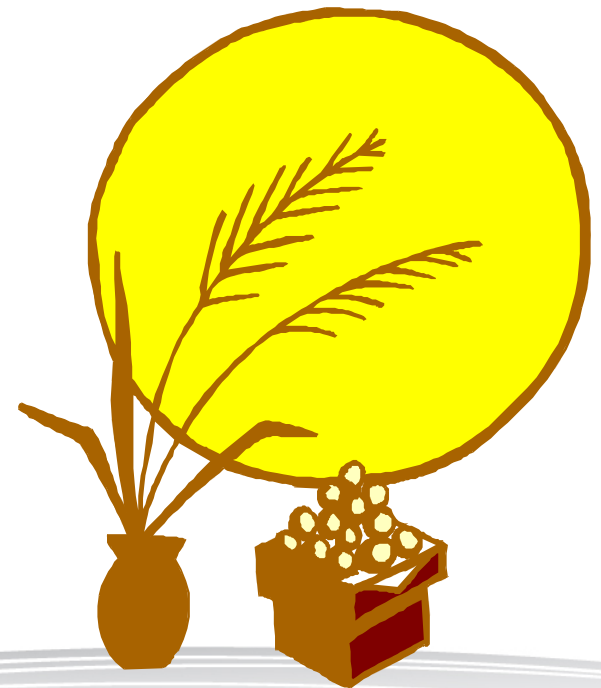
- Gather all information
 - Correct weed species
 - Correct site (lawn, pasture, flower garden)
- Determine what they really want
 - Kill everything
 - Minimize pesticide use
- Check the reference material
 - Learn all you can about the weed species
 - Only recommend what is labeled

Making Recommendations

- If they want to use a chemical
 - Tell them the recommended products
 - Tell them to double check the label before they purchase the product
- Inform them of alternative control measures
 - Competitive grass, mulches etc.

Summary

- Pesticides
- Record keeping
- Labels
 - Parts of a label
 - When to read
 - Obtaining labels
- Reducing Exposure
- Chemical spills & Disposal
- MG Recommendations



Thank You

Questions?