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, enstar 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
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 cloves
  – 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?