






1

TRAINING OBJECTIVES

At the end of this module, you will be able to:

1. Describe the laws and licenses that regulate pesticide application.
2. Explain Integrated Pest Management concepts.
3. Explain the environmental hazards involved with pesticide application.
4. Interpret and implement the information on a pesticide label.
5. Minimize personal exposure when using pesticides.

2



LAWS AND LICENSES THAT REGULATE PESTICIDE APPLICATION

3

FDACS

This is the state regulatory agency responsible for administering the state laws that govern pesticide and fertilizer licensing in Florida.

Florida Department of Agriculture & Consumer Services

4


**FDACS:
STATUTORY
AUTHORITY**

Chapter 482
Florida Structural Pest Control Act

- Commercial pest control operators
- Commercial landscape maintenance industry
- Government and private employees or owners

Chapter 487
Florida Pesticide Law

- Restricted-use and supervision of pesticides



5

FDACS: BUREAU ADMINISTRATION

**Bureau of Licensing and Enforcement
(Chapter 482) Urban Related Areas**

- Pest Control Operator (PCO)
- Limited Commercial Landscape Maintenance
- Limited Lawn and Ornamental
- Limited Urban Commercial Fertilizer Applicator

(Chapter 487) Restricted Use Pesticide”

- Private – Farmers and Nursery Growers
- Commercial – Contract or for-hire applications
- Public – Government or Institutional Employees

6

PESTICIDE LICENSES: APPLICATOR

Pest Control Operator (Lawn and Ornamental)	<ul style="list-style-type: none"> Perform pest control on ornamentals and lawns. ID Cardholder
Limited Commercial Landscape Maintenance	<ul style="list-style-type: none"> Commercial landscape maintenance personnel who apply certain pesticides to plant beds and ornamentals only, e.g. Glyphosate.
Limited Lawn and Ornamental (Institutional Employees)	<ul style="list-style-type: none"> Government, school employees and personnel in condos, businesses who apply pesticides on their business property.
Ornamental and Turf (Chapter 487)	<ul style="list-style-type: none"> Persons who apply or supervise use of RUP pesticides; non urban pesticide use.

7

APPLICATION SUPERVISION

Pest Control Operator (Business Operation)	<ul style="list-style-type: none"> Supervises unlimited number of non-certified employees with identification cards.
Limited Commercial Landscape Maintenance	<ul style="list-style-type: none"> May not supervise the application of pesticides made by non-certified, unlicensed employees.
Limited Lawn and Ornamental	<ul style="list-style-type: none"> May not supervise the application of pesticides made by non-certified, unlicensed employees.
Ornamental and Turf (Chapter 487)	<ul style="list-style-type: none"> Supervision up to 15 applicators Must be immediately available by voice, phone or radio.

8

FAILURE TO BE LICENSED...

It is illegal to apply any pesticide commercially to a lawn, residential sites, or other structural sites without a license.

Commercial applicators:

- Civil fines up to \$5,000
- Criminal fines up to \$25,000
- Possible Prison Time

Including the application of:

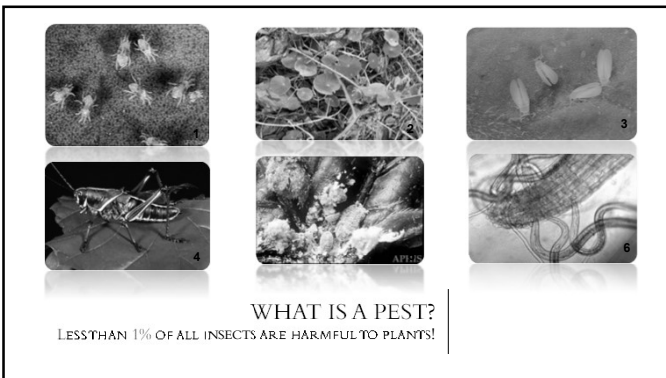
- > "Weed and feed"
- > "Insect control"



9



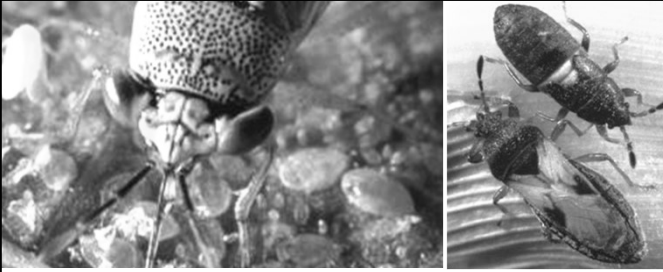
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11

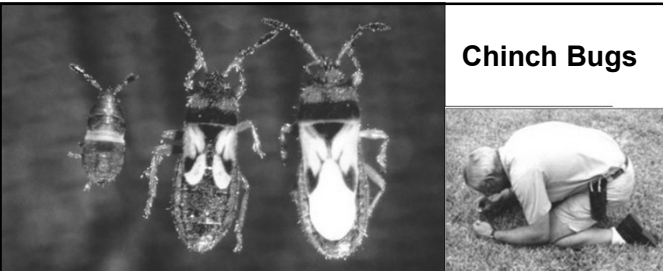


12



STEP 1: ACCURATE IDENTIFICATION

13




Chinch Bugs

STEP 2: MONITOR THE PEST POPULATION

14

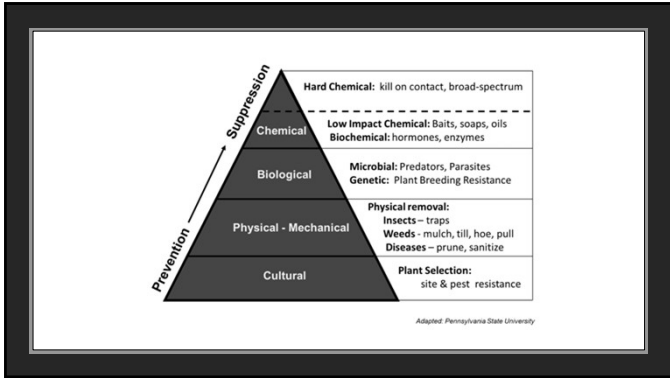
Realistic threshold of injury:

- ✓ Aesthetics
- ✓ Plant health
- ✓ Timing
- ✓ Control strategy



STEP 3: EDUCATE CLIENTS ABOUT TREATMENT

15



16

- Was the pest **identification** correct?
- Was the pest control **method** effective?
- Was the type of **application** correct?
- Was the **rate** appropriate?
- Was the **timing** correct?

FOLLOW-UP MONITORING CHECKLIST

17

HOW ROUTE-BASED BUSINESSES USE IPM

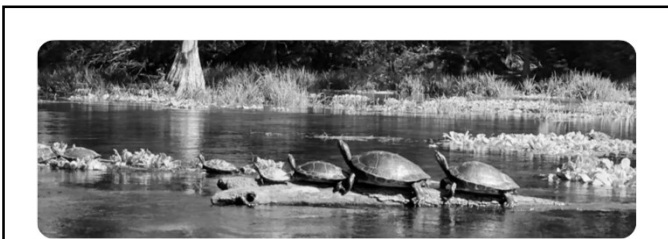
- Educate customer on acceptable imperfections
- Monitor yard and neighborhood for potential problems
- Keep records – note problems in the last few years
- Identify special cases

18



ENVIRONMENTAL CONCERNS

19



HOW CAN PESTICIDE AFFECT WATER QUALITY?

20

PROTECT SURFACE AND GROUND WATER

- Identify the soil type and area geology
- Do not apply pesticides to paved surfaces or near storm drains
- Water in products per label instructions, but do not overwater
- Do not apply pesticides before a heavy rain



Photo: G. Hochmuth (Cornell Univ. PA)

21

PROTECT NON-TARGET ORGANISMS

- Children
- Pets
- Hypersensitive individuals
- Beneficial insects
- Wildlife
- Desirable plants



22

DRIFT IN AIR: PESTICIDE MOVEMENT

Droplet diameter in microns	Droplet called	Time required to fall 10 ft. in still air	Distance covered falling 10 ft. in 3 mph breeze
5	Fog	66 minutes	3 miles
100	Mist	10 seconds	409 feet
500	Light rain	1.5 seconds	7 feet
1000	Moderate rain	1 second	4.7 feet

23



PESTICIDE LABELING

24



THE PESTICIDE LABEL
THE LABEL IS THE LAW!

25

PESTICIDE LABEL INFORMATION

- Ingredients and formulation
- Directions for use
- Storage and disposal information
- Safety information
- Personal protective equipment (PPE)



26

SERVICE CONTAINERS

PESTICIDE CONCENTRATE

- Name, address, and phone number of pest control firm
- Product name
- EPA registration number (from product label)
- Name and percentage of active ingredients
- Signal word from registered label

USE-DILUTION PREPARATIONS (READY TO USE)

- Name, address, and phone number of pest control firm
- Product name, preceded by the word "diluted"
- EPA registration number preceded by the word "derived from"
- Name and percentage of active ingredient as diluted
- Signal word from registered label


27

Signal Word	Category	Oral Lethal Dose*
Danger, Poison/Peligro (Skull and Crossbones)	I. Highly Toxic	- Few drops to 1 teaspoon - LD ₅₀ Traces to 50 mg/kg
Warning/Aviso	II. Moderately Toxic	- 1 teaspoon to 1 oz. - LD ₅₀ 50 to 500 mg/kg
Caution	III. Slightly Toxic	- 1oz. to more than a pint/pound - LD ₅₀ > 500 to 5,000 mg/kg
Caution (or no signal word)	IV. Relatively Toxic	- Over one pint/pound - LD ₅₀ > 5,000+ mg/kg

*Based on a 150-pound person

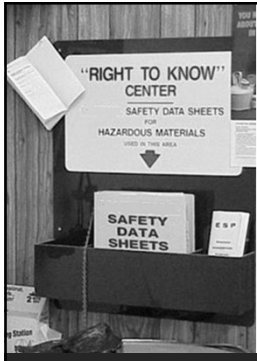
LABEL INFORMATION: SIGNAL WORDS

28

Signal word	Typical Statements
DANGER-POISON (Skull and Crossbones Required)	Fatal if absorbed through skin. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.
WARNING 	May be fatal if absorbed through skin. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.
CAUTION	Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.
CAUTION (optional)	No statements are required. However, manufacturers may choose to use category III labeling.

STATEMENTS: ACUTE DERMAL TOXICITY

29



SAFETY DATA SHEETS (SDS)

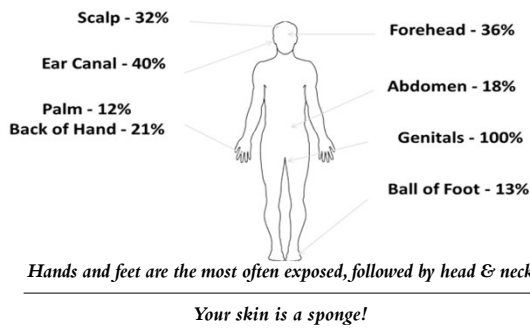
- Proper procedures for handling/working with chemical
- SDS must be accessible to ALL employees
- Keep SDS organized and accessible in case of emergency
- A master copy should be at hand for office management

30

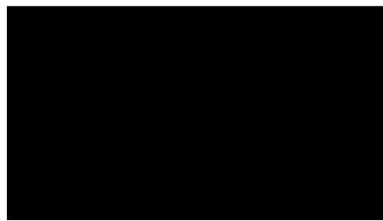
Reduce Exposure Pesticide Contact of Unprotected Areas



34



35



***PPE
VIDEO***

36

Minimize Storage/Handling Risks

Minimize amounts on hand

- Minimize amounts on hand
- First in - first out
- Keep secure and isolated
- Lockable door
- Do not smoke in area
- Restrict access to unauthorized persons



37

CHEMICAL HANDLING

3 commandments:

- Anticipate the worst
- Be prepared for the worst
- Prevent problems before they occur



38

EMERGENCIES

- Control the situation
- Contain the spill
- Clean up the spill
- Store waste properly until disposed of



39




**STORAGE/HANDLING
VIDEO**

40

REVIEW TRAINING OBJECTIVES


1. What licenses and laws regulate pesticide application in Florida?
2. What is IPM?
3. What are the health and environmental hazards involved with pesticide application and handling?
4. What information may be found on a label?
5. How can we minimize health and environmental risks when using pesticides?



41

Thank You

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42
