Training Guide:
IPM & The Diagnostic Process

SETTING UP

Materials needed:

☐ This Training Guide
☐ GN #105 Homework and Answers (in this guide)
☐ IPM/Diagnostics Crossword Puzzle Answer Key (in this guide)
☐ GN #103 Worksheet (Pesticide Label activity) copies for class
>> REVIEW HOMEWORK

GardenNotes #105

Time: 10 minutes

**Homework: IPM & Diagnostics**

1. Why is Integrated Pest Management (IPM) the best approach to managing pest problems?
   Integrated pest management is the toolbox we use for pest management. It combines cultural, mechanical/physical, biological, and chemical management strategies. We can use any or all of these to manage pest problems in the landscape.

2. Why is it important to discuss tree care issues as they relate to growth phases?
   Because different phases of a tree’s growth require different management strategies, i.e. water, fertilizer, pruning, etc.

3. What is the first step in the diagnostic process?
   The first step in the diagnostic process is to identify the plant you are trying to diagnose. If we don’t know the plant, then we are not able to find out what commonly occurs on the plant and we could provide a wrong diagnosis.

4. Why is it important to know what is "normal" for a given plant?
   We need to know what the plant is supposed to look like so when looking at a sample we can see if it is looking different than it is supposed to look. Then we can then start to figure out what is abnormal or different and potential reasons for the deviation.
>> REVIEW HOMEWORK

IPM & Diagnostics CROSSWORD

Time: 5 minutes

- Go over the OPTIONAL Crossword Worksheet.

Integrated Pest Management & Diagnostics

Across
2. Siting/locating the plant correctly is an example of this IPM strategy.
6. Symptom name for dead plant tissue.
7. A random pattern of damage usually points to this general disease category.
10. The first step in diagnosis is to __________ the plant.
11. When pests are no longer affected by a pesticide they are said to be this
13. A uniform pattern of damage usually points to this general disease category.

Down
1. A natural botanical pesticide is derived from these.
3. Name of the sign describing slimy droplets.
4. Planting small-throated flowers to attract beneficial insects is an example of this IPM strategy.
5. Checking plants on a regular basis for pests is called this
8. Sunken, usually discolored area on a plant.
9. Type of pesticide absorbed and spread throughout the plant.
12. A multi-prong approach to managing pests (initials)
Activity:

PESTICIDE LABEL ACTIVITY

Time: 30 minutes

1. Handout worksheets: GardenNotes #103 including pesticide label.
2. Have students team up in small groups or work independently.
3. Give students 5-10 minutes to discuss and answer questions.
4. Bring class back together to review answers. Offer suggestions/clarifications based on the answers in this guide.

CMG GardenNotes #103

Reading Pesticide Labels Worksheet

Find the answers to the questions on the label provided.

Instructors: the numbers in text boxes correspond to the location for the answers.

1. What are the active ingredients?
   Sulfur (0.20%) and Pyrethrins (0.01%). (Under CAUTION on front of pesticide label.)

2. Can I apply this product to lilacs? The plant has powdery mildew and aphids.
   Yes, the use site and pests are on the label. Look in “Pest” box next to “Ornamentals” box. Note: even if only the site was on the label (“lilacs” or “trees and shrubs”) it would still be okay to apply the product.

3. I've applied this to my cabbage crop. How long do I have to wait after the application to eat it?
   One day.

4. What is the mode of action for this product?
   It is a “contact killer”. See the green paragraph above “the “Quick Facts” bar.

5. Will this product harm freshwater clams?
   Yes – they’re freshwater invertebrates. (See “environmental hazards”).

6. What action do I take if I accidentally spill this product on my shirt sleeve?
   Take off contaminated clothing. If you get it on your skin, rinse it immediately with plenty of water for 15 -20 minutes. You can also call your doctor or poison control center.
7. How do I dispose of the empty container?
   Label directions say to place in trash or recycle if the service is available.

8. How should I store this product?
   Store at room temperature and keep from freezing.

9. Can I use this product in my greenhouse where I grow culinary herbs for sale?
   No, the label states the product is only for use on home gardens and lawns. It is not to be used on commodities for resale.
NATRIA
INSECT, DISEASE & MITE CONTROL

READY-TO-USE
For use on Roses, Flowers, Shrubs, Houseplants & Vegetables
Para usar en rosas, flores, arbustos, plantas de hogar y hortalizas

- Kills Fungus, Insects & Mites
- Prevents Leaf Loss Caused by Black Spot & Rust

KEEP OUT OF REACH OF CHILDREN

CAUTION
See back panel for additional precautionary statements

Active Ingredients:
Sulfur............................. 0.20%
Preparations.................... 99.81%
Other Ingredients.................. 0.09%
Total................................. 100.10%

NET CONTENTS: 24 FL OZ (710 ml)
### PRECAUTIONARY STATEMENTS (cont’d)

**CAUTION: Hazard to Humans and Domestic Animals**
- Causes moderate eye irritation. Avoid contact with eyes. Avoid contact with skin or clothing.
- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

**FIRST AID**

#### IF ON SKIN OR CLOTHING
- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

#### IF IN EYES
- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For additional information on this pesticide product, you may call the free 1-877-229-3763 for emergency medical treatment information.

**NOTICE TO BUYER:** To the extent consistent with applicable law, seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on this label only when used in accordance with directions under normal use conditions. This warranty does not extend to use of this product contrary to label directions, or under conditions not reasonably foreseeable to seller. To the extent consistent with applicable law, seller makes no other warranties, either expressed or implied.

**Money Back Guarantee:** If you are not satisfied with this product, we will gladly refund your original purchase price.
**NATRIA**

**INSECT, DISEASE & MITE CONTROL READY-TO-USE**

This product controls a wide range of fungal diseases and pests. For use on roses, flowers, houseplants, ornamental trees and shrubs, fruits, nuts, and vegetables. Contact killer for both insect and mite pests. Convenient and Easy-to-use.

**READ THE LABEL FIRST!**

**QUICK FACTS**

- Controls Insects, Fungal Diseases and Mites Including Spider Mites
- For Use on Plants—Indoors & Outdoors

<table>
<thead>
<tr>
<th><strong>KILLS</strong></th>
<th>Ants (excluding Fire Ants, Harvester Ants, Pharaoh’s Ants and Carpenter Ants), Aphids, Mites, Spider Mites, Leafhoppers, Caterpillars, Rose Slugs, Whiteflies, Spittlebugs, Mealybugs, Scale, Thrips, Psyllids, Plant Bugs, Lace Bugs, Fruit Flies, and Earwigs.</th>
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</thead>
<tbody>
<tr>
<td><strong>FUNGAL DISEASES</strong></td>
<td>Blackspot, powdery mildew, rust, scab, blight, brown rot, and leaf spot.</td>
</tr>
<tr>
<td><strong>CONTROLLED WHERE TO USE</strong></td>
<td>On roses, flowers, listed fruit and nut trees, vegetables, vine plants, ornamentals and lawns.</td>
</tr>
<tr>
<td><strong>WHEN TO USE</strong></td>
<td>When insects, insect damage, or fungal disease first appears.</td>
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</tbody>
</table>

For questions or comments, call toll-free 1-877-BayerAG (1-877-229-3724)

**ACTIVE INGREDIENTS:**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur</td>
<td>0.20%</td>
</tr>
<tr>
<td>Pyrethrins</td>
<td>0.01%</td>
</tr>
<tr>
<td>OTHER INGREDIENTS</td>
<td>99.79%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.00%</td>
</tr>
</tbody>
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EPA Reg. No. 67702-15-72155
EPA Est. No indicated by 3rd and 4th digits of the batch number on this package. (47) = 52251-OR-005 (65) = 432-TX-1 (57) = 071106-GA-003

FOR USE ONLY ON RESIDENTIAL
PHYSICAL OR CHEMICAL HAZARDS

PREGNANT OR LACTATING WOMEN

PRECAUTIONARY STATEMENTS

STORAGE AND DISPOSAL

DIRECTIONS FOR USE (COMP(D)

LAWNS

ORNAMENTALS

VEGETABLE, ANNUAL PLANTS

PET SAFE

CONTAINERIZED: Place in plastic bag. Seal bag and place in trash. Place outdoors away from doors, windows, and other openings.

CONTAMINATED: Follow all label instructions and posted from resource.

NOTICE TO USER

This product is a systemic herbicide. Always read and follow label instructions. This product is a systemic herbicide. Always read and follow label instructions.