



PennState Extension

PESTICIDE

101

Transportation, Storage, and Security

This project is funded by the Pesticide Safety Education Program
Improvement and Modernization Initiative

PESTICIDE EDUCATION PROGRAM

Learning Objectives

1 Transportation

2 Storage

3 Security



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Transportation



Photo: Garo Goodrow,
The Pennsylvania State University



Transport Vehicle

- Proper maintenance and good mechanical condition of vehicle
- Regular inspections of application equipment:
 - Look for structural defects, cracks, and punctures
 - Carry tools and parts to make emergency repairs



Photo: Garo Goodrow, The Pennsylvania State University



Transport Vehicle

- Never carry pesticides in passenger compartment
- Keep pesticide in original shipping box for extra protection
- Do not stack pesticides higher than vehicle's sides
- Use cargo boxes
- Secure with racks and tie-down straps on flatbed trucks



Photo:
Garo Goodrow,
The Pennsylvania State
University



Vehicle Operator

- Owner and operator of transport vehicles are held accountable
- Operator should know spill control and emergency notification procedures
- Specific requirements and training if pesticide is considered hazardous material by the U.S. Department of Transportation (DOT)



Photo: Garo Goodrow, The Pennsylvania State University



Other Safety Precautions

- Carry product labels, Safety Data Sheets (SDSs), and a spill kit
- Before loading, check containers for attached labels, punctures, and tears
- Be conscious of temperature, moisture, and other environmental conditions when transporting



Photos: Garo Goodrow, Ed Crow, The Pennsylvania State University



Other Safety Precautions

- NEVER carry pesticides in areas where people, pets, and livestock will ride
- Separate food, livestock, feed, seed, supplies, and other materials from pesticides



Photo: Ed Crow, The Pennsylvania State University



Vehicle Placards

- Indicate hazardous materials type
- Provide necessary information for emergency response



Transportation Security Plan

- Prevent unauthorized access
- Employee security check for hazardous material pick-up and transport
- Intended travel route
- Vehicles that need placarded and security plan
 - Display DOT poison label
 - In Containers larger than 119 gallons
 - In Quantities greater than 1,000 pounds



Time to Review



Question: When transporting pesticides,

Answers:

- ☐ Store products in the vehicle's passenger compartment to decrease spills and fumes
- ☒ Carry pesticide spill kit for emergencies
- ☐ Remove from original shipping box to save space
- ☐ Stack higher than the vehicle's side to maximize transport time



2

Storage



Photos: Garo Goodrow, The Pennsylvania State University



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Secure the Site

- Keep locked when not in use
- Post warning signs on doors



Photos: Garo Goodrow, The Pennsylvania State University



Prevent Water Damage

- Examine topography of site to avoid areas of runoff water, streams, and other areas likely to flood
- Store pesticides on raised pallets and on shelves



Photo: Garo Goodrow, The Pennsylvania State University



Control the Temperature

- Check pesticide label for temperature requirements
- Ensure site is well-ventilated with exhaust fans directing vapors outside the building

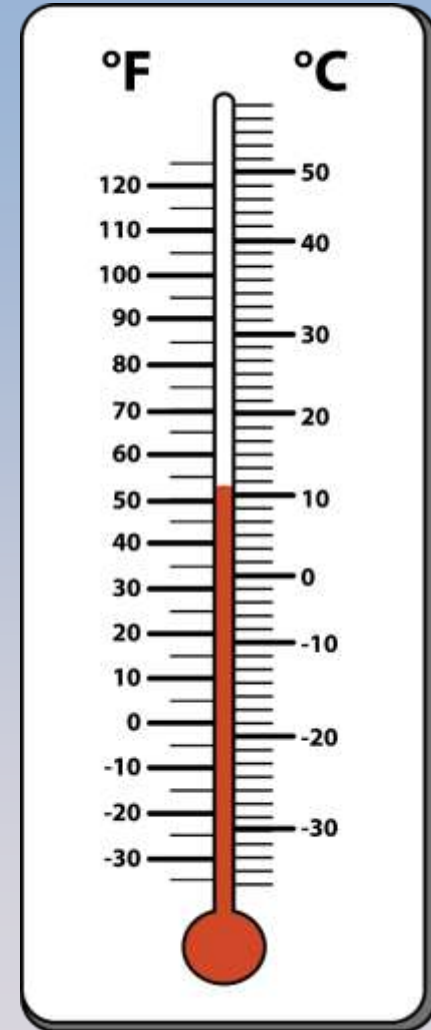


Illustration: Garo Goodrow, The Pennsylvania State University



Provide Adequate Lighting

- Labels can be seen
- Leaks and damages can be identified



Photo: Garo Goodrow, The Pennsylvania State University



Use Nonporous Materials

- Cement and other impervious materials for flooring
- Metal and nonabsorbent materials for shelving
- Curved floor with sump



Photo: Garo Goodrow, The Pennsylvania State University



Maintain the Storage Site

- ONLY store pesticide containers, pesticide equipment, and spill clean-up kit
- Do not store PPE in storage area
- Never keep food, drinks, tobacco, feed, medication, medical or veterinary supplies, seeds, or clothing in the storage area
- Keep storage area organized

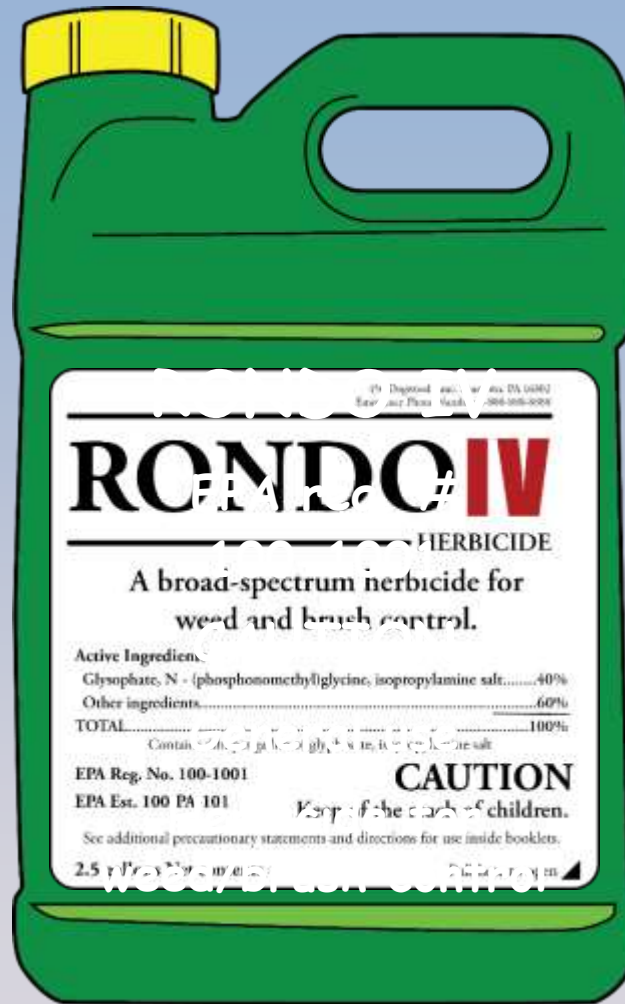


Photo: Garo Goodrow, The Pennsylvania State University



Keep Labels Legible

- Store container so the label in plain site
- If the label becomes damaged or lost, mark the container with:
 1. Trade name
 2. EPA registration number
 3. Signal word
 4. General/Restricted Use classification
- Obtain a replacement label



Store Pesticide Containers Safely

- Only store pesticides in
 - Original containers
 - Properly labeled service container (if allowed by state law)
- NEVER store pesticides in food or beverage containers



Photo: Garo Goodrow, The Pennsylvania State University



Store Pesticide Containers Safely

- Securely close containers
- Use tubs with lids for dry formulations
- Use nonabsorbent materials for shelving
- Put heavier products on lower shelves
- Ensure products do not extend beyond shelving edge
- Store liquid products below dry products and in trays



Photo: Garo Goodrow, The Pennsylvania State University



Store Pesticide Containers Safely

- Store bags and drums on plastic pallets
- Have reinforced concrete pad for bulk and mini-bulk tanks
- Make sure diking is diking bulk tanks that can cover volume of liquid in tank, plus additional 10%



Photo: Garo Goodrow, The Pennsylvania State University



Look for Damage

- Inspect containers for tears, splits, rust, corrosion, and other problems
- If problem is found,
 - Put on PPE
 - Place damaged container in larger container
 - Clean up spilled pesticide
 - Follow label directions to immediately use product on labeled site or for product disposal

Photo: Garo Goodrow, The Pennsylvania State University



Inventory Pesticides

- Maintain inventory
- Mark container with purchase date
- Mark effective shelf life (if on label)
- Use oldest products first
- Review labels on replacement products for uses and directions
- Buy only needed quantities

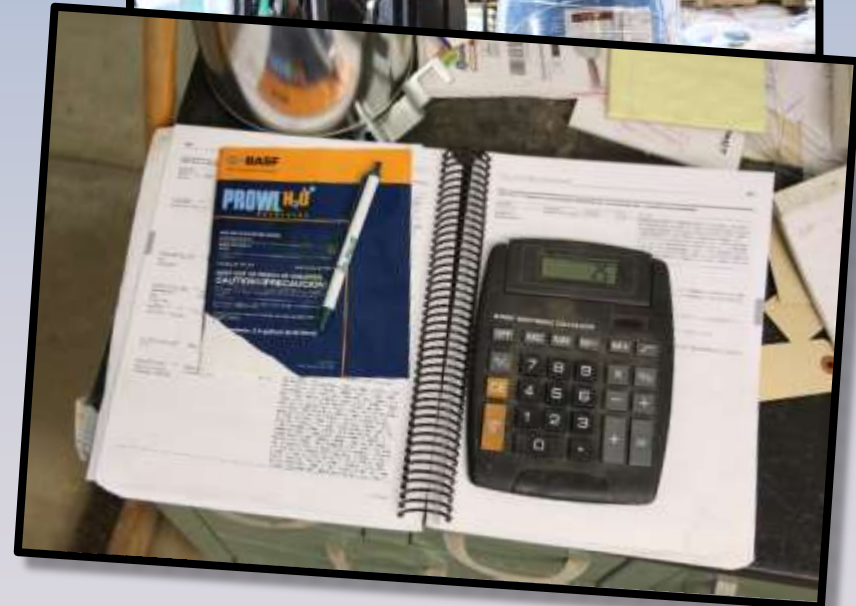


Photo: Garo Goodrow, The Pennsylvania State University



Follow These Safety Tips

- Have duplicate copies of labels and SDS
- Wear appropriate personal protective equipment
- Label items used for handling pesticides
- Have spill cleanup material
- Review SDS for materials to deactivate spills



Photo: Garo Goodrow, The Pennsylvania State University



Follow These Safety Tips

- Ensure accessibility of:
 - Clean water
 - Soap
 - Paper towels
 - Eyewash station
 - PPE
 - Fire extinguisher (rated for chemical fires)
 - First aid equipment
 - Emergency phone numbers



Photo: Garo Goodrow, The Pennsylvania State University



Isolate Unwanted or Waste Products

- Do not accumulate outdated or unwanted products
- Follow label directions for disposal
- Designate areas for disposal and recycling
- Contact state regulatory agency about disposal and recycling programs



Photo: Garo Goodrow, The Pennsylvania State University



Time to Review



Question: What type of material should **NOT** be used as a floor for a pesticide area?

Answers:

- ☐ Glazed ceramic tile
- ☐ No-wax sheet flooring
- ☐ Sealed cement
- ☒ Wood



Time to Review



Question: Which of the following best represents a proper pesticide storage practice?

Answers:

- ☐ Place heaviest products on highest shelves
- ☐ Allow containers to extend over shelf edge
- ☒ Designated an area for unwanted products
- ☐ Use newer products before older ones



Time to Review



Question: When a pesticide label is damaged, the container should be immediately marked. Which of the following information is **NOT** required?

Answers:

- ☐ Trade Name
- ☐ Signal Word
- ☐ EPA Registration Number
- ☒ Personal Protective Equipment
- ☐ Use Classification

*****Remember, a replacement label should be obtained online or from the manufacturer*****



Teach Pesticide Storage

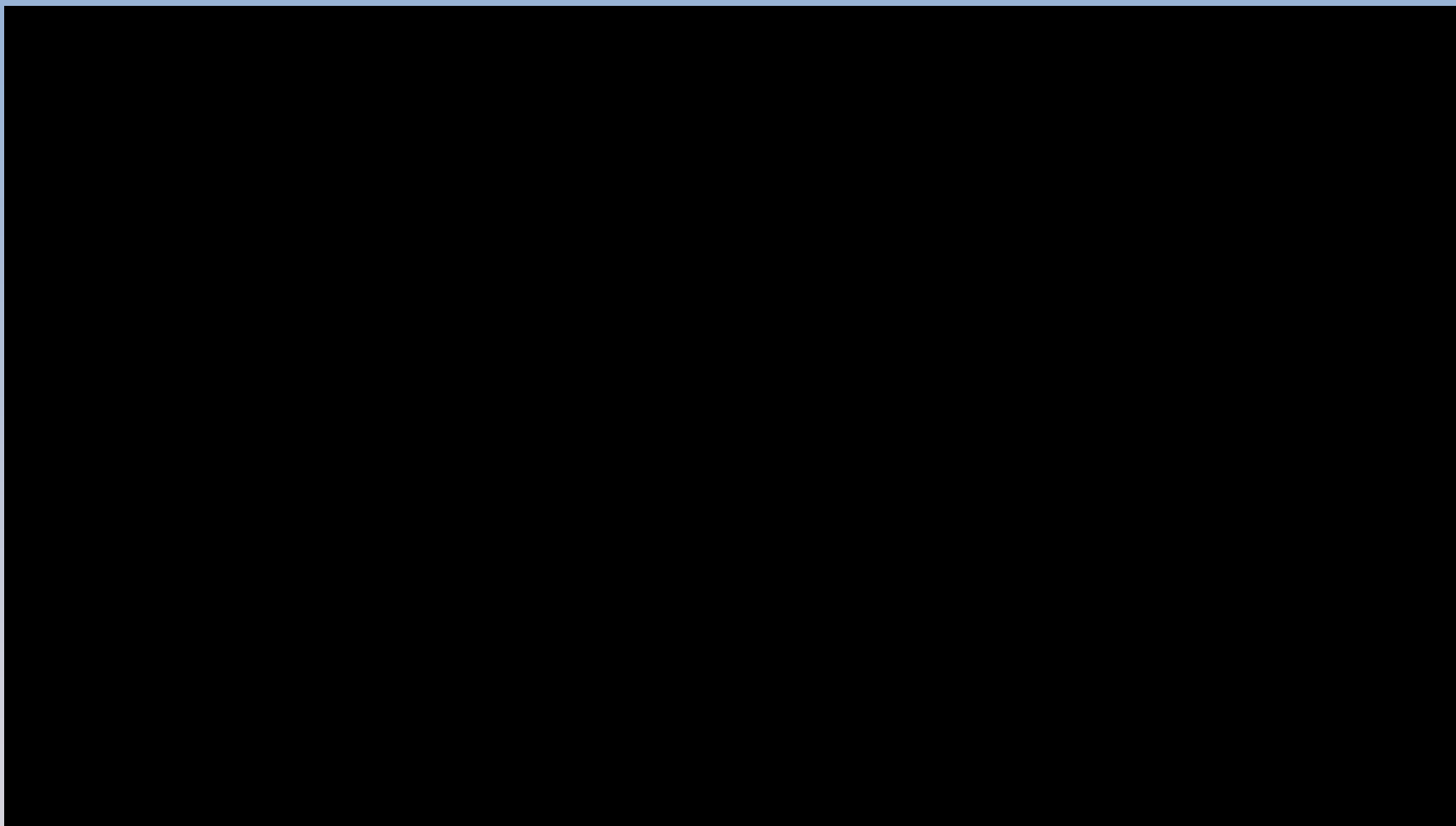


PAUSE

If desired –
Pause here to distribute the
Pesticide Storage Situation
Worksheet.



Teach Pesticide Storage



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Security



Photo: Garo Goodrow, The Pennsylvania State University



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Benefits of Security Efforts

- Decreases threats of theft and vandalism
- Reduces damaging incidents
- Maintains company's workforce, reputation, and community relations
- May reduce insurance costs



Risk Assessment

- List Assets
- Examine Threats
- Develop Steps to Protect Assets



Photo: Garo Goodrow, The Pennsylvania State University



Employee Training and Security Awareness

- Product inventory control
- Facility and equipment storage
- Emergency plans



Photo: Garo Goodrow, The Pennsylvania State University



Evaluating Pesticide Security

- Secure buildings, manufacturing facilities, storage areas, and surrounding property
- Secure pesticide application equipment and vehicles
- Protect confidential information

Photo: Garo Goodrow, The Pennsylvania State University



Evaluating Pesticide Security

- Develop procedures and policies that support security needs
- Coordinate with authorities in a timely manner



Photo: Garo Goodrow, The Pennsylvania State University



Steps to Prevent Security Problems

- Maintain relationship with local authorities
- Develop, practice, and review emergency response plan
- Ensure accessibility of important phone numbers
- Check pesticide inventory
- Lock and restrict storage area
- Be observant of suspicious behavior, large purchases, and cash payments
- Encourage employees to be observant and report suspicious behavior



Time to Review



Question: Product Inventory Control, Facility and Equipment Storage, and Emergency Plans are:

Answers:

- ☒ Recommended components for Employee Training on security
- ☐ Recommended components for Exclusive Management on security
- ☐ Recommended components after a Hazardous Incident has occurred



Time to Review



Question: Which of the following is a step to prevent security problems?

Answers:

- ☐ Conduct risk assessment once threats have been presented
- ☐ Encourage employees to report suspicious behavior only when absolutely certain of problem
- ☐ Leave pesticide products out on facility stoop for convenient customer pick-up
- ☒ Secure buildings, manufacturing facilities, storage areas, and surrounding property



Conclusion

1

Transportation

2

Storage

3

Security



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For more information on this and other resources, please visit:
extension.psu.edu/pesticide-education

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