DISPOSAL AND DECONTAMINATION OF HERBICIDE WASTE

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Talk Contents

Introduction

Herbicide waste disposal
- Empty containers
- Excess mix
- Excess products
- Tank Rinse

Hazardous waste disposal

Decontamination
- Herbicide Spills

Summary
Talk Contents

**Introduction**

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Summary
“February is National Pesticide Safety Education Month”
“Example of poor container management”
“Example of poor container management” 

Image courtesy: WSDA
“Example of poor container management”
Improper disposal of pesticides can lead to

- Contamination of soil
- Contamination of groundwater & surface water
- Causing serious liability for the pesticide user

Image courtesy: WSDA
Improper disposal of pesticides can lead to

- Contamination of soil
- Contamination of groundwater & surface water
- Causing serious liability for the pesticide user

Image courtesy: WSDA
“Improper disposal can result in fines for the pesticide applicator”

- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

- Florida Pesticide Law (Ch. 487 F.S.)
Dispose waste

Legally
Responsibly
Economically

Dispose waste
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Summary
- **Herbicide waste**
  Not classified as hazardous

- **Hazardous waste**

Ref: edis.ifas.ufl.edu/pi010
Herbicide waste

Not classified as hazardous

Ref: edis.ifas.ufl.edu/pi010
Herbicide waste

- Disposal is regulated under state law
- Must be disposed of according to LABEL instructions.
- Must be disposed of in a careful manner

Ref: edis.ifas.ufl.edu/pi010
Herbicide waste

“Types of herbicide wastes”

- Empty containers
- Excess herbicide mix
- Excess products
- Tank Rinse

Ref: edis.ifas.ufl.edu/pi010
“Types of herbicide wastes”

Empty containers awaiting disposal
Empty drums, bottles, or cans

Triple rinsing

- Refill the empty container for ¼ full with water and rinse
- Drain the rinse to spray tank
- Repeat rinsing and draining two more times

Ref: edis.ifas.ufl.edu/pi010
Empty drums bottles, or cans

Pressure rinsing

- Done using special pressure rinsing device inserted into the container
- Put the rinse back to spray tank

Ref: edis.ifas.ufl.edu/pi010
Pressure rinsing

Pressure-rinsing an empty container

Several styles of pressure rinse nozzles
- Empty drums bottles, or cans
  - Triple rinsing
  - Pressure rinsing

✓ Properly rinsed containers may then be buried in a sanitary landfill
✓ If the operator and local regulations allow.

Ref: edis.ifas.ufl.edu/pi010
Recycling is the best management option for containers

Contact your county extension office for information on pesticide container recycling opportunities in your area

Ref: edis.ifas.ufl.edu/pi010
- Empty bags should be shaken clean.

- They may be buried in a sanitary landfill if the operator and local regulation allows.

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Herbicide waste

“Types of herbicide wastes”

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“Types of herbicide wastes”

Excess herbicide mixture draining from the tank
Excess herbicide mixture

- **Avoid** the problem of excess mixture

  - Measure and calibrate carefully
  - Fill your spray tank with only the amount required to do the job

Ref: edis.ifas.ufl.edu/pi010
Excess herbicide mixture

- **Avoid** the problem of excess mixture
  - Measure and calibrate carefully
  - Fill your spray tank with only the amount required to do the job

The way to dispose of excess mixture is to use it on a labeled site!
Herbicide waste

“Types of herbicide wastes”

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Ref: edis.ifas.ufl.edu/pi010
Excess product disposal

Ref: edis.ifas.ufl.edu/pi010
Excess product

Unused pesticide that you no longer need or that is no longer legal

- Best way to dispose – **Give it to somebody!**
- Check with the supplier if they will take it back

Ref: edis.ifas.ufl.edu/pi010
Excess product

Unused pesticide that you no longer need or that is no longer legal

- Hazardous waste collection programs by Local solid waste management agency
- Licensed hazardous waste contractor

Contact:
Florida Department of Environmental Protection (FDEP) – for a list of contractors

Ref: edis.ifas.ufl.edu/pi010
Herbicide waste

- Empty containers
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“Types of herbicide wastes”

Ref: edis.ifas.ufl.edu/pi010
Tank rinse water

“Types of herbicide wastes”

Rinse water from application equipment and containers
Rinse water

DO NOT

Discharge rinse water to the ground or septic systems

Increase the chance of groundwater contamination

Ref: edis.ifas.ufl.edu/pi010
Rinse water

DO NOT

Discharge rinse water to the ditches or streams

This is Illegal

- damage to crops or trees
- serious hazard to fish and other wildlife
Rinse water

DO’s

Re-apply rinse water to a labeled site

This is allowed under federal law

• NOT result in an applied concentration above the label recommendation
Rinse water

DO’s

**Re-use rinse water** to dilute the next batch of formulation

As long as the site to which the rinse water is applied is a labeled site.

Up to five percent of the water for dilution may be rinse water.
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Herbicide waste
Not classified as hazardous

Hazardous waste
Example herbicides regulated as hazardous waste:
• 2,4-D
• Amitrole – Weedazol, Others
Hazardous waste

- **Ignitable**: wastes that are flammable.
- **Corrosive**: wastes that can burn the skin or corrode metal.
- **Reactive**: wastes that are unstable and may explode or react violently with water.
- **Toxic**: wastes that contain certain heavy metals above specific concentrations. (Chromium, lead, or cadmium, or toxic organic chemicals)

Ref: edis.ifas.ufl.edu/pi010
Hazardous waste – How to identify?

- Ask for the Safety Data Sheet (SDS) before ordering new pesticides.
- Talk to product suppliers and manufacturers.
- Read product labels. This should be done before purchasing any pesticide product.

Ref: edis.ifas.ufl.edu/pi010
Hazardous waste

- **Ignitable:**

- **Corrosive:**

- **Reactive:**

- **Toxic:**

Ref: edis.ifas.ufl.edu/pi010
Hazardous waste
Hazardous waste disposal

- Must be disposed of properly, usually by a **licensed hazardous waste contractor**.

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Herbicide spills

Decontaminating herbicide spills

“Spills must be properly decontaminated or cleaned-up to prevent environmental contamination”
• Absorb the spill
• Clean the stained surface

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Put on personal protective equipment (PPE)

Ref: edis.ifas.ufl.edu/pi010
Protective equipment

Always use PPE when handling herbicides

Ref: edis.ifas.ufl.edu/pi010
• Absorb the spill

Materials such as cat litter, soil, sawdust, or other absorbent material should be used to absorb liquid spills

Ref: edis.ifas.ufl.edu/pi010
• Absorb the spill

Secure the **dry spills** into a metal or plastic container

Ref: edis.ifas.ufl.edu/pi010
• Clean the surface  Use water/detergent mixtures to clean stained surfaces

Ref: edis.ifas.ufl.edu/pi010
• These materials, and soil contaminated in a spill, can be collected and placed in a suitable container (such as a plastic or metal bucket).

• Applied as a pesticide to a site upon which that pesticide can be applied as directed on the pesticide label.

• If application is not possible, dispose of as a hazardous or non-hazardous waste.
DO NOT use this method to dispose of soil that has been contaminated over a long period by pesticide discharges, since some of this soil may be classified as a hazardous waste.

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“Portable Spill Kit”

- PPE
- Respirator
- Hazardous material storage bag
- Absorbent pads and materials
- Shovel or broom
- Dust pan
- Warning sign

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- **Improper disposal**
  - Environmental contamination
  - Liabilities to user

- **Types of herbicide waste**
  - Containers
  - Excess mix
  - Excess products
  - Rinse water

- **Hazardous waste**
  - Disposal by licensed contractor
  - FDEP

- **Decontamination**
  - Absorb or contain the chemical
  - Clean the surface
Irresponsible storage of herbicide containers
Irresponsible storage of herbicide containers
Properly cleaned plastic containers awaiting recycling
Properly cleaned plastic containers awaiting recycling
"Improper disposal of pesticide waste has serious implications"

Iowa officials say fish kill caused by pesticide disposal

HULL, Iowa (AP) — Iowa Department of Natural Resources officials say improper disposal of a pesticide and other chemicals led to a fish kill in northwestern Iowa.

Officials say in a written release that DNR investigators looking into a fish kill in a small
“Buy only what you need this season”

“Mix only what you need today”
Thank you...

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