

**GEORGIA FARM\*A\*SYST**



**FARM  
ASSESSMENT  
SYSTEM**

## **HAZARDOUS MATERIALS STORAGE: HANDLING AND WASTE DISPOSAL**

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### **PRE-ASSESSMENT:**

#### **Why Should I Be Concerned?**

The average person relates the dangers of hazardous waste to manufacturing, mining or nuclear operations. However, farms and households generate waste that may exhibit one or more characteristics of a hazardous waste. These wastes, if improperly used, stored or disposed of can be harmful to human and animal health and can contaminate ground and surface water.

Many common farm and hazardous products may be classified as hazardous, including: paints, solvents, oils, cleaners, wood preservatives, batteries, adhesives and pesticides. Small amounts often wind up spilled, buried, dumped or flushed onto farm property. Minimizing the amounts of hazardous products in households and on farms, along with practicing proper use and disposal methods, can reduce health risk, financial liability and potential ground and surface water contamination.

#### **How Does This Assessment Help Protect Drinking Water and the Environment?**

- This assessment allows you to evaluate the environmental soundness of your farm and operational practices relating to your hazardous material storage and handling practices.
- You are encouraged to work through the entire document and use all eight areas when completing the assessment.
- This assessment asks a series of questions about your hazardous material storage and handling practices.
- The assessment evaluation uses your answers (rankings) to identify practices or structures at risk that should be modified to prevent pollution.
- The Hazardous Materials Storage and Handling Facts provide an overview of sound environmental practices that can be used to prevent pollution caused directly by your hazardous material storage and handling practices.
- You are encouraged to develop an action plan based on your needs as identified by the assessment. The Hazardous Materials Storage and Handling Facts, Reference and Publication listing can provide alternatives to current practices.
- Farm\*A\*Syst is a voluntary program.
- You should conduct the assessment for your use. If needed, a professional from the UGA Cooperative Extension or one of the other partnership organizations can provide assistance in completing the assessment or action plan.
- No information from this assessment needs to leave your farm.

*\* Italicized words are defined in the glossary.*

## ASSESSMENT:

### Assessing Your Hazardous Materials Storage and Handling Practices

For each category listed on the left, read across to the right and circle the statement that best describes conditions on your home and/or farm. If a category does not apply – for example, it asks about lagoon water and you don't have a lagoon – then simply skip the question. Once you have decided on the most appropriate answer, look above the description to find your rank number (4, 3, 2 or 1) and enter that number in the "RANK" column. The entire assessment should take less than 30 minutes. A glossary is on page 15 to clarify words found in italics throughout this assessment.

| <b>HAZARDOUS MATERIALS STORAGE AND HANDLING</b> |   |  |   |  |             |
|---|---|--|---|--|-------------|
|   | <b>LOW RISK<br/>(rank 4)</b>  | <b>LOW-MOD<br/>RISK (rank 3)</b>   | <b>MOD-HIGH<br/>RISK (rank 2)</b>   | <b>HIGH RISK<br/>(rank 1)</b>  | <b>RANK</b> |
| <b>SOLID WASTE DISPOSAL</b>                     |   |  |   |  |             |
| <b>Disposal of solid waste</b>                  | Amount of solid waste minimized through careful purchasing, recycling or reusing, and sharing with others whenever possible. Organic materials composted. Depending on the product, the remainder is either disposed of in a Subtitle D landfill or through a waste management service. | Some products are recycled or reused, but little is done to reduce the amount of waste. Depending on the product, the remainder is disposed of in a Subtitle D landfill or through a waste management service. | Little or no products are recycled or reused, and nothing is done to reduce the amount of waste. Depending on the product, the remainder is disposed of in a Subtitle D landfill or through a waste management service. | No products are recycled or reused, and nothing is done to reduce the amount of waste. All solid waste is disposed of on the farm. |             |
| <b>HAZARDOUS WASTE DISPOSAL</b>                 |   |  |   |  |             |
| <b>Hazardous waste/materials disposed</b>       | All hazardous materials are separated from other waste. Recommended steps are taken to contain and solidify liquid materials. Materials are reused, recycled or disposed of in a Subtitle D landfill or through a waste management service.   | All hazardous materials are separated from other waste. Recommended steps are not taken prior to disposal. Materials are disposed of in a Subtitle D landfill or through a waste management service.           | Hazardous materials are included with household and farm waste and disposed of in a Subtitle D landfill or through a waste management service.  | <b>Materials are disposed of on the farm or other private or public property that is not licensed to receive waste. **</b>         |             |
| <b>BURNING</b>                                  |   |  |   |  |             |
| <b>Waste burned on the farm</b>                 | No burning of solid waste occurs on the farm. All wastes are disposed of in a Subtitle D landfill.  | Recyclables are separated and only organic wastes are burned in a contained area. Ash is disposed of in a Subtitle D landfill or land applied at agronomic rates.  | All solid wastes are burned in a contained area. Ash is disposed of in a Subtitle D landfill.   | All solid wastes are burned on the farm. Ash is disposed of on the farm.   |             |

**\*\*These conditions are in violation of state and/or federal law**

**HAZARDOUS MATERIALS STORAGE AND HANDLING**

|  | <b>LOW RISK<br/>(rank 4)</b>   | <b>LOW-MOD<br/>RISK (rank 3)</b>  | <b>MOD-HIGH<br/>RISK (rank 2)</b>  | <b>HIGH RISK<br/>(rank 1)</b>   | <b>RANK</b> |
|--|--|---|--|---|-------------|
| <b>BUILDING/WOOD MAINTENANCE PRODUCTS</b>                    |  |   |  |   |             |
| <b>Storage and disposal of paints, stains and solvents</b>   | Minimum quantities of paints, stains and solvents are bought. Leftover quantities are used in a timely manner or given to someone else for their intended use. Large amounts are not stored on the property. All unwanted materials are solidified and disposed of in a Subtitle D landfill. All containers are disposed of according to label directions. | Leftover quantities of paints, stains and solvents are properly stored for future use and for their intended purpose. Unwanted materials are solidified and disposed of in a Subtitle D landfill. | Paints, stains and solvents are included with household and farm waste and disposed of in a Subtitle D landfill. | Paints, stains and solvents are disposed of on the farm or other private or public property that is not licensed to receive waste.    |             |
| <b>PESTICIDES AND CONTAINER DISPOSAL</b>                     |  |   |  |   |             |
| <b>Storage and disposal of unwanted or banned pesticides</b> | Minimum quantities of pesticides are bought. Leftover quantities are used in a timely manner or are shared with someone else for their intended use. No unused products are stored on the property.  | Leftover quantities are properly stored for future use. Unwanted material is solidified and disposed of in a Subtitle D landfill.   | Pesticides are included with household and farm waste and disposed of in a Subtitle D landfill.                  | <b>Pesticides are disposed of on the farm or other private or public property that is not licensed to receive waste.**</b>            |             |
| <b>Disposal of pesticide containers</b>                      | All pesticide containers are triple or pressure rinsed. Plastic containers are recycled by returning to the place of purchase, or by ACRC pickup. Other containers are disposed of in an approved Subtitle D landfill.   | No containers are recycled. All pesticide containers are properly rinsed and taken to an approved Subtitle D landfill.  | Containers are included with household and farm waste and disposed of in a Subtitle D landfill.                  | <b>Pesticide containers are disposed of on the farm or other private or public property that is not permitted to receive waste.**</b> |             |
| <b>VEHICLE MAINTENANCE PRODUCTS</b>                          |  |   |  |   |             |
| <b>Disposal of used motor oil and lubricants</b>             | Used oil is taken to an automotive facility that changes and collects used oil to be recycled.   | Used oil is stored on the farm and reused for lubrication or burned as a fuel.  | Used motor oil is included with household and farm waste and disposed of in a Subtitle D landfill.               | <b>Used motor oil is disposed of by pouring on the ground, down the drain or burning in an unapproved manner.**</b>                   |             |

## HAZARDOUS MATERIALS STORAGE AND HANDLING

|   | <b>LOW RISK<br/>(rank 4)</b>  | <b>LOW-MOD<br/>RISK (rank 3)</b>   | <b>MOD-HIGH<br/>RISK (rank 2)</b>  | <b>HIGH RISK<br/>(rank 1)</b>   | <b>RANK</b> |
|---|---|--|--|---|-------------|
| <b>Disposal of antifreeze</b>                   | Used or excess antifreeze is taken to a drop off collection site to be recycled by an approved recycler.  | Used or excess antifreeze is stored on the farm and reused.  | Used or excess antifreeze is included with household and farm waste and disposed of in a Subtitle D landfill.  | Used or excess antifreeze is disposed of by pouring on the ground.  |             |
| <b>Disposal of used vehicle batteries</b>       | Used vehicle batteries are immediately recycled.  | Used vehicle batteries are stored out of the reach of children and pets and away from wells until transported to a recycler.   | <b>Used vehicle batteries are improperly stored or disposed of in a Subtitle D landfill. **</b>  | <b>Vehicle batteries are illegally disposed of on the farm or other private or public property that is not licenced to receive waste. The contents of the battery are allowed to seep into the ground. **</b> |             |
| <b>Disposal of used tires</b>                   | Worn out truck and farm equipment tires are returned to the dealer for disposal or recycling.   | Small quantities of tires are used for various purposes on the farm.   | Used tires are included with household and farm waste and disposed of at a transfer station where they are separated from other waste streams.           | <b>More than 100 used tires are stockpiled, burned or buried on the farm or other private or public property. **</b>  |             |
| <b>VETERINARY MEDICAL WASTE</b>                 |   |  |  |   |             |
| <b>Disposal of veterinary and medical waste</b> | Syringes and medical waste are collected and stored in an approved container and then properly sealed and disposed of in a Subtitle D landfill. | Syringes and medical waste are not contained but are immediately thrown away with household and farm waste and disposed of in a Subtitle D landfill.   | Syringes and medical waste are not contained and are disposed of on the farm or other private or public property that is not permitted to receive waste. | Syringes and medical waste are not stored or disposed of in an approved manner and are left on the farm accessible to children and farm workers.  |             |
| <b>DEAD ANIMALS</b>                             |   |  |  |   |             |
| <b>Disposal of dead animals</b>                 | Dead animals are disposed of in an approved/permitted method in accordance with Georgia law, within 12 hours of death.                          | <b>Dead animals are disposed of in an approved method but approval permits have not been received from the proper authorities. Disposal is completed within 12 hours of the animal's death. **</b> | <b>Dead animals are disposed of in an unapproved/unpermitted method. **</b>  | <b>No disposal methods are used, dead animals are left to be disposed of by natural means. **</b>   |             |

*\*\*These conditions are in violation of state and/or federal law*

Number of Areas Ranked \_\_\_\_\_

(Number of questions answered, if all answered, should total 12.)

Ranking Total \_\_\_\_\_

(Sum of all numbers in the "RANK" Column)

## ASSESSMENT EVALUATION:

### What Do I Do with These Rankings?

#### STEP 1: Identify Areas Determined to be at Risk

Low-risk practices (4s) are ideal and should be your goal. Low-to moderate-risk practices (3s) provide reasonable protection. Moderate to high risk practices (2s) provide inadequate protection in many circumstances. High-risk practices (1s) are inadequate and pose a high risk for causing environmental, health, economic or regulatory problems.

**High-risk practices (rankings of "1") require immediate attention.** Some practices may require little effort to correct, while others could be major or costly and may require planning or prioritizing before you take action. All activities identified as "high-risk" or "1s" should now be listed in the action plan. Rankings of "2s" should be examined in greater detail to determine the exact level of risk and attention should be given accordingly.

#### STEP 2: Determine Your Hazardous Materials Risk Ranking

The Risk Ranking provides a general idea of how your hazardous materials storage and handling practices might be affecting your ground and surface water, contaminating your soil and affecting your air quality.

Use the rankings total and the total number of areas ranked to determine the Hazardous Materials Risk Ranking.

|                      |          |                                     |          |   |
|----------------------|----------|-------------------------------------|----------|---|
| <b>RANKING TOTAL</b> | <b>÷</b> | <b>TOTAL NUMBER OF AREAS RANKED</b> | <b>=</b> | <b>HAZARDOUS MATERIALS RISK RANKING</b> |
| _____                | ÷        | _____                               | =        | _____                                   |

| HAZARDOUS MATERIALS RISK RANKING..... | LEVEL OF RISK        |
|---------------------------------------|----------------------|
| 3.6 to 4 .....                        | Low Risk             |
| 2.6 to 3.5 .....                      | Low to Moderate Risk |
| 1.6 to 2.5 .....                      | Moderate Risk        |
| 1.0 to 1.5 .....                      | High Risk            |

This ranking gives you an idea of how your hazardous materials storage, handling and waste disposal might be affecting your drinking water. This ranking should serve only as a general guide, and not as a precise diagnosis since it represents the average of many individual rankings.

#### STEP 3: Read the Section on Improving Your Hazardous Materials Storage and Handling Practices

While reading, think about how you could modify your practices to address some of your moderate and high-risk areas. If you have any questions that are not addressed in the hazardous materials facts portion of this assessment, consult the references on page 17 or contact your county Extension agent for more information.

#### STEP 4: Transfer Information to the Total Farm Assessment

If you are completing this assessment as part of a "Total Farm Assessment," transfer your hazardous materials risk ranking and your identified high-risk practices to the overall farm assessment.

## **HAZARDOUS MATERIALS FACTS:**

### **Improving Hazardous Materials Storage and Handling**

Many of the products used for farming, house-work, gardening and home improvements contain hazardous ingredients that endanger our health as well as ground and surface water. These products can contaminate our drinking water if they are not properly stored or disposed of.

A key step to minimizing pollution potential on your farm from all solid wastes is to remember the three Rs:

- **Reduce** the amount of waste generated. This can be accomplished by buying only the quantities needed. Determine if there is a less hazardous or non-hazardous alternative.
- **Reuse** or give unused products to others. This reduces risk that might be associated with storing the product.
- **Recycle** when possible.

Take some time to examine activities that involve hazardous products to make sure you really need all the products you are using. When you are certain that you are using only essential products, consider how to use and store them safely, and reuse or recycle when possible.

Some products, such as lubricating oils or solvents, are a necessary part of farm life. However, biodegradable and non-hazardous products may be available as an alternative. Using such products can reduce your hazardous waste risks. Keep in mind that hazardous waste generated from farm business activities must be managed in accordance with state and federal rules.

### **Solid Waste**

Not all wastes generated on the farm or in the home are hazardous. Georgia law defines solid waste as: any garbage or refuse; sludge from a wastewater treatment plant, water supply treatment plant or air pollution control facility; and other discarded materials including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining and agricultural operations and from community activities.

There are several types of solid waste:

- **Organic waste** is any waste that will decompose naturally. It may be composted and reused for its nutrient value or as a soil amendment. Livestock manure is an example of organic farm waste. Food leftovers are a good example of organic waste in the home.
- **Recyclables** are any materials that can be separated and recycled. The most common examples of these are glass, plastic, metals and paper.
- **Municipal solid waste** as defined by Georgia law is any solid waste derived from households, including garbage, trash and sanitary waste in septic tanks, and includes solid waste from single-family and multi-family residences, hotels and motels, bunkhouses, campgrounds, picnic grounds and day recreation areas. The term also includes commercial solid waste but does not include solid waste from mining, agricultural or silvicultural operations, or industrial processes or operations. This material may be disposed of in any Subtitle D solid waste landfill.

## Burning

Researchers estimate that ground-level concentrations of dioxin (a toxic and carcinogenic chemical) from burning household trash in a burn barrel are 7,000 times higher than the amount formed during trash burning in a municipal incinerator. Ash and sludge resulting from on-farm burning can contain significant amounts of metals or chemicals like lead, cadmium, chromium, dioxins and furan compounds.

Georgia law defines open burning as “the combustion of solid waste without controlling combustible air to maintain adequate temperature for efficient combustion; without containing the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and without controlling of emission of the combustion product.” In other words, open burning allows for materials to be directly and freely released into the atmosphere, which can be harmful to personal health and air quality.

In Georgia, open burning is allowed on private property unless a local ordinance prohibits it. You should always check with your local municipality for ordinances that may prohibit a given practice in your area. These local ordinances may only be in effect during a given period of time. There may also be state-issued prohibitions on burning. All practices must be completed by or with the consent of the landowner.

### **Open burning on the farm can legally be used to:**

- Carry out a recognized Agricultural Best Management Practice (BMP) or procedures necessary for the production or harvesting of crops.
- Conduct “prescribed burning” of any forestland.
- Reduce the amount of leaves on the premises where they fall.
- Prevent pest or disease damage to a given property.
- Operate devices that use an open flame such as blow torches, welding torches, portable heaters and other flame-making equipment.
- Cook for preparing food and burn for other recreational purposes, such as campfires.
- Burn vegetative material for the purpose of land clearing. The use of an air curtain destructor may be allowed providing certain conditions are met. Contact the Environmental Protection Division’s Air Quality Branch at 404-362-7014 or your local municipality for a list of the conditions that must be met.

If any type of burning is conducted on the farm, it is important that all waste is segregated before burning. Only dry combustible organic materials such as leaves, paper, vegetative residues, etc., should be burned. Hazardous waste, metals, plastics, chemicals, glass and other non-combustible materials should be separated for disposal before burning. These materials can cause hazardous fumes or explosions and make the ash unusable on the farm.

Safety is also a consideration when waste is burned. Make sure that the area around a burn barrel is kept free of combustible materials. Keep a fire extinguisher and other materials to control a fire near the site. All open fires should be monitored at all times.

## Ash Disposal

Segregation of materials for burning is also important, since it has a direct impact on the ash that is produced. If only combustible, organic or wood-derived materials are burned, then the ash is a relatively inert material that may be used as a fertilizer and lime substitute on the farm. If any non-combustible or hazardous materials or fuels are burned, then the ash should be disposed of in a Subtitle D landfill.

If ash is to be land-applied on the farm, it should be spread at agronomic rates. This will often require that the ash be tested for nutrient content and liming value, and that the optimal application rate is calculated. For more information, consult the University of Georgia Cooperative Extension Bulletin 1147, “Recommended Practices for Using Wood Ash as an Agricultural Soil Amendment.”

## Hazardous Waste

A waste is hazardous if any ingredients appear on any of the four hazardous waste lists from the Federal Resource Conservation and Recovery Act (RCRA). These lists may be found in the Code of Federal Regulations.

The easiest way to determine if a product is hazardous is to read the label and material safety data sheet (MSDS). If the product contains a hazardous ingredient, the front label must include a “warning” and a description of the hazard and its effect on human health. The label will sometimes include instructions for safe handling and use, the common and/or chemical name, and first aid instructions.

If a material exhibits one or more of the characteristics listed below or contains a number of toxic constituents that have been shown to be harmful to health and/or the environment, it is hazardous. A hazardous material may occur as a solid, liquid or gas.

Hazardous waste may exhibit one or more of the following features:

- **Ignitable** — capable of being burned or causing a fire. Examples include some paint waste, certain degreasers or other solvents.
- **Corrosive** — capable of dissolving metals and/or other materials and destroying living tissue on contact. Examples include rust removers, waste acid or alkaline cleaning fluids and battery waste.
- **Reactive or Explosive** — unstable or undergoes a rapid or violent chemical reaction (like an explosion or release of poisonous fumes) when exposed to air, water or other chemicals. Examples include bleach, chlorine and other waste oxidizers.
- **Toxic** — poisonous, either immediately (acutely toxic) or over a long period of time (chronically toxic) to plants and/or animals. Examples include most pesticides and automotive waste such as antifreeze.

Common examples of hazardous waste include pesticides, cleaning supplies, wood polishes, paints (not latex), stains, varnishes, batteries, etc.

### Laws regulating disposal of wastes from farms:

Under federal hazardous waste regulations, farms may be considered “conditionally exempt” only if they never exceed 220 lbs of hazardous waste production in any single month. Conditionally exempt operations are not required to obtain a U.S. EPA identification number or use a hazardous waste manifest for disposal at a Subtitle D landfill.

Regardless of the quantity, hazardous waste generators are ultimately responsible for the storage and disposal of the waste. Generators can be held liable for improper management of these wastes even though they may have been taken by licensed transporters to a “proper” hazardous waste management facility. For additional information and copies of any laws that are relevant to Georgia, contact the Hazardous Waste Management Branch of the Environmental Protection Division, Georgia Department of Natural Resources, at 404-656-7802. Keep in mind that regulatory requirements are subject to change pending new interpretations or guidance from the U.S. EPA or EPD, judicial rulings, etc.

Small quantities of hazardous wastes generated in the household are exempt from regulations under state and federal law. The Sustainability Division, Georgia Department of Natural Resources, has developed the Guide to Best Management Practices for Household Hazardous Waste and Radon. This handbook contains source reduction, recycling, reuse and disposal information as well as a reference list and collection sites for various household hazardous wastes by county. Contact your county extension office or local fire department for access to this publication.

## Disposal

Disposal of any type or quantity of hazardous wastes on the farm is illegal. Environmental audits, assessments and cleanup procedures are costly, and the landowner is often liable for any contamination that is found.

Hazardous waste from a farm business produced in quantities that do not allow them to be conditionally exempt must be disposed of at a permitted hazardous waste facility.

Contact your local wastewater treatment plant for additional information on whether the wastewater in your area discharges into a municipal sewage treatment system. If your household waste water drains into a municipal sewage treatment system, some liquid products may be poured down the drain without first consulting the product label.

Most “conditionally exempt” farm hazardous wastes should be disposed of following the same disposal guidelines as household hazardous waste. The following are management guidelines on *Household Hazardous Waste* excerpted from the Sustainability Division’s Guide.

- Reduce the amount of waste that must be disposed of by buying only the amounts needed to complete the job or giving the remaining product to someone who can use it. This also prevents accidents or contamination that could result from improper storage.
- Always read and follow the product label for instructions on proper use and disposal.
- Most products may be disposed of with household solid waste if collected by a municipal collection system, provided this waste is going to a municipal solid waste Subtitle D landfill.
- If discarding liquids in a drain, select a drain where there is adequate ventilation and that is away from food preparation. Products should be poured down the drain slowly to avoid splashing and flushed with large volumes of water. Remember never to mix more than one chemical.
- Never pour any type of hazardous waste down your drain if you have a septic tank. Hazardous products may kill the organisms that the system depends on to break down wastes in the tank. This could also allow the hazardous products to seep into and contaminate ground water.
- Never pour any type of hazardous waste directly on the ground, since it could contaminate either ground or surface water.
- Any liquid being disposed of into a municipal solid waste landfill should be solidified. To solidify materials, mix the waste with enough absorbent material such as cat-box litter to absorb all free liquids.

## Common Farm Hazardous Waste

The rest of this assessment identifies and provides disposal options for some common hazardous waste that may be generated on the farm. It is important to research and determine what the recommended disposal methods are for a specific waste in your community. A good place to start is to contact your local county Extension office.

## Building and Wood Maintenance

This category of potentially hazardous substances includes:

- Solvent-based building and wood cleaners, including wood polishes and products for wood floor and panel cleaning.
- Equipment maintenance products such as stripping and finishing products, stains and paints, brush or spray gun cleaning products, and adhesives like glues and caulk. Also included are solvents in degreasers and paint thinners, stains, varnishes and wood preservative compounds.

These products may be solidified with an absorbent material such as cat-box litter and disposed of in a permitted Subtitle D landfill.

Because of the volume of these products used on the farm, spills and drips can accumulate and become a problem for ground and/or surface water. Avoid maintenance activities within 150 feet of a well, stream or other body of water. Whenever possible, conduct maintenance activities under a roof on a concrete floor where spills and drips can be contained. Use tarps to collect drips and sludge when using these products on porous surfaces.

## **Pesticide and Container Disposal**

This category of potential hazardous substances includes all types of pesticides and pesticide containers, including those used for pets, farm animals, indoor plants and yard care.

Handle all categories of pesticides as directed on the label to prevent health and environmental problems. Pay particular attention to pesticides classified as “restricted use.” Pesticide labels and regulations concerning their use often change over time. Remember that pesticides might not have current warning labels, and some may have been banned since the time of purchase. When the U.S. Environmental Protection Agency bans a pesticide, the agency provides a “buy-back” and disposal period.

A farmer disposing of his own leftover pesticides, which may contain hazardous ingredients, is not required to comply with the federal standards, provided he disposes of the pesticide on his own farm in a manner consistent with the use and disposal instructions on the pesticide label.

Unused pesticides should be stored on a concrete floor with a roof until they can be taken to a community hazardous waste collection program or are picked up by a licensed hazardous waste contractor. (See the Georgia Farm\*Assessment on Pesticide Storage and Handling (Bulletin 1152-6) for more specific information.)

Farm pesticides often come in mini-bulk tanks, 5-gallon plastic containers or paper containers. Mini-bulk tanks should go back to the place of purchase after application. Pesticides purchased in mini-bulk tanks or returnable containers allow the return of excess chemicals to the cooperative or retail store. Paper containers should be bundled and taken to a permitted Subtitle D landfill. Check with your local cooperative or dealer to learn whether those types of containers are available to you. Some 5-gallon plastic containers can be returned to the place of purchase for disposal.

Recycling of pesticide containers can be coordinated through the Ag Container Recycling Council (ACRC). The ACRC has contractors throughout the U.S. that will schedule free pickup and recycling for farmers on-site. Containers have to be punctured and triple-rinsed for recycling. The contractor that works in the Southeast is USAg Recycling located in Waller, Texas (1-800-654-3145). More information can be found at their website: <http://www.usagrecycling.com>. You may also contact the Georgia Department of Agriculture Pesticide Division at 404-656-4958 or Sustainability Division at 404-651-5120.

The Georgia Environmental Protection Division permits landfill disposal of certain concentrated pesticides as long as they are absorbed and bagged. Under EPD guidelines, up to 2.2 pounds of an acutely hazardous pesticide may be taken to a Subtitle D landfill. If the pesticide is a liquid, it should be solidified and contained in plastic bags. If in one month, you generate more than 220 pounds of toxic pesticide waste or more than 2.2 pounds of acutely hazardous pesticide waste, you must dispose of it as a hazardous waste. Contact EPD at 404-657-8831 for assistance. Remember, local landfills have the right to refuse any pesticide no matter how it is presented.

The best method to dispose of mixed pesticides or rinse water is to apply it on the crop or site for which it is labeled. Triple rinsed (or equivalent) used containers can be disposed of in municipal solid waste Subtitle D municipal solid waste landfills without an ID number or further regulation. Regulated waste includes improperly prepared containers, excess pesticides and pesticide dilutions, rinse water, etc., that contain a listed chemical and cannot be properly used.

For current information on compliance and location of permitted Subtitle D landfills and technical assistance, contact the Georgia Environmental Protection Division's Hazardous Waste Management Branch at 404-656-2833.

In emergencies, call the EPD Response Team at 404-656-4300 (continuous service). Both EPD and the Georgia Department of Agriculture's Entomology and Pesticides Division (404-656-4958) must be notified of fires, spills, etc., that might endanger the public or the environment.

## **Vehicle Maintenance Products**

### **Used Motor Oil**

To dispose of used motor oil that contains hazardous petroleum products, drain the oil through a funnel into a clean container that can be tightly sealed. Oil filters must be punctured and/or crushed and hot drained. Some auto service and repair stations or oil change facilities will accept used motor oil and oil filters for recycling. Some communities also have drop-off sites for collection.

Solid and hazardous waste laws prohibit using used motor oil for dust or weed suppression. You can burn used oil in a waste-oil burner if the oil has not been contaminated with solvents or other materials. The used oil furnace should be located according to building code requirements.

Farmers are encouraged to recycle their used motor oil as often as generated. Farms that produce more than 55 gallons of used motor oil at a given time should contact a licensed oil recycler. For a complete list of Georgia businesses that collect used motor oil or a list of Georgia companies that process and recycle used motor oil, contact the Pollution Prevention Assistance Division at 800-685-2443 or 404-651-5120. For information on storing large quantities of motor oil for transportation purposes, contact the General Compliance Program, EPD, at 404-657-8831.

### **Antifreeze**

Before disposing of antifreeze, review possible options, including recycling or contracting with a business that collects the fluid. Do not dump antifreeze into any drain. If you have a septic tank, antifreeze may kill the organisms that the system depends on to break down wastes in the tank. Antifreeze is toxic to livestock and pets, so always store used antifreeze in a secure area.

### **Vehicle Batteries**

According to the Georgia Recycling Fact Book, one lead acid battery (automotive or farm vehicle) contains an average of 18 to 22 pounds of recoverable lead, approximately 3 pounds of polypropylene casing, and the equivalent of 5 pounds of sulfuric acid. These battery components are considered corrosive, toxic, poisonous and eye irritants.

Georgia law requires that all vehicle batteries be returned to retailers for recycling. Battery retailers are required by law to accept old lead acid batteries. Never store old batteries on the farm, as they present both a health and environmental hazard.

### **Solvents**

Solvents used for cleaning metal parts, oils and fuels may contain toxic or flammable ingredients. If you wash a lot of parts, consider contracting with a permitted solvent recycler to rent a parts washer. The recycler picks up your old solvents and provides you with clean solvent.

## **Paint and Grease**

If you find yourself painting a lot of vehicles or other farm equipment, do so in a paint booth. Some booths are designed to collect excess paint and spraygun cleaners for later disposal with a solvent recycler. Note that filters used with a paint booth may be considered hazardous waste when discarded.

The design and location of the equipment maintenance area is important. Some farmers use a grease pit. Others allow drips and spills to collect on the shed floor. Use absorbent materials such as sawdust or cat-box litter to soak up the grease or small spills. Flushing to keep the shed floor clean is not recommended; sweeping is a better method. In case of vehicle maintenance chemical spills as described above, contact Georgia EPD's Emergency Response Program at 800-241-4113 or 404-635-7215.

## **Tires**

It is illegal to burn or store more than 100 scrap tires anywhere in the state. Georgia law mandates that all scrap tires be recycled, shredded, chopped or processed in an environmentally sound manner prior to disposal at a solid waste disposal facility.

In Georgia, each city, county or solid waste management authority has the right to impose restrictions on scrap tires originating in or which may ultimately be disposed of in their area of jurisdiction. This could include a ban on the disposal of scrap tires at the solid waste disposal facilities.

In 1991, the Georgia General Assembly passed legislation directing the EPD to develop a program for properly managing scrap tires. The legislation provided for collection of a fee of \$1.00 per tire to be used to abate any threat or potential threat to public health and the environment created by scrap tires.

Although it is recognized that there will be a continuing need to abate scrap tire dumps as they are discovered, the Scrap Tire Program has also identified a need to shift emphasis from cleaning up existing scrap tire piles to ensuring proper management of the more than 7 million tires generated annually in Georgia. To this end, the existing ban on landfill disposal of scrap tires will be maintained, but emphasis will be placed on maintaining and strengthening local government education and enforcement programs; monitoring the scrap tire industry in Georgia and the Southeast; and preparing an annual report describing the state of the system, relevant changes that have the potential for affecting the economic and environmental viability of the system, and identifying actions and/or studies required to ameliorate or eliminate effects from these changes.

Local governments are encouraged to contact EPD about current programs and funding available to assist them with proper management of scrap tires.

## **Storage of Chemicals and Hazardous Waste**

If you have to store chemicals, store them under a roof and on a concrete floor in the original or a clearly labeled and leak-proof container. Make sure that all storage areas are not accessible to small children or pets. Provide a well-ventilated, flame-free area with sturdy shelving for storage. When choosing the storage location, keep indoor air quality, safety and flammability in mind. Be sure that the area is adequately vented to prevent buildup of fumes from leftover products. As a rule of thumb, if you can smell the products, ventilation is inadequate to protect your health. It is very important to segregate flammable, poisonous and corrosive wastes to minimize accidental release or explosion due to chemical interactions.

To ensure your storage containers are in good condition, they should be compatible with the hazardous waste stored in them and meet U.S. Department of Transportation standards. You should also:

- Replace leaking containers with clearly labeled new containers.
- Do not mix wastes. Solvents that are ignitable (such as mineral spirits) may be mixed with used oil for burning so long as the resultant mixture does not exhibit the ignitability characteristic.
- Inspect containers weekly to check for leaks and signs of corrosion.

Outdoor storage of hazardous wastes and products, especially liquids, should be on bermed or diked surfaces constructed of materials that will contain any spills. For example, a berm or dike may be constructed around gas or diesel storage tanks. Pesticide mixing areas should be constructed out of concrete and have a drainage collection system. Batteries may be stored in a plastic-lined area. Some solvents, however, could dissolve a plastic liner. Spilled solvents may penetrate asphalt if they are not cleaned up quickly.

Store flammable materials in an area that will be shaded from direct sunlight. Rags used to clean up solvent spills may also be a fire hazard. Store them with the same care as hazardous materials (in a container with a lid) or contract with a rag service to launder and reuse the rags.

## **Disposal of Veterinary Medical Waste**

Place veterinary medical wastes such as syringes, needles, lancets, vaccine vials, medicines and medicine containers, and other sharp objects in a hard plastic or metal container with a screw-on or tightly secured lid. Do not use glass or clear plastic containers. Do not use a container that could be recycled or returned to a store. If storing the container for a period of time, make sure the container is labeled and stored in a secure place away from children, pets and farm workers. When the container is full, secure the lid with heavy-duty tape. The container can then be disposed of with household waste that is going to a Subtitle D landfill.

Never dispose of medical waste, especially needles, with any animal waste since they could create hazards when land-applied on your farm.

## **Dead Animals**

Dead animal disposal on your property could be a potential health and environmental risk. Decomposing animals can be a concentrated source of nutrients, bacteria and other potentially harmful microorganisms. The Georgia Department of Agriculture regulates the disposal of any carcass of any animal that has died or been killed. All dead animal disposals must be done within 12 hours of the animal's death.

Regulations prohibit a person from disposing of any animal that has died or been killed on another person's land. Under no conditions shall dead animals be disposed of in wells or open pits of any kind on private or public land. The Well Standards Act of 1985 recommends that all animal burial pits be at least 150 feet from a well or water source. Carcasses that are buried must be buried at least 3 feet below the ground level but no more than 8 feet and have not less than 3 feet of earth over the carcass.

The carcass or parts or carcasses of those animals considered farm livestock and poultry, including any effluent, blood, intestine or stomach contents, may be disposed of in one of the following methods, providing each method is carried out in accordance with Georgia Department of Agriculture rules:

- Incineration (requires EPA/EPD approval)
- Burial
- Rendering
- Composing (requires GDA approval)
- Acid fermentation (requires permit from State Veterinarian's Office)

Contact the State Veterinarian should there be a need to dispose of contaminated animals or tissues — a rabid animal, for example.

## ***NOTES:***

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## **GLOSSARY:**

### **Hazardous Materials Storage and Handling**

**Burn barrel:** Any on-farm system of open burning, such as burning in a barrel. (See incinerator)

**Combustible:** Able to burn.

**Farm business:** Farm that generates at least \$1,000 in net annual income from farming.

**Hazardous waste:** Materials that exhibit one or more of the following features: ignitable, corrosive, reactive, explosive or toxic.

**Household hazardous waste collection program:** Special program in which a community collects household hazardous waste for proper disposal, reuse or recycling.

**Incinerator (municipal):** Community equipment specifically engineered to burn municipal quantities of solid waste.

**Incinerator (on-farm):** Any home-built equipment specifically engineered to burn solid waste or any equipment purchased for home or farm use.

**Subtitle D landfill:** Municipal solid waste landfill that has complied with the requirements set forth in Subtitle D of the Federal Resource Conservation and Recovery Act of 1976. Regulations include location restrictions, design criteria, ground water monitoring, closure and post-closure care, and financial assurance.

**On-farm disposal:** Any method of burning, dumping or land spreading of wastes on the farm. Also includes use of the septic system for disposal.

**Recycling:** Collecting materials from the waste stream, separating them by types, remaking them into new products, marketing and reusing the materials as new products.

**Small quantity generator:** Produces greater than 100 kg but less than 1,000 kg per month (Conditionally Exempt Small Quantity Generators produce no more than 100 kg per month or 1 kg per month of acute hazardous materials).

**Solidify:** To make a liquid waste a solid by adding cat-box litter or a similar absorbent material.

**Trash:** Construction or demolition debris and other debris such as paper, cardboard, cloth and other matter.

## ***ACTION PLAN:***

An action plan is a tool that allows you to take the needed steps to modify the areas of concern as identified by your assessment. The outline provided below is a basic guide for developing an action plan. Expand your plan if you feel the need to include detail or additional areas. Consult the list of references on the next page if additional assistance is needed to develop a detailed action plan.

| Area of Concern | Risk Ranking | Planned Action to Address Concern | Time Frame | Estimated Cost |
|-----------------|--------------|-----------------------------------|------------|----------------|
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## REFERENCES:

| <b>CONTACTS AND REFERENCES</b>                                     |  |   |   |
|--|--|---|---|
| <b>Organization</b>  | <b>Responsibilities</b>  | <b>Address</b>  | <b>Phone Number</b>                                     |
| National Fire Prevention Associations (NFPA)                       | Regulations concerning storage of flammable liquids.   | National Fire Prevention<br>1 Battery March Park<br>Quincy, MA 02269  | 800-344-3555  |
| State Fire Marshal   | Registration of tanks that hold more than 1,100 gallons of combustible liquids. Information regarding plans for new tanks. | Georgia Safety Fire Commissioner<br>620 West Tower<br>2 Martin Luther King, Jr. Dr.<br>Atlanta, GA 30334          | 404-656-2298  |
| National Response Center (NRC)                                     | Spills that could drain into waters of the United States.  | Commander (OAN)<br>Brickell Plaza, Federal Bldg,<br>9009 SE 1st Ave.<br>Miami, FL 33131                           | 1-800-424-8802<br>Notification required within 24 hours |
| U.S. Environmental Protection Agency                               | Spills that could drain into waters of Georgia.  | Emergency Response and Removal Branch<br>100 Alabama Street<br>Atlanta, GA 30354                                  | 404-562-8725  |
| Georgia Environmental Protection Division                          | Underground storage tanks and removal assistance.  | Underground Storage Tank Management Program<br>4244 International Parkway<br>Suite 104<br>Atlanta, GA 30354       | 404-362-2687  |
| Biological & Agricultural Engineering Dept., University of Georgia | Questions concerning pollution prevention practices.   | Driftmier Engineering Center<br>Athens, GA 30602  | 706-542-9067  |
| Sustainability Division  | Questions regarding used motor oil in quantities of less than 55 gallons. Listing of local collection sites.               | 7 Martin Luther King, Jr. Dr.<br>Suite 450<br>Atlanta, GA 30334   | 404-651-5120<br>or<br>800-685-2443                      |
| Georgia Environmental Protection Division                          | Questions regarding used motor oil in quantities greater than 55 gallons.  | Generator Compliance Program<br>Hazardous Waste<br>Floyd Tower East<br>205 Butler Street, SE<br>Atlanta, GA 30334 | 404-656-3851  |
| County Extension-UGA   | Information about storage and hazardous waste management.  | Local County Extension Office   | 1-800-ASK-UGA1.   |

## **PUBLICATIONS:**

### **Environmental Protection Agency (EPA) Information Center 401 M Street SW, Washington, D.C. 20460**

- Hazardous Waste website: <http://www.epa.gov/osw/hazard>
- Citizen's Guide to Pest Control and Pesticide Safety
- Household Hazardous Waste: <http://www.epa.gov/epawaste/conserves/materials/hhw.htm>
- Managing Used Oil: Advice for Small Businesses
- RCRA in Focus: Vehicle Maintenance
- Antifreeze: <http://www.epa.gov/osw/conserves/materials/antifree.htm>

### **University of Georgia Cooperative Extension Athens, Georgia 30602**

- Composting Mass Poultry Mortalities, Bulletin 1282
- Composting and Mulching: A Guide to Managing Organic Landscape Refuse, Circular 816
- Best Management Practices for Wood Ash as an Agricultural Soil Amendment, Bulletin 1147
- Pesticide Storage & Handling, Bulletin 1152-6
- Petroleum Storage & Handling, Bulletin 1152-7
- Regulations for On-Farm Storage Tanks in Georgia, Bulletin 1136

### **State Soil and Water Conservation Commission P.O. Box 8024 Athens, GA 30603**

- Best Management Practices for Georgia Agriculture

### **Georgia Department of Natural Resources, Sustainability Division 7 Martin Luther King Jr. Drive, Suite 450, Atlanta, Georgia**

- Guide to Best Management Practices for Household Hazardous Waste and Radon.



*The Georgia Farm Assessment System is a cooperative project  
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USDA, Natural Resources Conservation Service.*

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THE UNIVERSITY OF GEORGIA  
**COOPERATIVE EXTENSION**  
Colleges of Agricultural and Environmental Sciences & Family and Consumer Sciences



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**This bulletin is a revision of “Hazardous Product Storage Handling and Waste Disposal” developed by Horace Hudson and Lisa Ann Kelley.**

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