

OKLAHOMA

Farm & Ranch*A*Syst

Fact Sheet 5

Reducing the Risk of Ground Water Contamination by Improving Hazardous Waste Management

Introduction

A variety of chemical products are used in home, farm, and ranch operations. Many of these products contain toxic, corrosive, or flammable chemicals. When these products are no longer needed and must be disposed, they are considered hazardous waste.

Hazardous waste is a major concern in both urban and agricultural areas across the country. Improper disposal of hazardous products could allow toxic materials to reach surface and ground water. They can adversely affect fish and wildlife and, in some cases, contaminate drinking water supplies.

Most hazardous waste generated from farm and ranch business activities must be managed in accordance with state and federal rules. Two key steps to minimizing potential pollution from hazardous materials on your property are to purchase only what you need (to avoid waste) and recycle products whenever possible. Leftover pesticides are one type of hazardous product found on farms and ranches. For specific information on the disposal of pesticides, refer to Work Sheet and Fact Sheet 2, "Pesticide Storage and Handling."

Preventing Ground Water Contamination

Management of hazardous waste generated from farm and ranch activities will help prevent contamination of ground water. The following are proper

management principles:

- * Source separation keeps hazardous wastes from contaminating ordinary trash. Hazardous waste should be separated from general trash and saved for a hazardous waste collection program. If such a program is not available, see the commercial disposal recommendations under "Disposal Options."
- * Substitute products that are non-hazardous or less hazardous for each job.
- * Compost household garbage, leaves, straw, paper, and rubber bands to keep them out of the waste handling system. For a list of items that you can compost, contact your county Extension office.
- * Recycle solvents, waste motor oil, antifreeze, and batteries. Consider contracting with a commercial recycler for your waste solvents. To recycle waste oil, take it to an oil recycling tank. There is usually at least one city in every county with a recycling program for waste oil and antifreeze. Use of this service may be limited to residents of the city, however. Many communities have recycling drop-off locations for batteries. Vehicle batteries can usually be recycled at stores where replacement batteries are sold.
- * Donate any hazardous products (e.g., paint, household cleaners, pesticides, etc.) to a local charity, church, or service organization. Theater groups, the local housing authority, or a

neighbor may be able to use small quantities of paint or cleaning products. Such items should be left in the original containers with labels.

- * Contain and capture any unusable waste, spills, and drips for appropriate disposal.

Disposal Options

Health concerns, toxicity, and the increased volume of waste require a new approach to disposal practices to ensure safe drinking water supplies. Improper disposal of most hazardous waste from the farm or ranch is a violation of state law. Dumping hazardous waste on the ground or in a septic system could allow toxic products to reach the ground water. Safe alternatives for hazardous waste disposal are:

- * **Burning and Incineration.** The typical farm burning site should be eliminated for all but a limited number of needs. Open burning sites, burn barrels, and domestic incinerators are not adequate for burning at the temperatures required to eliminate the production of toxic substances. If you burn hazardous wastes, you risk producing poisonous emissions, concentrated toxic ash, or the chance of a fire or explosion. Repeated burning at the same location may cause the toxic substances in smoke (especially heavy metals such as lead, mercury, and arsenic) to accumulate in an area around the burn barrel. Homeowners who live in an area not served by municipal trash

collection may burn household wastes on their property, provided they adhere to Subchapter 13 of the Air Quality Regulations.

Open burning of dry combustibles in small amounts is appropriate for farm situations where it is permitted by local ordinance. Dry combustibles include clean, untreated, unpainted lumber, paper, and cardboard. Burn dry combustibles outdoors or in a well-ventilated area to minimize adverse health effects from smoke. For burning dry combustibles, incinerators are preferred over other burning methods. Pesticide bags should not be burned. Oklahoma law prohibits all open burning of tires.

- * **Evaporation.** Evaporation limits for volatile chemicals are set by air quality standards and vary from one area to another within Oklahoma. If evaporation is allowed, it should occur in open air, away from flames. Dispose of any remaining hazardous liquid or sludge properly at a licensed landfill or by recycling.
- * **Landfill.** Landfills may or may not accept certain hazardous wastes, depending on how they are licensed, and on local ordinances. Landfills also may vary on how they want the product to be delivered. For example, one landfill may want any paint to be solidified (air-dried) with the container wrapped, while others may want paint handled differently. If you have any questions, call your landfill, local waste management office, or your county Extension office. Do not take hazardous wastes to any unlicensed or unregulated landfill. For a list of licensed landfills in Oklahoma, call the Department of Environmental Quality (DEQ).
- * **Commercial Disposal.** Some communities hold waste collection days, when residents are invited to bring their household hazardous wastes at little or no charge to a specified location for disposal by professional waste handlers. For

information about collection events, call your county Extension office or the DEQ. Some communities are establishing permanent collection sites (e.g., at fire stations or landfills) to collect hazardous waste. Programs involving permanent collection facilities allow citizens to drop off waste at their own convenience. Some communities have licensed commercial hazardous waste disposal contractors. For more information about hazardous waste contractors, contact the DEQ.

Storage

Leftover or used chemicals, such as waste oil and solvents, may need to be stored until disposal. Locate the storage area at least 100 feet from your well. If the volume of the stored products and wastes exceeds 10 gallons, dike the storage area to prevent well contamination from spills. To prevent contamination from hazardous chemicals, consider the following recommendations:

- * Store chemicals (flammables, poisons, or corrosives) in clearly labeled containers designed for their containment. Provide a well-ventilated, flame-free area with sturdy shelving for storage of labeled containers in the building where you commonly use them.
- * Provide a means to segregate flammables, poisons, and corrosive wastes to minimize chemical interactions in case of spills.
- * Fence chemical storage areas for security and to prevent spills.
- * Any hazardous wastes generated from the farm or ranch should be collected, placed in closed containers, and labeled with the words "hazardous waste," the name of the waste, and the date the waste was put into the container.
- * Hazardous wastes generated from the household should be stored safely until they can be taken to a household hazardous waste collection site.

Evaporation of liquid household hazardous wastes is not recommended except in a suitable protected area. The area must be safe from the potential for spills, contact by children, and fire. If you're not sure whether a particular waste is hazardous, contact the hazardous waste section of the DEQ.

- * Storage sites for hazardous wastes, especially liquids, should have a curbed, impervious surface or diked area to contain any spills.
- * Store flammable chemicals and batteries in a shaded, ventilated area.
- * Rags used to clean up solvent spills may be a fire hazard. Store them with the same care as hazardous materials.
- * Inspect all storage areas regularly for spills, leaks, and proper labeling and to see that containers are closed and in good condition.

Laws (regulating disposal of wastes from farms and ranches)

Updated local, state, and federal laws reflect increased concern about many disposal practices. Some previously common disposal practices are now illegal because of their potential risks to health and the environment.

Household quantities of hazardous wastes are exempt from regulation under state and federal law. Disposal of hazardous wastes from farm and ranch production activities is regulated under federal statutes in RCRA (Resource Conservation and Recovery Act) and in Oklahoma under the hazardous waste regulations and the solid waste regulations.

RCRA Subtitle D provides restrictions for land burial of trash not falling into hazardous waste categories. Open burning and on-farm or ranch incineration of trash are regulated in Oklahoma. On-farm or ranch burial of containers and other trash is also regulated under Subchapter 13 of the Air Quality Act.

Farms and ranches may be considered “conditionally exempt”* from federal and state hazardous waste regulations. An operation is conditionally exempt if it accumulates less than 2.2 pounds of acutely hazardous waste or less than 220 pounds of hazardous waste per month. Wastes that are classified as acutely hazardous and hazardous are listed in federal and state regulations. For example, Aldicarb and Heptachlor are acutely hazardous pesticides. Conditionally exempt operations are not required to obtain an EPA identification number or a manifest form for disposal, but they must deliver their wastes to a licensed hazardous waste facility.

Disposal of veterinary medical wastes might present a problem on farms and ranches. Ask your veterinarian for advice on specific wastes (such as antibiotic containers). The DEQ can provide information about regulations that might affect medical waste disposal.

*States use terms to refer to categories of waste generators that may not be the same as federal terms. Contact the Oklahoma DEQ for more information.

Contacts and References

Where to call about...

Human Poisoning—Oklahoma Poison Control Center, 800-522-4611.

Toxic Chemical and Oil Spills—National 24-hour hotline, 800-424-8802.

A Specific Product—Contact the company that makes the product. The company’s phone number is frequently on the label. Or, call the Chemical Referral Center at 800-262-8200. Sponsored by the Chemical Manufacturer’s Association, this number will refer you to a specific manufacturer for answers about product questions.

Identification and Disposal of Hazardous Wastes—Oklahoma State Department of Environmental Quality, 800-522-0206 or 405-271-4468.

Hazardous Waste Contractors—Consult the Yellow Pages under Environmental and Ecological Services, or call the Oklahoma State Department of Environmental Quality, 405-271-4468.

Chemicals and Their Disposal in Your County—Call your county health department or the Oklahoma State

Department of Environmental Quality, 800-522-0206 or 405-271-4468.

Pesticides and Other Agricultural Chemicals—Oklahoma Department of Agriculture, 405-521-3864.

Motor Oil Recycling—Contact Bryce Housley of the Oklahoma State Department of Environmental Quality at 405-271-7169.

Composting—Contact Saba Tahmassebi of the Oklahoma State Department of Environmental Quality at 800-522-0206.

What to read about...

Hazardous Waste Disposal

Household Product Disposal Guide. Kansas State University Cooperative Extension, MF-965, August 1990.

Hazardous Pesticides, Pesticide Waste Minimization and Disposal

Agricultural Pesticide Storage. Oklahoma State University Cooperative Extension fact sheet F-7451.

“Recycling Yard Wastes: Home Composting.” Clemson University Cooperative Extension Information Leaflet 48.

The Oklahoma Cooperative Extension Service—Bringing the University to You!

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources, and environment; home economics; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and based on factual information.
- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
- It dispenses no funds to the public.
- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

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