

## Worksheet 5

# Assessing the Risk of Groundwater Contamination from Farm & Home Waste Management

### Why should I be concerned?

Consider the variety of products commonly used around the farm and home—paints, solvents, oils, cleaners, wood preservatives, batteries, adhesives, pesticides. Also consider the amount of these products which go unused or are thrown away. Some common disposal practices can create an unsafe environment around the home and may contaminate groundwater.

Small, unusable amounts are often spilled, buried, dumped or flushed onto farm property. Minimizing the amounts of these substances used on the farm, along with following proper disposal practices, can reduce both health risks and the potential for groundwater contamination. Farmers and their families are generally familiar with the hazards of pesticides commonly used in the farm operation, but they may be less aware of the hazards of other chemicals that make many tasks around the home and farm easier or more efficient.

Improper use of some products may cause toxic health effects. Improper storage may allow chemicals to leak, causing potentially dangerous chemical reactions, toxic health effects or groundwater contamination. Improper disposal can allow chemicals to enter directly into drinking water through surface water or groundwater.

Your drinking water is least likely to be contaminated by your hazardous wastes if you buy only the products you need, and manage use, storage and disposal of them properly. Use up products, reuse or recycle products whenever possible, and remember that proper disposal practices are essential to avoid risking contamination that could affect the water supplies and health of your family and neighbors.

**The goal of Farm•A•Syst is to help you protect the groundwater that supplies your drinking water.**

### How will this worksheet help me protect my drinking water?

- It will take you step by step through your farm and home waste management practices.
- It will rank your activities according to how they might affect the groundwater that provides your drinking water supplies.
- It will provide you with easy-to-understand rankings that will help you analyze the “risk level” of your farm and home waste management practices.
- It will help you determine which of your practices are reasonably safe and effective, and which practices might require modification to better protect your drinking water.

### How do I complete the worksheet?

Follow the directions at the top of the chart on the next page. It should take you about 15–30 minutes to complete this worksheet and figure out your ranking.

# Glossary

## *Farm & Home Waste Management*

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*These terms may help you make more accurate assessments when completing Worksheet 5. They may also help clarify some of the terms used in Fact Sheet 5.*

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**Dump:** A local or on-farm solid waste disposal area that does not meet regulations, is not covered, is not designed to prevent leaching and offers little groundwater protection.

**Household hazardous waste collection program:** A special program in which a community collects waste for shipment to disposal in a specially constructed hazardous waste landfill or destruction in an approved incinerator.

**Incinerator:** A combustion device specifically engineered to burn waste.

**Licensed (approved) landfill:** A waste disposal site specifically designed to protect groundwater through the use of a high-quality clay or clay/impermeable film liner, accompanied by a system of buried pipes to collect any liquids generated. Meets current state standards.

**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:** Using or reprocessing a waste material to develop another product. Also includes **reusing** a waste material.

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Worksheet 5

Farm & Home Waste Management: Assessing Drinking Water Contamination Risk

1. Use a pencil. You may want to make changes.

2. For each category listed on the left that is appropriate to your farmstead, read across to the right and circle the statement that **best** describes conditions on your farmstead. (Skip and leave blank any categories that don't apply.)
3. Look above the description you circled to find your "rank number" (4, 3, 2 or 1) and enter that number in the blank under "your rank."

4. Directions on overall scoring appear at the end of the worksheet.

5. Allow about 15-30 minutes to complete the worksheet and figure out your risk rank for farm and home waste disposal practices.

|                                               | LOW RISK<br>(rank 4)                                                                                                                                                                                                                    | LOW-MOD RISK<br>(rank 3)                                                                                                                                                                         | MOD-HIGH RISK<br>(rank 2)                                                                                                                               | HIGH RISK<br>(rank 1)                                                                                                                                                                     | YOUR<br>RANK |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| SOLID WASTE                                   |                                                                                                                                                                                                                                         |                                                                                                                                                                                                  |                                                                                                                                                         |                                                                                                                                                                                           |              |
| 1. Farm and home trash disposal               | Amount of waste minimized through careful purchase, recycling or reusing, and sharing with others whenever possible. All hazardous products separated out. Disposal or burning more than 400 feet downslope from well or off farmstead. | Some products recycled or reused, but little done to reduce amount of waste. Most hazardous products separated out. Disposal or burning more than 400 feet downslope from well or off farmstead. | Little or no recycling or reusing of products. Few hazardous products separated out. Disposal or burning on farmstead 100–400 feet downslope from well. | Little or no recycling or reusing of products. No hazardous products separated out. Disposal or burning within 100 feet or upslope from well. Disposal in abandoned well or similar hole. |              |
| AUTOMOTIVE/EQUIPMENT MAINTENANCE PRODUCTS     |                                                                                                                                                                                                                                         |                                                                                                                                                                                                  |                                                                                                                                                         |                                                                                                                                                                                           |              |
| 2. Automotive/equipment area—drips and spills | Contained on paved area with sawdust or other absorbent material. Sawdust disposed at approved landfill.                                                                                                                                | Contained on paved area with sawdust or other absorbent material and disposed on farmstead at least 200 feet from well.                                                                          | Drips and spills uncontained. Maintenance area 100-200 feet from well.                                                                                  | Drips and spills uncontained. Maintenance area less than 100 feet from well.                                                                                                              |              |
| 3. Batteries                                  | Taken to battery recycler or trade-in at battery store.                                                                                                                                                                                 |                                                                                                                                                                                                  | Used batteries stored on farmstead away from well.                                                                                                      | Disposal of batteries in farm dump or batteries stored near well.                                                                                                                         |              |
| 4. Oil and lubricants                         | Used oil taken to recycler.                                                                                                                                                                                                             | Reused for lubrication. Burned in an approved space heater. Storage or disposal more than 200 feet away from well.                                                                               | Disposal on farm 100-200 feet from well.                                                                                                                | Disposal or storage on farm within 100 feet of well.                                                                                                                                      |              |

|                                                                                                                            | LOW RISK<br>(rank 4)                                                                                                                                                | LOW-MOD RISK<br>(rank 3)                                                                  | MOD-HIGH RISK<br>(rank 2)                                                                      | HIGH RISK<br>(rank 1)                                                                                                    | YOUR<br>RANK |
|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------|
| <b>AUTOMOTIVE/EQUIPMENT MAINTENANCE PRODUCTS (continued)</b>                                                               |                                                                                                                                                                     |                                                                                           |                                                                                                |                                                                                                                          |              |
| <b>5. Disposal of oil and lubricant containers</b>                                                                         | Product used up and container recycled or reused. Empty containers taken to approved landfill if not recyclable.                                                    | Disposal or burning of empty containers on farm more than 200 feet from well.             | Disposal or burning of empty containers on farm 100-200 feet from well.                        | Disposal or burning of empty containers within 100 feet of well or disposal of partially filled containers on farmstead. | _____        |
| <b>6. Antifreeze</b>                                                                                                       | Collected and disposed of at municipal sewage treatment drain with permission of municipality, or taken to licensed landfill after placing in absorbent material.   | _____                                                                                     | Disposal on farm away from well after placing in absorbent material.                           | Dumped near well or in on-farm sewage treatment system.                                                                  | _____        |
| <b>7. Gasoline and other fuel disposal</b>                                                                                 | Leftover fuels used up, or taken to service station or hazardous waste collection. No fuels disposed of on farmstead.                                               | _____                                                                                     | Leftover fuels stored on farmstead away from well.                                             | Waste fuels spilled, dumped or poured on ground around farmstead.                                                        | _____        |
| <i>See worksheet 4, Fuel Storage, to determine the risks presented to your drinking water from fuel storage practices.</i> |                                                                                                                                                                     |                                                                                           |                                                                                                |                                                                                                                          |              |
| <b>PAINTS/SOLVENTS/CLEANERS</b>                                                                                            |                                                                                                                                                                     |                                                                                           |                                                                                                |                                                                                                                          |              |
| <b>8. Paints and stains</b>                                                                                                | Used up or shared with someone else. Hazardous waste collection used for leftover paint or stain.                                                                   | Liquid evaporated in open air. Paint or sludge taken to licensed landfill.                | Disposal of paints or stains on farm away from well.                                           | Disposal of paints or stains on farm near well.                                                                          | _____        |
| <b>9. Solvents</b>                                                                                                         | Solvents cleaned and reused when possible. Sludge taken to licensed landfill. Solvent recycler collection or hazardous waste collection used for leftover solvents. | Solvents evaporated in ventilated area or in open air. Sludge taken to licensed landfill. | Solvents evaporated in ventilated area or open air. Sludge disposed of on farm away from well. | Disposal of solvents or sludge on farm near to or upslope from well.                                                     | _____        |

|                                                                                                                                                      | LOW RISK<br>(rank 4)                                                                                                                      | LOW-MOD RISK<br>(rank 3)                                                               | MOD-HIGH RISK<br>(rank 2)                                                                                                   | HIGH RISK<br>(rank 1)                                                                               | YOUR<br>RANK |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------|
| <b>PAINTS/SOLVENTS/CLEANERS (continued)</b>                                                                                                          |                                                                                                                                           |                                                                                        |                                                                                                                             |                                                                                                     |              |
| 10. Household cleaners                                                                                                                               | Used up or shared with someone else. Hazardous waste collection service used for leftover cleaners.                                       | Liquid cleaners evaporated in open air. Cleaners or sludge taken to licensed landfill. | Disposal of sludge or cleaners on farm at least 200 feet from well.                                                         | Disposal of sludge or cleaners on farm less than 200 feet from well.                                |              |
| 11. Hazardous household product containers                                                                                                           | Taken to recycling facility or reused for similar product.                                                                                | Empty containers taken to licensed landfill.                                           | Disposal of empty containers on farm more than 200 feet from well.                                                          | Disposal of empty containers, or partially filled containers, less than 200 feet from well.         |              |
| <b>FARM/HOUSEHOLD PESTICIDES</b>                                                                                                                     |                                                                                                                                           |                                                                                        |                                                                                                                             |                                                                                                     |              |
| 12. Disposal of unused pesticides                                                                                                                    | Unused pesticides returned to place of purchase or taken to hazardous waste collection.                                                   |                                                                                        | Disposal of unused pesticides in field more than 200 feet from well.                                                        | Disposal of unused pesticides at farmstead within 200 feet of well.                                 |              |
| 13. Disposal of pesticide containers or bags                                                                                                         | Triple-rinsed containers or empty bags returned to supplier or taken to licensed landfill. Rinsate applied according to label directions. |                                                                                        | Disposal of triple-rinsed containers or empty bags on farm away from well. Rinsate disposed of on farmstead away from well. | Disposal of unrinsed or partially filled containers or bags at farmstead. Rinsate dumped near well. |              |
| <i>See worksheet 2, Pesticide Storage &amp; Handling, to determine the risks presented to your drinking water from pesticide handling practices.</i> |                                                                                                                                           |                                                                                        |                                                                                                                             |                                                                                                     |              |

TOTAL

Use this total to calculate risk ranking on back page of worksheet.

## What do I do with these rankings?

**Step 1:** Begin by determining your overall farm and home waste risk rank. Total the rankings for the categories you completed and divide by the number of categories you ranked:

|                   |            |                        |        |                                                                                                                                       |                                              |
|-------------------|------------|------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| _____             | divided by | _____                  | equals | <div style="border: 1px solid black; width: 50px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> | *Carry your answer out to one decimal place. |
| total of rankings |            | # of categories ranked |        | risk rank                                                                                                                             |                                              |
|                   |            |                        |        |                                                                                                                                       |                                              |

3.6–4=low risk 2.6–3.5=low to moderate risk 1.6–2.5=moderate to high risk 1–1.5=high risk

This rank gives you an idea of how your farm and home waste practices **as a whole** might be affecting your drinking water. It should serve only as a **very general guide, not a precise diagnosis**. Because it represents an **average** of many individual rankings, it can mask any **individual** rank (such as 1's or 2's) that should be of concern (see Step 2).

**Enter your boxed farm and home waste risk rank on page 1 of Worksheet 9.** Later you will compare this risk rank with other farmstead management rankings. Worksheet 8 will help you identify your farmstead's site conditions (soil type, soil depth and bedrock characteristics), and Worksheet 9 will show you how these site conditions affect your risk rankings.

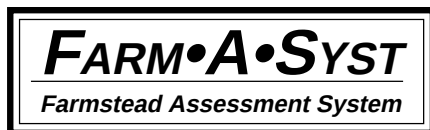
**Step 2:** Look over your rankings for individual activities:

- **Low-risk** practices (4's)—ideal; should be your goal despite cost and effort
- **Low-to-moderate-risk** practices (3's)—provide reasonable groundwater protection
- **Moderate-to-high-risk** practices (2's)—inadequate protection in many circumstances
- **High-risk** practices (1's)—inadequate; pose a high risk of polluting groundwater

Regardless of your overall risk rank, any individual rankings of "1" require immediate attention. Some concerns you can take care of right away; others could be major—or costly—projects, requiring planning and prioritizing before you take action.

**Find any activities that you identified as 1's and list them under "High-Risk Activities" on pages 6-7 of Worksheet 9.**

**Step 3:** Read Fact Sheet 5, *Improving Farm & Home Waste Management*, if you haven't already. Consider how you might modify your farmstead practices to better protect your drinking water.



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Project coordinated at Department of Agricultural Engineering, Cooperative Extension Service, Kansas State University, Kevin Herbel, Coordinator.

**Farm•A•Syst** team members: **John S. Hickman**, Extension Specialist and Environmental Quality Coordinator; **Kevin L. Herbel**, Extension Assistant, Farmstead Assessment System; **Danny H. Rogers**, Extension Irrigation Engineer; and **G. Morgan Powell**, Extension Natural Resource Engineer.

**Kevin L. Herbel**  
Extension Assistant-Farm•A•Syst

**G. Morgan Powell**  
Extension Natural Resource Engineer

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