

Livestock Manure Storage: Assessing Your Risks

Self-assessment Worksheet 2

This worksheet assesses the relative risk to water quality from livestock manure storage or composting area. This worksheet accompanies Fact Sheet 4 *Livestock on Small Acreages: Assessing Your Risks to Water Resources*.

If you have more than one livestock manure storage or composting area, consider filling out a separate survey for each area. Otherwise, fill out the survey for the storage area that is closest to a drinking water well or other water resource. Circle the answer that best describes your livestock storage situation and enter the risk rating in the right hand column. Although some choices may not correspond exactly to your situation, choose the response that is most comparable to your perceived risk.

| ASSESSMENT CATEGORY | LOW RISK | MEDIUM RISK | HIGH RISK | YOUR RISK |
|--|--|---|--|--|
| LOCATION | | | | |
| Distance from a drinking water well. | More than 200 feet. | 100 – 200 feet. | *Less than 100 feet. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| Distance from surface water: pond, stream, or wetland. | More than 200 feet. | 100 - 200 feet. | Less than 100 feet. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| Distance from a drainage feature: storm drain, drainage ditch, tile inlet, subsurface drainage lines. | More than 200 feet. | 100 - 200 feet. | Less than 100 feet. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| Distance from septic system components: septic tank, distribution box, leachfield, cesspool, dry well. | Greater than 50 feet. | 25 – 50 feet. | Less than 25 feet. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| SITE CHARACTERISTICS | | | | |
| Soil texture within the storage area. If the storage area is paved, indicate the original and surrounding soil type. | Silt loam (feels like talcum powder, smooth, silky.) | Fine sandy loam (not as smooth as silt loams, sounds gritty when rubbed between fingers.) | Sandy loam, loamy sand (coarse texture, feels gritty.) | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |

***State of Rhode Island Rules and Regulations Governing the Enforcement of Chapter 46-13.2 Relating to Drilling of Drinking Water Wells, December 1989: Wells shall not be located within 100 feet of livestock pens or animal waste storage facilities.**

| SITE CHARACTERISTICS continued | LOW RISK | MEDIUM RISK | HIGH RISK | YOUR RISK |
|---|--|--|---|--|
| Soil drainage within the storage area. If the storage area is paved, indicate the original and surrounding soil drainage. | Well-drained, high water table 6 feet or more below surface. | Moderately well-drained, high water table within 18 – 36 inches of the surface. | Excessively drained, rapid drainage; or , poorly drained, high water table at or near the surface. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| Depth of soil layer (upper, active soil layers), indicate original soil if paved. | More than 30 inches. | Between 20 and 30 inches. | Less than 20 inches. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| DESIGN AND MANAGEMENT | | | | |
| Type of floor surface for manure storage. | Poured concrete floor (within barn or an outdoor pad with push-up walls.) | Plastic liner, tarpaulin, wooden bin, or concrete blocks. | Earthen, gravel, natural ground. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| Type of covering for manure storage area. | Manure storage area lies within a roofed area or barn. | Plastic liner or tarpaulin. | Manure storage area is not covered. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| Upslope surface runoff and roof runoff. | No surface water runoff or roof runoff flows into the livestock manure storage area. | Some surface water and/or roof runoff flows into the storage area. | All surface and roof runoff flows into the storage area. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| Runoff leaving the livestock manure storage area. | No runoff and leachate leave the manure storage area, the area is roofed, the floor surface is poured concrete and/or the manure storage facility consists of a water-tight concrete design. | The manure storage area is covered with a liner and/or contained by walls (concrete, wooden, earthen). Runoff and leachate leaving the storage area travel to <u>well-vegetated</u> areas (woodlands, buffer strips, pastures) runoff does not leave the property or enter water resource areas. | The manure storage area is not covered or contained. Runoff and leachate are uncontrolled, travel through poorly vegetated areas, gravel or paved areas, water resource areas, or leave the property. | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |

RESPONDING TO RISKS

Your goal is to lower the risks identified. Use the action checklist below to record medium and high risk practices. Use the information and resources provided in our small acreage livestock fact sheet series to help you make plans to reduce your risks.

ACTION CHECKLIST: LIVESTOCK MANURE STORAGE

| Write all high and medium risks below. | What can you do to reduce the risk? | Set a target date for action. |
|---|--|---|
| <p><i>Example:</i> Sheep manure storage area is exposed to rainfall. Runoff leaving the storage area travels down the driveway.</p> | <p><i>Cover the pile with a tarpaulin and weight down with concrete blocks.</i></p> <p><i>Construct an earthen berm, seeded with perennial grasses along the edge of the driveway to divert runoff and leachate flowing from the manure storage area to the natural woodland area.</i></p> | <p><i>This weekend: August 14</i></p> <p><i>Two months: by October 15</i></p> |
| <p><i>Example:</i> Horse manure storage area is located less than 100 feet from a stream.</p> <p><i>All soils on property contain a seasonal high water table.</i></p> | <p><i>Locate a new manure storage area in the level area between barn and pasture, which is greater than 200 feet from any water resource. Contact local nurseries to truck existing manure pile off site.</i></p> <p><i>Line the new manure storage area with a plastic liner and cover with a plastic liner.</i></p> <p><i>Research composting methods – gather cost estimate for a poured concrete floor and wooden, three-bin unit.</i></p> | <p><i>In two weeks: By August 31</i></p> <p><i>In two weeks: By August 31</i></p> <p><i>6 Months: By March 1</i></p> |
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Holly K. Burdett is a Research Associate with the URI CE Home*A*Syst Program, Department of Natural Resources Science, and Dr. W. Michael Sullivan is a Professor of Agronomy, Department of Plant Sciences, College of the Environment and Life Sciences, University of Rhode Island. This worksheet was prepared April 2005. Special thanks to the staff at the USDA Natural Resources Conservation Service, Warwick, RI for review of this worksheet.



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