

Utah Farmstead Assessment for Ground Water and Surface Water Protection

Landowner's Survey: What's the Risk to Your Water from Stored Manure

Storing livestock manure allows farmers to spread manure on their fields when conditions are favorable for nutrient use by crops. Storing manure in a concentrated area, however, can present a threat to water quality and to human or animal health. Runoff or leached water from these areas contains disease-causing organisms and excess nutrients which can contaminate surface or drinking water.

Facilities for liquid manure storage on the farmstead sometimes leak or even burst. Leaching from manure stored in earthen pits is limited by a layer of organic material that forms a seal at the bottom of the pit, but seasonal filling and emptying can cause this seal to break down. Short-term solid manure storage and abandoned storage areas can also be sources of surface and ground water contamination.

How To Use This Survey:

This survey asks a series of questions dealing with common risks to water quality from storing and applying animal manure. The questions are designed to help you identify specific practices or conditions on your farmstead or acreage that should be addressed to reduce risk of water contamination.

The results of this survey are intended to provide general information and recommendations regarding practices and potential risks to water quality. Keep this survey as your private record and use it as a guide to taking action to reduce these risks. or more information, refer to Fact Sheet 7 in this series: *How to Manage Stored Manure and Protect Your Water.*

NOTE: This review is not intended to identify areas for which you are out of compliance with pesticide handling and storage laws. Contact your Utah State University county Extension office for information on laws that might apply to you.

Design and Maintenance

12. Was your manure storage structure designed and installed according to accepted engineering standards and specifications?

Yes (1)

No (2)

13. Do you perform regular inspection and maintenance procedures on the manure storage structure (e.g. clean outlets and check for seepage, erosion, weakened berms and burrowing animals?)

Yes (1)

No (3)

14. Is all roof water and clean surface runoff diverted away from the manure storage structure?

Yes (1)

No (3)

15. Have you ever had a leak in your manure storage structure that resulted in manure (solid or liquid) being released to the environment, either underground or aboveground?

No (1)

Yes (3)

Design and Maintenance section total _____

Site Characteristics of Waste Application Site

16. Is your soil excessively drained or of coarse texture such as sands, sandy loam or gravel?

No (1)

Yes (3)

17. Is your soil depth

deep (more than 40 inches deep)? (1)

moderate (20-40 inches deep)? (2)

very shallow (less than 20 inches deep)? (3)

18. Is the available soil water holding capacity very low or is the soil easily saturated with standing water present?

No (1)

Yes (3)

Characteristics of Waste Application Site section total _____

Livestock Manure Application Practices

19. Do you test the soil in your manure application sites yearly for nutrient concentrations?

- | | | |
|--|-----|-----|
| | Yes | (1) |
| | No | (3) |
| 20. Do you apply manure at a rate equal to or less than plant needs based on the soil test? | Yes | (1) |
| | No | (3) |
| 21. Is your manure application rate based on Phosphorus levels? | Yes | (1) |
| | No | (3) |
| 22. Is the manure application area more than 200 feet from surface sources or wells? | Yes | (1) |
| | No | (3) |
| 23. When manure is applied is it incorporated into soil or applied at sites with heavy vegetation? | Yes | (1) |
| | No | (3) |
| 24. Is manure applied to frozen or saturated soil? | Yes | (1) |
| | No | (3) |

Livestock Manure Application practices section total _____

Land Management Practices

- | | | |
|---|-----|-----|
| 25. Are manure solids uniformly distributed on the land? | Yes | (1) |
| | No | (2) |
| 26. Is the manure spreader calibrated annually? | Yes | (1) |
| | No | (2) |
| 27. Is irrigation water applied considering the evapotranspiration rates? | Yes | (1) |
| | No | (2) |
| 28. Is soil moisture monitored to evaluate irrigation water needs? | Yes | (1) |
| | No | (2) |

Land management practices section total _____

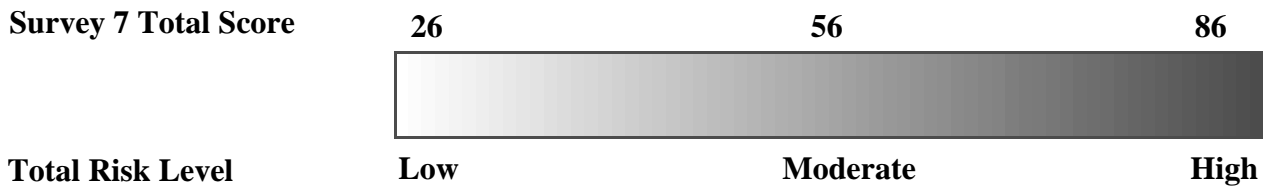
Risk Assessment for Improving Livestock Manure and Handling

Section Risk Ranking

Add the following totals:

- Location of Manure Storage section total _____
- Storage Type section total _____
- Design and Maintenance section total _____
- Site Characteristics of waste application site section total _____
- Livestock Manure Application Practices _____
- Land Management Practices _____

Survey 7 Total Score _____



Interpreting Your Risk Rating

Locate your total risk score on the spectrum above to get a general idea of the risk wastewater is posing to water sources on your farmstead or acreage.

Next, compare your risk scores for each section with the ratings (Low, Moderate, and High) for the individual sections to determine the practices where your risk is moderate to high.

For these sections go back into the survey and look at the questions for which you marked a high scoring choice. These are the areas you should address first to reduce risk of water contamination.

Follow Up

Refer to Fact Sheet # 7: *How to Manage Stored Manure and Protect Your Water* for contacts and information about safe well operation. Contact your Utah State University county Extension office, or the Extension web page <http://www.extension.usu.edu> for more information.