



# AEM Tier 2 Worksheet

## Barnyards

---

### Glossary

**25-Year, 24-Hour Rainfall Event:** The maximum 24-hour precipitation event with a probable recurrence interval of once in 25 years, as defined by the National Weather Service in Technical Paper Number 40, "Rainfall Frequency Atlas of the U.S.," (May 1961); and subsequent amendments, or equivalent regional or state rainfall probability information developed there from.

**Vegetated Flow Distance:** The length runoff water can flow over a vegetated surface to a waterbody, excluding any length water flows over a non-vegetated surface.

**Vegetated Filter Area:** An area of grass sod, meeting NRCS Standard NY-393a, for removing sediment, organic matter, nutrients and other pollutants from barnyard runoff or wastewater.

**Waterbody:** A lake, reservoir, pond, river, continuously-flowing stream, continuously-flowing spring, wetland, estuary or bay.

**Watercourse:** Water flowing over a non-vegetated channel to a waterbody.

### Background

Livestock waste contains high levels of nitrogen, phosphorus, sediments, degradable organic materials and microbes. When livestock waste is concentrated, as it is in barnyards, holding areas or feedlots, the danger of pollutants reaching surface water or groundwater increases. Odors from poorly-designed and managed barnyards can also be a cause of problems with neighbors. In addition, wet, manure and mud-laden barnyards can lead to animal health problems.

In general, good barnyard management involves two basic principles:

1. divert clean runoff from roofs and the watershed land area above the barnyard away from the barnyard, and
2. catch and treat, or store, contaminated runoff.

There is a greater chance of livestock waste affecting surface water if the barnyard is located close to a down-slope watercourse or waterbody.

(Continued on Page 2)

### Agricultural Water Quality Principle:

Livestock holding areas, including concentrated animal feeding operations and barnyards, should be managed in ways that minimize the delivery of pollutants from manure to surface and groundwater resources.

# Background (Continued from Page 1)

There is a greater risk of the barnyard affecting groundwater if:

- the barnyard is located over coarse-textured, permeable soils (sand and gravel);
- the water table is at or near the soil surface;
- bedrock is within a few feet of the soil surface;
- polluted runoff from the barnyard flows directly onto permeable soil or bedrock; and
- the barnyard has been abandoned. Manure no longer seals the soil, and water infiltration encourages the movement of nutrients left behind.

| AEM Tier 2 Worksheet:<br>Barnyards  |   | <b>Potential Concern</b>   |  |  |
|---|---|--|--|--|
| Factors Needing Assessment  | <b>Lower<br/>1</b>  | <b>2</b>   | <b>3</b>   | <b>Higher<br/>4</b>  |
| What is the Vegetated flow distance from the barnyard to the nearest watercourse?                             | Greater than 200 ft.  | Between 100 and 200 ft.  | Between 50 and 100 ft.   | Less than 50 ft.   |
| Is clean water (including roof water, upslope runoff, and animal watering sources) kept separate from manure? | The runoff from a 25-year, 24-hour rainfall event is diverted away from the barnyard.                                       |  |  | There is no control of water from roof tops, upslope runoff and animal watering sources from running through the barnyard. |
| Is barnyard runoff controlled?  | All barnyard runoff is collected and held in storage capable of handling all runoff from a 25-year, 24-hour rainfall event. | Liquids from the barnyard are directed to a properly-designed vegetated filter area. Solids are contained in a sediment basin. Paved areas are scraped up daily. | Liquids are directed to a grass filter area. Solids are scraped up less than once daily. | There is no means of controlling runoff through the barnyard.  |

## **Other**

1. What is the square footage of the barnyard?

(Is the barnyard sized right for the number of animals?)

2. Can the barnyard be reduced in size, relocated or eliminated?
3. Are animals in the barnyard over the winter months?
4. Where are wells in relation to the barnyard?
5. Is the sediment basin, as part of a vegetated filter area, adequately-sized and cleaned regularly?
6. Are curbs needed for ease of scraping?
7. Is there a need for fencing animals away from a watercourse?
8. Are the roof gutters adequate?  
  
Are the drip trenches maintained?
9. What is the area of grass filter strip in relation to drainage area?

## **Additional Comments:**