Livestock Yards and Access: Assessing Your Risks Self-assessment Worksheet 1

Small Acreage Livestock and Horse Series, March

This worksheet assesses the relative risk to water quality from a livestock yard, which is an area that is typically used for animal feeding, handling, exercise and loafing. It also considers whether your animals have access to a water resource. This worksheet accompanies **Fact Sheet 4: Keeping Livestock and Horses on Small Acreages: Assessing Your Risks to Water Resources.**

If you have more than one livestock yard, consider filling out a separate worksheet for each area. Otherwise, fill out the worksheet for the yard that is closest to a drinking water well or other water resource. Check the response that best describes your livestock yard. 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
LOCATION			
Distance from a drinking water well.	More than 200 feet. ____	100 – 200 feet. ____	***Less than 100 feet.** ____
Distance from surface water: pond, stream, wetland, or coastal water.	More than 200 feet. ____	100 - 200 feet. ____	Less than 100 feet. ____
Distance from a drainage feature: storm drain, drainage ditch, etc.	More than 200 feet. ____	100 - 200 feet. ____	Less than 100 feet. ____
Distance from septic system components: septic tank, distribution box, leachfield, cesspool, dry well.	Greater than 50 feet. ____	25 – 50 feet. ____	Less than 25 feet. ____

***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	LOW RISK	MEDIUM RISK	HIGH RISK
Soil texture within the yard area. If the yard 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.) ____
Soil drainage within the yard area. If the yard area is paved, indicate the original and surrounding soil drainage.	Well-drained, high water table 6 feet or more below the 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. ____
DESIGN AND MANAGEMENT			
Upslope surface runoff and roof runoff. (Runoff flowing into the livestock yard.)	No surface water runoff or roof runoff flows into the yard. ____	Some surface water and/or roof runoff flows into the yard. ____	All surface and roof runoff flows into the yard. ____
Livestock yard runoff. (Runoff flowing from the livestock yard.)	No runoff leaves the yard, the area is roofed. ____	Most of the yard runoff is directed to <u>well-vegetated</u> areas (woodlands, buffer strips, cropland, pastures), runoff does not leave the property or enter water resource areas. ____	Yard runoff is uncontrolled, travels through poorly vegetated areas, gravel or paved areas, water resource areas, or leaves the property. ____

DESIGN AND MANAGEMENT Continued	LOW RISK	MEDIUM RISK	HIGH RISK
Answer for the situation that applies or for both if you have a combination paved and earthen yard:			
Paved Yard: Yard cleaning and scraping management.	Paved yard is roofed, area is cleaned periodically as needed. _____	Paved yard is not roofed and is cleaned at least once per week. _____	Paved yard is not roofed and is cleaned less than once per week. _____
Earthen yard: Amount of vegetative cover within earthen yard.	More than 75%. _____	25% - 75%. _____	Less than 25%. _____
Animal access to earthen yard.	Animals only access during dry periods to prevent mud. _____	Animals access periodically during wet conditions, yard is wet and muddy at times. _____	Animals access the yard at all times, regardless of conditions, it is wet and muddy most of the time. _____
Animal access to a water resource: pond, stream, wetland, coastal water or well (this includes your entire property, not just the area of the livestock yard. For example, if you have pasture, the animals may have access to surface waters when out on pasture.)	Animals never have access to a shoreline or other water resource. _____	Animals have access to a shoreline or water resource at times, the access area is limited with most of the shoreline or water resource containing a good vegetative buffer. _____	Animals have access to a large shoreline or water resource area, there is little to no vegetative buffer. _____

CONCENTRATION OF ANIMALS ON YARD (Square Feet per Animal)

Determine the total area of the yard in square feet. Measure the length and width of the yard.
_____ feet long X _____ feet wide = _____ square feet total (one acre is equal to 43,560 square feet)

Enter the total number of animals occupying the yard: _____ number of animals

Divide the total yard area by the total number of animals to get your current square feet per animal:
_____ **square feet per animal (sf/a)**

Example: 10 dairy replacement heifers occupy a yard that is roughly 50' X 120'. The yard is 6,000 sq. ft. total. 6,000 sq. ft. divided by 10 animals = 600 square feet per animal (sf/a)

Compare your answer with the minimum recommended sf/a listed in the table below. If your animals remain confined under a roofed area 100% of the time, enter LOW for your risk. If the sf/a is equal to or more than the minimum recommended figures provided below, enter MEDIUM for your risk. If the sf/a is less than the minimum recommended figures provided below, enter HIGH for your risk.

- If more than one type of livestock occupies the same yard, multiply the number of each type of livestock by the minimum sf/a listed in the table. Add up the minimum recommended areas (in square feet) for each type of livestock. How does this total number compare with your actual livestock yard area?

Example: 3 sheep and 2 horses occupy the same earthen yard. The yard is 30' by 200' and is not roofed.

Min. suggested for 3 sheep: 3 X 40 sf = 120 sq. ft.

Min. suggested for 2 horses: 2 X 2,500 sf = 5,000 sq. ft.

Min. suggested yard area: 120 + 5,000 = 5,120 sq. ft.

Yard area available: 30' X 200' = 6,000 sq. ft. which is

Animal	Paved Yard minimum sf/a	Earthen Yard minimum sf/a	Your Risk LOW, MEDIUM or HIGH
Dairy Cows	75	400	
Dairy replacement heifers	40	150	
Beef feeders	50	500	
Beef cows & heifers	60	600	
Sheep and goats	20	40	
Feeder lambs	10	25	
Hogs and sows; growing / finishing pigs	15	30	
Horses		* >2,500	
Chickens, layers		**4	
Chickens, broilers		**2	
Turkeys		**8	
Ducks		**4	
[1]Multiple types of livestock occupy the yard			

*With proper engineering and maintenance, the minimum recommended area per horse for an exercise yard can be reduced to 600 sq. ft. per animal with the use of sand and geotextile materials. Contact the USDA Natural Resources Conservation, Warwick, RI at (401) 828-1300 for more information. View the Ohio State University Fact Sheet *Using Geotextile Fabric in Livestock Operations* at http://ohioline.osu.edu/aex-fact/0304.html for more information on the use of geotextiles in livestock yards.

** Minimum sf/a is based on medium textured soils, silt loam/fine sandy loam. If soils are coarse textured sandy loam/loamy sand, enter HIGH for your risk. Animal concentrations derived from Midwest Plan Service publications and other sources.

RESPONDING TO RISKS

Use the action checklist below to list medium and high risks that were identified. Use the information and resources provided in our small acreage livestock fact sheet series to help you plan for practices that reduce these risks. Often a given practice will help to address more than one risk at a time.

ACTION CHECKLIST: LIVESTOCK YARD MANAGEMENT AND ACCESS

List high and medium risks below.	What can you do to reduce the risk?	Set a target date.
Example: Livestock yard located less than 100 feet from drinking water well.	Keep animals confined to the barn as much as possible until a new livestock yard can be located and fenced.	This weekend: August 14
Example: Roof runoff from south half of barn flows through the livestock yard.	Install a roof gutter system for south side of barn. Direct the downspout to a well-vegetated area.	Late Fall: by November 1
Example: Animals have access to entire pond for drinking, but usually concentrate along the edge that is adjacent to the livestock yard.	Investigate watering tubs to be supplied by hose and barn faucet. Visit local farm for fencing and watering ideas. Install a new watering tub in livestock yard. Install fencing around perimeter of pond, leaving a 10 foot buffer. Allow natural vegetation to re-grow. Close gate to pasture area, confine animals to livestock yard until pond fencing is complete.	Six weeks, end of September Next Spring When new watering tub is installed, 6 weeks

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