

Feedlot EMS Assessment Worksheet: Complete the sections that apply to your operation.

	Score	High Risk (risk 4)	High-moderate risk (risk 3)	Moderate-low risk (risk 2)	Low risk (risk 1)
Farmstead Appearance					
Is the farm site free of ponded, spilled, or leaking manure or spilled feed?		No, manure spills are not cleaned up. Feed is spilled.			Yes, no manure is left in inappropriate places. No spilled feed.
Are roadways on the farmstead free of mud and manure?		No, roadways have mud and/or manure that can be tracked out from the road.			Yes, roadways are maintained.
Is there proper grading so surface water drains freely away from buildings?		No, surface drainage around barns is poor. Puddling and/or gulling is common.			Yes, surface water around the farmstead is controlled without puddling or erosion.
Barnyard/Feedlot Runoff Control Design					
Location of barnyard or feedlot to flood plains?		Feedlot is located in flood plain.			Feedlot is located outside of flood plain or above high ground water table.
Surface water diversion		Roof or up slope surface water runs through the yard.	Some up slope surface water and roof water is diverted away from yard.	Most up slope surface and roof water is diverted away from yard.	All up slope surface and roof water is diverted away from yard.
Yard surface		Earthen yard experiences periods of several months with no animal traffic.	Earthen yard has constant animal traffic but extended periods of low animal density. Some areas are overtaken by weeds.	Earthen surface experiences almost continuous animal traffic.	Concrete
Classification of surface water potentially impacted by open lot.		Drinking water.	Contact recreation water.		Not a drinking or contact recreation water supply. AND No particular pollutant is causing impairment of the surface water.
What is the slope of the lot or feeding area towards state/federal waters?		More than 15%	10-15%	4-10%	Less than 4%
Is there damage from erosion?		Erosion sites are not controlled and perpetually get worse.	Erosion control measures installed, some are failing and no signs of improvement are apparent.	Control measures have been installed, but signs of potential failure are showing.	There is no damage occurring or control measures are very successful.
Are solids effectively settled from the runoff and only settled feedlot effluent is released?		Settling area not clearly defined. OR Liquid doesn't drain within 12 hours. OR not present.	Not properly sized, slow to drain, not cleaned recently.	Constructed and managed to drain quickly, but difficult to clean.	Constructed solid settling that is at least 1/39 th the drainage area, drains in a few hours, and can be cleaned in all weather.
Feedlot effluent leaving the settling structure?		Highly channelized flow to road ditch, tile inlet, or water of state.	Moderate channeling and flows to road ditch, tile inlet, or water of state.	Little channeling but leaves property or enters water of state	No channeling and flows into field, pasture or treatment area.
Type of runoff control system		Yard runoff is not contained and is concentrated into stream (channel flow) by ditch, waterway, ravine, or stream.	Yard runoff is not contained but flows evenly (sheet flow) over permanently vegetated areas.	Total containment of all yard runoff into settling basin followed by grassed infiltration area or constructed wetlands.	Total containment of all yard runoff into runoff holding pond.

	Score	High Risk (risk 4)	High-moderate risk (risk 3)	Moderate-low risk (risk 2)	Low risk (risk 1)
Barnyard or Feedlot slope?		No slope, or slope is toward feed apron or other feed areas.	Slope is less than 3% away from feed apron or other feed areas.		Slope is 3 to 5% away from feed apron or other feed areas.
Adjacent pens?		Pen to pen drainage is common.	A lot of pen to pen drainage occurs.	Some pen to pen drainage occurs.	There is no pen to pen drainage.
Barnyard or feedlot shape?		Pens are irregularly shaped and not conducive to complete manure removal.			Pen shape allows complete manure removal. Curbs are installed to assist clean-up.
Barnyard or feedlot surface?		Pen surface is easily erodible and prone to rills and gullies.	Pen surface treated with stabilizer, or constructed of firm, stable soil.		Barnyard or feedlot surface is concrete.
Drainage from lot/feeding area?		Downstream barnyard or feedlot surfaces are part of the runoff storage pond.	Downstream barnyard or feedlot surfaces are prone to temporary flooding.		Downstream barnyard or feedlot surfaces quickly drain after a storm event.
Runoff control?		Significant manure or runoff is not controlled and regularly pools in areas around open lots.	Some manure and runoff is not controlled and regularly pools in areas around open lots.	Runoff goes to vegetation filter area.	All manure/runoff is contained within runoff control pond.
Vegetative barrier?		No vegetative barrier is located down wind of feedlot to reduce high dust or odor concerns.			A dense shelter belt is located down wind of feedlot based to reduce high dust or odor concerns.
Frequency of manure removal:		Monthly.	Weekly.		Daily.
Operator training in manure removal and pen management.		No employee training is offered.		Managers are knowledgeable in techniques of manure removal and motivation for this practice.	All appropriate employees are trained in techniques of manure removal and motivation for this practice.
Pen surface management		Holes, pits, or depressions are not regularly corrected.	Holes, pits, or depressions are corrected only at time of manure removal (commonly several months between manure removal).	Frequent inspection of pen surfaces are made. Few holes, pits or depressions exist for collection of water. Wet areas quickly corrected.	Well-maintained concrete surface.
Water leakage		Inspections for overflowing waterers and system leaks are infrequent.			Regular inspections are made for overflow waterers and system leaks. AND Problems are quickly corrected.
Manure ridges at fence lines.		Removal of manure ridges is not a priority.		Manure ridges are removed with each pen cleaning.	Curbs are installed to assist in scraping.

Manure Handling Runoff Issues					
	Score	High Risk (risk 4)	High-moderate risk (risk 3)	Moderate-low risk (risk 2)	Low risk (risk 1)
Nearest surface water source to manure storage/handling area.		Less than 50 feet	50 to 200 feet	½ to 1 foot per head capacity	Greater than 1 foot per head capacity
Are there spills from loading and unloading the manure storage contained?		Spills are not contained and are not cleaned up.	Spills are not contained but are cleaned up as they occur.		Positive methods exists to contain and control any spills.
Is there a drainage area flowing into the manure storage that is not designed for those flows?		Drainage area of more than 4 times the surface area of the storage flows into the storage without a design.	Drainage area of more than 2 times the surface area of the storage flows into the storage without a design.	Drainage area of no more than 1 times the surface area of the storage flows into the storage without a design.	No unaccounted for drainage area flows into the storage.
Short-term manure storage.		Short-term storage is unconfined and within 300 feet of wells or surface water sources.	Manure land applied immediately or stored less than 2 months at a site 300 feet away from wells or surface water.		Short term storage is completely contained.
How much manure storage capacity does the farm have (including temporary manure piles)?		Manure is not stored. AND Temporary manure pile areas have not been identified.	Manure storage is less than 120 days. AND Temporary manure pile area are designated for use when ground is frozen or saturated.	Between 120 and 270 days.	Greater than 270 days.
Drainage around manure storage/handling area.		Poor drainage and access roads make manure removal possible only under dry conditions.			Excellent drainage and access roads make manure removal possible in a variety of weather conditions.
Cropland base in vicinity of storage.		There is insufficient cropland available to which manure can be transported.		Sufficient cropland is available for managing manure nitrogen.	Sufficient cropland is available for managing manure phosphorus.
Drinking Water Supply					
What type of soil and/or subsurface is present to protect groundwater?		Coarse-textured soils (sand, loamy sand) or water table or fractured bedrock shallower than 20 feet.	Coarse or moderately coarse textured soils (sandy loam). Water table or fractured bedrock deeper than 20 feet.	Medium-textured soils (loam, silt loam). Water table or fractured bedrock deeper than 20 feet.	Fine-textured soils (clay, clay loam, silty clay loam) and water table or fractured bedrock deeper than 20 ft.
Are there sinkholes, fractured bedrock near the surface, or wells in the recharge area?		Yes or Don't Know			No
Are the unused or abandoned wells on the farm?		Unused or abandoned well in farmstead. Not capped or plugged.	Unused or abandoned well in field. Not capped or plugged.	Unused wells capped and protected. Abandoned wells plugged appropriately.	No unused, unsealed or abandoned wells.
Soil permeability below yard surface		Excessively well-drained, coarse-textured soils (sands, sandy loam) to gravel, or poorly drained soils.	Moderately well-drained coarse textured soils (sands, sandy loam).	Well-drained or moderately well-drained medium or fine-textured soils (loam, silt loam, clay loams, clays). 30 to 40 inches	Well-drained medium or fine-textured soils (loam, silt loam, clay loam, clays). More than 40 inches deep.
Soil depth to fractured rock, coarse-textured soils or gravel		Very shallow soils (less than 20 inches).	Shallow (20-30 inches).		More than 50 feet.
Depth to ground water		Less than 10 feet	10 to 20 feet	20 to 50 feet	

Manure Storage

	Score	High Risk (risk 4)	High-moderate risk (risk 3)	Moderate-low risk (risk 2)	Low risk (risk 1)
Does a plan exist for emergencies such as: Manure discharges/spills?		No	An emergency action plan exists.	An updated emergency action plan is available at several locations on the farm.	An updated emergency action plan is available to all employees. They have been trained in it and have the authority to implement the plan when needed.
Facility and equipment maintenance?		No	Yes, partial records are available		Yes, all maintenance is recorded
Regular facility inspections?		No	Yes, partial records are available		Yes
Duration of manure stack and removal		Manure stack not removed	Manure stack removed yearly		Manure stack removed completely as soon as practicable
Management of liquids from dry manure storage?		No control runoff from solid manure storage located in vicinity of well, stream, major drainage, or other surface waters.	Runoff is directed towards crop land.	Runoff is directed to designed grass filter strip from which some runoff might escape.	Dry manure storage is roofed. Runoff is directed to holding pond or grass filter strip from which runoff is very unlikely.
Where are stockpiles in fields located?		In or near waterways or near streams			On top of hills or protected from run on, good distance from water way
Are the stockpiles properly bermed or covered?		Pile is exposed and water can run on to and away from pile	Cover extends to the soil surface Bermed to prevent run on and off	Bermed to prevent run on and off	Plastic extends into a trench at the soil surface and is backfilled.
Are stockpiles formed on an impermeable surface?		No, porous soils or shallow soil over fractured bedrock	No, soils are deep	No, soils are deep and lowly permeable	Yes, piles on impermeable surface

If Runoff is Contained in Overland flow or in Infiltration Area such as VTA or VIB/VTA

	Score	High Risk (risk 4)	High-moderate risk (risk 3)	Moderate-low risk (risk 2)	Low risk (risk 1)
Grassed infiltration area design		No science based design procedures were followed in determining grassed infiltration area.		Grassed infiltration area is designed to allow infiltration of 25-year, 24-hour storm event.	Grassed infiltration area is designed to all infiltration of 25-year, 24-hour storm event and provide plant removal of runoff nutrients.
Excess water from grassed infiltration area		Excess water is released into surface water.	Excess water is released into ditch, waterway, or ravine.	Excess water is released into crop or pasture land.	Grassed infiltration area is bermed allowing no water discharge.
Water flow distance from infiltration area or constructed wetland to: - Nearest surface water - Surface inlet to tile line - Agricultural drainage well - Sinkhole		<u>Less than 200 feet</u>	The separation is 0.5-1.0 feet per head of capacity	The separation is 1.0-2.0 feet per head of capacity	The separation is 2 feet per head of capacity.
Harvesting of plant growth from infiltration area		Grass, hay or other crop material is not harvested.	Grass, hay or other crop material is harvested infrequently.		Grass, hay or other crop material is harvested and removed at least annually.
Grass filter surface		Grass filter contains ruts due to wheel traffic or erosion causing channel flow.			Grass filter surface is maintained free of ruts and erosion to encourage sheet flow.
Cleaning/scraping yards		Monthly or less often.	Weekly.	Every 3 days.	Daily.