



HOW DOES YOUR STEWARDSHIP RATE?

The Green Star Farms Initiative is a voluntary, farmer-led educational program designed to raise awareness among farmers about water quality issues; recognize the conservation practices that are already being employed by many farmers and ranchers that contribute to improved water quality, reduced soil erosion, enhanced soil health and increased wildlife habitat; and accelerate the adoption of sound conservation practices to improve water quality.

This document is to showcase the questions a steward will be asked in the online survey website: www.greenstarfarms.org

Risk Level Evaluation Guidance

High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
My farm would require significant changes to meet this stewardship goal	My farm is working on this stewardship goal	My farm is currently doing everything we can to meet this stewardship goal

Resource Management Evaluation

My Cropping System

	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Nutrients are applied at rates that provide for optimal yields. Nutrient rates account for all nutrient sources, including manure, previous legume crops, and to the extent possible, soil organic matter.	Proper overall nutrient management is a key to both profitability and environmental protection. In addition to proper rates, explore management strategies that best align nutrient availability with crop uptake potential. A healthy crop uses all inputs (land, labor, water, nutrients and crop protection products) more efficiently than a poor crop, so under-application of nutrients should also be avoided. The University of Minnesota has several fact sheets available related to nutrient management in various crops and across Minnesota. These fact sheets are available at http://www1.extension.umn.edu/agriculture/nutrient-management/ . The International Plant Nutrition Institute has developed a helpful nutrient management framework known as the 4R's (right rate, right source, right timing, right placement) that is available at www.nutrientstewardship.com . For assistance, consult with your crop advisor or University of Minnesota Extension Specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Nutrient rates are based on representative soil samples taken regularly (at least every 4 years). Soil Samples are taken by grids or by management zones determined by soil types.	Proper overall nutrient management is a key to both profitability and environmental protection. In addition to proper rates, explore management strategies that best align nutrient availability with crop uptake potential. A healthy crop uses all inputs (land, labor, water, nutrients and crop protection products) more efficiently than a poor crop, so under-application of nutrients should also be avoided. The University of Minnesota has several fact sheets available related to nutrient management in various crops and across Minnesota. These fact sheets are available at http://www1.extension.umn.edu/agriculture/nutrient-management/ . The International Plant Nutrition Institute has developed a helpful nutrient management framework known as the 4R's (right rate, right source, right timing, right placement) that is available at www.nutrientstewardship.com . For assistance, consult with your crop advisor or University of Minnesota Extension Specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Records of nutrient applications and analyzed along with crop yield information to help guide future nutrient management planning.	Proper overall nutrient management is a key to both profitability and environmental protection. In addition to proper rates, explore management strategies that best align nutrient availability with crop uptake potential. A healthy crop uses all inputs (land, labor, water, nutrients and crop protection products) more efficiently than a poor crop, so under-application of nutrients should also be avoided. The University of Minnesota has several fact sheets available related to nutrient management in various crops and across Minnesota. These fact sheets are available at http://www1.extension.umn.edu/agriculture/nutrient-management/ . The International Plant Nutrition Institute has developed a helpful nutrient management framework known as the 4R's (right rate, right source, right timing, right placement) that is available at www.nutrientstewardship.com . For assistance, consult with your crop advisor or University of Minnesota Extension Specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Fall nitrogen applications are avoided in fields susceptible to groundwater or surface water concerns, such as coarse textured soils, wellhead recharge areas, and the karst region of southeast Minnesota. In all other areas fall nitrogen applications are delayed until soil temperatures at 6 inch depth stabilizes below 50 degrees Fahrenheit.	Proper overall nutrient management is a key to both profitability and environmental protection. In addition to proper rates, explore management strategies that best align nutrient availability with crop uptake potential. A healthy crop uses all inputs (land, labor, water, nutrients and crop protection products) more efficiently than a poor crop, so under-application of nutrients should also be avoided. The University of Minnesota has several fact sheets available related to nutrient management in various crops and across Minnesota. These fact sheets are available at http://www1.extension.umn.edu/agriculture/nutrient-management/ . The International Plant Nutrition Institute has developed a helpful nutrient management framework known as the 4R's (right rate, right source, right timing, right placement) that is available at www.nutrientstewardship.com . For assistance, consult with your crop advisor or University of Minnesota Extension Specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Split nitrogen applications and nitrogen stabilizers are used where appropriate.	Proper overall nutrient management is a key to both profitability and environmental protection. In addition to proper rates, explore management strategies that best align nutrient availability with crop uptake potential. A healthy crop uses all inputs (land, labor, water, nutrients and crop protection products) more efficiently than a poor crop, so under-application of nutrients should also be avoided. The University of Minnesota has several fact sheets available related to nutrient management in various crops and across Minnesota. These fact sheets are available at http://www1.extension.umn.edu/agriculture/nutrient-management/ . The International Plant Nutrition Institute has developed a helpful nutrient management framework known as the 4R's (right rate, right source, right timing, right placement) that is available at www.nutrientstewardship.com . For assistance, consult with your crop advisor or University of Minnesota Extension Specialist.		

	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Phosphorus fertilizers are either placed below the soil surface or incorporated.	Proper overall nutrient management is a key to both profitability and environmental protection. In addition to proper rates, explore management strategies that best align nutrient availability with crop uptake potential. A healthy crop uses all inputs (land, labor, water, nutrients and crop protection products) more efficiently than a poor crop, so under-application of nutrients should also be avoided. The University of Minnesota has several fact sheets available related to nutrient management in various crops and across Minnesota. These fact sheets are available at http://www1.extension.umn.edu/agriculture/nutrient-management/ . The International Plant Nutrition Institute has developed a helpful nutrient management framework known as the 4R's (right rate, right source, right timing, right placement) that is available at www.nutrientstewardship.com . For assistance, consult with your crop advisor or University of Minnesota Extension Specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Liquid manure is either placed below the soil surface or incorporated. Liquid manure applications are avoided during snow melt periods.	Proper overall nutrient management is a key to both profitability and environmental protection. In addition to proper rates, explore management strategies that best align nutrient availability with crop uptake potential. A healthy crop uses all inputs (land, labor, water, nutrients and crop protection products) more efficiently than a poor crop, so under-application of nutrients should also be avoided. The University of Minnesota has several fact sheets available related to nutrient management in various crops and across Minnesota. These fact sheets are available at http://www1.extension.umn.edu/agriculture/nutrient-management/ . The International Plant Nutrition Institute has developed a helpful nutrient management framework known as the 4R's (right rate, right source, right timing, right placement) that is available at www.nutrientstewardship.com . For assistance, consult with your crop advisor or University of Minnesota Extension Specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Solid manure applications are avoided during the late winter or limited to fields identified as low risk to reduce the risk of manure runoff during the critical snow melt runoff period. Manure is not applied to non-frozen fields that are at or close to saturation to reduce the risk of manure runoff.	Proper overall nutrient management is a key to both profitability and environmental protection. In addition to proper rates, explore management strategies that best align nutrient availability with crop uptake potential. A healthy crop uses all inputs (land, labor, water, nutrients and crop protection products) more efficiently than a poor crop, so under-application of nutrients should also be avoided. The University of Minnesota has several fact sheets available related to nutrient management in various crops and across Minnesota. These fact sheets are available at http://www1.extension.umn.edu/agriculture/nutrient-management/ . The International Plant Nutrition Institute has developed a helpful nutrient management framework known as the 4R's (right rate, right source, right timing, right placement) that is available at www.nutrientstewardship.com . For assistance, consult with your crop advisor or University of Minnesota Extension Specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Pesticides are applied as needed, by trained applicators following all label requirements including rate guidelines, setback requirements and pesticide-specific practices such as incorporation, water volume or droplet size.	The Minnesota Department of Agriculture and University of Minnesota Extension provide training in the proper and safe handling of pesticides. Farmers and other persons using restricted use pesticides are required to obtain certification as private pesticide applicators. For more information go to http://www.mda.state.mn.us/licensing/licensetypes/privapp.aspx . For assistance, contact the MDA, a University of Minnesota Extension Specialist, your crop advisor or crop protection product retailer.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Adequate buffers are in place to prevent direct sediment runoff from farm fields to streams and lakes.	Where needed, properly designed and maintained buffer strips prevent sediment delivery to water bodies. Buffers may also help in compliance with setbacks for application of manure and crop protection products. Be aware of state and local regulations. For assistance or information, consult an agronomist or your local SWCD/NRCS/Watershed District.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Some combination of grass waterways, terraces, ridges or other appropriate tillage practices prevents washouts and gullies from forming in and around my sloping fields.	Concentrated flow areas can be addressed in multiple ways, depending on the extent of concentration and the farm system. Solutions could include reduced tillage, contour farming, alternative crops, tile drainage, grass waterways, terraces, sediment control basins or land retirement. For assistance or information, consult an agronomist, local SWCD/NRCS/Watershed District staff or a University of Minnesota Extension Specialist.		

	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Appropriate tillage prevents soil erosion from causing gullies or allowing excessive sediment to leave fields.	Erosion control on farm fields is influenced by a wide variety of factors, including crop selection and tillage practices. The implement used and timing of tillage operations should be appropriate for your soils, climate and crops. In general, lower tillage intensity will result in reduced risk of soil erosion. Tillage intensity must be balanced with production risks sometimes associated with cooler soils, higher crop residue levels at the soil surface, and nutrient placement needs. Solutions could include reduced tillage, contour farming, alternative crops, tile drainage, cover crops (especially following early harvest of short season crops) or land retirement. For assistance or information, consult an agronomist, local SWCD/NRCS/Watershed District staff or a University of Minnesota Extension Specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Open tile inlets are properly maintained and designed to minimize sediment entry into field drainage systems.	Tile inlets within fields can allow sediment to enter drainage systems, but are often necessary to remove ponded water. Alternatives to open tile inlets include rock inlets or placement of additional subsurface tile below areas subject to frequent ponding. In situations that do require open inlets, they should be properly marked to avoid damage during field operations, which can cause soil to enter the tile system. Tile outlets should be protected to prevent erosion and reduce maintenance needs. For assistance or information, consult your local NRCS office, your county drainage engineer or a local drainage contractor.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Tile outlets and drainage ditches are properly maintained and designed to minimize erosion and sediment movement to streams and lakes.	Tile outlets can create erosion, particularly if outlets drain into ravine heads retaining significant energy and keeping ravine bottoms saturated. Engineered drop structures or riprap may be needed to carry tile water all the way to the bottom of the ravine. Vegetation on drainage ditch banks should be maintained to prevent slumping and erosion within the ditch. For assistance or information, consult your local NRCS office, your county drainage engineer or a local drainage contractor.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Irrigation systems are inspected and maintained regularly to optimize efficiency of water use and minimize potential for water contamination.	Irrigation technology is advancing rapidly, ranging from new innovations in variable rate irrigation based on soil variability and differing water needs within fields to low pressure drop nozzle systems that reduce evaporation loss. For assistance, consult with your crop advisor, a University of Minnesota Extension Specialist, an irrigation contractor or your local NRCS technician.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Irrigation scheduling is adjusted based on weather & crop needs.	Irrigation efficiency is optimized through regular monitoring of current and expected weather, soil and plant conditions. University of Minnesota Extension offers recommendations for applying the “checkbook” method of irrigation planning. As the name implies, this approach calculates water needs based on deposits and withdrawals as affected by rainfall, crop stage and temperature. Fact sheets on the checkbook method can be found at http://www.extension.umn.edu/distribution/cropsystems/DC1322.html . For assistance, consult with your crop advisor, a University of Minnesota Extension Specialist, an irrigation contractor or your local NRCS technician.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Records of irrigation water usage are collected and maintained.	The Minnesota Department of Natural Resources is responsible for issuing water appropriation permits for all user withdrawing more than 10,000 gallons of water per day or 1 million gallons per year, including for crop irrigation. All water users are also required to measure monthly water use and report water use to the DNR yearly by February 15. For more information go to http://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/permits.html . For assistance, consult with your crop advisor, DNR or University of Minnesota Extension specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Backflow devices are in place to prevent well contamination by fertilizers and pesticides.	The Minnesota Department of Agriculture requires all irrigators who apply fertilizers or pesticides through any system connected to well or surface water supply to complete a permit application, install and maintain antipollution equipment, comply with tank storage setbacks and keep application and inspection records for 5 years. For additional information go to http://www.mda.state.mn.us/chemicals/fertilizers/chemigation.aspx . For assistance, consult with the MDA, your crop advisor or irrigation contractor.		

My Livestock System

	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Livestock housing and lots provide a clean, safe environment, protection from adverse weather and facilitate proper animal care. Manure is removed and bedding replenished regularly to keep animals clean and comfortable.	Livestock housing needs vary considerably between species and type of farm operation. Fact sheets for different livestock production systems are available from University of Minnesota Extension. http://www1.extension.umn.edu/agriculture/livestock/ . You can also contact Minnesota's livestock organizations for more information. For assistance contact your local NRCS technician, environmental or animal production consultant or veterinarian.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Livestock lots are located a safe distance from surface waters or tile drain inlets, constructed of concrete or compacted clay and managed to minimize potential for runoff.	Runoff from lots should be filtered through a vegetated area or retained for field application. Clean water should be diverted so that it does not come into contact with manure or feed. For assistance contact your local NRCS technician, county feedlot officer or animal production or environmental consultant.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Silage is harvested at proper moisture levels, stored in piles or bunkers that are covered to prevent leaks and prevent rain water from contacting silage, on concrete, asphalt or other impermeable floors.	Silage storage should be located a safe distance from water or connections to water, such as waterways or tile drains. Silage leachate should be collected and field applied. Clean rainwater should be diverted so as not to contact silage. University of Minnesota Extension has several informational fact sheets on various forages available at http://www.extension.umn.edu/forages/ . For assistance contact your local NRCS technician, environmental consultant or University of Minnesota Extension specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Manure storage capacity is adequate to allow all manure to be applied to fields or pastures under conditions that maximize nutrient use efficiency and reduce potential water quality concerns.	If manure storage capacity inhibits good nutrient management in the field, consider alternatives, including expanding storage. For assistance, consult with your local NRCS technician, feedlot officer or University of Minnesota Extension specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Manure is stored in properly constructed structures, depending on facility type, that protects against leaks and spills.	University of Minnesota Extension has several informational fact sheets available at http://www1.extension.umn.edu/agriculture/manure-management-and-air-quality/feedlots-and-manure-storage/ . For assistance, consult with your local NRCS technician, feedlot officer or University of Minnesota Extension specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Winter pasture feeding areas are located a safe distance from surface waters in areas with low runoff potential.	Winter feeding areas can accumulate manure, possibly leading to localized high phosphorus levels. For assistance, consult with your crop advisor or University of Minnesota Extension specialist.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Livestock access to waters is restricted to managed watering and crossing areas.	Unlimited livestock access can result in streambank erosion. Financial assistance is sometimes available for fencing and providing alternative drinking water supplies. For assistance, consult with your local NRCS technician.		

My Farmstead

	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Fuel and motor oils are stored in approved containers, with contents clearly labeled. Fuel dispensing equipment is regularly inspected for leaks. Used motor oil is recycled.	All farms should provide safe, secure storage for petroleum products. Facilities that store more than 1,320 gallons of oil or fuel in aggregate aboveground or 42,000 belowground are required to provide secondary containment and have a plan in place to prevent contamination of surface waters under the US EPA's Spill Prevention, Control and Countermeasure (SPCC) rules. For specific requirements, go to http://www.epa.gov/osweroe1/content/spcc/spcc_ag.htm . For assistance contact the MPCA or your fuel retailer.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Pesticides are stored in a secure location, in original containers with contents clearly marked.	Pesticides should be stored a safe distance from surface water and wells, on a concrete floor with adequate containment. The MDA provides an opportunity to safely dispose of unwanted or unusable pesticides through the Waste Pesticide Collection Program. For more information go to http://www.mda.state.mn.us/chemicals/spills/wastepesticides.aspx . For assistance, contact the MDA or your crop protection product retailer.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Fertilizer is stored in approved containers. Liquid fertilizer tanks and dispensing equipment are regularly inspected for leaks. Dry fertilizers are protected from rain.	All farms should provide safe, secure storage for fertilizer products. Farms that store more than 6000 gallons of bulk liquid fertilizer are required to apply for a permit from the Minnesota Department of Agriculture, have secondary containment, maintain tanks and plumbing in a manner that prevents incident, and maintain an Incident Response Plan. For more information, go to http://www.mda.state.mn.us/chemicals/fertilizers/on-farm-bulk-liquid-fert-storage.aspx . For assistance, contact the MDA or your fertilizer retailer.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
All fertilizer and pesticide mixing, loading and handling is done a safe distance from wells or surface waters.	For more information go to http://www.mda.state.mn.us/protecting/bmps/mixing.aspx . For assistance, contact the MDA or your crop protection product retailer. Spills of pesticide products or mixtures sufficient to treat one acre must be reported to the Minnesota Department of Agriculture Incident Response Team via the Minnesota Duty Officer. Go to http://www.mda.state.mn.us/chemicals/spills/minn-duty-officer.aspx for more information on spill reporting and contact information.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Wells are located a safe distance from potential contamination sources such as feedlots or septic systems. Wells meet casing and sealing codes and are properly maintained.	Well cap and casing should be maintained in good condition without holes or leaks. Well and septic systems should be located a safe distance apart. The Minnesota Department of Health enforces the Minnesota Well Code as outlined in Minnesota Rules Chapter 4724. For more information on well construction codes go to http://www.health.state.mn.us/divs/eh/wells/ . For assistance, contact MDH or a local well driller.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
There are no unused or abandoned wells on our property.	The Minnesota Department of Health requires sealing of unused wells. For more information go to http://www.health.state.mn.us/divs/eh/wells/sealing/index.html . For assistance, contact MDH or a local well driller.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Farm has adequate, properly located septic system or storage system. Septic tank pumped regularly by licensed contractor.	While septic system rules are typically enforced at the county level, the Minnesota Pollution Control Agency is responsible for providing the minimum environmental protection standards for septic systems under Minnesota Rule 7080. For more information go to http://www.pca.state.mn.us/index.php/water/water-types-and-programs/wastewater/subsurface-sewage-treatment-system-ssts/current-ssts-rules-laws-statutes-regulations-and-ordinances.html . For assistance, contact your county septic system inspector.		
	High <input type="checkbox"/>	Medium <input type="checkbox"/>	Low <input type="checkbox"/>
Waste is properly disposed of or recycled.	Waste materials should be properly dispose of or recycled. With few exceptions, waste should not be burned on the farm. For more information go to http://www.pca.state.mn.us/index.php/living-green/living-green-citizen/reduce-reuse-recycle/dont-burn-garbage/dont-burn-your-garbage-laws.html . For assistance, contact your local solid waste office, MPCA or a local refuse collector/ recycler.		