

Low-Cost Conservation Practices



UNIVERSITY OF MINNESOTA

Extension

S E R V I C E



Low-Cost Conservation Practices

You don't need a large cash investment to go a long way in soil and water conservation.

This brochure highlights low-cost conservation practices that are made even more affordable through government incentive and cost-share payment programs. Incentive payments are provided to the agricultural producer to implement a management plan.

With cost-share payments, the government provides up to 75% of the cost of implementing a conservation practice, and the remainder is paid by the producer. Often times the producers' cost-share can be made up of their own time and energy needed to implement the practice.

All of the practices listed in this brochure are supported through the USDA Environmental Quality Incentives Program (EQIP). In addition, stream buffers can be protected through enrollment in the Conservation Reserve Program (CRP) continuous sign-up for buffers. The Wetlands Reserve Program (WRP) pays 100% of

wetland restoration costs and easement payments. The Wildlife Habitat Incentives Program (WHIP) is available to pay cost-share to implement practices that develop or improve fish or wildlife habitat. Applications and technical assistance are available at USDA County Service Centers for EQIP, CRP, WRP, and other federal programs.

Some conservation practices are supported by state and local government loans or payments to producers. Your local Soil and Water Conservation District, usually located at the USDA Service Center, can provide assistance with state and local conservation programs.



Residue management reduces soil erosion

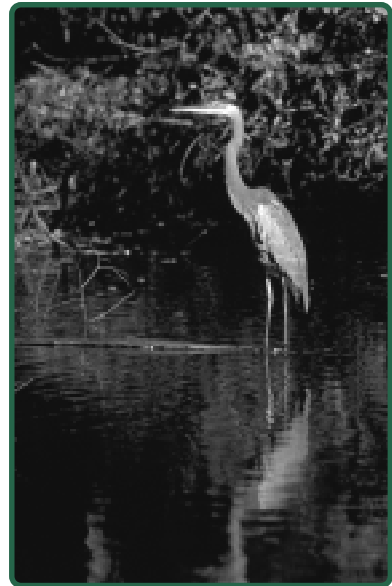


**Contour strip cropping
reduces soil erosion**

Low-cost NRCS (Natural Resources Conservation Service) defined practices are listed by category in the following tables:

- ◆ Manure Management
- ◆ Field Practices
- ◆ Pasture Management Practices
- ◆ Water, Wind, Trees, and Wildlife

In each table, the practice is named and described and the EQIP payment type is listed. Incentive payments are either one-time or multiple-year payments, depending on the management plan, and do not require a matching cash input from the producer. Cost-share payments are 75% of the cost for all practices listed below except Tree Planting. Check with your NRCS office for the percentage cost share for various tree species plantings.



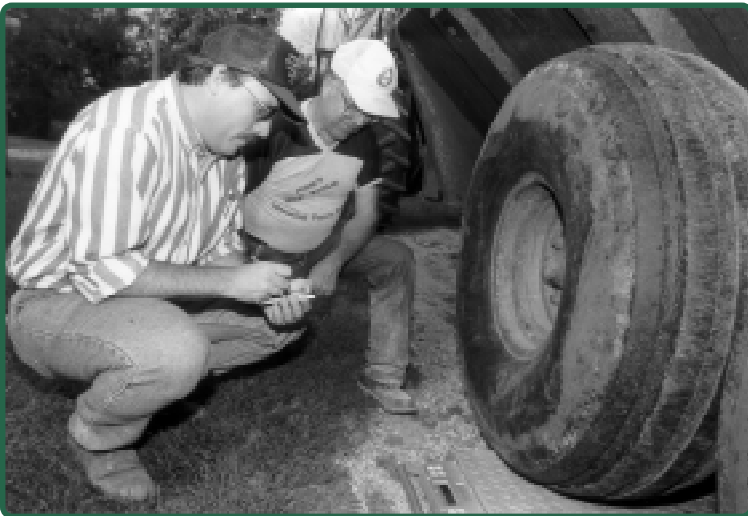
**Wildlife habitat increases the
aesthetic value of the land**

Manure Management

The goal of good manure management is to collect and use manure efficiently as a source of crop nutrients, without polluting streams, lakes, or groundwater.

Examples of low-cost practices that can improve manure management are:

- ◆ Reducing the amount of rainwater that mixes with manure and creates polluted runoff by diverting clean water from roofs and up-slope locations away from feedlots.
- ◆ Filtering runoff from open feedlots through vegetative strips to reduce pollutants.
- ◆ Developing a crop nutrient management plan that "credits" the fertilizer value of manure applied to fields, thereby reducing fertilizer costs and preventing application of manure at rates which would result in water pollution.



Manure spreader calibration is necessary for accurate nutrient application



Soil testing is an essential part of a crop nutrient and manure management plan

Practice	Type of Payment
<p>Waste utilization Crediting the use of organic wastes for fertilizer in a manner that improves the soil and protects water resources.</p>	Incentive
<p>Nutrient management Develop and follow a crop nutrient management plan with recommended amount, form, placement, and timing to maximize use and minimize detrimental effects of applied nutrients.</p>	Incentive
<p>Waste management system A planned system to manage wastes from animal concentrations in a manner that does not degrade air, soil or water resources. Examples of low-cost components include:</p> <ul style="list-style-type: none"> Filter strips Clean water diversions Roof runoff management 	Cost-Share

Field Practices

Good crop field practices are essential to soil conservation and clean water in agricultural areas. The USDA emphasizes planning and implementation of management plans for crop rotations, pests, and tillage that minimize soil erosion, contaminated runoff, and leaching of nutrients. Incentive payments are provided on a per-acre basis to implement approved management plans. Cost-share is provided to protect soil and filter water by establishing permanent vegetation at field edges and in field waterways.



Strip cropping and contour farming reduces soil erosion

Practice	Type of Payment
<p>Nutrient management Develop and follow a crop nutrient management plan that includes recommended amount, form, placement, and timing to maximize use and minimize detrimental effects of plant nutrients.</p>	Incentive
<p>Pest management Develop and follow a crop pest (weeds, insects and disease) management plan to reduce adverse effects on plant growth, crop production and environmental resources.</p>	Incentive
<p>Residue management Managing the amount, orientation, and distribution of crop and other plant residues on the soil surface. Includes no-till, strip till, mulch till, and ridge till management systems.</p>	Incentive
<p>Conservation crop rotation Growing crops in a recurring sequence on the same field to improve the soil, reduce erosion and pests, balance plant nutrients and provide food for livestock.</p>	Incentive
<p>Contour farming Farming land across the slope in order to reduce erosion, control water flow, and increase infiltration.</p>	Incentive
<p>Contour strip cropping Growing crops in a systematic arrangement of strips or bands across the slope to reduce water erosion.</p>	Incentive
<p>Filter strip, contour buffer strip, or field border A strip of land in which vegetation is planted and maintained to control erosion and filter pollutants from runoff.</p>	Incentive, Cost-Share
<p>Critical area planting Planting vegetation to stabilize the soil in critically eroding areas and reduce erosion and runoff.</p>	Cost-Share
<p>Grassed waterway A natural or constructed channel or outlet maintained with vegetative cover in order to carry runoff without sediment and to filter nutrients.</p>	Cost-Share

Pasture Practices

Good pasture management provides high quality forage with low capital investment and minimal operating expenses. Well-managed grazing enhances herd health, farm profitability, and water quality of streams and lakes. Financial and technical assistance is available to assist with pasture and grazing management practices, including:

- ◆ Developing and follow a written grazing management plan.
- ◆ Installing fencing that helps manage the rotation of herds through paddocks, and keeps them out of sensitive areas, like streams and lakes.
- ◆ Establishing a desirable mix of forage species.
- ◆ Providing water to herds close to where they are grazing and in a way that prevents pollution of streams and lakes.



A well-designed fence system is key to managed grazing



Managed grazing improves pasture conditions and provides excellent nutrition

Practice	Type of Payment
<p>Prescribed grazing Managing grazing to improve plant health and vigor, reduce erosion, and improve water quality.</p>	Incentive
<p>Pasture planting Establishing forage plants to reduce runoff and erosion and produce high quality forage.</p>	Cost-Share
<p>Use exclusion Excluding livestock and other activities from an area to maintain soil and water resources.</p>	Incentive
<p>Fence Enclosing a sensitive area of land or water with fencing to exclude or control livestock</p>	Cost-Share
<p>Livestock watering systems: Spring development Trough or tank Pipeline Well Pond</p>	Cost-Share

Water, Wind, Trees and Wildlife

Soil, water, and wildlife can be protected with trees and shrubs that slow the wind, stabilize stream banks, and provide habitat.

Windbreaks reduce soil erosion and protect adjacent crops from wind damage and moisture loss. Shelterbelts protect livestock and reduce farmstead heating costs.

Wetlands provide storage, buffering, and filtering of field runoff, and are excellent waterfowl and other wildlife habitat. Both groundwater and stream water quality are improved with restoration of wetlands, especially through removal of nitrates, phosphorus, and sediment.

Groundwater also needs protection by filtering or diverting field runoff from sinkholes, and by properly sealing abandoned wells.



Windbreaks enhance crop growth and reduce soil erosion

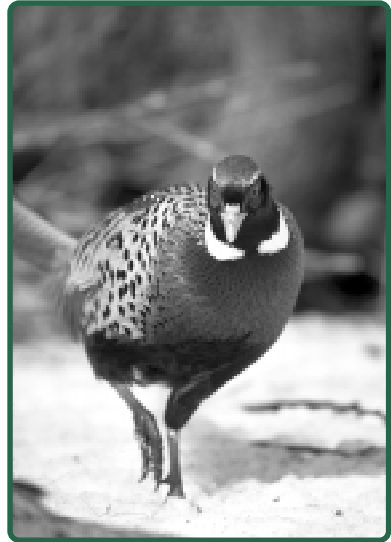


Wildlife habitat can be integrated into the farm plan

Practice	Type of Payment
<p>Windbreak, shelterbelt, and hedgerow establishment or renovation A strip or belt of trees established to reduce wind erosion.</p>	Incentive, Cost-Share
<p>Herbaceous wind barriers Narrow rows or strips of heraceous plants established to reduce soil loss, protect growing plants from sandblast, trap snow and increase available moisture, and provide food or cover for wildlife.</p>	Incentive, Cost-Share
<p>Tree planting Planting trees, especially on critical or highly erodible areas, to prevent erosion, conserve moisture and reduce water quality impacts.</p>	Cost-Share
<p>Forest riparian buffer Establish and maintain a strip of land varying in width along streams and other water bodies in which grass and trees are planted and maintained to filter pollutants from runoff.</p>	Incentive, Cost-Share
<p>Streambank and shoreline protection Stabilizing and protecting banks of streams, lakes, estuaries, or excavated channels against scour and erosion. Vegetative means of protecting streambanks can be low-cost.</p>	Cost-Share
<p>Wildlife habitat establishment and management Creating, restoring, maintaining or enhancing areas for food, cover and water for upland wildlife and associated species.</p>	Incentive, Cost-Share
<p>Wetland restoration Rehabilitation of a drained or degraded wetland where soils, hydrology, vegetation and habitat are returned to natural conditions.</p>	Cost-Share
<p>Sinkhole treatment Prevention of contaminated runoff from entering sinkholes. Diversions and filter strips are low-cost sinkhole treatments.</p>	Cost-Share
<p>Well decommissioning Sealing and permanent closure of a water well no longer in use.</p>	Cost-Share



Trees reduce wind erosion and farmstead energy costs



Pheasants find shelter in windbreaks

For more information about low-cost conservation practices, see your local NRCS, SWCD, or University of Minnesota Extension office. For information about cost-share and incentive programs, visit your local NRCS and SWCD offices.

Photos provided by the USDA and the University of Minnesota Extension Service.

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