



CONSERVATION BASICS OF LAND MANAGEMENT

A Best Management Practices Guide for Landowners

SOIL EROSION

Erosion is the wearing away of the soil by water, wind, ice, and other forces. Soil erosion is currently the greatest threat to the Nation's soil productivity and the largest source of pollutants in our waterways.

There are 74 different soil types found in Geauga County. Most soils can only sustain 2-3 tons per acre of soil loss every year to keep long term production. Many things play a role in soil loss, but none more important than the amount of cover on the soil surface.

Most soil loss occurs on fields with aggressive tillage and poor, or no residue cover. Many practices help reduce erosion levels and can save nutrients over winter.



SOIL TESTING

One of the best things a landowner can do is test the soil on his or her fields. This includes crop fields as well as pastures. When nutrients like phosphorus have high test levels, additions of more phosphorus is wasting money and can have harmful impacts on the quality of our waters.

Once soil test results are obtained and levels are known, corrective applications of some nutrients can be added and others levels brought down by crop removal over several years.

Testing levels of soil and manure will also help manage nutrients from manure. Specific recommendations are based on soil test levels and crop rotations.

Soil tests and nutrient management will also improve pastures. Pastures are probably the least managed working lands in the county. With proper fertility and grazing management, the carrying capacity and production of pastures can be dramatically improved.

Crop Rotation

A rotation that includes several years of hay will cut soil loss in half or more

Cover Crops

Oats, Wheat, Rye, Barley, and other cover crops are an excellent practice to limit soil loss and save nitrogen on fields.

Contour Farming

Planting on the contour and using strip crops will reduce soil loss by half or more

Conservation Tillage

Leaving crop residue on the fields at planting will cut soil loss in half or more

Grass Waterways

All fields have drainage patterns that concentrate water. Some drainageways have enough water flow to wash out yearly and form gullies. Shaping and seeding these areas to fescue/wheat, or other grass cover will stabilize the drainageway.

MANAGING NUTRIENTS

Controlling soil erosion helps control nutrients. Every time soil is lost, phosphorus, nitrogen and other nutrients are lost as well.

Keeping nutrients at adequate levels without over applying will also keep the applied nutrients on the field. Excess nutrients are easily carried off the field to the nearest waterway by stormwater runoff.

Soil test bags are available through local fertilizer dealers, Penn State University, and the local Ohio State University Extension Office. To obtain manure or soil test kits from the local Extension Office call 440-834-4656.

PROTECTING WATER RESOURCES

"Is the water leaving my farm as clean as the water that enters it?" If your answer is "NO", then maybe you should consider utilizing some of the following conservation practices.

Buffers and Setbacks

Grass buffer strips along drainageways are an excellent practice to capture both sediment and nutrients leaving a field. Buffers range from 20 feet on flat ground to greater widths on steep lands. Buffers can be used as an equipment turn area and harvested for hay. Buffers are a very cost-effective practice used to keep clean water.

Setbacks for manure spreading are also very important. Manure application should be limited to 35 feet from drainageways and up to 100 feet in winter. Manure applications in winter should only be completed, in emergency situations, on hay ground or fields with good residue, to prevent runoff. Manure accumulated during the winter should ideally be stockpiled or in manure storage structures until it can be safely applied on well vegetated soil.

Excluding Livestock

All livestock, including horses, given free roam in a creek bed will largely destroy that portion of the creek. These animals can destroy streambanks and pollute a stream someone else may depend on.

Electric and high tensile fencing along with other options are often used to restrict animal access to several areas where a stone crossing is constructed. Cows and other animals are able to water without causing significant pollution. Off-stream watering devices are also used.

Treatment of Milkhouse, Parlor Waste and Silage Water

These wastes can cause significant impacts to streams and creeks. These wastes need to be captured and either field applied or treated on the farm.

Manure Storage Structures

Waste storage structures may fit well into farm operations to limit spreading when conditions are unsuitable for manure applications.

COST SHARE OPPORTUNITIES

The Agriculture Improvement Act of 2018, more commonly known as the Farm Bill, contains support for environmental stewardship and the conservation of working lands. These programs include:

Environmental Quality Incentives Program (EQIP):

EQIP is a competitive program that offers technical and financial assistance to address resource concerns for working lands, including field crops, specialty crops, organic, confined livestock and grazing, and non-industrial private forest land.

Rather than take land out of production, EQIP helps farmers maintain or improve production while conserving natural resources on working landscapes. EQIP is utilized to address soil health, nutrient management, water quality, erosion, create wildlife habitat, timber stand improvement and more. Common practices to apply for through the program are invasive species treatment, cover crops, reduced tillage, wetlands, grassed waterways, soil sampling, manure storage structures, heavy use pads, pasture seedings, waterlines, fence and pollinator habitat.

Wetland Reserve Program (WRP):

WRP is a program used to restore wetlands on lands with cropping history through the creation of a conservation easement. NRCS provides assistance directly to landowners to restore, protect, and enhance wetlands through this program. The landowner voluntarily limits future use of the land, yet retains private ownership. NRCS and the landowner work together to develop a plan for the restoration and maintenance of the wetland. Benefits of WRP can include restoring, protecting and enhancing wetland ecosystems, preventing soil erosion, reducing flooding, developing wildlife habitat including threatened and endangered species habitat, improving water quality, recharging groundwater and protecting biological diversity. A one time per acre payment is given to the landowner for the easement.

Conservation Reserve Program (CRP):

CRP is a voluntary program with agricultural producers to set aside environmentally sensitive cropland for conservation benefits such as: control soil erosion, improve water quality and develop wildlife habitat. CRP can be used to create waterways, install filter strips, windbreaks, plant pollinator habitat or trees. Landowners receive cost share on practice installation and a yearly per acreage payment for life of the contract. CRP is administered by the Farm Service Agency.

Conservation Stewardship Program (CSP):

CSP is a five year cost-share program that is designed to build upon conservation efforts already completed by a landowner. Most CSP applicants have already treated resource concerns through EQIP or on their own. The program is designed to compensate agricultural and forest producers who agree to increase their level of conservation by adopting additional conservation activities and maintaining their baseline level of conservation. CSP is for producers who are passionate about conservation and environmental stewardship. Goals through CSP are to create increased crop productivity, decrease inputs, wildlife habitat improvements and increased resilience to weather extremes. CSP also encourages adoption of new technologies and management techniques.

Agricultural Conservation Easement Program (ACEP):

ACEP provides payment to farmers to put easements on their land to keep the land in agriculture. In Ohio, this effort can work in tandem with the Ohio Department of Agriculture's Ohio Local Agricultural Easement Purchase Program (LAEPP).