COVER CROPS & VEGETATIVE BUFFERS

REDUCING SOIL EROSION BY USING COVER CROPS & VEGETATIVE BUFFERS

Developing and maintaining fertile topsoil is important to any farming operation. Water infiltration, moisture holding capacity, and nutrient content all play a role in the ability of the soil to support plant growth. Keeping the soil covered with vegetation will reduce topsoil loss and protect water quality. Healthy soil benefits fruit and vegetable producers directly by improving crop growth, and benefits livestock producers by helping maintain forage quality and stand health.

TOOLS TO PREVENT EROSION

Two of the most effective ways to reduce soil erosion and limit nutrient displacement are by using cover crops and buffers to keep the soil covered. Vegetative cover crops are crops which are grown during periods when a cash crop is not actively growing. They protect the soil from erosion and improve soil health by maintaining vegetative cover. Keeping the soil covered also helps prevent runoff that could contaminate water sources used for irrigation.

Vegetative buffers also play an important role in reducing erosion. While cover crops can be used to make up areas of a vegetative buffer, these areas are more commonly made up of woody vegetation. These designated buffer areas can be made up of different types of vegetation. Their primary purpose is to help prevent the contamination of nearby water sources with germs and provide stability where there is potential for larger-scale erosion. Areas where woody vegetative buffers may be needed include stream banks or ditches where larger deeper root systems offer an advantage. Fencing livestock out of stream areas can also help reduce erosion and protect water quality. Naturally occurring vegetation can be used to promote the growth of these areas. Your local extension office may have a list of plant varieties that can achieve your goals and fit the desired growing space. Some common cover crops for the southeast include rye, oat, triticale, crimson clover, and hairy vetch.

LOSS OF TOPSOIL CAN LEAD TO:
- Reduced soil productivity
- Loss of nutrient-rich organic matter
- Changes in soil structure and texture
- Environmental pollution including the contamination of water sources

EROSION

Erosion can be described as the breakdown, removal, and displacement of the topsoil by water, wind, or gravity. Topsoil is the most fertile part of the soil and serves as a plant nutrient source and growth medium for production. Here in the southeastern United States, we typically battle erosion due to rainfall. Loss of topsoil results in reduced organic matter and nutrients that are needed for crop production. To maintain production capacity and promote environmental stewardship, we, as producers, must work to limit soil erosion.
WHAT SHOULD PRODUCERS KEEP IN MIND BEFORE PLANTING COVER CROPS?

While increasing water infiltration and decreasing runoff are two of the major benefits offered by using cover crops, there are also other production goals that can be achieved by using them. It is important for producers to know the benefits and choose cover crops that will achieve long-term overall farm goals. Producers should keep in mind the number of days needed to maximize crop benefits and target planting windows when deciding what crop is best for their operation. The Natural Resources Conservation Service and local extension offices can provide additional information on cover crop selection that is up to date.

ADDITIONAL RESOURCES

Agricultural Riparian Buffers - North Carolina State University Cooperative Extension (ncsu.edu)

Cover Crops for Alabama - Alabama Cooperative Extension System (aces.edu)

Introduction to Soils: Managing Soils - Pennsylvania State University Cooperative Extension (psu.edu)

Building Soils for Better Crops - SARE (sare.org)

Southern Cover Crops Council (southerncovercrops.org)


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Authors: David Daniel, Audrey Gamble, Rebecca Catalena, Camila Rodrigues & Kristin Woods