

Natural Resources Conservation Service

## Soil Science Division

Mid-Atlantic and Caribbean Area Soil Survey Region



### Griffin, GA, MLRA Soil Survey Office

## Recommendations for Erosion Control at ARS Experiment Station

### Purpose

Soil erosion control measures stabilize exposed soil and reduce the velocity of surface runoff. To minimize the potential for soil erosion, the Agricultural Research Service (ARS) requested that a soil investigation be conducted on the experiment station off West Ellis Road, on the property of the University of Georgia. This area is used primarily for production of crops and pasture. According to an ARS representative, runoff from the storage area and pump house is extensive.

After obtaining LiDAR data, several fields were evaluated. The surface texture of the soils in these fields is sandy clay loam or clay loam. Rill erosion occurred in all the fields. Drainage channels and evidence of past gully erosion were also observed. Some fields were bare (no cover crop), and sediment was depositing downslope. Water was collecting upslope in the more nearly level areas and draining along roads and old channels downslope. Onsite structures did not have gutters to direct the runoff.



Example of rill erosion near Field K.



## Key Outcomes

The Griffin MLRA Soil Survey Office (3-GRI) staff recommended the following:

- Separate Fields C and D.—Significant gullying occurred in these areas in the past, and more is occurring presently. Separate the fields, and plant to permanent grasses.
- Install grass barriers.—Promote detention and infiltration of runoff, disperse concentrated flow, and minimize ephemeral gully development by installing grass barriers in two locations upslope. Carefully select vegetation.
- Manipulate land.—Erosion sediment has been redistributed into the fields, and the configuration at the gated entrance has resulted in a channel for water to travel into Field A and along the road to Field B. Grade the area at the entrance and divert water, possibly by installing a drainage ditch.
- Divert runoff from structures.—Add gutters to onsite structures, and divert the runoff away from the fields. Structure 1 is 3,243.62 square feet, and structure 2 is 7,445.62 square feet.
- Construct grassed waterways.—Grassed waterways are graded channels that are seeded to grasses or other suitable vegetation. The vegetation slows the flow of water, and the waterway conveys the water to a stable outlet at a velocity that is nonerosive. If the site is used for pollination and test crops, cross pollination may be an issue. Carefully select vegetation.

## Reference Maps

