

# Corn Stalk Sampling and Testing Project Proposal

**Project Title:** Corn Stalk Nitrate Testing

**Objective:**

To facilitate corn stalk sampling/testing on farms in the Little River Watershed, below the Diversion Channel in the Missouri Bootheel. This project would require FFA Chapters to perform corn stalk sampling on area farms working directly with the operators.

**Benefits:**

The nitrogen status of a corn crop can be assessed by measuring nitrate concentrations in the lower portion of cornstalks at the end of the growing season. This finding led to the development of a tissue test that can be used to evaluate nitrogen management practices used in any field in any year. The test is called the “end-of-season cornstalk test”.

By assessing the levels of nitrate in cornstalks, producers can utilize this information as another tool for their fertilizer management. Results can be used in conjunction with soil maps, yield maps, varietal differences and the different forms of nitrogen fertilizer to give more precision to management decisions. These decisions affect the amount of nitrogen used in a given year and ultimately the profitability attained in farming operations.

**Supported by:**

Bootheel Resource Conservation and Development, Inc. (RC&D), Conservation Technology Information Center (CTIC), University of Missouri Delta Research Center, University of Missouri Extension, Missouri Coalition for the Environment, Missouri Corn Growers Association, USDA – Natural Resources Conservation Service (NRCS),

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**Conducted by:**

Soil and Water Conservation Districts (SWCD) of Dunklin, New Madrid, Pemiscot, Scott & Stoddard Counties, participating FFA Chapters in those respective counties and area farm operators.

**Project Facilitators:**

Mr. David Dunn, Soil Testing Lab Supervisor  
University of Missouri Delta Center, Portageville, MO

Mr. Scott Crumpecker, RC&D Coordinator  
USDA – NRCS, Bootheel RC&D Project Office, Dexter, MO

### Project Summary:

1. Farm operator applies for corn stalk sampling incentive at SWCD office.
2. Operator chooses a participating FFA in a reasonable proximity to the farm.
3. The SWCD contacts the FFA Chapter (or contacts Bootheel RC&D to make contact with the FFA Chapter)
4. SWCD provides the operator's contact information to the FFA chapter or the RC&D, and provides an aerial photo (either to farmer or FFA).
5. FFA Chapter contacts the farm operator to schedule a visit.
  
6. FFA meets with the farmer and gathers the sample with location input from the farmer.
  
7. FFA submits the samples to the respective SWCD. SWCD will forward samples to Delta Center or Bootheel RC&D.
  
8. FFA Chapter invoices CTIC.

Samples would be collected by either David Dunn along I-55 corridor or Scott Crumpecker along Hwy 25 corridor. These would be taken to the Delta Center for analysis. The Soil Testing Lab will invoice CTIC for their services.

Farm operators will be limited to one (1) field not exceeding 100 acres in size. Participation will be done by first come, first served, but in the event the participation exceeds the available funding, a lottery will be performed. Operators may request multiple samples in the event there is excess funding.

### Role of Each Entity:

#### SWCD's

1. Assist with publicity
2. Accept producer applications
3. Forward operator information to FFA contact
4. Receive samples from FFA
5. Forward samples to Bootheel RC&D or Delta Center

#### FFA Chapters

1. Initiate contact with area farm operators
2. Schedule a site visit and gather the samples with the operators (The designated sample collectors would be responsible to receive individual training for stalk sampling procedures.)

#### Farm Operators

1. Make application to SWCD.

2. Be accessible when samples are taken.
3. Identify sample locations on aerial photos.

RC&D

1. Facilitate the program in conjunction with the Delta Center Soil Test Lab.