

**Nitrogen Use (Testing) - Nutrient Management Enhancement #04**

**DESCRIPTION** - This enhancement uses the pre-sidedress soil nitrate test (PSNT) on manured fields, and plant tissue testing or stalk nitrate testing on all fields to determine additional or future N needs.

**Enhancement Requirements**

Nitrogen applications shall be based on the realistic crop yield goal, legume and manure credits and the Tri-State Fertilizer Recommendations.

Use one or more of the following tests to assist in fine-tuning crop nitrogen needs:

- (1) Pre-sidedress nitrate test (PSNT) – This involves taking a soil test 12 inches deep when the corn is 6-12 inches tall analyzing for nitrate. The rate of the sidedress nitrogen application is based on the results of the PSNT. Refer to Purdue Agronomy Guide AY-314-W “The Pre-sidedress Soil Nitrate Test for Improving N Management in Corn”.



- (2) Chlorophyll Meter – Chlorophyll meter readings can be used to determine the nitrogen status of corn late in the vegetative growth period. This involves planting “reference strips” where 10-25% more nitrogen is applied than recommended. The chlorophyll meter is used to compare reference strips with the rest of the field to determine if nitrogen is deficient. Additional late nitrogen is applied if needed. Refer to Purdue Agronomy Guide AY-317-W “Determining Nitrogen Fertilizer Sidedress Application Needs in Corn Using a Chlorophyll Meter”.



- (3) Stalk Testing – The nitrogen status of the corn crop can be determined by measuring the nitrate concentrations in the lower portions of cornstalks at the end of the growing season. This involves taking an 8” sample of the cornstalk after blacklayer. The stalk is analyzed for nitrate to determine if the corn received insufficient, sufficient, or excessive levels of nitrogen. Since this test is conducted after the current corn crop is mature, the results are used to “fine-tune” nitrogen recommendations in the next corn crop. Refer to Purdue Agronomy Guide AY-322-W, “Cornstalk Testing to Evaluate the Nitrogen Status of Manure Corn: Nitrogen Management Assurance”.

Refer to the Field Office Technical Guide Nutrient Management standard for additional guidance.

**Performance Requirements**

Required Documentation = The CSP Participant will certify this activity annually by signing an annual payment certification letter and submitting it to the NRCS office servicing the contract. The CSP Participant will retain soil or plant tissue testing results and nutrient application records.

Enhancements must be established for one full crop season before payments can be made.

Payment will be made each year after the practice has been adopted provided the CSP participant continues to follow this nutrient management system.

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