



Natural Resources Conservation Service  
United States Department of Agriculture

# Conservation Security Program Enhancement Sheets

**Nutrient Management Enhancements Minnesota, 2005**

	<b>Enhancement Bundles</b>
<b>Choose and Maintain/Complete:</b>	One (1) Component or;
	Two (2) Components or;
	Three (3) Components or;
	Four (4) Components or;
	Five (5) Components

The components for the enhancement bundles are as follows:

- ✓ The operator applies all commercial nitrogen fertilizer in spring and/or after planting and incorporates within 24 hours.
- ✓ The operator applies commercial N, and P fertilizer and/or manure at rates less than or equal to Univ. of Minn. Fertilizer recommendations.
- ✓ The operator injects or incorporates all manure applications within 24 hours.
- ✓ The operator band or row applies all commercial phosphorus (P<sub>2</sub>O<sub>5</sub>) fertilizer.
- ✓ The operator uses a nitrification inhibitor with commercial N fertilizer on labeled crops (principally corn).

Review and sign the following job sheets that describe components for the enhancement bundles you choose to implement and/or maintain.



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# Conservation Security Program Enhancement Component Sheets

Nutrient Management Enhancements Minnesota, 2005

***The operator applies all commercial nitrogen fertilizer in spring and/or after planting and incorporates within 24 hours.***

### **Definition**

Nitrogen fertilizer is applied spring-pre-plant or post-plant or both. The fertilizer is sub-surface applied or broadcast and incorporated within 24 hours.

### **Purpose:**

Increase nitrogen efficiency use by crops and decrease amount of nitrate available to move below the root zone prior to crop uptake.

### **Where Used**

Statewide in Minnesota to crops requiring nitrogen applications according to University of Minnesota Fertilizer Recommendations

### **Operation and Maintenance**

- Sidedress apply to corn before it is 12 inches high.
- Inject or incorporate sidedress applications of urea and UAN to a minimum depth of 4 inches.

### **Payment**

A payment as part of the enhancement bundle on all fields receiving a nitrogen application at least once during the CSP contract life. Each nitrogen application must be spring-pre or post-plant nitrogen.

### **Documentation Required**

NRCS-Minnesota Form MN-CPA-046 dtd.1/ 04 –Practices Certification Recordkeeping Form or a similar form.

Signature \_\_\_\_\_ Date \_\_\_\_\_



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Nutrient Management Enhancements Minnesota, 2005

## ***The operator applies nitrogen and phosphorus at rates less than or equal to Univ. or Minnesota Fertilizer Recommendations.***

### **Definition**

The total amount of N and P<sub>2</sub>O<sub>5</sub> applied to fields is no more than recommended by the University of Minnesota in the most recent version of “Fertilizer Recommendations for Agronomic Crops in Minnesota” or analogous crop specific publications.

### **Purpose**

Maximize net income and minimize potential for excess nutrients to move towards water bodies.

### **Where Used**

All land where nutrients are applied.

### **Operation and Maintenance**

Nitrogen provided by last year’s legume crop is subtracted from crop needs (in some cases university recommendations already do this). Nitrogen supplied by manure applied the past 2 years and legumes grown the prior 2 years are also subtracted from crop needs to come up with “net application needs”. The combined application of commercial fertilizer applications and manure applications cannot exceed “net” needed.

**Note(s): Manure applications can be based on crop nitrogen needs instead of P<sub>2</sub>O<sub>5</sub> needs except on fields receiving an enhancement for P<sub>2</sub>O<sub>5</sub> based manure applications or on fields where manure applications must be based on P<sub>2</sub>O<sub>5</sub> because of state law requirements.**

### **Payment**

A payment as part of the enhancement bundle on all fields that will receive a nutrient application at least once during the life of the contract. Each application must meet criteria.

### **Documentation Required**

Minn. NRCS forms MN-CPA-046 dtd.1/ 04 or MN-CPA-023, dtd 1/04 – Field Nutrient Management Plan or analogous forms can be used for documentation.

Signature \_\_\_\_\_ Date \_\_\_\_\_



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## ***The operator injects or incorporates all manure applications within 24 hours.***

### **Definition**

All manure is sub-surface applied or broadcast and incorporated within 24 hours.

### **Purpose**

Reduce amount of nitrogen volatilized to the atmosphere. Reduce potential for phosphorus and potential disease causing organisms to move with surface runoff towards water bodies.

### **Where Used**

Statewide when soil and moisture conditions allow injection or immediate incorporation. This enhancement is not allowed on frozen, snow covered or actively thawing ground.

### **Operation and Maintenance**

No additional instructions.

### **Payment**

A payment as part of the enhancement bundle on all fields that will have manure applied at least once during the contract period (must be injected or incorporated within 24 hours).

### **Documentation Required**

NRCS-Minnesota Form MN-CPA-046 dtd. 1/ 04 (Practices Certification/Recordkeeping Form) or a similar form.

Signature \_\_\_\_\_ Date \_\_\_\_\_



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# Conservation Security Program Enhancement Component Sheets

Nutrient Management Enhancements Minnesota, 2005

## The operator band or row applies commercial phosphorus (P<sub>2</sub>O<sub>5</sub>) fertilizer below the soil surface

### Definition

Placing P<sub>2</sub>O<sub>5</sub> commercial fertilizer below the soil surface in proximity to the seed or root zone. Includes deep banding, point injection, and starter applications.

### Purpose

Reduce the amount of applied P<sub>2</sub>O<sub>5</sub> needed by crops. Reduce potential for off-site transport of phosphorus.

### Where Used

- On fields requiring P<sub>2</sub>O<sub>5</sub> applications according to University of Minnesota Fertilizer recommendations.
- For crops that have a drill or row P<sub>2</sub>O<sub>5</sub> recommendation in University of Minnesota Fertilizer Recommendations.
- Most beneficial on soils testing low in phosphorus.

### Operation and Maintenance

- Follow University of Minnesota recommended procedures when placing fertilizer near the seed.

### Payment

A payment as part of the enhancement bundle on all fields that will receive a P<sub>2</sub>O<sub>5</sub> application at least once during the contract period. Each application must meet criteria.

### Documentation Required

NRCS-Minnesota Form MN-CPA-046 dtd. 1/ 04 (Practices Certification/Recordkeeping Form) or a similar form.

Signature \_\_\_\_\_ Date \_\_\_\_\_



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# Conservation Security Program Enhancement Component Sheets

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## The operator uses a nitrification inhibitor on labeled crops to increase efficiency of commercial nitrogen fertilizer applications.

### Definition

An N-inhibitor is applied with commercial nitrogen fertilizer to decrease the rate of conversion of ammonium N to nitrate N.

### Purpose

Reduces potential for nitrate N to leach below the root zone or denitrify.

### Where Used

- Mainly on corn (sometimes wheat if labeled in Minnesota).
- With Anhydrous ammonia and occasionally Urea. Can be used with Urea Ammonium Nitrate (UAN) with early sidedressed N applications
- Early sidedressed nitrogen on coarse-textured soils statewide
- Pre-plant nitrogen applications on poorly drained soils with high soil moisture levels near the soil surface
- On irrigated coarse textured soils when the majority of the nitrogen is applied in a single preplant or early sidedress application.
- Fields requiring an N application according to University of Minnesota Fertilizer Recommendations

### Operation and Maintenance

- Urea impregnated with an N-Inhibitor should be immediately incorporated
- Read label instructions on products containing N-inhibitors. Some products should not be applied through an irrigation system. Some products should not be applied with dry fertilizers containing nitrate such as ammonium nitrate (AN), potassium nitrate or calcium nitrate.

### Payment

A payment as part of the enhancement bundle on all fields that will receive an N-inhibitor at least once during the contract period.

### Documentation Required

NRCS-Minnesota Form MN-CPA-046 dtd. 1/ 04 (Practices Certification/Recordkeeping Form-use the pesticide section) or a similar form.

Signature \_\_\_\_\_ Date \_\_\_\_\_