



U.S. DEPARTMENT OF AGRICULTURE

## **Illinois Practice Variance Request Cover Crop 340**

### **REQUEST**

Illinois Corn Growers Association requests a variance from the Conservation Practice Standard (CPS) Cover Crop 340 to allow the reduction of cover crop planting rates and termination timing as part of practice implementation under the NFWF Farmers for Soil Health Partnerships for Climate-Smart Commodities grant in Illinois.

### **JUSTIFICATION**

- In general, NRCS practice standards are how climate impact projections were developed for this overall grant opportunity and modifications to standards may alter projected outcomes.
- Our hypothesis: any reduction in GHG benefits that would come from lower seeding rates will be overcome by the number of producer participants gained and overall impact will be greater over time.
- These introductory cover crop seeding rates are meant to provide an “on-ramp” for farmers new to cover crops providing lower risk and simplified options.

#### **First Time Cover Crop Acres**

Fields receiving cover crops for the first time would have an introductory option to grow cereal rye or an oats/radish mix cover crop at lower seeding rates. This allows less experienced farmers to try a lower risk option for entry into the system.

### **SUPPORTING DOCUMENTATION**

#### **1) Cover Crop ahead of Soybean**

##### **Cereal Rye**

- a) Option to plant cereal rye at a minimum seeding rate of 20 lbs PLS/acre seeding rate if drilled, planted or overseeded. Broadcast and aerial seeding must be consistent with NRCS Practice Standard 340 recommended seeding rate.
- b) Cover crop termination activities must take place at or before cash crop emergence.

#### **2) Cover Crop ahead of Corn**

##### **Cereal Rye**



U.S. DEPARTMENT OF AGRICULTURE

- a) Option to plant cereal rye at a minimum seeding rate of 15 lbs PLS/acre seeding rate if drilled, planted or overseeded. Broadcast and aerial seeding must be consistent with NRCS Practice Standard 340 recommended seeding rate.
- b) Cover crop termination activities must take place at or before cash crop emergence.

#### **Oats/Radish**

- c) Option to plant oats/radish at minimum seeding rate of 20lbs PLS/acre for oats and a minimum rate of 1lb PLS/acre of radish if drilled, planted or overseeded. Broadcast and aerial seeding must be consistent with NRCS Practice Standard 340 recommended seeding rate.
- d) Cover crop will winter terminate.

### **NHQ RESPONSE**

CPS Cover Crop 340 allows the cover crop selection (species, single, mix) to be based upon the producer's objective and the treatment of a resource concern. Simplified or complex is entirely up to the producer's objectives to treat the resource concern.

NRCS references the cover crop seeding guidance provided by Land Grant University Extension services including regional Cover Crop Councils. Illinois is covered by the Midwest Cover Crop Council.

#### **Cereal Rye Request:**

Midwest Cover Crop Council winter cereal rye recommendation is 30-90 lb/A PLS drilled. If using 15 or 30 inch planter rows, use the low end of drilled seeding rate. Illinois Nutrient Research and Education Council's cereal rye planting recommendation is 40-60 lb/A drilled.

Success of overseeding before crop harvest is dependent on rainfall. It is less reliable than drilling, planting, or incorporation.

Low rates may be used on sandy soil or areas that are prone to dry periods in the early spring. May be planted July 19th- August 9th (soil moisture and weather dependent) risk of unreliable establishment. August 9- December 17th (soil moisture and weather dependent) are reliable establishment dates.

#### **NRCS Response for Cereal Rye:**

The request to lower the seeding rate of cereal rye cover crop to 20 lbs PLS/acre is approved contingent upon:



U.S. DEPARTMENT OF AGRICULTURE

- (a) Water and wind soil erosion is controlled with no visible sheet, rill or wind soil movement observed at the site.
- (b) Cover crop will not be used for grazing.
- (c) Use quality seed with high germination tests as locally available.
- (d) Additional termination information: If terminating with only tillage, multiple passes often required. Mow or crimp during reproductive stage (full bloom). Roller crimping is the most difficult/variable termination method. Use caution to completely terminate cereal rye in a timely fashion in wheat growing areas to prevent volunteering and contamination of adjoining and future cereal crops. Adjust termination dates based on soil moisture.

The request to lower the seeding rate of cereal rye cover crop to 15 lbs PLS/acre is approved contingent upon:

- (a) Water and wind soil erosion is controlled with no visible sheet, rill or wind soil movement observed at the site.
- (b) Cover crop will not be used for grazing.
- (c) Use quality seed with high germination tests as locally available.
- (d) Cereal rye is planted as early as possible (September into October).
- (e) Additional termination information: Cereal rye termination date can impact plant available nitrogen and reduce corn yields. Midwest Cover Crop Council recommends termination at least 2 weeks before planting corn.

### **Oats/ Radish Request:**

Midwest Cover Crop Council oats/radish seeding rate recommendations are:

Drilled: 32-40 lb/A Oats, 1.5-3 lb/A Oilseed Radish

Planter: If using 15 or 30 inch planter rows, use the low end of drilled seeding rate.

Overseeding: 40-60 lb/A Oats, 2-4 lb/A oilseed radish.

Before soybean harvest, seeding in late August to first week of September (weather and soil moisture dependent). Rainfall is essential for establishment.

### **NRCS Response for Oats/Radish:**

The request to lower the seeding rate of the oat/radish cover crop mix to 20 lbs PLS/acre oats and 1 lb PLS/acre radish is approved contingent upon:

- a) Water and wind soil erosion is controlled with no visible sheet, rill or wind soil movement observed at the site.
- b) Cover crop will not be used for grazing.
- c) Additional termination information: Termination Zone 4- cover crop is terminated before new crop emergence. If terminating with only tillage, multiple passes often required. Winter/snow cover conditions may affect winter kill.



U.S. DEPARTMENT OF AGRICULTURE

NRCS approves the seeding rate variances in agreement with the Illinois Corn Growers Association that the greenhouse gas emissions projections may be altered. The selected cover crops and mixes are recognized as nitrogen scavengers which have potential to tie up soil nitrogen in the plant material thereby reducing nitrous oxide emissions. The species selected also leave lasting residue with the potential to improve soil carbon sequestration.

NHQ Status: approved, Name: Dr. Betsy Dierberger, National Agronomist, Date: May 30, 2023.

Concurrence: Dr. Terron Hillsman, Ecological Sciences Director, Date: May 30, 2023.