U.S. DEPARTMENT OF AGRICULTURE

REQUEST FOR VARIANCE FARMERS FOR SOIL HEALTH PARTNERSHIP FOR CLIMATE SMART COMMODITY GRANT MICHIGAN COVER CROP 340

REQUEST

Farmers for Soil Health (FFSH) 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 the practice implementation under the Partnership for Climate Smart Commodities grant under the National Fish and Wildlife Foundation.

JUSTIFICATION

FFSH proposes that:

- NRCS standards are how environmental/climate impact projections were developed for this overall grant program and modifications to standards will 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.

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

FFSH proposes reduced seeding rates for cereal rye and an oats/radish cover crop mix. Included were 2 letters of support from Michigan State University under the Director of AgBioResearch and Director of Kellogg Biological Station Long-term AgroEcosystem Research Site.

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.

NRCS references the cover crop seeding guidance provided by Land Grant university Extension services including regional Cover Crop Councils. NRCS CPS Cover Crop 340 planting rate recommendations are supported by MSU Extension and the Midwest Cover Crop Council's Cover Crop Decision Tool. All current CPS Cover Crop 340 planting rates in Michigan adhere to this guidance. Attached documents MCCC 109 and MCCC 110 cover crop recipes reference higher planting rates for cereal rye.

NRCS approves the seeding rate variances in agreement with FFSH that the greenhouse gas emissions projections will 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.

NRCS Response for Cereal Rye Planting Rates

The request to lower the seeding rate of cereal rye cover crop to 20 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. Rationale: The lowered seeding rate will provide 10 seeds per square foot and 8-9 plants per square foot which is a reduction from expected seeds per square foot at the 20 to 25 and PLS is 17 to 21 plants per square foot.

(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.

(e) Termination of cereal rye cover crop before corn: Cereal rye usually grows rapidly in the spring. Terminate when plants are 6 to 12 inches tall and actively growing or about two weeks before planting corn—whichever comes first. Many growers successfully plant corn into terminated cereal rye taller than 12 inches, but new users should terminate when cereal rye is smaller. There is a potential for Nitrogen immobilization if terminated when cereal rye is too mature with a risk to corn yield.

NRCS Response for Oats/Radish Planting Rates

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. Rationale: Lower seeding rate reduces the expected seeds per square foot to 10 and based on PLS to 8-9 plants per square foot for oats from the recommended 15-30 seeds per square foot and 12-25 plants per square foot.

b) Cover crop will not be used for grazing.

NHQ Status: approved

Name: Dr. Betsy Dierberger, National Agronomist, Date: April 4, 2024

BETSY DIERBERGER

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