

Water Quality Enhancement Activity – WQL10 - Plant a cover crop that will scavenge residual nitrogen



Enhancement Description

Plant a cover crop that will scavenge nitrogen remaining in the soil after the harvest of a previous crop. Suitable cover crops include those with at least a “Very Good” rating for scavenging nitrogen as documented in *“Managing Cover Crops Profitably, 3rd Edition”* (Sarrantonio, 1998), Chart 2 Performance & Roles, pg 67. Examples include cereal rye, barley, forage radish and sorghum sudan.

Land Use Applicability

Cropland

Benefits

Planting an annual cover crop to scavenge residual nutrients from cropland after the harvest of a previous crop effectively utilizes residual nutrient resources to supply following crops with nutrients required to efficiently produce food, forage, fiber, and cover while minimizing environmental degradation.

Conditions Where Enhancement Applies

This enhancement applies to only annually planted crop land use acres.

Criteria

Implementation of this enhancement requires:

1. The cover crop selected shall have the growth rate and rooting depth required to effectively scavenge residual nitrogen from the root zone of the previous crop. Suitable cover crops include those with at least a “Very Good” rating for scavenging nitrogen as documented in *Managing Cover Crops Profitably, 3rd Edition, Chart 2 Performance & Roles, pg 67*. Examples include cereal rye, barley, forage radish and sorghum sudan.
2. Timing of planting and seeding rates for cover crops shall follow the recommendations as available in the local NRCS Field Office.
3. The participant must have a current soil test (no more than 3 years old).
4. Nitrogen application rates for the crop following the cover crop must be reduced by the “Land Grant University (LGU) recommendations to account for the recycling of N by the cover crop.



United States Department of Agriculture
Natural Resources Conservation Service

2012 Ranking Period 1

Adoption Requirements

This enhancement is considered adopted when all of the above criteria have been implemented on the land use acre.

Documentation Requirements

Documentation for each treatment area (field) and year of this enhancement describing these items:

1. A map showing where the activities are applied,
2. Cover crop species planted,
3. Cover crop planting date,
4. Cover crop seeding rate (bu/ac),
5. Annual crop planted,
6. Nitrogen application rates/amounts for the annual crop:
 - a. If N application rates increased, technical justification shall be provided for the increase,
 - b. If N application rates were decreased in excess of the default residual value recommended by the LGU, technical justification shall be provided for the decrease, and
7. Treatment acres.

Michigan Supplement

WQL10

Follow the Michigan conservation practice standard, Cover Crop (340).

Refer to Table 1, Cover Crop Species, to choose a plant species identified as EN (Excessive Nutrients). Follow “Additional Criteria to Manage Excess Nutrients” in the Soil Profile.

The amount of N that is scavenged by the cover crop is estimated to be approximately 50% of the available soil nitrates. An estimate of available soil nitrate after harvest can be developed using the farm nutrient balance spreadsheet.

References

Cavigelli, M.A., S.R Deming, L.K. Probyn, and R.R. Harwood (eds.), 1998. Michigan Field Crop Ecology: Managing Biological Processes for Productivity and Environmental Quality. Michigan State University-Extension Bulletin E-2646, 92 pp.

See “Managing Cover Crops Profitably, 3rd Edition”, Chart 2 Performance & Roles (<http://www.sare.org/Learning-Center/Books/Managing-Cover-Crops-Profitably-3rd-Edition/Text-Version>)