

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.

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.

References

Jokela, B. and M. Russelle. 2010. Perennial Forages Benefit Soils, Other Crops, & Water Quality. Forage Focus. USDA-ARS. <http://www.midwestforage.org/pdf/452.pdf.pdf>

Magdoff, F. and H. van Es. Cover Crops. 2000. *In* Building soils for better crops. 2nd ed. Sustainable Agriculture Network Handbook Series. National Agriculture Library. Beltsville, MD. pp 87-96.

Shipley, P.R., J.J. Meisinger and A.M. Decker. 1992. Conserving Residual Corn Fertilizer Nitrogen with Winter Cover Crops. *Agron. J.* 84S69-876.

CSP 2013-1
MISSISSIPPI SUPPLEMENT
WQL10 – Plant a Cover Crop That Will Scavenge Residual Nitrogen

Plant a cover crop that will scavenge for residual nitrogen after the harvest of a previous crop effectively utilizes the nutrient resources minimizing environmental degradation. The producer must plant a cover crop from the list below, have a current soil test (no more than 3 years), and reduce the nitrogen application rate by at least 15% from Mississippi recommendations to account for the recycling of N by the cover crop. For additional information see the national enhancement and the cover crop list below. Refer to the NRCS Conservation Practice Standard Cover Crops, 340, for information on planting dates and rates.

Documentation Requirements:

1. Written documentation of species, planting date, seed rate of the cover crop planted.
2. Written documentation of annual crop planted and nitrogen application rate for the annual crop.
3. Maps showing the fields and acres of this enhancement.

The following annual cover crops are acceptable to meet this enhancement:

Annual ryegrass	Barley
Oats	Rye
Wheat	Sorghum-Sudangrass
Radish	Canola
Berseem clover	

References:

Managing Cover Crops Profitably, 3rd Edition

<http://www.sare.org/publications/covercrops/covercrops.pdf>

Cover crops and rotations. D.W. Reeves

http://www.ars.usda.gov/SP2UserFiles/Place/64200500/csr/ResearchPubs/reeves/reeves_94e.pdf