United States Department of Agriculture
Natural Resources Conservation Service 2013 Ranking Period 1

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.