USDA United States Department of Agriculture

Ohio Nutrient Management Standard (Code 590) Revision Process

Water quality testing and water quality monitoring from Ohio streams and Lake Erie. Photo courtesy of OSU Sea Grant.

Background

U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) uses voluntary conservation planning to meet the needs of farmers while protecting the natural resources. Conservation plans are made up of conservation practices to address these needs. Conservation practices are based on technical standards contained in the NRCS Field Office Technical Guide (FOTG). These standards are updated every 5 years, to incorporate the current scientific understanding of resource protection. These conservation practice standards are not regulatory, but are a technical standard governing participation in USDA Farm Bill Cost Share and Technical Assistance programs. These standards are also available for use by other partners and government agencies.

Nutrient Management Standard (Code 590)

The Nutrient Management Standard (Code 590) is used to manage rate, source, placement and timing of plant nutrients and soil amendments while reducing environmental impacts. Conservation planners can use this practice on all fields where plant nutrients (commercial fertilizer and/or manures) are applied. We use this practice to accomplish one or more of the following purposes: improve plant health and productivity, reduce excess nutrients in surface and ground water, improve air quality, reduce the risk of potential pathogens from manure, biosolids, or compost application from reaching surface and ground water and/or improve or maintain soil organic matter.

Revision Process

In January of 2020, NRCS began to revise the FOTG for Nutrient Management Standard. NRCS formed a 19-member sub-committee of the NRCS State Technical Committee (590 Task Force), which brought diverse and experienced expertise to collaborate on the revision.

The 590 Task Force included representatives from the following organizations:

State of Ohio ODA
State of Ohio ODNR
State of Ohio EPA
Ohio Lake Erie Commission
Ohio State University
Ohio Soil and Water Conservation Commission
Ohio Federation of Soil and Water Conservation Districts
National Wildlife Federation
The Nature Conservancy
Lake Erie Foundation
Ohio Ag Business Association
Central State University
Ohio Farm Bureau
Ohio Livestock Industries
Ohio Commodity Groups
Ohio Certified Crop Advisers
Ohio Ag Producers

Subsurface placement of nutrients to reduce field loss.

Edge of field monitoring.

The 590 Task Force participated in scientific briefings and conducted wide-ranging deliberations.

14
Meetings

37
Hours

6
Months

Briefings

- OSU/Extension Soil Fertility Specialists
- Water Quality Modelers
- State Agency Regulators
- USDA Agricultural Researchers
- Industry and Agribusiness
- NRCS Technical Staff

Technical advisors included scientists, researchers, and field practitioners

- Ohio State University Extension
- Heidelberg University
- Ohio Agricultural Research & Development Center
- USDA Agricultural Research Service
- USDA Natural Resources Conservation Service

The 590 Task Force followed several guiding principles to revise Nutrient Management Standard.

- The recommendations should be grounded in science, and the standard needs to be practical and implementable at farm scale.
- Nitrogen and phosphorus losses in Ohio can impair water quality. Nutrient losses can be reduced with improved conservation practice implementation.
- The standard should align with the revised Tri State Fertility Guide. There is need to draw down high phosphorus soils to the maintenance limit over time.
- The 4R Nutrient Stewardship program of rate, timing, and placement, needs to be a basis of the nutrient management standard. Other practices involving trapping and prevention of nutrient transport must be included in the treatment system.
- A transition period is needed for manure users to transition their manure management systems to these new requirements.

What was Achieved

After much deliberation, the group reached a consensus for a revised standard that will protect Ohio's water quality and is practical and realistic for Ohio farmers to implement and adopt.

- The new draft standard will better protect Ohio's Water Quality by reducing losses of nutrients from Ohio crop fields.
- Simplified the language and made the standard more practical and usable at the field/farm level.
- The recommendations align with the newly revised *Tri State Fertility Guide* and are converted to the now standard Melich III soil test extraction method.
- Developed a more defined path to draw down high soil test phosphorus fields.
- Updated numerical criteria, including establishment of an upper soil test phosphorus limit on manure applications.
- Wider use of in-field and edge-of-field trapping practices was incorporated into the recommendations.
- Updated nutrient assessment procedures and tools identified to help farmers reduce risk of phosphorus loss at all soil test levels.
- Made a commitment to continue the work of the 590 Task Force to improve and refine assessment tools and procedures to evaluate nutrient loss risk.

The Way Forward

NRCS will involve the 590 Task Force and its expertise as the process moves forward through the public comment period, and to the adoption and implementation phase. The 590 Task Force will assist NRCS and the other agencies with the public information, education, and training needed to adopt and practice the new standard on Ohio farms and improve Ohio's water quality.

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