



Changing the Form of Phosphorus Fertilizer Reducing Fall Nitrogen Loss

Increasingly, concern over fertilizer runoff has focused attention on agriculture's impact on water quality. When nutrient concentrations in water increase, algae proliferate and rob water of oxygen, which leads to hypoxia, or a zone of low oxygen harmful to aquatic life. In addition, high nitrate-nitrogen concentrations (> 10 mg/l) in drinking water can pose human health risks.

To help address these concerns, American Farmland Trust, with funding from the U.S. Department of Agriculture Natural Resources Conservation Service, has launched a program to incentivize the use of fall applied Triple Super Phosphate (0-46-0) instead of fall applied Monoammonium Phosphate (MAP, 11-52-0) in the Upper Scioto River Watershed, or USRW.

How does TSP Impact the Upper Scioto River Watershed?

The goal of this program is to reduce nitrogen (N) loading to rivers and streams and thereby improve drinking water for over one million people in Columbus and surrounding communities in the USRW.

Over 70% of the nutrients causing the hypoxic dead zone in the Gulf of Mexico and impaired streams throughout the Mississippi River Basin stem from the unintended consequence of agricultural production.

Ohio has nearly 14 million acres in agriculture, representing about 53% of the state. Also, the Ohio/Tennessee sub-basin is the largest contributor of both N and P to the Mississippi River at 41% and 38%, respectively.





“Triple” was one of the first high analysis phosphorus (P) fertilizers widely used in agriculture. Many older farmers remember it fondly. A decade or two ago, US fertilizer manufacturers shifted production away from TSP and toward MAP and soon domestic production of TSP ceased and it slowly disappeared from the marketplace.

Reasons to Re-introduce TSP Include:



TSP is competitively priced with MAP.



TSP eliminates N loss associated with fall application of MAP on fields with no growing crop.



TSP fits with 4R Nutrient Stewardship (right source, right time, right place, and right rate).

Key Aspects of this Program Include:

1

Fertilizer Retailers receive a per ton **Procurement and Logistics Payment** to help offset the costs of procuring and storing TSP, recruiting farmers to use TSP, applying TSP according to 4R principles, and maintaining TSP application records.

2

Farmers receive a per ton **Cost Reduction Credit** for using fall applied TSP instead of fall applied MAP.

3

Fertilizer Retailers apply the **Cost Reduction Credit** to the Farmer's invoice.

4

Fertilizer Retailers and Farmers attend a meeting on the **agronomic and water quality benefits** of substituting for using fall applied TSP instead of fall applied MAP on fields with no growing crop.

AFT and Partners

Four central Ohio Fertilizer Retailers have agreed to partner with AFT on this program. Farmers in the USRW who may be interested in participating should contact one of these four*:

Central Ohio Farmers Co-op
Nutrien Ag Solutions

Morrall Companies
Heritage Co-op

**Each one of these companies has 4R Certified facilities operating in or around the Upper Scioto watershed. For more information about the 4R Nutrient Stewardship Certification Program, visit 4Rcertified.org*

For over 40 years, the mission of **American Farmland Trust** has been to protect farmland, promote sound farming practices, and keep farmers on the land. AFT is a leader in working side-by-side with farmers and landowners to accelerate adoption of conservation practices.

USDA is an Equal Opportunity Provider, Employer, and Lender

OHIO OFFICE

5655 North High Street, Suite 202, Worthington, OH, 43085
(614) 430-8130 • www.farmland.org