

# Nutrient Levels & Water Quality

Farmers apply Phosphorus (P) to their farmland through **fertilizer or manure** because it's an important macronutrient that all **crops need to grow**.

Although most phosphorus remains in the soil for crop growth, **excess can run off** the field with drainage water.

Phosphorus runoff from farm fields is considered a lead contributor to poor water quality and harmful algal blooms in Lake Erie. Governor DeWine's H2Ohio initiative addresses excess nutrients that may run off farm fields, like phosphorus. H2Ohio takes into account the National Phosphorus Risk Index and Tri-State Fertilizer Guidelines in order to develop Voluntary Nutrient Management Plans (VNMP), the cornerstone Best Management Practice of the program.

## P-Risk

### National Index

Low risk: <50 ppm  
Moderate risk: 50-120 ppm  
High risk: 120-200 ppm  
Very High Risk: >200 ppm

GOOD

**Ohio data shows 97% of tested fields fall into the “Low Risk” category.**

However, “Low Risk” doesn't mean there's no risk. Even low-risk fields leak phosphorus over time.



*The Phosphorus Risk Index is a tool developed by the USDA to assess the potential for phosphorus (P) to move from agricultural fields to surface water.*

## Tri-State

### Fertilizer Recommendations

Deficient: <20 ppm  
Optimal: 20-40 ppm  
Sufficient: >40 ppm

BETTER

**Stay in the “optimal” range for both economic and agronomic benefits.**



*The Tri-State Fertilizer Recommendations for Corn, Soybeans, Wheat, and Alfalfa are guidelines to assist farmers in planning fertilizer amounts based on soil tests. The guidelines were developed by Michigan State University, The Ohio State University, and Purdue University.*

## H2Ohio

Manage levels at  
20-40 ppm

BEST

**Aim for management at 20-40 ppm, which is the sweet spot for:**

- Healthy crop yield
- Reduced P runoff
- Long-term sustainability



Department of  
Agriculture

**H2Ohio**