Next Generation Strategies for Management of Edge-of-Field Nutrient Losses: Overview

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Situation

• Increasing concern for local and regional waters
• Substantial demand for agricultural products
• Hypoxia Action Plan in 2008 called for development and implementation of comprehensive N and P reduction strategies for states in the Mississippi/Atchafalaya River Basin

Gulf of Mexico Hypoxia Goals

EPA-SAB Recommendations: Reduce Total Riverine Nitrogen and Phosphorus Loads by 40%
Soil Nitrate Production vs. Crop Nitrate Uptake

In the shaded areas, the soil produces nitrate, but there is no crop to use it. As a result, some nitrate is lost to waterways.

The majority of nitrate used by corn and soybean comes from soil nitrate production. Corn gets the difference from fertilizer while soybean gets the difference from legume fixation of atmospheric nitrogen.

Twenty-Seven Year Summary

Combined Corn-Soybean System – Same N management – Early Spring Sidedress at 150-160 lb-N/acre

The archived presentation is available at: http://articles.extension.org/pages/21819/chronological-webcast-archive
Nitrate Response to Nitrogen

To Reach our Goals

• WE NEED IT ALL!!
  – N Management
  – Cropping practices/landuse
  – Edge-of-Field Practices

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