

Tier 1) Crop Group Nutrient Application Management: Documentation exists for manure and/or fertilizer application management activities in accordance with basic land grant university (LGU) recommendations. This documentation supports farm specific efforts to maximize growth by application of nitrogen (N), phosphorus (P) with respect to proper nutrient source, rate, timing and placement for optimum crop growth consistent with LGU recommendations. Particular attention is paid to: (1) standard, realistic farm-wide yield goals; (2) credit for N sources (soil, sod, past manure and current year applications); (3) P application rates consistent with LGU recommendations based on soil tests for fields without manure; (4) N based application rates consistent with LGU recommendations for fields receiving manure.

Tier 2) Field Level Nutrient Application Management: Implementation of a formal nutrient management planning is documented and supported with records consistent with efficient use of nutrients for both crop production and environmental management. Nutrient applications are based on: (1) standard yield goals per soil type, or historic yields within field management units; (2) credit for N sources (soil, sod, past manure, and current year applications); (3) P application rates consistent with LGU recommendations based on soil tests and LGU guidelines; (4) *fields* assessed for phosphorus loss risk with a LGU phosphorus risk assessment tool and (5) other conservation tools necessary for proper nutrient source, rate, timing and placement to improve nutrient use efficiency.

Tier 3) Adaptive Nutrient Management: Implementation of Tier 2 Nutrient Application Management (NAM), plus nutrient management contains multi-year monitoring of nutrient use efficiency with the results of this monitoring being integrated into future nutrient management planning. This process evaluates and refines the standard LGU nutrient recommendations using field/subfield specific multiple season records. It further promotes the coordination of amount (rate), source, timing, and placement (method of application) of plant nutrients to further reduce nutrient losses while maintaining economic returns. In addition to the field assessments in Tier 2 NAM, it must include the following elements.

- Multi-year, on-going records from tests or trials including
 - Field/subfield level soil test P (STP) and
 - A nitrogen assessment including but not limited to Illinois Soil Nitrogen Test (ISNT), Corn Stalk Nitrate Test (CSNT), Pre-sidedress Nitrate Test (PSNT) and/or in-field monitoring/strip trials with yield determination to improve upon the standard land grant university recommendations for application

AND/OR

- Precision application technologies to more accurately deliver and record recommendations.