Nutrient Management

Illinois Job Sheet - 590 ***February 2013***

Definition
Nutrient management is managing the source, rate, form, timing, and placement of nutrients.

Purpose
Nutrient management effectively and efficiently uses scarce nutrient resources to adequately supply soils and plants to produce food, forage, fiber, and cover while minimizing environmental degradation.

Where Used
Nutrient management is applicable to all lands where plant nutrients and soil amendments are applied.

Conservation Systems
Nutrient management may be a component of a conservation plan. It is used in conjunction with crop rotation, residue management, cover crops, conservation buffer practices, and/or other practices needed on a site-specific basis to address natural resource concerns and the landowner's objectives. The major role of nutrient management is to minimize nutrient losses from fields, thus helping protect surface and ground water supplies.

Nutrient Management Planning
Nutrient management components of the conservation plan will include the following information:

- field map and soil map
- maps showing sensitive areas and setback areas.
- nitrogen guidelines on fields meeting high risk conditions
- phosphorus will be applied using the Illinois Phosphorus Index where applicable.
- crop rotation or sequence
- results of soil, water, plant, and organic material
- sample analyses
- expected yield
- sources of nutrients to be applied
- nutrient budget, including credits of nutrients
- available
- recommended nutrient rates, form, timing, and
- method of application
- location of designated sensitive areas
- guidelines for operation and maintenance
- Results of Nitrogen and Phosphorus Risk Assessment Procedures.

General Nutrient Management Considerations

- Test soil, plants, water and organic material for nutrient content.
- Set realistic yield goals.
- Follow recommendations for nutrient application based on soil tests.
- Use split applications of nitrogen fertilizer for greater nutrient efficiency.

Guidelines for Operation and Maintenance

- Review nutrient management component of the conservation plan annually and make adjustments when needed.
- Calibrate application equipment to ensure uniform distribution and accurate application rates.
- Protect nutrient storage areas from weather to minimize runoff and leakage.
- Observe setbacks required for nutrient applications adjacent to waterbodies, drainageways, and other sensitive areas.
- Maintain records of nutrient application as required by state and local regulations.

Nutrient Management Job Sheet

Crop Year _____

Producer: _____ Planner: _____ Date: _____

Tract: _____ Field: _____ Acres: _____ Soil(s): _____

Soil P Supplying Power _____ Planned P Buildup Level _____ Lime Group _____

Nitrogen Price_____ Corn Price_____ Nitrogen/Corn Ratio_____

Crop and Yield Information						
Crop Rotation: (circle planned crop if nutrient budget is for a single year)				5 Yr. Average Yield		Yield + 5%
Current Soil Test Levels (use lb/ac on P and K)						
Soil Test Date	CEC	pH	N	P	K	Other
Total Recommended Nutrients (per acre) to Meet Expected Yield						
		Lime	N	P2O5	K2O	Other
Buildup						
Maintenance						
Total						
Nutrient Credits						
Credits			N	P2O5	K2O	Other
Nitrogen credit from legumes						
Manure applications						
Other						
Total Credits						
Additional Nutrients to be Applied						
		Lime (tons)	N	P2O5	K2O	Other
Amount to be Applied (lb/ac)						

Specify Rate Form Method and Timing of Nutrient Applications
DO NOT APPLY NITROGEN IN THE FALL WAIT UNTIL THE 4-INCH, BARE GROUND SOIL TEMPERATURE IS LESS THAN 50^{O} F. THE USE OF A NITRIFICATION INHIBITOR IS HIGHLY RECOMMENDED
Other Recommendations:

Previous Fertility Program										
Field Information			Last 5 Yields					Total Fertilizer Normally Applied		
Tract	Field	Crop	Year 1	Year 2	Year 3	Year 4	Year 5	N	P	K

In addition to nutrient rates shown on the front side of this sheet, the following requirements are needed to meet NRCS's Nutrient Management Standard:

- Rate, timing, and placement of nutrients are based on current University of Illinois (U of I) recommendations.
- Nutrient management plan shall comply with all applicable federal, state, and local laws and regulations.
- Realistic expected yields will be calculated for phosphorus and potassium using the following suggestions:
  - Average of five years for each crop based on producer records, excluding individual years where the yield varied plus or minus 25% of the five year average. Multiply the average by 1.05 or,.
  - Crop insurance yields, Farm Services Agency yields, or county average yields or,
  - Weighted average of the yields based on soil type and yields from the University of Illinois "Average Crop, Pasture, and Forestry Productivity Ratings for Illinois Soils: Bulletin No. 810 or Optimum Crop Productivity Ratings for Illinois Soils: Bulletin No. 811".
- Nutrient management plans will be based on soil tests no older than 4 years. Soil samples will be collected using University of Illinois Agronomy Handbook guidance and analyzed in an approved soil test laboratory. At a minimum, soil tests will include $pH_{(water)}$, phosphorus (Bray P1 or Mehlich-3), and potassium.
- No maintenance phosphorus fertilizer(except starter) is recommended when soil test Phosphorus is > 70, 65, or 60 lb/ac on Low, Medium, and High phosphorus supplying soils respectively.
- Multiple year applications will not be applied on fields or application areas where soil test values are > 300 lb P./ac. No Phosphorus will be applied to field or application areas where soil test values are > 400 lbs. P/.ac.
- Fall applications of nitrogen will be applied according to Illinois Agronomy Handbook guidelines.
- Nitrogen applications will be delayed until spring on all coarse textured soils i.e. sand, loamy sand, and sandy loam
- Nutrients will not be applied to frozen, snow covered, or saturated soil if the risk for runoff exists.
- Nutrient values of manure will be determined prior to land application based on laboratory analysis or acceptable 'book values' recognized by NRCS.

This plan was developed based on NRCS nutrient management requirements and applicable federal, state, and local regulations. This plan may need to be revised if any of these requirements change.
This plan should be reviewed and revised, at a minimum, with each soil test cycle.

I agree with this nutrient management plan and I intend to follow the plan as prepared. I will consult with my planner or NRCS before making any changes in the plan.

I certify that implementation of the plan meets the NRCS's Nutrient Management Standard.

_____ _____ _____ _____

Landowner/Operator Date NRCS Employee Date

_____ _____

Planner Date