

Instructions

Annual Nutrient Budget/Mgt Plan

NE-CPA-38

Instructions for use of NE-CPA-38

General Instructions

ANNUAL NUTRIENT BUDGET & MANAGEMENT PLAN INSTRUCTIONS

Provide/Complete the following information. For additional instructions, see Practice Speciation S-590 for Nutrient Management.

1. Site Information & Location – Attach Copy of Map (Aerial, Topography, USGS, etc.)

- Predominant Soil Map Unit, where Predominant is the largest % soil unit in that field.
- Soil Texture; complete N Leaching Assessment if Soil Texture is Coarse.
- Calculate Realistic Yield (RY) Goal, where RY = 5-year average yield x 105%
 - Example: 100 bu/ac. x 105% = 105 bu/ac = RY.

Coarse	Sand, Loamy Sand, Sandy Loam
Medium	Silt, Silt Loam, Loam
Fine	Silty Clay Loam, Silty Clay, Clay, Clay Loam, Sandy Clay Loam, Sandy Clay

2. If Manure/Organic By-Products (sludge, biosolids, etc.) are applied, determine Phosphorus-Index Risk Rating. (See S-590)

3. Attach Copy of Soil Test Report with Budget – Report should not be older than 3 years.

4. Nutrient Requirements (lb/acre)

- N Requirement
 - (a) For Corn (grain) use following formula for N lb/ac = (RY x 1.2) + 35
 - (b) For crops, refer to Extension EC155 “Nutrient Management for Agronomic Crops in Nebraska” or NebGuides.
- P₂O₅, K₂O, S & Zn Requirements – Show recommended rates based on soil test levels, refer to EC155 or Crop Specific NebGuides.

5. Soil Test Residual Nitrate-Nitrogen – Use information from soil analyses

STEP 1 – Calculate Nitrate-N Average Weighted Value (AWV) as follows (or Proceed to Step 2 if done):

$$\frac{\{\text{Soil layer (in.)} \times \text{NO}_3^- \text{ (ppm)}\} + \{\text{Soil layer (in.)} \times \text{NO}_3^- \text{ (ppm)}\} + \{\text{Soil layer (in.)} \times \text{NO}_3^- \text{ (ppm)}\}}{\text{Total Soil Test Depth}} = \text{AWV}$$

STEP 2:- Calculate Soil Test Residual Nitrate-N = {(Average Weighted Value for N (ppm)) x 8}

*IF no information is reported for soil layers of 24”- 48” or 36”- 48”, use 3 ppm.

6. Determine the Soil Organic Matter (O.M.) N Credit

- For Corn: Soil O.M. N Credit = {O.M. % (from soils report) x RY x 0.14}
- For Other Crops: based on University software, NebGuides or Extension Circulars.

7. **Irrigation Water N Credit (only if concentration is 10 ppm or greater) - Attach copy of Water Analysis (if applicable):**
 - Pounds of N/acre credited = {(inches pumped x ppm nitrate X 2.7) ÷ 12 inches}
8. **Legume Credit (previous years crop (as applicable)):**
 - Use 45 lb. for soybeans; 150 lb. for alfalfa or 100 lb. for alfalfa on sandy soil soils (Planning Sheet 11).
9. **Manure credit within last 3 years (as applicable) – Attach Copy of Manure Analysis with Budget (if applicable).**
 - Record manure type (slurry, liquid, solid) & rate (tons/acre; gallons/acre; ac-in/acre) applied from one to three years ago.
 - Credit is based on manure test, or NebGuide G1335 “Determining Crop Available Nutrients from Manure”.
 - Record pounds of N, P₂O₅ and K credited from prior and current year manure applications.
10. **Total Credit (lb/acre) = {#5 + #6 + #7 + #8 + #9}**
11. **Nutrient Recommendations (lb/acre) = {Total Credits (#10) minus Requirements/Needs (#4)}.**
12. **Notes & Calculations** - Use this area to record calculations or references.
13. **Record Recommended / Planned Nutrient Application for Current Year** - Obtain info from soil test or from crop consultant.
 - **List the Nutrient Source (Type):** Commercial, Manure, Biosolids, Compost, etc.;
 - **List Formulation or Form of Nutrient:** 82-0-0 gas; 10-34-0 dry; Slurry-Swine; Solid-Beef; Lagoon-Dairy, Runoff-Beef, etc.;
 - **Provide Planned Timing & Method** of nutrient application (example: spring planting, fall knife, etc.);
 - **Provide Planned Total (Gross) Application Rate per Acre** (lb/ac, gallons/ac, tons/ac) of each source;
 - **Calculate Actual (Net) Application Rate (lb/acre)** for each nutrient by source;
 - **Calculate Total Nutrients (lb/acre)** to be applied;
 - **Check Yes or No** if Nitrification-Inhibitor is planned.
14. **Record Actual Nutrient Application for Current Year** - Obtain info from soil test or from crop consultant.
 - **List the Date of Application** (mo/yr);
 - **List the Nutrient Source (Type):** Commercial, Manure, Biosolids, Compost, etc.;
 - **List Formulation or Form of Nutrient:** 82-0-0 gas; 10-34-0 dry; Slurry-Swine; Solid-Beef; Lagoon-Dairy, Runoff-Beef, etc.;
 - **Provide Total (Gross) Application Rate per Acre** (lb/ac, gallons/ac, tons/ac) of each source;
 - **Calculate Actual (Net) Application Rate (lb/acre)** for each nutrient by source;
 - **Calculate Total Nutrients (lb/acre)** to be applied;
 - **Check Yes or No** if Nitrification-Inhibitor was used.
15. **Record Actual Yield (bu/acre; tons/acre).**

References

Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard – Nutrient Management, 590 <http://efotg.nrcs.usda.gov/references/public/NE/NE590.pdf>

Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard – Nutrient Management (590) Job Sheet – Annual Nutrient Budget (Appendix A) <http://efotg.nrcs.usda.gov/references/public/NE/NE590ApA.pdf>

Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard – Nutrient Management (590) References – (Appendix B) http://efotg.nrcs.usda.gov/references/public/NE/NE590_Ap_B.pdf

UNL Neb-Guides and Extension Circulars are located and can be ordered at <http://www.ianr.unl.edu/pubs/>

UNL Soil Test Computer Program is located on NRCS Field Office computers at C:/eng/IRRIGATION/Soil Test/soilsmenu.exe

UNL spreadsheets can be accessed through the Nebraska NRCS homepage by clicking on field office tech guide, Section IV, Tools at <http://www.ne.nrcs.usda.gov/techresources/eFOTG> Index. This will provide a direct link to UNL websites.

Nebraska Conservation Planning Sheet 11 “Nutrient Management is available at NRCS field offices