

NATURAL RESOURCES CONSERVATION SERVICE
MONTANA CONSERVATION PRACTICE JOB SHEET

NUTRIENT MANAGEMENT (ACRE)

NUTRIENT BUDGET

CODE 590B

LANDOWNER/OPERATOR _____ FIELD NO. _____ TRACT NO. _____

PLANNER _____ JOB CLASS _____ DATE _____

PURPOSE (CHECK ALL THAT APPLY):

<input type="checkbox"/>	Budget and supply nutrients/amendments for plant production source.	<input type="checkbox"/>	Utilize manure/organic materials as a nutrient source.
<input type="checkbox"/>	Minimize non-point source pollution (water quality)	<input type="checkbox"/>	Maintain or improve soil conditions.
<input type="checkbox"/>	Protect air quality.		

TABLE 1. FIELD CONDITIONS AND RECOMMENDATIONS

CROP SEQUENCE / ROTATION AND YIELD (CIRCLE CURRENT CROP)					
CROP/FORAGE	YIELD	CROP/FORAGE	YIELD	CROP/FORAGE	YIELD

CURRENT SOIL TEST LEVELS						SOIL ANALYSIS DATE _____		
NO ₃	UNITS	P	UNITS	K	UNITS	pH	O.M.%	E.C.

RECOMMENDED NUTRIENTS / AMENDMENTS TO MEET YIELDS			
NO ₃	P ₂ O ₅	K ₂ O	pH

TABLE 2. NUTRIENT SOURCES

CREDITS	NO ₃ POUNDS PER ACRE		P ₂ O ₅ POUNDS PER ACRE		K ₂ O POUNDS PER ACRE	
1. Nitrogen credits from previous crop or legume.						
2. Residual from long-term manure application.						
3. Irrigation water.						
4. Other (rainwater, additional O.M., etc.)						
5. TOTAL CREDITS						
PLANT AVAILABLE NUTRIENTS APPLIED TO FIELD	BUDGET	ADJUST	BUDGET	ADJUST	BUDGET	ADJUST
6. Credits (from Row 5, above)						
7. Fertilizer/ Amendment	Starter					
	Other (Commercial, etc.)					
8. Manure/Organic Materials						
9. SUBTOTAL (SUM OF LINES 6, 7, and 8)						
10. NUTRIENTS RECOMMENDED FOR YIELD						
11. Nutrient Status (subtract line 10 from line 9)						
12. Additional N needed to offset tie-up (MT590)			ENTER TOTAL LBS. RESIDUE			
ADDITIONAL N ADDED FOR SOIL QUALITY PURPOSES						
TOTAL CROP NUTRIENT APPLICATION						

CERTIFICATION STATEMENT:

I hereby certify that this practice has been installed in accordance with NRCS standards and specifications.

NRCS Conservationist

JOB APPROVAL AUTHORITY

Date

Date

MT590B-JS2

INSTRUCTIONS:

When filling out the nutrient budget, realistic yields may have to be adjusted to reflect the amount of nutrients available considering nutrients may not be available for application prior to planting the planned crop. For example, if a soil test is completed in October and a spring-seeded crop is planned, it is already too late to plant green manure or cover crops to add nutrients. Therefore, the budget will be completed to simply ascertain the potential yield to expect assuming moisture is not limiting.

Crop rotation and yield: Enter the planned crop and realistic yield goals.

Current soil test levels: Enter the soil test levels from the analysis and appropriate units. Enter date of soil analysis.

Recommended nutrients to meet yield: Enter the Montana State University (MSU) nutrient recommendations to reach the realistic yield goals.

Nutrient Credits

1. Enter the nitrate-nitrogen credits from the soil analysis OR estimated nitrates from previous season green manure or cover crop (see specification for estimates).
2. Enter residual nitrates available from manure applications (only required when current soil test is unavailable).
3. Enter nitrates available from application of irrigation water (from a water analysis).
4. Enter amount of nitrate nitrogen available from mineralization (see specification for details).
5. Add lines 1-4 for estimated currently available total nitrate nitrogen.

Applied nutrients

6. In the budget column, enter the nutrients estimated from line 5.
7. If organic forms of commercial fertilizer are used, enter the actual amounts of N, P, and K applied.
8. If manure was applied, enter the actual amounts of N, P, and K available to the plant based on amounts applied (from manure analysis and amount applied).
9. In the budget column, enter the subtotal of estimated nutrients available to raise a crop or forage.
10. Enter the amounts of recommended nutrients from the "Recommended Nutrients" section.
11. Subtract. This number reflects the amount of nutrients available to grow the crop/forage. From this number, a better estimate of appropriate yield can be calculated. For example, if spring wheat yields are estimated at 35 bushels per acre but only 60 lbs of nitrogen are present in the soil, the producer can only expect an 18-20 bushel per acre yield.
12. If high carbon crops are grown in the previous year, nitrogen may be tied up temporarily while carbon is broken down into available forms of nitrogen. In general, 10 pounds of additional nitrogen is needed per 1,000 pounds of residue over 3,500 pounds (example 5,000 pounds of residue from crop – 3,500 = 1,500 Lbs. Add 15 pounds of N).
13. In the "adjustment column", enter the amounts of nutrients for each block adding estimated amounts of actual N from organic commercial fertilizer, from manure applications, from green manure, or from cover crops. The goal is to have enough nutrients (plus a little extra) available to the plant to yield the objective yield. If the results calculated in Line 11 total "0", the nutrient available balance the yields expected. If they do not balance, addition of nutrients to the soil will be required.