

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

NUTRIENT MANAGEMENT

(Acre)
CODE 590

The nutrient management component of a Resource Management System (RMS) is a record of the producer's decisions for managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments.

The objective for applying nutrient management in accordance with the 590 Standard is to enhance the quantity and quality of commodities while minimizing negative impacts of excess nutrients on soil, water, air, plant and animal resources and on humans. A narrative can be developed that explains what is required to be done for the chosen alternative. The Planner should explain how the alternative fulfills RMS criteria.

The NM 590 Jobsheet will be used when planning and applying alternatives that include nutrient management. See Instructions starting on page 3.

The following components shall be included in the nutrient management practice specification:

- Field(s) identification (name or number) and acres,
- aerial photograph or map and a soil map of the site,
- current and/or planned plant production sequence or crop rotation,
- results of soil, plant, water, manure or other organic by-product sample analyses,
- realistic yield goals for the crops in the

rotation,

- quantification of all nutrient sources,
- recommended nutrient rates, timing, form, and method of application and incorporation,
- location of designated sensitive areas or resources and the associated, nutrient management restriction,
- guidance for implementation, operation, maintenance, record keeping, and
- complete nutrient budget for nitrogen, phosphorus, and potassium for the rotation or crop sequence.

If increases in soil phosphorus levels are expected, the specification shall document:

- the Phosphorus Index Rating (NM PI) at which it may be desirable to convert from a nitrogen base to phosphorus based implementation, (see the NM PI),
- the relationship between soil phosphorus levels and potential for phosphorus transport from the field, (see the NM PI), and
- the potential for soil phosphorus draw-down from the production and harvesting of crops.

Nutrient Management should be considered inseparable from soil health. To move towards a Soil Health Management System (SHMS), a comprehensive evaluation of chemical, physical and biological indicators is

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

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needed. This includes:

- Plant tissue tests for a more precise evaluation the fate of applied nutrients
See NMSU Extension Guide A-123.
http://aces.nmsu.edu/pubs/_a/a-123.html
- Water tests for salt and other nutrient levels See NMSU Extension guide W-102
http://aces.nmsu.edu/pubs/_water/Guide_W-102.pdf
- Slake test for aggregate stability.
<http://ocw.tufts.edu/data/32/383298.pdf>
- Available water capacity determination to measure soils ability to store water.
<http://www.nm.nrcs.usda.gov/technical/tech-notes/agro/ag46.pdf>
- Surface and subsurface hardness to measure soils resistance to infiltration
<http://soilhealth.cals.cornell.edu/extension/manual/2testing.pdf>
- Active Carbon test to evaluate the level of microbial activity in the soil see:
http://www.nm.nrcs.usda.gov/technical/handbooks/iwm/NM_IWM_Field_Manual/Section17/17a-Reactive_C_Field_Kit_Overview_power_point.pdf
- Potentially mineralize-able Nitrogen a biological activity indicator and N indicator
- Root health rating to measure root health and vigor
- Earthworm count, an additional biological indicator
<http://soilhealth.cals.cornell.edu/extension/manual/2testing.pdf>

OPERATION AND MAINTENANCE

Operation and maintenance will address the following:

- Continuous evaluation of soil health indicators
- periodic specification review to determine if adjustments or modifications to the practice are needed. As a minimum, the specification will be reviewed and revised with each soil test cycle.
- protection of fertilizer and organic by-product storage facilities from weather and accidental leakage or spillage.
- calibration of application equipment to ensure uniform distribution of material at planned rates.
- documentation of the actual rate at which nutrients were applied. When the actual rates used differ from or exceed the recommended and planned rates, records will indicate the reasons for the differences.

Maintaining records to document practice implementation. As applicable, records include:

- soil test results and recommendations for nutrient application,
- quantities, analyses and sources of nutrients applied,
- dates and method of nutrient applications,
- crops planted, planting and harvest dates, yields, and crop residues removed,
- results of water, plant, and organic by-product analysis, and
- dates of review and person performing the review, and recommendations that resulted from the review.

Records should be maintained for five years; or for a period longer than five years if required by other Federal, state, or local ordinances, or program or contract requirements.

Workers should be protected from and avoid unnecessary contact with chemical fertilizers and organic by-products. Protection should include the use of protective clothing when working with plant nutrients. Extra caution must be taken when handling ammonia sources of

nutrients, or when dealing with organic wastes stored in unventilated enclosures.

The disposal of material generated by the cleaning nutrient application equipment should be accomplished properly. Excess material should be collected and stored or field applied in an appropriate manner. Excess material should not be applied on areas of high potential risk for runoff and leaching.

The disposal or recycling of nutrient containers should be done according to state and local guidelines or regulations.

Instructions for 590 Jobsheet

Report sheet



Note: Many of the data entry boxes have a pop-up comment that describes how the data should be entered.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	N.M.S.U. Soil Test Interpretation Report vs 5.0 - (590 Nutrient Management Jobsheet)														
2	XC to County Agent: CURRY			Field ID: 5			Crop Rotation: Corn silage winter wheat								
3	Client Name: IMR Dairy			Record #: 1			Square feet			or Acres: 6.00			Irr. Water (ac/in/ac): 30		
4	Address: RR 1			Planner Name:			Form:								
5	Clovis			Soil Con:			Notes:								
6	Zip Code: 88101			Date: 4/12/2012			Depth Increment (in): 12			<input checked="" type="checkbox"/> Sodium Adsorb. Ratio: 1.0			ESP: 0.21		
7	Phone: 222 222 2222			Note: E.C.-Electrical Conductivity or Salliness, O.M.-Organic Matter, and ESP-Exchangeable Sodium %.											

Enter Client Name, Address and Phone.

Enter Zip Code from pull down menu. County Name will auto-populate on first line, (XC to County Agent).

Enter Field ID and Crop Rotation.

Enter Record#, Square Ft. or Acres.

Enter Irrigation Water (ac in/ac). This is the total inches of water applied per irrigation season. It will be used to calculate the lbs of Nitrate-N, (NO₃-N), applied in seasonal irrigation water if tested.

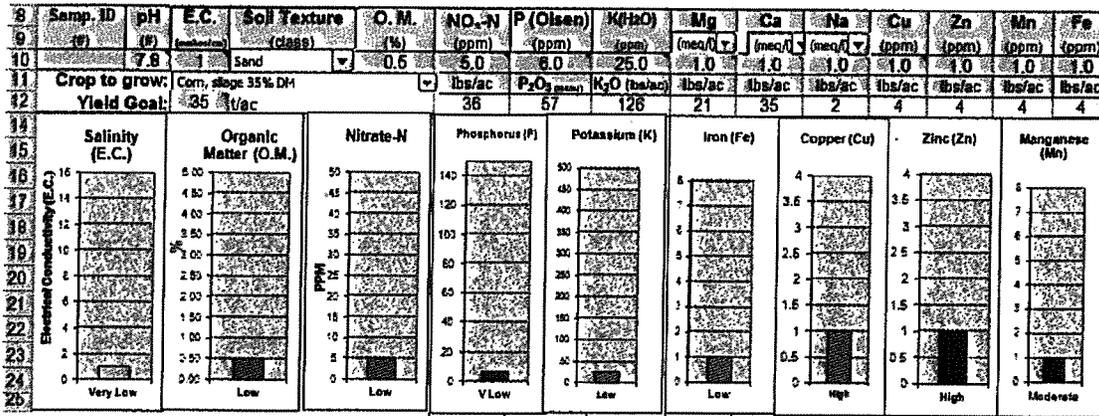
Enter Planner Name and Form Notes.

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Enter Date that the interpretation was completed.

Enter Depth increment (in) that sample was taken from.

Sodium Adsorption Ratio, (SAR) and Exchangeable Sodium Percentage, (ESP) are calculated and will auto-populate based on level of Na, Mg and Ca entered.



Enter Sample ID#

Enter pH, EC, Soil Texture, OM, NO₃-N, P(Olsen), K(H₂O), Mg, Ca, Na, Cu, Zn, Mn and Fe from an approved laboratory's analysis. Make sure units for Mg, Ca and Na are entered as reported in the lab analysis, either as meq/l or as ppm. Amounts in lbs/ac and color-coded bar graphs will auto-populate.

Enter Crop to Grow from pull-down menu and enter Yield Goal.

Nutrient Recommendation:		N	P ₂ O ₅	K ₂ O	Mg	Ca	Fe	Cu	Zn	Mn
		lbs/ac	lbs/ac	lbs/ac	lbs/ac	lbs/ac	lbs/ac	lbs/ac	lbs/ac	lbs/ac
Recommended Nutrient Rate:		55	0	0	0	0	7.5	0	0	0
Organic Nutrient Source (Liquid or Solid Manure):		0	0	0						
Irrigation Water Credits (ppm NO ₃ -N):		0								
Other Nutrient Sources (Standing Legume Crop):										
Supplemental Nutrient Rate:		55	0	0	0	0	8	0	0	0
Available Nutrients > Crop Requirements:		NO	NO	NO	NO	NO	NO	NO	NO	NO
General Note:	Apply P2O5 & K2O at planting time if needed. Apply 1/2 N at planting time and side-dress 1/2 at lay-by. Split applying and banding can improve fertilizer efficiency.									
	Specific Notes:									

Recommended Nutrient Rate auto-populates from data entered.

Organic Nutrient Source auto-populates from entries on the Organic Nutrient Source sheet, if used.

Irrigation Water Credits can be added from a water analysis report.

Other Nutrient Sources such as from a standing legume crop can be added. See Nitrogen Credits Table on page 12

Supplemental Nutrient Rate auto-populates.

If Available Nutrients > Crop requirements, a "Yes" appears. If not "No" appears. If the word "Caution" appears it indicates that the nutrient will exceed recommended levels

General Note auto-populates. Specific Notes can be added.

Salinity Rating	Very Low	Gypsum Rate (lbs/1000 ft ²)	0	lbs/ac or	0	lbs/1000 ft ²	No sodium issues
Salinity not an issue.		Suggested Fertilizer Blend	859	lbs/ac	N Sulfone 28%		3,298.0 lbs Total Needed
		Total Blend (lbs/ac)	716	57	lbs/ac	18-46-0 (DAP)	285.8 lbs Total Needed
		Blend Cost (\$/ac)	\$35.15	0	lbs/ac		0.0 lbs Total Needed
Client Signature:		Planner Signature:			27%	4%	0%
Fertilizer Cost Note: Default costs are from NASS and are estimated. Enter actual cost in "Fert Cost" tab. Application cost not included.							

Salinity Rating auto populates.

Gypsum Rate auto-populates.

Suggested Fertilizer Blend auto-populates lbs/ac and total lbs needed. The N, P and K materials are selected on the Fertilizer Cost sheet from the pull down menus. These choices auto-populate the second and third columns and the salmon colored box next to the Planner Signature box.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	N.M.S.U. Soil Test Interpretation Report v5.0 - (590 Nutrient Management Jobsheet)														
2	County Agent:	CURRY	Field ID:	6	Crop Rotation:	Corn silage winter wheat									
3	Client Name:	MR Dairy	Report #:	1	Source:	feet	or Acres:	5.88	Irr. Water (ac/ha):	30					
4	Address:	RR 1	Planner Name:		Form:										
5		Clovis	Soil Con:		Notes:										
6	Zip Code:	88101	Date:	4/2/12	Depth Increment (in):	12	<input type="checkbox"/>	Sodium Adsorb. Ratio:	1.8	ESP:	0.21				
7	Phone:	222 222 2222	Note: E.C.-Electrical Conductivity; or Saliness O.M.-Organic Matter, and ESP-Exchangeable Sodium %												

When all data has been entered the Save to Farm Sum button will auto-populate the Farm Summary of Nutrient Recommendation sheet which can be used to share data with the producer.

Organic and Manure Application sheet

Organic Nut Source **Report** **Farm Sum** **Plat** **Records** **Tables**

590 Nutrient Mgt. Jobsheet for Organic and Manure Land Application					
Client Name:	Mr Dairy Producer	Acres:	130	Date:	4/2/2012
Application information (enter the units that will be or has been applied to the field):	Crop Rotation:	Corn silage Wheat		Needed for field (acin):	130
	Liquid Applied:	1	Acin/ac	(gal):	3,529,500
	Solids Applied:	1	ton/ac	Needed for field (tons):	130
	Liquid Loads Applied:	1	1000gal/ac	Loads needed for field:	130

Client Name, Acres, Date, Field ID and Crop Rotation will auto-populate from data entered on the Report sheet.

Enter Liquid Applied. Needed for Field (ac in) and (gal) will auto-populate

Enter Solids Applied. Needed for Field(tons) will auto-populate

Enter Liquid Loads Applied. Loads needed for Field will auto-populate.

Solid Lab Report	% Moisture		TKN (x) (dry)		NH ₄ -N (ppm) (dry)		P ₂ O ₅ (x) (dry)		K ₂ O (x) (dry)	
Fill in Lab data:										
Solid Book Values (select even if test values are used)	% Moisture		TKN (lbs/wet ton)		NH ₄ -N (lbs/ton)		P ₂ O ₅ (lbs/wet ton)		K ₂ O (lbs/wet ton)	
	Book	Test	Book	Test	Book	Test	Book	Test	Book	Test
Beef (DM)	0	0	34	0	10.3	6.0	35	0	60	0

Enter Solid-Lab Report data for: Moisture, TKN, NH₄-N, P₂O₅ and K₂O

Select type of Solids from pull down menu. Book values will auto-populate. Enter Test values.

Liquid Lab Report	NH ₄ -N (mg/L)		TKN (mg/L)		NO ₃ -N (mg/L)		Tot-PO ₄ (mg/L)		K (mg/L)	
Fill in Lab data:										
Liquid	% Moisture		TKN (lbs/dash)		NH ₄ -N (lbs/dash)		P ₂ O ₅ (lbs/dash)		K ₂ O (lbs/dash)	
	Book	Test	Book	Test	Book	Test	Book	Test	Book	Test
NM Dairy Ponds (99-99.4% liq.)	99		106	0	59	0	35	0	256	0
	TKN (lbs/1000gal)		NH ₄ -N (lbs/1000gal)		P ₂ O ₅ (lbs/1000gal)		K ₂ O (lbs/1000gal)			
	Book	Test	Book	Test	Book	Test	Book	Test	Book	Test
			3.9	0.0	2.2	0.0	1.3	0.0	9.4	0.0

Enter Liquid-Lab Report data for: TKN, NH₄-N, Total P₄ and K₂O

Select type of Liquid from pull down menu. Book values will auto-populate. Enter Test values.

N Volatilization			
Solid (type of application)	Type of Climate	Percent Remaining	NH ₄ -N Remaining
Broadcast-incorporated in 4 days	Warm Wet	80 %	8 (lbs/ton) NH ₄ -N
Liquid (type of application)	Type of Climate	Percent Remaining	NH ₄ -N Remaining
Sprinkler w/o incorporation	Warm Wet	55 %	1.2 (lbs/100gal) NH ₄ -N

Select type of Solid application and Type of climate from pull down menus. Percent Remaining and NH₄-N Remaining will auto-populate.

Select type of liquid application and Type of climate from pull down menus. Percent Remaining and NH₄-N Remaining will auto-populate.

Mineralization of N, P, & K				
Manure Source	Percent Nutrient Available the 1st Year			
	Organic N	P	K	
Soy meal (6.5-15-24)	75 %	75 %	80 %	Solid Source
Lagoon or diluted Pond	40 %	75 %	80 %	Liquid Source
Solid	Organic N (lbs/ton)	P ₂ O ₅ (lbs/ton)	K ₂ O (lbs/ton)	
	18	26	48	
Liquid	Organic N (lbs/ac)	P ₂ O ₅ (lbs/ac)	K ₂ O (lbs/ac)	
	18	26	205	
	Organic N (lbs/100gal)	P ₂ O ₅ (lbs/100gal)	K ₂ O (lbs/100gal)	
	0.69	1.0	7.5	

Select Manure Source from pull down menus. All other boxes will auto-populate.

Denitrification of N		
Organic Matter Content (%)	Soil Drainage Class (See Survey Information)	Percent Remaining (%)
12	Poorly Drained	60

Select type Organic Matter Content % and Soil Drainage Class from pull down menus. Percent Remaining will auto-populate.

Summary of Nutrients			
Net by Form as applied	lbs/1000gal	lbs/ac in	lbs/ton
N	1.1	31	13
P ₂ O ₅	1.0	26	32
K ₂ O	7.5	205	54
Total Nutrients Applied (net to the field)	All Forms N (lbs/ac)	P ₂ O ₅ (lbs/ac)	K ₂ O (lbs/ac)
	178.2	233.1	1043.1

Summary of Nutrients will auto-populate.

Farm Summary of Nutrient Recommendation sheet

Farm Summary of Nutrient Recommendation											
Client	MR Dairy	Date:	4/1/12	Planner:	Soil Con	Year:	2007				
Field Data	Record #	1	2	3	4	5	6	7	8	9	Total by Farm
	Field #	5									
	Acres:	5									5
Nutrients Needed	Crop Grown:	Com. silage 35% DM									
	N (lb/acre)	263									
	P ₂ O ₅ (lb/acre)	80									
Material per acre	K ₂ O (lb/acre)	80									
	Effluent (gal/acre)	4.0									
	Effluent (lb/acre)	108,600									
	Solids (lb/acre)	4.0									
	N (lb/acre)	56									
	P ₂ O ₅ (lb/acre)	0									
	K ₂ O (lb/acre)	0									
	Effluent (lb/acre)	20									20
	Effluent (gal/acre)	543,000									543,000
	Solids (lb/acre)	20									20
Material Needed, field basis	N Fert. (lb/acre)										
	N Fert. (lb/acre)	619									619
	P ₂ O ₅ Fert. (lb/acre)										
	P ₂ O ₅ Fert. (lb/acre)	0									0
	K ₂ O Fert. (lb/acre)										
	K ₂ O Fert. (lb/acre)	0									0

Client, Date, Planner and Year, Field Data, Nutrients Needed, Material per Acre and Material Needed, field basis will auto-populate.

Clear Summary button clears the page.

This sheet can be used to present multiple field nutrient analysis data to the farmer.

Phosphorous Removed sheet

590 Nutrient Management Jobsheet for Phosphorus Removed by Crop Harvest						
Client Name: MR Dairy			Date: 4/1/2012			
P Index (#): 35			P Based (at 1.5 X crop removal)			
Field: 5						
Type of Application (Units)	P ₂ O ₅ (lbs/units)	Crop (name)	Acres (Ac)	Organic P ₂ O ₅ Applied (lbs/ac)	P ₂ O ₅ Crop Uptake (lbs/ac)	Total Amt. that can be applied by type* (Units/ac)
Liquid (ac in):	26.3	Corn, silage 35% DM	5	26	140	8.0
Liquid (1000 gal units):	1.0			1		217.6
Solid (tons):	26.5			26		8.0
Total P Applied				54		

***Note:** "None" means that because of the risk of P in the environment no more organic nutrients can be applied until the PI drops to 37 or lower. "NA" means that no application of that type is scheduled. The number is the number of acre inches, 1000 gal units, or tons that can be applied and meet the P restrictions. "N Based" means that organic nutrients can be applied based on the N requirement of the Crop.

Client Name, Date and Field will auto-populate.

Enter the P Index (#) from The Phosphorous Index, (PI) for NM. See Agronomy Technical Note 57. Download "Worksheet" under Agronomy Tech note 57.
<http://www.nm.nrcs.usda.gov/technical/tech-notes/agro.html>

Remainder of boxes will auto-populate

Records sheet

NUTRIENT MANAGEMENT RECORDS JOBSHEET											
Client:			Report Period:			to			Reviewer: mas		
Truck Spreader Size (dry):			tons/load			Spreader Size (Liquid):			gallons		
Date:											
Application Record											
Field #	Date Applied (date)	Acres (ac)	Current Crop (name)	Past Crop (name)	Harv. Date (mm/dd)	Yield (unit/ac)	Field Applied (lbs/ac)	Field Applied (lbs/ac)	Field Applied (lbs/ac)	Field Applied (lbs/ac)	Field Applied (lbs/ac)
N Application Section											
Vol. of Effluent Applied (ac in)						31 lbs/ac in	26 lbs/ac in	205 lbs/ac in			
Loads Dry Applied (Number)						16 lbs/ton	26 lbs/ton	48 lbs/ton			
Loads Liquid Applied (Number)						1.1 lbs/1000 gal	0.97 lbs/1000 gal	7.536 lbs/1000 gal			
Commercial N applied with seed:											
Commercial N applied, rest of the year:											
Res. Removed (lbs/ac)	Gross N (lbs/unit)	166 lbs/ac in		Total N applied:		Total P ₂ O ₅ :		Total K ₂ O:			
		44 lbs/ton		Recom. N		Recom. P ₂ O ₅ :		Recom. K ₂ O:			
Field #	Date Applied (date)	Acres (ac)	Current Crop (name)	Past Crop (name)	Harv. Date (mm/dd)	Yield (unit/ac)	Field Applied (lbs/ac)	Field Applied (lbs/ac)	Field Applied (lbs/ac)	Field Applied (lbs/ac)	Field Applied (lbs/ac)
N Application Section											
Vol. of Effluent Applied (ac in)						31 lbs/ac in	26 lbs/ac in	205 lbs/ac in			
Loads Dry Applied (Number)						16 lbs/ton	26 lbs/ton	48 lbs/ton			
Loads Liquid Applied (Number)						1.1 lbs/1000 gal	0.97 lbs/1000 gal	7.536 lbs/1000 gal			
Commercial N applied with seed:											
Commercial N applied, rest of the year:											
Res. Removed (lbs/ac)	Gross N (lbs/unit)	166 lbs/ac in		Total N applied:		Total P ₂ O ₅ :		Total K ₂ O:			
		44 lbs/ton		Recom. N		Recom. P ₂ O ₅ :		Recom. K ₂ O:			
Formula for Effluent Applied: Field applied (lbs/ac)=(lbs N, P, or K/acin) x (acin) applied / (field ac)											
Formula for Dry Applied: Field applied (lbs/ac)=(lbs N, P, or K/ton) x (tons/load) spreader x (number of loads) / (field ac)											
Formula for Liquid Spreader Applied: Field applied (lbs/ac)=(N, P, or K/1000 gal) / 1000 x spreader size (gal) x (number of loads) / (field ac)											
Summary of Nutrients											
Net by Form as applied	lbs/1000gal	lbs/ac in	lbs/ton								
N	1.1	31	16								
P ₂ O ₅	1.0	26	26								
K ₂ O	7.5	205	48								
Total Nutrients Applied (net to the field)	All Forms N (lbs/ac)	P ₂ O ₅ (lbs/ac)	K ₂ O (lbs/ac)								
	186.6	211.9	1018.9								

Auto-populates from Organic Nutrient Source sheet, Summary of Nutrients.

A producer can use this form to keep a record of the volume of effluent, loads of dry manure, loads of liquid applied in addition to the commercial N, P₂O₅ and K₂O that is applied.

Fertilizer Cost sheet

Organic Nut Source Report Farm Sum Materials **Fert. Cost** Tables Fert. Cost Data Reference

Least Cost Fertilizer and Blending Sheet												
Fertilizer Need												
Supplemental Nutrient Rate (lbs/ac):	N	P ₂ O ₅	K ₂ O	The table starting at row 31 contains average costs of fertilizer from NASS SW, M, and SC regions. No delivery, blending, or application costs have been added.								
195	26	0	0									
Fertilizer Blend												
Select N, P, and K material	Blending Section			Need	Caution			Blended Fertilizer Mix				
K ₂ O Material	# from K material	P from K material	K from K material	lbs/ac need	# balance	P balance	K balance	Total lbs Needed (lbs/ac)	Total lbs Needed (lbs/blend)	(%) N	(%) P ₂ O ₅	(%) K ₂ O
8-23-30	0	0	0	0	(186)	(26)	0	501	2,503	39%	5%	3%
P ₂ O ₅ Material	# from P material	P from P material	K from P material	Added lbs/ac need	# balance	P balance	K balance					
8-32-16	7	26	13	82	(188)	0	13					
N Material	# from N material	P from N material	K from N material	Added lbs/ac need	# balance	P balance	K balance					
Urea 45% N	186	0	0	418	0	0	13					
				0	0	0	13	Total deficit or surplus for blend.				
Fertilizer Cost												
N Material	lbs/ac	\$/lbs	\$/ac	Local Data	Note: Your actual cost can be estimated by entering local cost data below. Be sure to include blending, delivery, and application charges on a per ton basis. Hit the page down key to see the table.							
Urea 45% N	418	0.23	94.56	<input checked="" type="checkbox"/> Local Cost Data	Enter local cost in the shaded area. Then select the correct materials in column A above and put a check mark in the local cost data box in column E.							
P Material	lbs/ac	\$/lbs	\$/ac	Local Data								
8-32-16	82	0.00	0.00	<input checked="" type="checkbox"/> Local Cost Data								
K Material	lbs/ac	\$/lbs	\$/ac	Local Data								
	0	0.00		<input checked="" type="checkbox"/> Local Cost Data								
Total Blend Needed per Ac:				601 lbs/ac	\$94.56	Total \$ per Ac						

Supplemental Nutrient Rate (lbs/ac) auto-populates.

Select N, P and K materials from pull down menus. Blending, Section, Need, Caution and Blended Fertilizer Mix auto-populate.

The K₂O, P₂O₅ and N materials auto-populate the Suggested Fertilizer Blend portion of the Report sheet.

Fertilizer Cost will auto-populate

Organic Nut Source Report Farm Sum Materials **Fert. Cost** Tables Fert. Cost Data Reference

Crop, Tables and Fertilizer Cost Data Reference sheets contain specific data. They do not require any entries and should not be altered.

Nitrogen Credits

There are nitrogen credits that should be added to the nutrient budget. The important ones for NM are: N in the irrigation water, OM N (added automatically when the NMSU Fertilizer Interpretation Software is used), and additions from a previous legume crop (NOT soil incorporated 2 months prior to the soil test). Table 5 shows the values to use for these credits.

Table 5 *Nitrogen Credits

Nitrogen Source*	Nitrogen Credit
Soil Organic Matter (auto calculated by software)	30 lbs/ac for each 1 percent OM
Residual Soil Nitrate (auto calculated by software)	3.6 lbs/ac for each ppm NO ₃ -N (1 ft sample)
Irrigation Water (needs to added)	1 ppm in the Irrigation Water = 2.7 lbs N per Ac Ft of water applied (2.7x ppm NO ₃ -N = lbs NO ₃ -N/Ac)
Previous Crop, Alfalfa >80% stand (not plowed out)	100-140 lbs/ac N, Use 100 lbs/ac
Previous Crop, Alfalfa 60-80% stand (not plowed out)	60-100 lbs/ac N, Use 60 lbs/ac
Previous Crop, Alfalfa <60% stand (not plowed out)	30-60 lbs/ac N, Use 45 lbs/ac
Other Legume Crop (not plowed out)	30 lbs/ac N

*From Colorado State Bulletin 568A "Best Management Practices for Manure Utilization".

*N sources not added by the software need to be added in the other N sources cell.