Section 16 of 22 (16k – Irrigation Water, Soil and Plant Tissue Analysis Guide – Pasture Example)

1	**Producer:** Tierra Amarilla, NM **Crop:** Timothy/Brome/Strawberry Clover **Yield:** 2.5 t/ac **Irrigation Water:** 25" (Ref. NM Irrigation Guide)
2	**Tillage Operations:** None; 10-acres; One cut/year; about 5 irrigations; 90-day growing season; Graze with sheep after 1st cut;
3	**Soil Texture:** Clay **Soil Structure:** Granular **Aggregate Stability:** Good

4	Nutrients ON = Organic Nitrogen mineralized	Irrigation Water Analysis (ppm x 0.23 x 25" = lb./ac.)		Soil Analysis 0-6" depth ppm x 1.7 = lb/ac (6" depth)		Nutrient Inputs (recommendations)	Plant Tissue Analysis Note: N is kjeldahl nitrogen & Sulfur is total Sulfur		Should I Apply Nutrients? - Yes (Y) No (N) - Maintenance (M) - Not Sure (?) - Other (O)	Conservation Practices to consider for achieving sustainability
		ppm or mg/l	Pounds per Acre	ppm or mg/Kg	Pounds per Acre (VL, L, M, H, & VH)	Pounds per Acre	% or ppm	Average values/critical levels (strawberry clover – top 1/3 plant)		
5	Organic Matter			3.5 %	59500 H				N:	♥ Cover Crops ♥ Crop Rotations ♥ Manure or Compost ♥ Minimum-Till (No-Till); Residue mgt. ♥ IWM ♥ Soil Amendments (e.g. gypsum) ♥ IPM
6	N mineralized			ON	72.0	Manure			O: Sheep manure	
7	Nitrate-Nitrogen	not	analyzed	5.0	8.5 L	N	2.53 %	3.15 %	O: Sheep manure	
8	Phosphorus			2.0	3.4 VL	60 P_2O_5	0.17 %	0.14 – 0.34%	Y: spring apply	
9	Potassium	1.1	6.3	17.0	28.9 L	60 K_2O	1.67 %	0.85 – 2.35%	Y: spring apply	
10	Sulfate-Sulfur	1.9	10.9	not	Analyzed	?	0.14 %	0.14 – 0.25%	?: not sure	
11	Calcium	18.2	104.9	16.0	27.2 VL	?	1.39 %	0.40 – 1.55%	?: Gypsum	
12	Magnesium	2.9	16.8	3.65	6.2 VL	?	0.31 %	0.11 – 0.28%	?: Ag Epsom	
13	Zinc			1.10	1.9 H	none	26 ppm	11 - 34 ppm	N: no	
14	Iron	not	analyzed	92.3	157 VH	none	85 ppm H	25 - 65 ppm	N: no	
15	Manganese	not	analyzed	11.3	19.2 VH	none	57 ppm H	25 - 45 ppm	N: no	
16	Copper			1.61	2.7 H	none	10 ppm	5 - 11 ppm	N: no	
17	Boron	not	analyzed	not	analyzed	none	30 ppm	15 - 30 ppm	N: no	
18	Molybdenum					none	not	analyzed	N: no	
19	Sodium	3.2	18.5	9.20	use SAR		Below detection limit	0.04 %	n/a	
20	Chloride	1.6	9.2				not	analyzed	n/a	
21	Bicarbonate	68.3	393							
22	Carbonate	0	0							

Additional Assessments to Consider in evaluating your Cropping System (soil pH, free lime & CEC)

- Electrical Conductivity of Irrigation Water (ECiw) = 0.14 mmhos/cm
- Sodium Adsorption Ratio (SAR) from water test = 0.18 & pH = 7.66
- Refer to Irrigation Water Quality Guidelines for infiltration assessment. Total Dissolved Solids = 83 mg/l (soluble salts applied = 477 lb./ac./yr.)
- ECe (EC of Soil Saturation extract) = 0.15 mmhos/cm & pH = 6.06 Sodium Adsorption Ratio (SAR) from soil test = 0.52
- Refer to Crop Salt Tolerance Table to evaluate for potential yield reduction and salinity management considerations/options

Refer to the NRCS Nutrient Uptake Tool: http://npk.nrcs.usda.gov/ for calculating NPK removal by crop

rudy.garcia.2009

Agronomy Tech Note 76 (http://www.nm.nrcs.usda.gov/technical/handbooks/iwm/nmiwm.html)