Section 16 of 22 (16f - Irrigation Water, Soil and Plant Tissue Analysis Guide - Pecan Example)

1	**Producer:** Anthony, NM	**Crop:** Pecans	**Yield:** 2500 lb./ac.	**Irrigation Water:** 60 ac-in (13 irrigations)
2	**Tillage Operations:** Cover Crop is mowed as needed (provides Nitrogen, Organic Matter, and habitat for beneficial insects)			
3	**Soil Texture:** Sandy Loam	**Soil Structure:** single grain (cultivated) or granular (cover crops)		**Aggregate Stability:** Fair

4	Nutrients	Irrigation Water Analysis		Soil Analysis (0-12" depth)		Nutrient Inputs	Plant Tissue Analysis		Should I Apply Nutrients?	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 & Rating (low - high)	Sufficiency Range	- Yes (Y) No (N) - Maintenance (M) - Not Sure (?) - Other (O)	
5	Organic Matter			0.8%	32,000				O: cover crops	♥ Cover Crops
6	N mineralized			2.5% ON	39	10 tons/ac			O: manure	
7	Nitrate-Nitrogen	0.1	1.4	2	8 (VL)	250 N	2.2 low	2.5 - 2.9%	Y: split-apply	♥ Crop Rotations
8	Phosphorus			2	8 (VL)	120 P_2O_5	0.25 high	0.12 - 0.30%	Y/M: spring	
9	Potassium	6	83	28	112 (L)	90 K_2O	0.9 high	0.75 - 0.95%	Y/M: spring	
10	Sulfate-Sulfur	54	745	89	356 (H)	none	Not	Analyzed	N: not needed	♥ Manure or Compost
11	Calcium	80	1,104	4,079	16,316 (VH)	none	2.4 high	1.3 - 2.5%	N: not needed	
12	Magnesium	12	166	308	1,232 (VH)	none	0.5 high	0.3 - 0.6%	N: not needed	
13	Zinc			0.3	1.2 (L)	15	40 low	50 – 100 ppm	Y: foliar spray	♥ Minimum-Till (No-Till); Residue mgt.
14	Iron	Not	Analyzed	6	24 (H)	none	100 low	50 – 300 ppm	M: foliar spray	
15	Manganese	Not	Analyzed	2	8 (M)	none	90 low	100– 800 ppm	Y: foliar spray	
16	Copper			0.8	3.2 (M)	none	20 mod	10 – 30 ppm	M: foliar spray	♥ IWM
17	Boron	0.19	2.62	1.69	6.76 (H)	none	42 mod	35 – 50 ppm	N: not needed	
18	Molybdenum					none	Not	Analyzed	?: sample tissue	♥ Soil Amendments (e.g. gypsum)
19	Sodium	109	1,504	110	use SAR		0.05	> 0.1% excess	O: don't apply	
20	Chloride	80	1,104				0.2	> 0.3% excess	O: don't apply	
21	Bicarbonate	263	3,629							
22	Carbonate	1	14							♥ IPM

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

- Electrical Conductivity of Irrigation Water (ECiw) = 0.98 mmhos/cm
- Sodium Adsorption Ratio (SAR) from water test = 3.0
- Refer to Irrigation Water Quality Guidelines (WQ-8) for infiltration assessment
- ECe (EC of Soil Saturation extract) = 0.5 mmhos/cm
- Sodium Adsorption Ratio (SAR) from soil test = 0.4
- Refer to Crop Salt Tolerance Table (WQ-6) 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

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