Section 16 of 22 (16g - Irrigation Water, Soil and Plant Tissue Analysis Guide – Blue Corn Example)

1	**Producer:** Isleta, NM	**Crop:** Blue Corn/Anasazi Beans	**Yield:**	**Irrigation Water:** 36 ac-in (No. of irrigations =)
2	**Tillage Operations:**	Conversion factors: 0.23 x ppm = Nutrient lb/ac-in (water test) & 3.59 x ppm = Nutrient lb/acre-foot (soil test)		
3	**Soil Texture:** Clay Loam	**Soil Structure:** Granular	**Aggregate Stability:** Good (high Organic Matter)	

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)	Corn Sufficiency Range (ear leaf at tasseling/ bloom)	- Yes (Y) No (N) - Maintenance (M) - Not Sure (?) - Other (O)	
5	Organic Matter			1.55%	55,645	H				: cover crops	♥ Cover Crops
6	N mineralized			2.5% ON	69.56	H				: Anasazi Beans	
7	Nitrate-Nitrogen	0.03	0.25	1.5	5.4	VL	68 N	2.5% Low	2.8-4.0%	Y: split-apply	♥ Crop Rotations
8	Phosphorus			4.01	14.4	VL	80 P_2O_5	0.15% Low	0.25-0.5%	Y: manure?	
9	Potassium	3.3	27.3	37	133	M	40 K_2O	2.2%	1.8-3.0 %	M: spring apply	
10	Sulfate-Sulfur	46.3	383.4	Not	Analyzed		none	Not analyzed	0.15 – 0.6%	O: Gypsum?	♥ Manure or Compost
11	Calcium	45.09	373.3	113	406	L	none	0.5%	0.25-0.8%	O: not needed	
12	Magnesium	7.3	60.4	16	57	L	none	0.3%	0.15-0.6%	O: not needed	
13	Zinc			Not	Analyzed		none	35	20 - 70 ppm	O: not needed	♥ Minimum-Till (No-Till); Residue mgt.
14	Iron	Not	Analyzed	Not	Analyzed		none	100	30 - 250 ppm	O: not needed	
15	Manganese	Not	Analyzed	Not	Analyzed		none	55	15 - 150 ppm	O: not needed	
16	Copper			Not	Analyzed		none	15	5 - 25 ppm	O: not needed	
17	Boron	Not	Analyzed	Not	Analyzed		none	17	5 - 25 ppm	O: not needed	♥ IWM
18	Molybdenum						none	Not analyzed	0.1 – 2.0 ppm	O: not analyzed?	
19	Sodium	23.45	194.2	50	use SAR			info needed	> % excess	O: don't apply	♥ Soil Amendments (e.g. gypsum)
20	Chloride	9.2	76.2					info needed	> % excess	O: don't apply	
21	Bicarbonate	141.6	1,172.4								
22	Carbonate	0	0								♥ IPM

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

- Electrical Conductivity of Irrigation Water (ECiw) = 0.363 mmhos/cm
- Sodium Adsorption Ratio (SAR) from water test = 0.85 & pH = 7.64
- Refer to Irrigation Water Quality Guidelines (WQ-8) for infiltration assessment. Total Dissolved Solids = 240 mg/l
- ECe (EC of Soil Saturation extract) = 0.67 mmhos/cm & pH = 7.6
- Sodium Adsorption Ratio (SAR) from soil test = 1.17
- 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)