

PLANT ANALYSIS

Texas Plant & Soil Lab, Inc.

NAME: Your Farm
100 Noplace Road, Jerkwater TX

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Critical Marginal Desired Excess

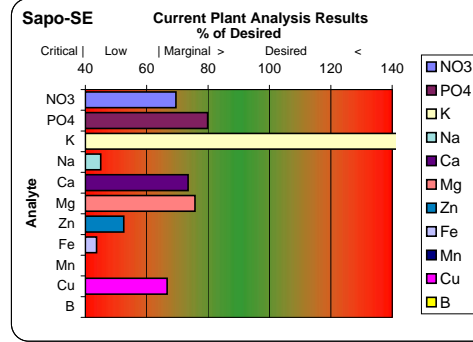
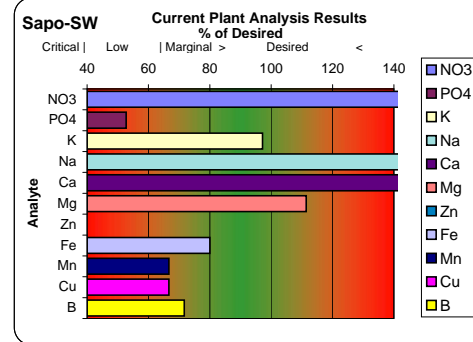
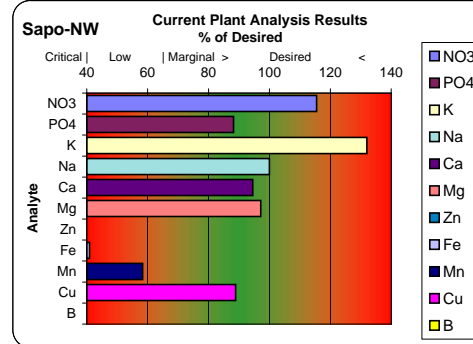
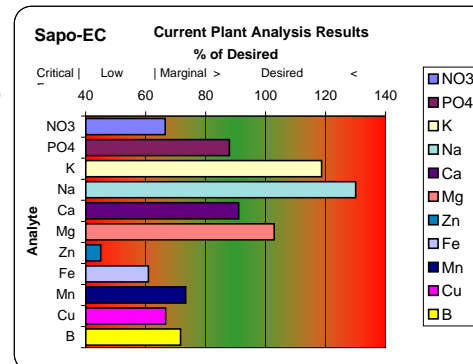
FIELD: Mi. 13 1.2 x Wallace Rd. OWNER #: 1000
CROP: Watermelons FIELD #: 2900

LAB #: 6511-13/ 6623
e-mail:

Sample ID	Sample Date	PPM		PARTS PER MILLION - PPM										
		NO ₃	PO ₄	% K	% Na	% Ca	% Mg	Zn	Fe	Mn	Cu	B		
		Nitrate	Phosphate	Potassium	Sodium	Calcium	Magnesium	Zinc	Iron	Manganese	Copper	Boron		
Sapo-EC	03/16/09	15040	5453	10.36	0.11	1.91	0.42	39	276	49	11	71		
	03/23/09	13400	5190	8.39	0.07	2.51	0.51	24	113	64	9	51		
	04/02/09	17640	3586	10.31	0.09	2.65	0.56	18	124	51	9	76		
	04/09/09	13600	3924	9.12	0.10	2.11	0.26	13	57	39	6	20		
	04/13/09	14520	3699	9.89	0.14	1.95	0.55	19	44	36	13	49		
	04/21/09	10520	3075	8.77	0.24	2.65	0.71	13	32	33	6	28		
	04/27/09	11000	3519	7.65	0.26	2.74	0.70	10	73	43	6	26		
	05/04/09	9640	3196	7.39	0.28	2.75	0.74	11	59	47	7	26		
	05/11/09	7640	3503	8.19	0.27	2.41	0.53	24	41	35	8	29		
	05/18/09	9120	3597	6.61	0.26	2.48	0.55	21	74	38	6	31		
	05/25/09	10400	2502	4.94	0.39	3.41	0.47	15	95	62	10	36		
	06/01/09	5320	2638	7.12	0.26	1.82	0.72	18	67	44	6	43		
Sapo-NW	03/16/09	16160	4736	8.07	0.16	2.54	0.45	34	307	57	10	78		
	03/23/09	15680	5389	8.46	0.09	2.72	0.55	20	127	81	8	62		
	04/02/09	19160	3523	10.35	0.09	2.69	0.58	21	157	48	10	69		
	04/09/09	13800	3423	9.01	0.12	2.26	0.26	15	47	32	8	23		
	04/13/09	19360	2558	8.71	0.23	3.31	0.64	13	70	37	8	50		
	04/21/09	13320	2714	7.98	0.31	3.11	0.77	13	38	35	7	33		
	04/27/09	12640	2909	6.70	0.37	2.86	0.70	15	96	32	9	25		
	05/04/09	12760	2771	6.32	0.44	3.05	0.71	11	99	54	7	24		
	05/11/09	11360	3293	6.39	0.37	3.07	0.58	18	43	36	8	21		
	05/18/09	9480	3924	8.29	0.13	1.81	0.42	21	52	23	8	39		
	05/25/09	8400	2252	4.67	0.30	2.89	0.53	11	53	33	5	34		
	06/01/09	9240	2646	7.92	0.20	1.89	0.68	11	45	35	8	21		
Sapo-SW	03/16/09	14640	5195	9.54	0.11	2.30	0.44	29	228	39	8	45		
	03/23/09	10440	4472	8.43	0.07	2.74	0.50	19	124	61	9	54		
	04/02/09	15160	3430	9.13	0.11	3.06	0.55	16	106	46	9	67		
	04/09/09	12920	3446	8.58	0.12	2.63	0.28	15	49	36	11	19		
	04/13/09	14480	3054	9.37	0.14	2.76	0.58	19	37	35	7	49		
	04/21/09	13400	2878	6.86	0.34	3.53	0.79	15	37	36	7	33		
	04/27/09	14920	2634	5.73	0.43	3.86	0.82	11	75	51	7	29		
	05/04/09	12280	2629	6.41	0.50	3.68	0.72	12	67	53	7	24		
	05/11/09	6720	3782	7.14	0.31	2.67	0.57	26	54	36	13	31		
	05/18/09	12920	3133	8.14	0.19	2.90	0.52	18	65	27	11	27		
	05/25/09	11920	2057	4.74	0.37	3.83	0.49	15	59	48	11	31		
	06/01/09	12360	1582	5.83	0.38	3.12	0.78	12	88	40	6	43		
Sapo-SE	04/02/09	20600	3750	10.94	0.08	2.09	0.42	24	128	28	11	62		
	04/09/09	17200	4049	9.76	0.10	1.89	0.17	18	79	25	11	18		
	04/13/09	22880	2565	10.63	0.17	2.64	0.41	21	62	25	9	51		
	04/21/09	11920	2960	9.79	0.19	2.64	0.45	18	52	24	6	32		
	04/27/09	6880	3266	8.74	0.15	2.02	0.40	14	81	43	6	27		
	05/04/09	12040	2431	8.25	0.22	2.69	0.47	16	58	48	11	26		
	05/11/09	7600	3293	8.83	0.19	2.41	0.35	21	43	32	7	29		
	05/18/09	8200	3652	7.75	0.10	2.51	0.42	22	67	36	11	34		
	05/25/09	3826	2330	6.34	0.17	2.68	0.74	14	48	41	9	39		
	06/01/09	5560	2395	9.71	0.09	1.47	0.53	21	48	16	6	23		

INTERPRETATIONS & RECOMMENDATIONS:

N all in good range - SE up favorably.
P - SW low - stimulate roots - others in good range.
K - Ca - Mg - Cu - all in good range.
Boost Zn - Fe - Mn & B.



Plant Analysis Guide Sheet

Nitrate (NO₃ ppm) - In sap for future growth - affect visible in 10-14 days. Too much too soon, reduces fruit set.
Phosphate (PO₄ ppm) - In sap for future use - reflects present root activity. Can be increased with Humus + PGR's + Mi
Potassium (K %) - Affect water uptake & efficiency - sugar production - health. High requirement for sugars.
Sodium (Na %) - Low is best - with a trace essential.
Calcium (Ca %) - Cell walls - nitrate utilization - roots - leaves - fruit set for pollination & development.
Magnesium (Mg %) - Chlorophyll - photosynthesis - P metabolism - respiration.
Zinc (Zn ppm) - Plant growth stimulator - enzymes - metabolic reaction.
Iron (Fe ppm) - Respiration - chlorophyll formation - oxygen carrier - energy.
Manganese (Mn ppm) - Enzyme activation - photosynthesis - maturity - P & Ca.
Copper (Cu ppm) - Chlorophyll formation - catalyzes plant functions - energy.
Boron (B ppm) - Nitrate uptake - calcium utilization - pollination and sugar transport.

PETIOLE (sap) TESTING: A quantitative and qualitative analysis of the nutrients in the sap (blood stream) flow from the roots to the leaves where photosynthesis occurs to manufacture the complex components known as photosynthates (mainly carbohydrates, sugars.)

FOR FUTURE PLANT DEVELOPMENT.

- a. **Foliar applications of nutrients have little or no immediate effect on the sap** as they stay in the leaves to aid plant functions. **Micronutrients do not translocate** like N-P-K which can transfer from old to new leaves when sap supply is deficient, not so with the micronutrients - Zn - Mn - Fe - Cu - B - Mo, etc. Ca & Mg seldom move very little if at all.
- b. **Low Micros in the sap show the needs for foliar applications** and/or soil amendment.
- c. **Foliar Micros on leaf do not show in the sap when applied on that leaf.**
- d. **New leaves will continue to need Micros until sap supply improves.**
- e. Weekly foliar will be needed every 5-10 days (**PLANTS FEED EVERY DAY**) !

NITROGEN - Most Petiole Programs are only NITRATE MONITORING tests with Phosphate (PO₄) and sometimes Potash, and very seldom test for micronutrients.

TPSL prefers also to include Secondary (Ca-Mg-Na) and the Micronutrients. %N & P in leaves are post-mortem.

- TOO MUCH NITROGEN too early reduces up-take of other nutrients & aids disease & bugs
Even heavy fruiting **plants can only utilize about 10 lb/ac of actual N per week.**
- Only ± 20% of this N is needed DURING the first 6-8 weeks of growth, more for grain.
- Ask the plant and feed WHEN & only WHAT is needed in small increments where possible to soil or foliage.

PHOSPHATE (PO₄) - In the sap shows root activity, P is mostly taken-up by young root hairs.

Slower old roots up-take shows senescence or cut-out is occurring.

- **Roots can be stimulated with humus products, multi-hormones, biologicals, etc.**
- P availability is helped by chemistry of P, S, Ca, and other natural materials
- **Sudden changes in P up-take can be result of new root growth interruptions caused by too much or too little water and/or lack of P, cultivator blight, compaction, nematodes, disease, etc.**