BAPU A-B Testing

Pistachios and Almonds

For the season ending October, 2020

7032 East Cortez Road
Scottsdale, AZ 85254
(888) 788-5807
info@hctllc.com
www.hctllc.com

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Overview of Study / Comparison

1) A/B Case Study – Treated and Untreated, multiple adjacent and separate blocks of Almonds and Pistachios.
2) Treated: WaterSOLV™ Curative, an acid based sequestering solution, and WaterSOLV™ BC, a peroxide-based biocide.
3) Untreated: Conventional sulfuric acid, urea, gypsum.
4) Term of Study: January 1 through September harvest, 2020.
5) Environmental Uniqueness: No rain.
6) Objective: Restore declining crop vitality and yield. Testing a few blocks of the overall holdings.
7) Agronomist: SJV Agronomy, James Lovelady
8) Grower: BAPU Farms
9) Analytic Results – Valley Tec Ag Lab, Joe Obrien
10) Sites Dynamics
    a) 5D – Almonds
        i) Blocks 1 & 2 Treated (Trt)
        ii) Blocks 3 and 4 Non-treated (Non T)
    b) Lost Hills (LH) – Pistachios
        i) Blocks 18 & 19 Treated (Trt)
        ii) Blocks 14 & 17 Non-Treated (Non T)
11) Bi-monthly Sampling
    a) Initially, the source water
    b) Soil 0-6 Inch and 6 to 24 inch
    c) Tissue
12) Titration Solutes - Extracted solute from paste using
    a) Distilled water
    b) Acetic Acid
    c) Ammonium Acetate

Agriculture Project Reference
BAPU 5D

Water Quality and Treatment Demand

Requirements

Ca	133.00 mg/l - ppm
Mg	33.50 mg/l - ppm
Alkalinity, HCO3	372.00 mg/l - ppm
Ca	**333** ppm as CAO3
Mg	**137** ppm as CAO3
Total Hardness	**470** ppm as CAO3
HCO3	**372.00** ppm

Notations

Sodium	122.00 mg/l - ppm
Chloride	191.00 mg/l - ppm
Nitrate NO3-N	7.80 mg/l - ppm
Sulfate	46.90 mg/l - ppm
Na	**122** mg/l
Cl	**191** mg/l
NO3-N	**8** mg/l
SO4	**47** mg/l

Bacteria

Total Bacteria	3.0 exponent of cfu/ml

Water Treatment Demand Totals

WaterSOLV Curative

ppm	**4.21**
gl. / A/ft	**1.37**

WaterSOLV BC

ppm	**0.75**
gl. / A/ft	**0.25**

Agriculture Project Reference
HCT - BAPU - Lost Hills

Water Quality and Treatment Demand

Requirements

Ca	19.80 mg/l - ppm
Mg	12.90 mg/l - ppm
Alkalinity, HCO3	100.00 mg/l - ppm
Ca	**50** ppm as CAO3
Mg	**53** ppm as CAO3
Total Hardness	**102** ppm as CAO3
HCO3	**100.00** ppm

Notations

Sodium	52.10 mg/l - ppm
Chloride	64.40 mg/l - ppm
Nitrate NO3-N	0.40 mg/l - ppm
Sulfate	27.20 mg/l - ppm
Na	**52** mg/l
Cl	**64** mg/l
NO3-N	**0** mg/l
SO4	**27** mg/l

Bacteria

Total Bacteria	3.0 exponent of cfu/ml

Water Treatment Demand Totals

WaterSOLV Curative

ppm	**1.01**
gl. / A/ft	**0.33**

WaterSOLV BC

ppm	**0.75**
gl. / A/ft	**0.25**

Results

Here are the final production records on the treated and untreated blocks.

Regards,

Karun Samran
Bapu Almonds Company, INC.
Bapu Farming Company, INC.
Cell: 559-232-2986
Office: 559-661-1556
Fax: 559-673-7142
www.bapu.company

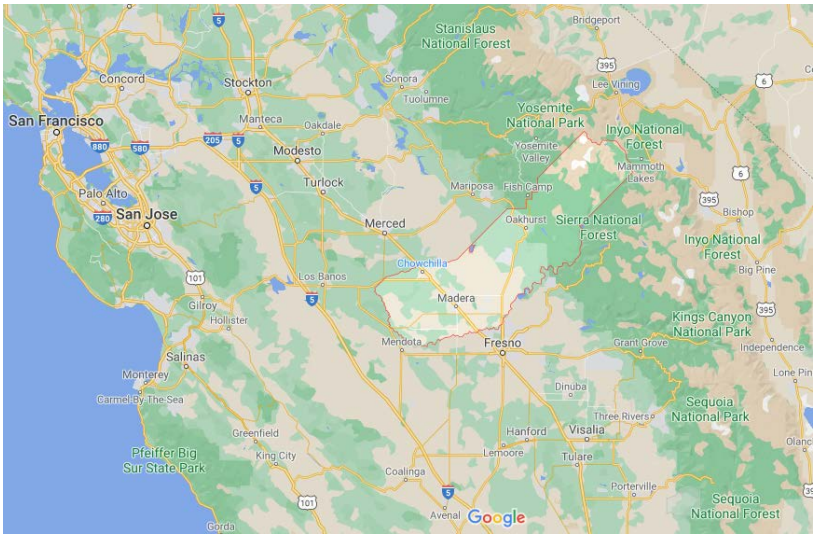
	Non-Pariel	Monterey	Total	Yields in lbs/acre			
5D							
Block 3-4-5	52,327	87,443	139,770	375	627	501	
Block 1-2	48,316	84,014	132,330	418	727	573	Treated
1st year of production for this farm				12%	16%	14%	Treated Increase
Lost Hills							
Block 14	130,885	94,931	225,816	3,272	2,373	2,823	
Block 18	142,782	109,537	252,319	3,570	2,738	3,154	Treated
				9%	15%	12%	Treated Increase

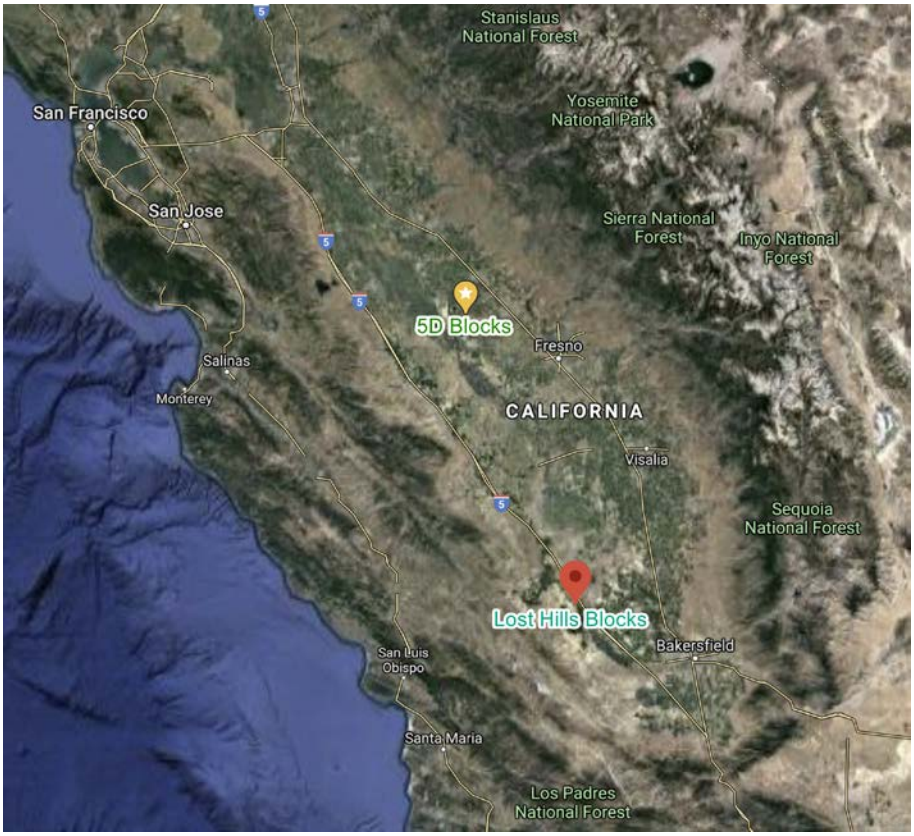
Conclusions

NOTE: the Treated side shows the same amount of Phosphate and Calcium as the Non-treated side did.
The difference is the amount of Fe and Al that is showing on the Non-treated side - as these levels are greatly influenced by the amount of soluble Calcium in the root zone - In order for these elements to be lower, Fe only 0.55x as large as the non-treated (Non) and Al only 0.59x as large as the non-treateded (Non), there has to be more soluble and available Calcium.
It appears the HCT program has made and/or releases more soluble, available Calcium (Ca) for plant uptake - thus overcoming the excess uptake of Fe and Al. Of which these two largest elements, 9 Angstrom, that follow each other closely, when they get out of balance, can and do block/restrict the flow of other nutrients up into the tree branches and/or to the fruit
Treated shows more available Zinc, C and K. Calcium is converted from a carbonate to a quasi acetate which is more soluble and readily "always" re-hydrated with various forms of water. Also not pH dependant, applied linear to hardness and bicarbonate.
(1) Variance to Non over 9 months seasonal time January through August 2020. Environmental conditions, no rain thereby no Dissolved Oxygen, and fires. Data does not account for added sugars, amino acids and dissolved oxygen from WaterSOLV products.

5D and Lost Hills Block Locations

The Lab Data Round 2 Data is comprised of a study that was performed in the region of Madera County California, which is located just north of Fresno, just north of Chowchilla, standing from the west of Firebaugh to the east bordering Mammoth Mountain.





5D Blocks

Lost Hills Blocks

Treated versus Untreated Leaves following the term of the study

AG SUITABILITY WATER ANALYSIS

Client:	BAPU FARMING Co., Inc.	Lab No.:	12-09W133
	24341 AVENUE 14	Submitted Date:	12-09-19
	MADERA, CALIFORNIA 93637	Reported Date:	12-12-19
		Submitted By:	KARUN SAMRAN

RANCH:	5D RANCH
LOCATION:	AVE 12
DESCRIPTION:	WELL WATER

mg/L = milligrams/liter = part per million = ppm
meq/L = milliequivalents/liter
dS/m = deciSiemen/meter = mmhos/cm
lbs/ac-ft = pounds/acre-foot

							NORMAL VALUES	PROBLEMATIC VALUES
1.	pH	7.5	pH units				6.0 to 6.8	<6.0 or >6.8
2.	EC (Conductivity)	1.48	dS/m				0.5 to 3.0	<0.5 or >3.0
3.	Total Dissolved Solids (TI	1,018	mg/L				1 to 1,500	>1,900
4.	Boron	0.07	mg/L				<0.5	>0.5
5.	SAR (permeability of affected	2.4					<6.0	>6.0
6.	SAR/EC RATIO	1.6					<5.0	>10
7.	pH_c	7.0					<8.4 adds Ca	>8.4 removes Ca
8.	Ca/EC	89.8						<40
	CATIONS	mg/L	meq/L	lbs/ac-ft	w/ 3.5 ac-ft per Season		NORMAL mg/L	PROBLEMATIC mg/L
9.	Calcium (Ca)	133	6.65	362	1,265		30 to 400	<30
10.	Magnesium (Mg)	33.5	2.79	91.1	319		< 1/3 Ca	> 1/3 Ca
	319 is equivalent to 2900 lbs. K-Mag / Mg							
11.	Sodium (Na)	122	5.30	332	1,161		< 1/2 Mg	> 1/6 Ca
12.	Potassium (K)	6.0	0.15	16.4	57.4			
13.	(Ca+K) - (Na+Mg+HCO_3) = +\-	-204	-10.18	-554	-1,938		Ca+K > Na+2Mg+HCO_3	Ca+K < Na+2Mg+HCO_3
	1938 = 8691 lbs. Gypsum needed per season							
	ANIONS						NORMAL mg/L	PROBLEMATIC mg/L
14.	Bicarbonate (HCO_3)	372	6.10	1,012	3,541		<90	>120
	(Note - 3541 is equivalent to 15,879 lbs. Gypsum)							
15.	Chloride (Cl)	191	5.40	520	1,822		<150	>200
	1822 is equivalent to 4141 lbs. MOP-Cl							
16.	Nitrate-Nitrogen (NO_3-N)	7.8	0.56	21.2	74.1		<10	>10
17.	Sulfate-Sulfur (SO_4-S)	46.9	1.46	127	446			

Sample Description				Volume (Fluid Ounces) of concentrated H_2SO_4 to neutralize 100 gallons of water to pH of :			
18. AVE 12	pH *initial*	7.46		pH	7.0	=	0.22
				pH	6.5	=	1.09
				pH	6.0	=	1.79

Conclusions Data:

Soil

After 9 months of Treated with HCT WaterSOLV Curative and BC, versus Non-treated, although treated with sulfuric acid and gypsum.

Soil Solution		SP	pH	EC	Ca	Mg	Na	K	Cl	B	SO4S	SAR	Equiv	PRESENCE	Cation	Ca	Mg	Na	K
DCS TREATED				dS/m	---mg/L----------								QUANT	LP	Total mg/k	%SPe	%SPe	%SPe	%SPe
5D Blk 1 Treated	0-6"	34	8.1	1.9	112	24	293	23	207	0.16	116	6.5	3.03	++++	451.5	24.9	5.2	64.9	5.0
	6-24"	35	8.0	2.6	225	49	301	19	211	0.08	157	4.7	4.52	++++	593.0	37.9	8.2	50.7	3.1
5D Blk 2 Treated	0-6"	36	7.6	1.8	175	37	168	7	249	0.07	93	3.0	0.10	-	385.9	45.2	9.6	43.4	1.8
	6-24"	42	7.5	4.2	490	99	290	8	717	0.09	205	3.1	0.10	-	887.4	55.2	11.2	32.7	0.9
Average		**37**	**7.8**	**2.6**	**250**	**52**	**263**	**14**	**346**	**0.1**	**143**	**4.3**	**1.9**	**+++**	**579.5**	**40.8**	**8.6**	**47.9**	**2.7**
Soil Solution																			
DCS NON-TREATED																			
5D Blk 3 Nontreated	0-6"	36	7.9	1.6	174	33	131	7	191	0.1	98	2.4	2.9	++++	345.0	50.4	9.7	37.9	2.1
	6-24"	33	7.5	4.3	514	112	261	4	707	0.1	234	2.7	5.0	++++	891.5	57.7	12.6	29.3	0.4
5D Blk 3 Nontreated	0-6"	32	7.9	3.3	410	85	191	14	288	0.1	268	2.2	6.2	++++	700.2	58.5	12.2	27.3	2.0
	6-24"	32	7.8	3.0	396	72	165	9	401	0.1	159	2.0	10.3	++++	641.5	61.7	11.1	25.7	1.4
Average		**33**	**7.8**	**3.1**	**373**	**76**	**187**	**9**	**397**	**0.1**	**190**	**2.3**	**6.1**	**++++**	**644.5**	**57.1**	**11.4**	**30.0**	**1.5**
TR vs. NT	**>1.0+ CHANGE**	**1.12**		**0.84**	**0.67**	**0.69**	**1.41**	**1.69**	**0.87**		**0.75**	**1.87**	**0.31**		**0.90**	**0.71**	**0.75**	**1.60**	**1.80**
	<1.0-																		

SP - The Average Treated number is higher indicating more XCO3 was removed before this part of the soil test was preformed allowing more water to be held per 100 grams

CEC - The Treated number has a lower difference number (before vs. after) showing more XCO3 was removed prior to soil testing

Cl - even the Cl numbered were lower with the HCT treatment

More Sodium Na and Potassium K was released from CO3 as being sequestered with HCT as indicated by the percentage number increased (1.6x & 1.8x) for Treated soil solution

Note - even though there was a release of additional Na & K into the soil solution - only the sequestered "K" gave an increased on the treated tissues, not the sequestered "Na"

Since there was little change in the CEC number before and after with Na & K and more with Ca, indicating most of the CO3 was attached to the Ca

As the CEC Ca difference was smaller with the Treated indicating possible more Ca (lower in soil solution) was used to keep sequestered Na (with HCT) free in solution and from binding up with the soil

			With 6% AA added - Displaced Cation											Standard - before adding 6% AA										
			29	30	31	32	33	34	35	36	37	38	39	29	30	31	32	33	34	35	36	37	38	39
			-----AMMONIUM ACETATE EXTRACTED CATIONS (ppm - %)-----										C.E.C.	-----AMMONIUM ACETATE EXTRACTED CATIONS (ppm - %)-----										C.E.C.
	Treated Blocks 1 and 2		Calcium		Magnesium		Sodium		Potassium		Hydrogen		meq/100g	Calcium		Magnesium		Sodium		Potassium		Hydrogen		meq/100g
			mg/kg	%CEC	mg/kg	%CEC	mg/kg	%CEC	mg/kg	%CEC	mg/kg	%CEC	Sum.	mg/kg	%CEC	mg/kg	%CEC	mg/kg	%CEC	mg/kg	%CEC	mg/kg	%CEC	Sum.
1	5D Blk 1 Treated	0-6"	6594	80.3	339	6.9	432	6.6	847	5.3	4.0	1.0	41.1	2868.8	63.0	351.9	12.9	508.3	14.0	857.3	9.7	1.0	0.4	22.8
2		6-24"	7615	78.2	403	6.9	648	8.3	1088	5.7	4.0	0.8	48.7	3478.1	61.2	450.8	13.2	718.4	15.8	1042.0	9.4	1.0	0.4	28.4
3	5D Blk 2 Treated	0-6"	3555	76.9	431	15.5	146	3.9	171	1.9	4.0	1.7	23.1	3149.7	75.1	432.9	17.2	179.4	5.3	155.2	1.9	1.0	0.5	21.0
4		6-24"	4434	77.7	504	14.7	208	4.6	182	1.6	4.0	1.4	28.5	3750.1	73.7	549.4	18.0	252.4	6.2	173.4	1.7	1.0	0.4	25.5
	Average		5549	78.3	419	11.0	358	5.8	572	3.6	4.0	1.2	35.3	3311.7	68.3	446.3	15.3	414.6	10.3	557.0	5.7	1.0	0.4	24.4
		Desired	4377	69.0	762	11.0	187	1.8	1239	5.5	17.7	5.0		3026.0	69.0	527.0	11.0	129.0	1.8	856.0	5.5	12.2	5.0	
	Pg-1	Tr - Difference	1172		343		171		667		13.7			285.7		80.7		285.6		299.0		11.2		
5	5D Blk 3 Nontreated	0-6"	6289	83.0	313	6.9	371	6.1	436	2.9	4.0	1.1	37.9	3343.2	71.0	365.4	12.9	405.2	10.8	445.8	4.9	1.0	0.4	23.5
6		6-24"	7778	81.5	492	8.6	602	7.9	218	1.2	4.0	0.8	47.7	4234.6	69.7	566.7	15.5	613.0	12.6	223.3	1.9	1.0	0.3	30.4
7	5D Blk 3 Nontreated	0-6"	6120	84.9	342	7.9	209	3.6	336	2.4	4.0	1.1	36.0	2963.0	72.8	368.9	15.1	231.2	7.1	359.7	4.5	1.0	0.5	20.4
8		6-24"	5101	87.9	203	5.8	142	3.1	205	1.8	4.0	1.4	29.0	2473.7	79.0	210.3	11.2	153.8	6.1	184.8	3.0	1.0	0.6	15.7
	Average		6322	84.3	337	7.3	331	5.2	299	2.1	4.0	1.1	37.7	3253.6	73.1	377.8	13.7	350.8	9.2	303.4	3.6	1.0	0.5	22.5
		Desired	4675	69.0	814	11.0	199	1.8	1323	5.5	18.9	5.0		2790.0	69.0	486.0	11.0	119.0	1.8	790.0	5.5	11.3	5.0	
	pg-2	NT - Difference	1647		477		132		1024		15.0			463.6		108.2		231.8		486.6		10.0		
Pg-1	TR - Change after DCS - x factor of		4.10		4.23		0.60		2.23		1.22		1.45											
Pg-2	NT - Change after DCS - x factor of		3.55		4.42		0.57		2.10		1.50		1.68											
	DCS x factor >1.0 increasing differences with DCS or <1.0 decreasing differences with DCS																							

Leaf Tissue Analysis Lost Hills

				PERCENT									PPM							
Almond Leaf			Block	N	UCD-ESP	P	K	Ca	Mg	Cl	Na	C	S	Zn	Mn	Fe	Cu	B	Al	Co	Mo
Non	09-02-20	Soil	14 NE r20 t20	2.07		0.13	1.94	3.86	0.77	0.66	0.05	44.3	0.13	39	83	319	10	59	359	<0.5	0.7
	06-03-20	Soil		2.87		0.17	2.57	3.21	0.67	0.29	0.03	44.7	0.10	75	63	95	11	49	99	<0.5	1.3
	03-20-20	Soil		3.39	2.54	0.39	2.20	1.38	0.36	0.29	0.03	40.5	0.06	65	45	41	8	50	43	<0.5	<0.5
Trt	09-02-20	Soil	18 SE r20 t20	1.97		0.13	2.20	3.86	0.77	0.50	0.04	44.5	0.13	57	54	175	7	53	213	<0.5	<0.5
		Variance (1)				=	+	=	=	-	-	+	=	+	-	-	-	-	-	=	-
	06-03-20	Soil		2.85		0.17	2.50	2.93	0.60	0.34	0.03	44.8	0.13	63	66	122	13	52	135	<0.5	1.7
	03-20-20	Soil		3.75	2.63	0.48	2.12	1.61	0.42	0.26	0.04	40.1	0.05	140	72	43	9	55	68	<0.5	<0.5
		Variance Trt (less) to Non (more)														0.55x			0.59x		

Conventional Agronomy Testing Validates the Value of WaterSOLV™ Products

Laboratory Analysis of Same Soils Demonstrate the Value of WaterSOLV™ Technology

Test 1 – Identifying the soil constituents using deionized water (i.e. about pure H2O)

DE-IONIZED WATER SATURATED PASTE EXTRACT - STANDARD

			% SP	pH	EC dS/m	meq/L Ca	meq/L Mg	meq/L Na	meq/L K	meq/L Cl	mg/L B	mg/L SO_4S	SAR	Carbonate Equiv QUANT	LIME PRESENCE LP	SPe Cation Total mg/kg	SPe Soluble Cations Ca %SPe	Mg %SPe	Na %SPe	K %SPe
			Soil Solution Constituents																	
5D Blk 1	Treated	0-6"	38	7.9	1.62	6.2	2.0	7.2	0.3	4.1	0.1	81	3.5	4.23	++++	326	38.0	7.4	50.6	4.0
		6-24"	37	8.0	2.69	10.4	2.9	14.0	0.2	3.9	0.1	223	5.4	4.34	++++	576	36.1	6.1	56.1	1.7

Test 2 – Identifying the soil constituents using acetic acid

6% ACETIC ACID SATURATED PASTE EXTRACT - 2.5 pH - DIGEST

			% SP	pH	EC dS/m	meq/L Ca	meq/L Mg	meq/L Na	meq/L K	meq/L Cl	mg/L B	mg/L SO_4S	SAR	Carbonate Equiv QUANT	LIME PRESENCE LP	SPe Cation Total mg/kg	SPe Soluble Cations Ca %SPe	Mg %SPe	Na %SPe	K %SPe
			Soil Solution Constituents																	
5D Blk 1	Treated	0-6"	46	5.4	60.54	676.3	72.7	23.5	2.3		1.6	316	1.2		++++	15028	90.0	5.8	3.6	0.6
		6-24"	39	5.5	60.83	749.5	78.4	43.1	1.5		1.6	492	2.1		++++	16980	88.3	5.5	5.8	0.3

A. Is your source water comparable to either deionized water or acetic acid? No.
B. Do either of these water sources represent your water with respect to minerals, sodium and microbiology (and biofilms)? No.
C. So if they titrate the elements in the soil with your water, will it be even less elements/nutrients? Yes.
D. Does WaterSOLV™ Products make your water better than the Acetic Acid titrate solution used here? Yes.
E. Does that mean WaterSOLV™ Products will generate more visual, and likely available, elements/nutrition with your water? Yes.
F. Is that likely part of why vegetation treated with WaterSOLV™ literally explode with vitality? Yes, and more, because they also receive sodium detoxification, it battles anaerobic soil conditions and delivers dissolved oxygen into the soil profile.
G. Why doesn't the industry titrate with sulfuric or N-pHuric acid? IDK

Client: HCT, LLC
7032 EAST CORTEZ DRIVE
SCOTTSDALE, ARIZONA 85254
Material: ALMONDS - LEAVES - SUMMER

Lab No.: 09-01T016
Submitted Date: 09-01-20
Report Date: 09-03-20
Submitted By: TODD R. EDEN
Material: ALMONDS - LEAVES

GROWER: BAPU FARMING - 5D - AVENUE 12 - ALMONDS - 2020

Almond Leaf - JULY Optimum Ranges	N 2.20- 2.50	UCD-ESP Predicted July N	P >0.15- Nx0.1	K >1.50 ~N	Ca >2.00	Mg >0.30 <0.75	Cl <0.3	Na <0.25	C <45.0 >43.5	S >0.20- 0.35	Zn >20 <200	Mn >70 <300	Fe >40 300	Cu >10	B >40 <100	Al <150	Co >0.5	Mo >1.0
	PERCENT										PPM							
1. 5D Blk 1 Trt 09-01-20	1.94		0.10	2.50	4.54	0.90	0.18	0.03	43.9	0.16	58	46	85	7	38	118	<0.5	2.3
06-03-20	2.77		0.16	2.63	3.82	0.76	0.19	0.03	43.9	0.12	92	83	89	10	39	111	<0.5	1.1
03-20-20	3.86	2.50	0.44	1.26	1.02	0.34	0.23	0.03	41.7	0.11	33	44	41	9	32	46	<0.5	<0.5
2. 5D Blk 2 Trt "	1.98		0.11	2.02	5.04	1.01	0.20	0.03	44.5	0.14	77	42	125	8	37	170	<0.5	0.5
06-03-20	2.81		0.16	2.34	4.34	0.80	0.18	0.03	44.1	0.15	126	85	101	12	36	105	<0.5	1.5
03-20-20	3.97	2.45	0.44	1.22	1.07	0.38	0.21	0.03	41.7	0.10	36	37	54	9	29	51	<0.5	<0.5
3. 5D Blk 3 Non T "	1.87		0.10	2.26	5.21	0.91	0.18	0.03	43.6	0.12	47	30	138	7	32	237	<0.5	<0.5
06-03-20	2.61		0.14	2.55	4.05	0.72	0.18	0.04	42.8	0.14	93	63	86	9	37	105	<0.5	1.2
03-20-20	4.06	2.55	0.44	1.59	1.31	0.33	0.19	0.02	41.6	0.11	44	35	49	8	31	38	<0.5	<0.5
4. 5D Blk 4 Non T "	1.88		0.10	2.67	5.38	0.84	0.19	0.03	43.8	0.15	85	44	117	7	33	166	<0.5	<0.5
06-03-20	2.65		0.15	2.61	4.13	0.70	0.20	0.02	43.7	0.12	113	67	117	8	36	195	<0.5	1.2
03-20-20	4.07	2.59	0.48	1.28	1.19	0.33	0.21	0.02	41.5	0.10	40	28	44	12	31	17	<0.5	<0.5

Client: HCT, LLC
7032 EAST CORTEZ DRIVE
SCOTTSDALE, ARIZONA 85254

Lab No.: 09-02T080
Submitted Date: 09-02-20
Report Date: 09-08-20
Submitted By: TODD R. EDEN
Material: ALMONDS - LEAVES

GROWER: BAPU FARMING - LOST HILLS - ALMONDS - 2020

Almond Leaf - JULY Optimum Ranges	PERCENT										PPM							
	N	UCD-ESP	P	K	Ca	Mg	Cl	Na	C	S	Zn	Mn	Fe	Cu	B	Al	Co	Mo
	2.20-2.50	Predicted July N	>0.15-Nx0.1	>1.50 ~N	>2.00	>0.30 <0.75	<0.3	<0.25	<45.0 >43.5	>0.20-0.35	>20 <200	>70 <300	>40 300	>10	>40 <100	<150	>0.5	>1.0
1. Non T 14 NE r20 t20	2.07		0.13	1.94	3.86	0.77	0.66	0.05	44.3	0.13	39	83	319	10	59	359	<0.5	0.7
06-03-20 09-02-20	2.87		0.17	2.57	3.21	0.67	0.29	0.03	44.7	0.10	75	63	95	11	49	99	<0.5	1.3
03-20-20	3.39	2.54	0.39	2.20	1.38	0.36	0.29	0.03	40.5	0.06	65	45	41	8	50	43	<0.5	<0.5
2. Trt 18 SE r20 t20 "	1.97		0.13	2.20	3.86	0.77	0.50	0.04	44.5	0.13	57	54	175	7	53	213	<0.5	<0.5
06-03-20	2.85		0.17	2.50	2.93	0.60	0.34	0.03	44.8	0.13	63	66	122	13	52	135	<0.5	1.7
03-20-20	3.75	2.63	0.48	2.12	1.61	0.42	0.26	0.04	40.1	0.05	140	72	43	9	55	68	<0.5	<0.5

Client: HCT, LLC
7032 EAST CORTEZ DRIVE
SCOTTSDALE, ARIZONA 85254

Lab No.: 09-02T079
Submitted Date: 09-02-20
Report Date: 09-08-20
Submitted By: TODD R. EDEN

GROWER: BAPU FARMING - LOST HILLS - PISTACHIOS - 2020

Material: PISTACHIOS - LEAVES

		PERCENT									PPM							
Pistachio Leaf - JULY		N	P	K	Ca	Mg	Cl	Na	C	S	Zn	Mn	Fe	Cu	B	Al	Co	Mo
Optimum Ranges		2.20-2.50	0.14-0.17+	1.50-2.00	2.30-4.0+	>0.30	0.10-0.30	0.02-0.07	<45.0 >43.5	0.15-0.30	7-14	30-80	>50	>4	55-230	<150	>0.5	>1.0
09-02-20	1. LH 17 NT SE r20 t20	2.56	0.15	2.02	3.94	0.82	0.31	0.02	44.9	0.10	21	64	65	9	403	89	<0.5	1.1
	06-03-20	3.04	0.19	1.21	1.76	0.60	0.23	0.01	47.3	0.11	27	56	49	11	123	43	<0.5	1.2
	03-20-20 UNAVAIL																	
"	2. LH 19 TRT NE r20 t20	2.55	0.15	2.16	4.18	0.80	0.28	0.02	44.2	0.10	22	50	90	9	338	120	<0.5	0.8
	06-03-20	3.11	0.19	1.42	1.92	0.56	0.21	0.03	47.5	0.11	36	44	56	13	98	85	<0.5	1.4
	03-20-20 UNAVAIL																	

Produced By;

Jo Obrien, CCA, PCA - Valley Tech Agricultural Laboratory Services
James Lovelady, Agronomist - SJV Agronomy
Karun Samran, Owner, Bapu Almonds and Bapu Farming Companies, Inc.
Chad Dart, Owner, Ag Water & Diversified Products
HCT, LLC - Scottsdale, AZ - WaterSOLV - www.hctllc.com - info@hctllc.com