

Apple		Leaves from current season growth		
	Low-Def	Sufficent Range	High	
	<			>
N	1.8-2.0	2.0-2.3		
P	0.15	.15-.50		
K	.50-1.0	1.25-3.0		
Ca %	1	1.1-2.3		
Mg	0.2	.20-.50		
S		.09-.17		
B		25-60		
Cu	5.0	5-20		
Fe	50	55-400		
Mn ppm	15-24	25-200		
Zn	17	20-60		
Mo		.5-1.5		
Al		<200		
Apricot		50 mature leaves from new growth		
	Low-Def	Sufficent Range	High	
	<			>
N		2.00-2.50		
P		0.13-0.35		
K		2.50-3.00		
Ca %		1.60-2.50		
Mg		0.30-1.20		
S		-		
B		25-70		
Cu		5-25		
Fe		70-150		
Mn ppm		25-100		
Zn		20-100		
Mo		-		
Al		-		
Avocado		50 Mature leaves from new flush		
	Low-Def	Sufficent Range	High	
	<			>
N		1.60-2.00		
P		0.08-0.25		
K		0.75-2.00		
Ca %		1.00-3.00		
Mg		0.25-0.80		
S		0.20-0.80		
B		50-100		
Cu		5-15		
Fe		50-200		
Mn ppm		30-500		
Zn		30-150		
Mo		0.05-1.0		
Al				

Banana		6-9 months into production seson	
	Low-Def	Sufficent Range	High
	<		>
N		3.50-4.50	
P		0.20-0.40	
K		3.80-5.00	
Ca %		0.80-1.50	
Mg		0.25-0.80	
S		0.25-0.80	
B		10-50	
Cu		6-25	
Fe		75-300	
Mn ppm		100-1000	
Zn		20-100	
Mo		-	
Al		-	
Blueberry		Leaves at or after Harvest	
	Low-Def	Sufficent Range	High
	<		>
N	1.5	1.6-2.2	
P	0.09	.1-.20	
K	0.3	.30-.60	
Ca %	0.25	.30-.5	
Mg	0.1	.10-.20	
S			
B	12	13-40	
Cu	2	2-20	
Fe	40	45-200	
Mn ppm	30	30-200	
Zn	12	12-30	
Mo			
Al			
Wine or European Table Grape			
	Low-Def	Sufficent Range	High
	<		>
N		2.00-2.30	
P		0	
K		0.30-0.40	
Ca %		1.30-1.40	
Mg		2.00-2.50	
S		0.25-0.5	
B		25-70	
Cu		5-50	
Fe		60-175	
Mn ppm		30-300	
Zn		25-100	
Mo		0.15-0.35	
Al			

Macadamia Nut		30 Mature Leaves from New Growth	
	Low-Def	Sufficent Range	High
	<		>
N		1.40-2.50	
P		0.07-0.25	
K		0.45-1.50	
Ca %		0.50-1.00	
Mg		0.08-0.30	
S		0.10-0.25	
B		25-100	
Cu		4-12	
Fe		25-200	
Mn ppm		50-1500	
Zn		15-25	
Mo		0.50-2.50	
Al			
Peach			
	Low-Def	Sufficent Range	High
	<		>
N	2.3	2.8-3.8	
P	0.18	.18-.50	
K	1.25	1.4-3.0	
Ca %	1.5	1.7-2.5	
Mg	0.2	.23-.55	
S	0.2	.20-.4	
B	15-20	25-100	
Cu	5	6-20	
Fe	30-60	60-400	
Mn ppm	46	50-150	
Zn	16	17-50	
Mo	0.28	.3-1.5	
Al		<400	
Pecan		Leaves (Middle Pair Leaflets)	
	Low-Def	Sufficent Range	High
	<		>
N	2.5	2.5-4.0	
P	0.12	.13-.32	
K	0.75	.75-1.3	
Ca %	0.7	.75-1.5	
Mg	0.25	.30-.65	
S	0.2	.20-.50	
B	20	22-50	
Cu	10	11-35	
Fe	50	50-300	
Mn ppm	65	100-800	
Zn	35	50-100	
Mo			
Al			

Raspberry Red		Leaves	
	Low-Def	Sufficient Range	High
	<		>
N		2.5	
P		0.25	
K		1.8	
Ca %		1.4	
Mg		0.5	
S			
B		50	
Cu		35	
Fe		220	
Mn ppm		425	
Zn		45	
Mo			
Al		220	
Cherry Sour			
	Low-Def	Sufficient Range	High
	<		>
N		3.18	
P		0.28	
K		2.11	
Ca %		1-Jan	
Mg		0.43	
S			
B		34	
Cu		25	
Fe		190	
Mn ppm		85	
Zn		35	
Mo			
Al		170	
Cherry Sweet			
	Low-Def	Sufficient Range	High
	<		>
N		2.65	
P		0.2	
K		1.45	
Ca %		1-Jan	
Mg		0.4	
S			
B		13	
Cu		32	
Fe		130	
Mn ppm		105	
Zn		22	
Mo			
Al			

Citrus				
	Low-Def	Sufficient Range	High	
	<			>
N	2.2-2.4	2.5-2.7		2.8-3.0
P	.09-.11	.12-.16		.17-.29
K	.7-1.1	1.2-1.7		1.8-2.3
Ca %	1.5-2.9	3.0-4.9		5.0-6.9
Mg				
S	.20-.29	.30-.49		.50-.70
B	21-35	36-100		101-200
Cu	3-4	5-16		17-20
Fe	36-59	60-120		121-200
Mn ppm	18-24	25-100		101-300
Zn	18-24	25-100		101-300
Mo	.06-.09	.10-1.0		2.0-5.0
Al				
Cranberry				
	Low-Def	Sufficient Range	High	
	<			>
N		0.80-1.20		
P		0.10-0.25		
K		0.40-0.80		
Ca %		0.50-0.90		
Mg		0.15-0.30		
S		0.10-0.15		
B		15-50		
Cu		5-15		
Fe		60-125		
Mn ppm		75-200		
Zn		25-40		
Mo				
Al				
Grapes " Muscadine"				
	Low-Def	Sufficient Range	High	
	<			>
N		1.65-2.2		
P		.12-.18		
K		.8-1.2		
Ca %		.7-1.1		
Mg		.15-.25		
S		.2-.4		
B		15-25		
Cu		6-30		
Fe		50-120		
Mn ppm		45-150		
Zn		20-40		
Mo				
Al				

Grapes Various		Petioles and Leaves	
	Low-Def	Sufficent Range	High
	<		>
N		1.65-2.2	
P		.12-.18	
K		.8-1.2	
Ca %		.7-1.1	
Mg		.15-.25	
S		.2-4	
B		15-25	
Cu		6-30	
Fe		50-120	
Mn ppm		45-150	
Zn		20-40	
Mo			
Al			
Papaya			
	Low-Def	Sufficent Range	High
	<		>
N		1.01-2.50	
P		0.22-0.40	
K		3.30-5.50	
Ca %		1.00-3.00	
Mg		0.40-1.20	
S			
B		20-30	
Cu		4-10	
Fe		25-100	
Mn ppm		20-150	
Zn		15-40	
Mo			
Al			
Pear			
	Low-Def	Sufficent Range	High
	<		
N	1.9	2.2-3.0	
P	0.16	.17-.45	
K	1.1	1.25-3.0	
Ca %	1	1.0-2.0	
Mg	0.2	.20-.50	
S	0.09	.1-.15	
B	20	30-60	
Cu	6.0	7-20	
Fe	50	50-200	
Mn ppm	21	30-200	
Zn	18	20-60	
Mo	0.5	.50	
Al		<200	

Strawberries		mid season to young mature leaves		
	Low-Def	Sufficent Range	High	
	<			>
N	2	2.0-4.0		
P	0.2	.25-.43		
K	1.1	1.25-2.5		
Ca %	0.9	1.0-1.8		
Mg	0.25	.25-.60		
S				
B	17	20-40		
Cu	5	6-40		
Fe	45	60-200		
Mn ppm	45	60-250		
Zn	18	28-160		
Mo				
Al				
Raspberry Black		Leaves		
	Low-Def	Sufficent Range	High	
	<			>
N		3.5		
P		0.22		
K		1.5		
Ca %		1.1		
Mg		0.45		
S				
B		35		
Cu		65		
Fe		260		
Mn ppm		344		
Zn		40		
Mo				
Al				