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SUMMARY OF RESULTS

FROM

OHIO PLANT ANALYSIS LABORATORY

FOR

FRUIT CROPS

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DEPARTMENT OF HORTICULTURE

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INTRODUCTION

The information presented on the following pages is a summary of the results from samples sent to the Ohio Plant Analysis Laboratory during 1965 for fruit crops. The recommended July petiole or leaf content represents the sufficient range within which the tissue can vary and still have a desirable content of that element. Satisfactory progress has been made in applying these standards so that, within reason, they are a very useful tool in diagnosing the nutrient status of fruit crops. However, they stand subject to modification when challenged by more recent findings in our research program.

Several additional terms are used to describe the relative nutrient content of plant foliage outside the "sufficient range." To better understand their meaning, the following definitions are included.

Range

- Deficient: Plants are in the deficient range if (1) they show visable leaf symptoms or, (2) distinct yield decreases and/or quality reductions result. A significant increase in the application rate of this element is recommended.
- Low: Plants are in the low range if the amount of the element present in the plant is inadequate to produce the most acceptable yields and/or quality. Because of the absence of visual symptoms, general observation may not reveal that yield and/or quality is being depressed. Use of this term frequently means that the plant is approaching the deficient range and continued production without applying this element or fertilizing with some other element may produce a deficiency.
- Sufficient: Plants are in the sufficient range if it is doubtful that further additions or reductions of the element will result in a desirable increase of growth, yield, or quality. Somewhere within this range is the absolute optimum, which together with the combination of the other elements present, will produce the most desirable product.
- High: Plants are in the high range if the level of the element present in the plant is higher than necessary to produce optimum yields, growth and/or quality. This amount may also indicate unfavorable quality relationships or an imbalance of other nutrients.
- Excess: Plants contain an excessive or toxic amount of an element if (1) visable leaf symptoms are present or, (2) definite reductions in yield, vigor and/or quality result. At this level the deficiency of another essential element may be induced.

Summary of Apple Samples

		Perce	nt Dry W	eight		PPM Dry Wt.								
	N	Р	K	Ca	Mg	Mn	Fe	В	Cu	Mo	Zn	Al		
Recommended July Leaf Content*	1.9/ 2	.18/ .4 .28	1.2/ 1.8	1.3/ 1.7	.24, .36	31/ 150	35/ 15(28/ D 50	10/ 20	.5 _/ 1.5	20 _/ 50	-		
1965 Lab. Average	2.13	.20	1.59	1.44	.30	93	128	30	9	.8	32	330		
Total Apple Samples	Anal	yzed:	57		196	64 Tota	1: 30	C						
Counties Represente	ed: Ma Ci Fu	ahoning lermont ulton-l	-17, Jac -2, Hami , Carrol	kson-6, lton-2, l-1, St	Monroe Belmor ark-1,	e-5, Er nt-2, M Ashtab	ie-4, ontgon ula-1	Logan nery-2 , Sano	n-4, (2, Je: dusky	Geauga fferso -1, Me	-3, Hur n-2, dina-1.	on-2		
Total Growers Repre	sente	d: 26												
Of the total number samples analyzed, there were:	N	Р	K	Ca	Mg	Mn	Fe	В	Cu	Мо	Zn	Al		
Deficient	2	3	2	2	4	l	0	4	נ	0	6	-		
Low	12	28	7	13	3	0	0	16	37	29	17	-		
*Sufficient	33	21	30	31	41	50	45	37	19	19	22	-		
High	10	5	18	11	9	6	12	0	0	9	12	-		
Excess	0	0	0	0	0	0	0	0	0	0	0	-		
Total	57													
				Sym	bols									
N = Nitrogen				Mg = M	agnesiu	um				Cu =	Copper			
P = Phosphoru	IS			Mn = M	anganes	se				Mo = 3	Molybde	num		
K = Potassium	L			Fe = I	ron					Zn = 2	Zinc			
Ca = Calcium				B = B	oron					Al = .	Aluminu	um		

Summary of Grape Samples

		Perce	nt Dry	Weight		PPM Dry Wt.							
	N	Р	K	Ca	Mg	Mn	Fe	В	Cu	Mo	Zn	A1	
Recommended July Petiole Content*	.9⁄ 1.3	.16, .30	1.5/ 2.5	1.0 1.8	.26 _/ .45	30/ 150	30/ 50	25/ 50	19/ 15	·3/ 1.5	30/ 50	-	
1965 Lab. Average	•97	.22	1.73	1.05	.43	219	70	29	25	2.0	40	46	
Total Grape Samples	Analy	zed: 4	5		1964	Total:	6						
Counties Represente	d: Asl Ott	ntabula tawa-l,	-5, Lak Jackson	e-4, Eri n-1, Ric	ie-2, Ge chland-1	eauga-l	., Lo	rrain.	-l, M	ontgome	ery-l,		
Total Growers Repre	sented	: 17											
Of the total number													
samples analyzed, there were:	N	Ρ	K	Ca	Mg	Mn	Fe	в	Cu	Mo	Zn	Al	
Deficient	l	9	3	10	2	l	l	0	-	0	0	-	
Low	17	5	8	15	10	0	14	8	19	15	10	-	
*Sufficient	25	20	31	17	18	10	12	37	15	17	27	-	
High	l	11	3	3	15	34	18	0	11	13	8	-	
Excess	l	0	0	0	0	0	0	0	0?	0?	0	-	

Total

45

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Summary of Peach Samples

		Percer	nt Dry W	leight		PPM Dry Wt.						
	N	P	K	Ca	Mg	Mn	Fe	В	Cu	Мо	Zn	A1
Recommended July Leaf Content*	2.8/ 3.	.20, 2.30	1.4/ 2.2	1.8/ 2.4	. 31/ .40	35/ 150	50/ 150	25 _/ 50	10/ 20	.5 _/ 2.0	20/ 50	-
1965 Lab. Average	2.47	.17	2.11	2.06	.46	137	182	28	8	•7	21	290

Total Peach Samples Analyzed: 7 Counties Represented: Jackson-2, Ashland-2, Carroll-1, Belmont-1 Mahoning-1. Total Growers Represented: 5

Of the total number samples analyzed,												
there were:	N	P	K	Ca	Mg	Mn	Fe	В	Cu	Мо	Zn	Al
Deficient	2	2	0	0	0	0	0	0	0	0	0	-
Low	l	4	0	0	0	0	0	0	5	2	2	-
*Sufficient	2	1	3	6	l	4	2	7	2	5	5	-
High	0	0	4	1	6	3	5	0	0	0	0	-
Excess	0	0	0	0	0	0	0	0	0	0	0	-
:	2 mis	s.										
Total	7											

Summary of Cherry Samples

		Percer		PPM Dry Wt.								
	N	P	K	Ca	Mg	Mn	Fe	В	Cu	Mo	Zn	A1
Recommended July Leaf Sample*	2.6/ 3.	.20⁄ 0 .30	1.3/ 2.3	1.5/ 3 2.5	•35/ •65	30/ 150	30/ 15(20/ D 50	10/ 20	•5/ 2.0	20 _/ 50	-
1965 Lab. Average	2.52	.20	1.61	1 .8 0	.51	81	298	40	11	3.3	18	474

Total Cherry Samples Analyzed: 7 Counties Represented: Sandusky-4, Carroll-1, Jackson-1, Erie-1. Total Growers Represented: 4

Of the total number samples analyzed,												
there were:	N	Р	K	Ca	Mg	Mn	Fe	В	Cu	Мо	Zn	Al
Deficient	0	0	0	0	0	0	0	0	0	0	0	-
Low	3	3	l	0	0	0	0	0	0	l	3	-
*Sufficient	4	4	6	7	5	7	2	7	7	1	4	-
High	0	0	0	0	2	0	5	0	0	5	0	-
Excess	0	0	0	0	0	0	0	0	0	0	0	-
Total	7											

Summary of	of	Pear	Samp	les
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		Percen		PPM Dry Wt.									
	N	Р	K	Ca	Mg	Mn	Fe	В	Cu	Mo	Zn	Al	
Recommended July Leaf Sample*	1.8/ 2.	.山, 3 .20	1.0/ 1.5	1.0/ 1.6	• 30/ • 40	30/ 150	30/ 150	30/ 50 50	5⁄ 15	.5/ 1.5	10/ 30	- -	
1965 Lab. Average	2.27	. 14	1.42	1.63	.28	73	158	23	10	.15	58	208	
Total Pear Samples	Analyz	ed: 2			1964 1	fotal:	0						
Counties Represente	d: Ge	auga-2.											
Total Growers Repre	sented	: 1											