

TABLE 3
PHOSPHORUS SERIES NUTRIENT TREATMENT 1933 SAND CULTURE EXPERIMENT

Phosphorus Concentration in p.p.m.	Source	Milligrams of Source per Liter ³	Milligrams of Source per Pot ³ (4.5 Liters)	Hydrogen Ion ¹ Concentration of Sand Culture Solutions (pH)	Concentration of Nutrient Elements in p.p.m. (Milligrams per Liter) ³						
					P	K	N	Ca	S	Fe	Mg
0	KCl	609.00	2740.05	5.50	....	319.37	....	....	....	...	....
	NH ₄ NO ₃	857.16	3857.22		....	....	300.00	....	....	...	....
	CaCl ₂ ·6H ₂ O	1334.98	6007.41		....	....	....	244.22	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals ²				X	319.37	300.00	244.22	231.50	3.40	175.60
50	KH ₂ PO ₄	219.43	987.43	5.44	50.00	63.02	....	....	....	...	....
	KCl	488.83	2199.73		....	256.35	....	....	....	...	....
	NH ₄ NO ₃	857.16	3857.22		....	....	300.00	....	....	...	....
	CaCl ₂ ·6H ₂ O	1334.98	6007.41		....	....	....	244.22	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				50.00	319.37	300.00	244.22	231.50	3.40	175.60
100	KH ₂ PO ₄	438.87	1974.91	5.53	100.00	126.04	....	....	....	...	....
	KCl	368.66	1658.97		....	193.33	....	....	....	...	....
	NH ₄ NO ₃	857.16	3857.22		....	....	300.00	....	....	...	....
	CaCl ₂ ·6H ₂ O	1334.98	6007.41		....	....	....	244.22	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				100.00	319.37	300.00	244.22	231.50	3.40	175.60
200	KH ₂ PO ₄	877.77	3949.96	5.14	200.00	252.10	....	....	....	...	....
	KCl	128.27	577.21		....	67.27	....	....	....	...	....
	NH ₄ NO ₃	857.16	3857.22		....	....	300.00	....	....	...	....
	CaCl ₂ ·6H ₂ O	1334.98	6007.41		....	....	....	244.22	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				200.00	319.37	300.00	244.22	231.50	3.40	175.60
300	KH ₂ PO ₄	1111.98	5003.91	5.40	253.37	319.37	....	....	....	...	....
	NH ₄ H ₂ PO ₄	173.08	778.86		46.63	....	21.07	....	....	...	....
	Ca(NO ₃) ₂ ·4H ₂ O	177.56	799.02		....	....	21.07	30.13	....	...	....
	NH ₄ NO ₃	736.75	3315.37		....	....	257.86	....	....	...	....
	CaCl ₂ ·6H ₂ O	1170.28	5266.26		....	....	....	214.09	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				300.00	319.37	300.00	244.22	231.50	3.40	175.60
400	KH ₂ PO ₄	1111.98	5003.91	5.00	253.37	319.37	....	....	....	...	....
	NH ₄ H ₂ PO ₄	544.27	2449.21		146.63	....	66.26	....	....	...	....
	Ca(NO ₃) ₂ ·4H ₂ O	558.41	2512.84		....	....	66.26	94.77	....	...	....
	NH ₄ NO ₃	478.52	2153.34		....	....	167.48	....	....	...	....
	CaCl ₂ ·6H ₂ O	816.94	3676.23		....	....	....	149.45	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				400.00	319.37	300.00	244.22	231.50	3.40	175.60
500	KH ₂ PO ₄	1111.98	5003.91	5.21	253.37	319.37	....	....	....	...	....
	NH ₄ H ₂ PO ₄	915.46	4119.57		246.63	....	111.46	....	....	...	....
	Ca(NO ₃) ₂ ·4H ₂ O	939.33	4226.98		....	....	111.46	159.43	....	...	....
	NH ₄ NO ₃	220.23	991.03		....	....	77.08	....	....	...	....
	CaCl ₂ ·6H ₂ O	463.48	2085.66		....	....	....	84.79	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				500.00	319.37	300.00	244.22	231.50	3.40	175.60
600	KH ₂ PO ₄	1111.98	5003.91	4.94	253.37	319.37	....	....	....	...	....
	NH ₄ H ₂ PO ₄	1286.65	5789.92		346.63	....	156.65	....	....	...	....
	Ca(NO ₃) ₂ ·4H ₂ O	1320.17	5940.76		....	....	156.65	224.07	....	...	....
	CaCl ₂ ·6H ₂ O	110.14	495.63		....	....	....	20.15	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				600.00	319.37	313.30	244.22	231.50	3.40	175.60
700	KH ₂ PO ₄	1111.98	5003.91	4.49	253.37	319.37	....	....	....	...	....
	NH ₄ H ₂ PO ₄	1286.65	5789.92		346.63	....	156.65	....	....	...	....
	H ₃ PO ₄	316.08	1422.36		100.00	....	....	....	....	...	....
	Ca(NO ₃) ₂ ·4H ₂ O	1320.17	5940.76		....	....	156.65	224.07	....	...	....
	CaCl ₂ ·6H ₂ O	110.14	495.63		....	....	....	20.15	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				700.00	319.37	313.30	244.22	231.50	3.40	175.60
800	KH ₂ PO ₄	1111.98	5003.91	3.23	253.37	319.37	....	....	....	...	....
	NH ₄ H ₂ PO ₄	1286.65	5789.92		346.63	....	156.65	....	....	...	....
	H ₃ PO ₄	632.16	2844.72		200.00	....	....	....	....	...	....
	Ca(NO ₃) ₂ ·4H ₂ O	1320.17	5940.76		....	....	156.65	224.07	....	...	....
	CaCl ₂ ·6H ₂ O	110.14	495.63		....	....	....	20.15	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				800.00	319.37	313.30	244.22	231.50	3.40	175.60
900	KH ₂ PO ₄	1111.98	5003.91	3.08	253.37	319.37	....	....	....	...	....
	NH ₄ H ₂ PO ₄	1286.65	5789.92		346.63	....	156.65	....	....	...	....
	H ₃ PO ₄	948.24	4267.08		300.00	....	....	....	....	...	....
	Ca(NO ₃) ₂ ·4H ₂ O	1320.17	5940.76		....	....	156.65	224.07	....	...	....
	CaCl ₂ ·6H ₂ O	110.14	495.63		....	....	....	20.15	....	...	....
	MgSO ₄ ·7H ₂ O	1780.00	8010.00		....	....	....	....	231.50	...	175.60
	Ferric Citrate	20.00	90.00		....	....	....	....	....	3.40	....
	Totals				900.00	319.37	313.30	244.22	231.50	3.40	175.60

¹ Average of check solutions.
² Except for a slight increase in nitrogen (starting at treatment 600 p.p.m. P) the total concentration of each nutrient element other than phosphorus, which is varied, remains constant throughout the series.
³ Figures beyond those significant retained for convenience in machine calculation.