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Fertility Status Of Ohio Soils As Shown By Soil Tests In 1961

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FERTILITY STATUS OF OHIO SOILS

(As Shown by Soil Tests in 1961)

J. BENTON JONES, Jr., AND O. L. MUSGRAVE¹

INTRODUCTION

This is the third summary which has been prepared from the results of soil tests made on Ohio soils. The data reported here summarize 81,525 soil test results from field soil samples submitted by Ohio farmers between January 1, 1961 and December 31, 1961 to the Agricultural Extension Service Soil Testing Laboratory, at The Ohio State University, Columbus, Ohio. The data reported include summaries of pH and lime requirement, "available" phosphorus and potassium, and percent organic matter within 87 Ohio counties (Cuyahoga county is not included) and 52 associated soil types.

A previous summary was made for soil samples submitted to the laboratory between July 1, 1956 and July 1, 1959.² A sufficient change in the general fertility level of Ohio soils as measured by soil test has occurred to justify this summary.

The data are presented in map and tabular form. The number of samples submitted to the laboratory during the reported period by county are given in Table 1. The number of soil samples is slightly less than the total number of commercial farms with cultivated crops (81,525 samples versus 83,025 farms³). On this basis, a soil sample was tested for each 110 acres of cultivated land in Ohio. Although this number is relatively small (from 2 to 23 samples per 1000 acres according to county), the soil test results obtained probably are representative of the county or area from which they were taken, providing the best current source of these kinds of data.

The methods of soil analysis employed by the Soil Testing Laboratory are given in Table 10. The soil test results are placed on IBM cards for summariza-

tion at the Statistics Laboratory, Ohio Agricultural Experiment Station, under the supervision of Dr. C. R. Weaver.⁴

PRESENTATION OF RESULTS

Figure 1 in this bulletin describes the 18 major soil areas in Ohio. The heavy lines delineate regions of major soil divisions with the light lines delineating the common soil type area within these regions.⁵ The general fertility level of the major soil areas is given in Table 2 by soil type and by county in Table 3.

"Available" phosphorus and potassium is given as a mode and median value in Tables 2 and 3. The mode value is the one most frequently occurring, while the median value is the one in which an equal number of observations lie on either side. When the mode and median values are not the same, the distribution of soil test values are not normally distributed. In the soil type summary (Table 2) this would mean either an improper soil type classification is being made in the laboratory upon receipt of the sample or cultural and fertilizer practices may be causing wide variance in soil test level within the soil type. In the county summary (Table 3), a wide variance is probably due to the presence of more than one soil type within the county. Since the variance within soil type with regard to pH and organic matter content was not large, only the mode value is given. The complete soil test results are given in two tables as percent distribution of soil tests by soil type (Table 4) and county (Table 5).

The levels of phosphorus and potassium are given in three categories, low, medium, and high. These levels are inversely related to the probabilities for obtaining a yield response to the nutrient in question. The phosphorus and potassium data are arrayed in a

¹Associate Professor, Ohio Agricultural Experiment Station, and Extension Agronomist and Professor, The Ohio State University.

²Jones, J. B., Mederski, H. J. and Musgrave, O. L., 1961 Fertility Status of Ohio Soils, Ohio Agricultural Experiment Station Res. Bul. 894.

³1959 Agricultural Census.

⁴The authors are grateful to Dr. Weaver and his staff for assistance in preparing the data for publication.

⁵Morse, H. H. and Bone, S. 1958 Understand Ohio Soils, Ohio Extension Service Bul. 368.

two-way table in Section A. The tabular data are presented as percentages of the total number of samples falling into a given category. The pH data are grouped into six pH classes (6.6 and above, 6.5 to 6.1, 6.0 to 5.5, 5.5 to 5.1, 5.0 to 4.5, and 4.5 and below) and appear in Section B. Lime deficit data are given in six categories (none, 2 to 2½, 3 to 3½, 4 to 4½, 5 to 5½ and 6 or more tons per acre) and appear in Section C. Percent organic matter content is grouped into six classes (0 to 1%, 1½ to 2%, 2½ to 3%, 3½ to 4%, 4½ to 5%, 5% or above) and these data appear in Section D.

DISCUSSION

This summary provides agricultural workers information regarding the nutrient element status of Ohio soils as measured by soil tests. These data will be helpful in educational programs conducted by the Extension Service and the fertilizer and lime industry serving Ohio farmers. Fertilizer manufacturers will find this information useful in estimating area needs for various fertilizer materials and grades. Other State and Federal agricultural agencies responsible for the development of policies regarding the use of lime and fertilizer can make use of this summary. The data aid in identifying those plant nutrients most likely to be lacking in certain soil areas, and single out areas where additional fertility research is needed.

In general, the soil areas in eastern Ohio are acid in reaction and tend to be low in available phosphorus and in some sections moderately low in available potassium. This does not necessarily mean that the soils in eastern Ohio will always be less productive. These soils require larger quantities of lime, phosphorus and potassium to bring them up to the same nutrient level as the majority of other soils in Ohio. Once the nutrient level has been raised, these soils are as productive as any other in the State.

COMPARISON WITH PREVIOUS SUMMARY

This summary provides the opportunity to make comparisons with the previous summary.² When the following comparisons were made, some significant changes were noted. It should be noted that some of these differences may be partially or wholly due to sampling of different soil populations. It is interesting to note, however, that not all the soil test parameters are changing which would indicate that similar populations are equally represented in the two summaries, and that the differences noted are not substantially due to the samplings of two different said populations.

1. Soil Ph: The percentage of soils in specific pH categories has not changed significantly.

2. Lime requirement: There has been a marked increase in the number of soils requiring more than two tons of lime per acre. The soils in Western and Southern Ohio have more soils with large lime requirements than was observed in the previous summary.²

The percent of soils requiring more than two tons of lime to bring them to a pH of 6.5 is given in both the soil type (Table 2) and county (Table 3) summaries. For many soil types, one half of the soils tested had large lime requirements, *i. e.* greater than two tons per acre. Although the soils in Eastern Ohio are generally more acid than those in Western Ohio (particularly NW Ohio), the number of soils having these large lime requirements are increasing in the western and southern soil areas rather than in the eastern soils areas. The need for lime has been recognized for many years in eastern Ohio and no appreciable change in the number of soils having specific lime requirements was noted. In fact, several counties in eastern Ohio (Geauga, Huron, Lorain, and Portage) have reduced the number of soils requiring lime through active county lime programs. The percentage of soils with no lime requirement has remained about constant with a few soil types showing a slight increase.

3. Organic matter content: The organic matter content has remained about the same for all soil types.

4. "Available" phosphorus: The level of phosphorus has not changed for most Ohio soils. There are a few soils which have shown some increase in the amount of available phosphorus but the increase and number of soils where this increase occurs is small.

5. "Available" potassium: Significant decreases in potassium availability have been noted in Eastern Ohio soils and some soils in Western Ohio (see Table 6).

These changes may be sufficiently large to bring about an increase in future potassium fertilizer recommendations. Potassium reserves may be depleted and the potassium release characteristics observed in the early 1950's may be changing.⁶ The depletion and change is now evidencing itself as a declining potassium soil test level. Future soil test summaries will be made to determine the rapidity of this change.

⁶Pratt, P. F. and Morse, H. H. 1954. Potassium Release from Exchangeable Forms in Ohio Soils. Ohio Agr. Expt. Sta. Res. Bull. 747.

²Ibid.

INTERACTION BETWEEN SOIL FERTILITY FACTORS

The interaction between soil pH and "available" phosphorus and potassium; and organic matter content with "available" phosphorus and potassium was studied.

Soils of the Hoytville, Blount, Brookston, Alexandria and Muskingum types were grouped into specific levels of pH and organic matter content and grouped again as percent of soils either low, medium or high in "available" phosphorus and potassium. The distribution is given in Tables 7 (soil pH) and 8 (organic matter content).

As the pH of the soil increased up to seven, the percentage of soils testing low in "available" phosphorus decreases for all the soil types except Brookston. For the Muskingum soil, the percent soils testing low in "available" potassium increases as the pH increases up to 7.

As the organic matter content increases, the percentage of soil testing low in "available" phosphorus decreases for the Hoytville, Blount, and Muskingum soils. A similar relationship is noted with the Blount soil with regard to "available" potassium. In the Brookston and Alexandria soil types, if the highest organic matter levels are not considered there is a downward trend in the percentage of soils testing low

in both "available" phosphorus and potassium as the organic matter content increases.

For the soils types included in this study, soils which have the least number testing low in either "available" phosphorus or potassium have pH's between 6.0 and 7.0 and organic contents of from 3.0 to 5.0 percent.

SOIL FERTILITY AND ASSOCIATED CROPPING SEQUENCE

The frequency of specific crops in rotation usually depends upon the type of farm and general slope of the land. Row and intertilled crops are found on the level land areas while pasture and hay crops frequent the sloping land areas. Census and other data indicate that grain crops are usually better fertilized than hay or pasture crops. In Table 9 the percentage of soils testing either low, medium or high in "available" phosphorus and potassium is grouped according to cropping sequence.

As the frequency of meadow increases in the rotation, the percentage of soil testing low in available potassium increases significantly. However, there is no such significant trend for phosphorus. Pasture and meadow improvement may hinge on potassium fertilization rather than phosphorus.

KEY TO MAP ON NEXT PAGE

- | | | | |
|--|---|---|--------------------------------------|
| LAKE PLAIN | | ILLINOIS GLACIATED LOAM TILL | GLACIATED CLAY |
| 1. Roselms
Paulding
Latty | 2. Hoytville
Toledo
Nappanee
Fulton
Belmore
Tedrow
Rimer
Granby
Wauseon | 6. Blanchester
Rossmoyne
Avonburg
Clemont
Cincinnati
Loudon
Grayford
Edenton | 10. Mahoning
Trumbull
Elsworth |
| GLACIATED CLAY LOAM TILL | | RESIDUAL LIMESTONE | GLACIATED SANDSTONE AND SHALE |
| 3. Morley
Blount
Pewamo | 7. Bratton
Burgin
Faimount
Hagerstown
Cedarville
Haddox | | 11. Cambridge
Verango
Alden |
| GLACIATED LOAM TILL | | GLACIATED SHALE AND SANDSTONE SCL TILL | |
| 4. Miami
Celina
Crosby
Brookston | | 12. Wadsworth
Rittman
Wayne | |
| GLACIATED LOAM TILL WITH SILT MANTLE | | GLACIATED SANDSTONE | |
| 5. Fincastle
Xenia
Russell
Reesville
Brookston, Ragsdale | | 13. Wooster
Canfield
Ravenna
Chippewa | |
| LACUSTRINE | GLACIATED LIMESTONE | ILLINOIS GLACIATED SANDSTONE AND SHALE | |
| 8. Canadea
Lorain
Olmsted
Plainfield
Chenango
Wilmer | 9. Cardington
Bennington-Condit
Marengo | 14. Hanover
Fallsburg
Millwood
Loudonville | |
| | | RESIDUAL SANDSTONE AND SHALE | |
| | | 15. Muskingum
Wellston
Keene | 17. Meigs-Muskingum
Upshur |
| | | 16. Westmoreland
Muskingum | 18. Westmoreland
Meigs-Muskingum |

MAJOR SOIL AREAS

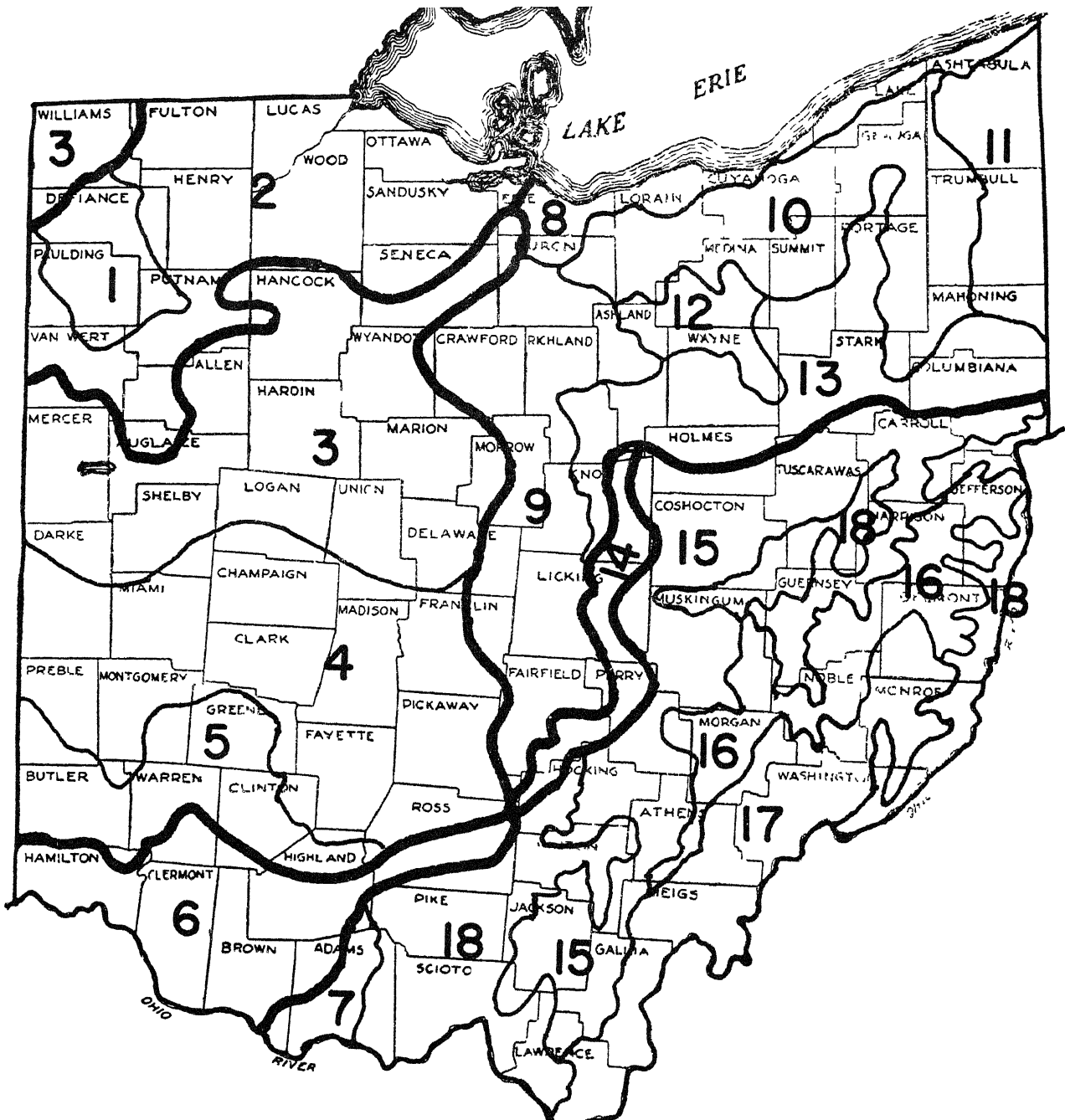


Figure 1. Major Ohio soil areas.

TABLE 1.—Number of Soil Samples Analyzed per County with Total Number of Acres Reported, Percent Reporting, Acres and Number Analyzed per 10 Farms and 1000 Acres within Each County.

County	Number of ¹ Soil Samples Analyzed	Acres Reported with Samples x 100	Percent of Total Submitted Reporting Acres	Number of ² Farms	Acres of ³ Cultivated Land x 1000	Number of Samples per 10 Crop Farms	Number of Samples per 1000 Cultivated Acres
Adams	1339	12.5	76	1257	68.6	11	20
Allen	599	1.0	12	1194	150.3	5	4
Ashland	1145	9.8	84	976	104.1	11	11
Ashtabula	743	3.6	49	991	83.2	7	9
Athens	268	2.0	64	468	30.4	6	9
Auglaize	1313	9.2	12	1323	168.8	10	8
Belmont	482	1.1	38	778	53.9	6	9
Brown	1215	12.4	79	1488	95.5	8	13
Butler	768	3.9	51	1010	109.4	8	7
Carroll	930	4.8	72	618	53.0	15	18
Champaign	846	9.8	45	1033	156.9	8	5
Clark	857	7.1	33	906	134.1	9	6
Clermont	767	3.1	35	755	58.0	10	13
Clinton	1628	18.9	60	1082	140.5	15	12
Columbiana	1589	3.6	31	894	80.1	18	20
Coshocton	1226	10.8	79	793	72.0	15	17
Crawford	1290	4.9	24	1114	158.9	12	8
Darke	1961	8.0	26	2384	260.0	8	8
Defiance	357	12.8	22	1064	164.9	3	2
Delaware	797	4.2	30	1091	140.6	7	6
Erie	167	4.5	14	595	71.7	3	2
Fairfield	868	4.1	23	1334	144.8	7	6
Fayette	1155	21.3	70	796	168.0	15	7
Franklin	767	7.3	46	800	129.9	10	6
Fulton	966	4.0	24	1667	194.4	6	5
Gallia	393	3.6	81	629	35.3	6	11
Geauga	671	3.3	45	483	35.2	14	19
Greene	472	1.7	19	1019	133.2	5	4
Guernsey	714	2.1	36	649	48.3	11	15
Hamilton	148	1.2	55	375	27.6	4	5
Hancock	3516	4.0	6	1767	242.4	20	15
Hardin	1171	13.6	59	1319	185.5	9	6
Harrison	320	1.8	63	362	31.9	9	11
Henry	660	7.8	65	1557	209.3	4	3
Highland	1926	23.9	76	1455	145.1	13	13
Hocking	153	.8	37	152	22.6	10	7
Holmes	1499	4.1	32	1449	92.0	10	16
Huron	1407	11.9	60	1283	166.0	11	8
Jackson	475	4.2	79	376	24.5	13	19
Jefferson	485	2.3	72	290	27.2	17	18
Knox	1194	9.1	64	1088	111.9	11	11
Lake	70	.06	4	226	16.7	3	4
Lawrence	359	2.4	80	305	15.4	12	23
Licking	1804	15.7	60	1253	142.8	14	13
Logan	747	8.6	69	1134	146.1	6	5
Lorain	780	7.0	76	901	103.8	9	8
Lucas	232	.7	17	641	82.5	4	4

TABLE 1. (Continued)—Number of Soil Samples Analyzed per County with Total Number of Acres Reported, Percent Reporting, Acres and Number Analyzed per 10 Farms and 1000 Acres within Each County.

County	Number of ¹ Soil Samples Analyzed	Acres Reported with Samples x 100	Percent of Total Submitted Reporting Acres	Number of ² Farms	Acres of ³ Cultivated Land x 1000	Number of Samples per 10 Crop Farms	Number of Samples per 1000 Cultivated Acres
Madison	1288	25.3	60	827	193.1	15	7
Mahoning	501	3.3	69	569	49.4	9	10
Marion	1254	9.4	42	963	158.2	13	8
Medina	581	4.2	68	926	84.9	6	7
Meigs	527	4.7	84	410	33.2	13	16
Mercer	1452	13.0	61	1694	207.3	8	7
Miami	1436	14.6	52	1207	157.3	12	9
Monroe	722	8.7	20	630	30.8	11	23
Montgomery	910	4.3	32	957	107.4	10	8
Morgan	488	2.5	66	486	32.9	10	15
Morrow	1035	7.0	48	978	116.0	10	9
Muskingum	1231	3.7	18	811	71.7	15	17
Noble	503	2.6	61	452	30.3	11	17
Ottawa	756	2.7	28	727	94.9	10	7
Paulding	357	1.1	17	870	186.1	4	2
Perry	515	3.4	51	491	43.3	10	12
Pickaway	1340	23.2	57	1099	197.2	12	7
Pike	281	2.9	54	374	36.8	7	8
Portage	431	1.3	33	716	62.8	6	7
Preble	863	5.2	30	1219	149.3	7	6
Putnam	885	5.1	38	1854	229.7	5	4
Richland	886	8.8	72	877	105.6	10	8
Ross	717	13.6	77	840	139.2	8	5
Sandusky	858	7.1	52	1383	174.4	6	5
Scioto	504	5.5	95	402	40.9	13	12
Seneca	2205	5.3	13	1610	227.0	14	10
Shelby	1656	14.0	58	1225	160.6	14	10
Stark	946	6.0	70	1276	109.5	7	9
Summit	139	.6	45	211	20.0	6	6
Trumbull	896	6.7	79	724	60.8	12	15
Tuscarawas	1455	7.3	55	844	69.7	21	21
Union	1506	1.0	68	1111	160.5	14	9
Van Wert	1058	.7	68	1288	206.0	8	5
Vinton	246	2.7	79	195	14.2	13	17
Warren	804	6.9	59	861	90.3	9	9
Washington	859	5.3	80	652	47.5	13	18
Wayne	3262	3.4	7	1890	168.7	17	19
Williams	729	6.9	64	1320	162.0	6	4
Wood	1673	5.2	17	1886	286.9	9	6
Wyandot	1113	3.1	15	1046	170.9	11	6
Total	81,525	572.86		83,025	92,729.2		
State Average			48%			10	9

¹Samples received during the period 1 January 1961 to 31 December 1961.

²Taken from the 1959 Census of Agriculture, cultivated crop farms only.

³Taken from the 1959 Census of Agriculture, cultivated crop land only.

TABLE 2.—Number of Samples and the General Fertility Level of Soils by Soil Type—1961.

Soil Type	Number of ¹ Samples	Potassium lb/A		Phosphorus lb/A		Lime Required		pH Mode ²	Percent Organic Matter Mode ²	
		Mode ²	Median ³	Mode ²	Median ³	None ⁴	2T/A ⁵			
Soil Area 1 Lake Plain										
Paulding	787	305	360	38	32	15	25	6.2	3.0	
Roselms	304	240	240	25	25	21	43	6.0	2.0	
Soil Area 2 Lake Plain										
Hoytville	4360	360	265	18	31	26	17	6.2	3.0	
Nappanee	1863	190	235	18	25	22	29	6.0	3.0	
Wauseon	1852	140	150	32	43	33	14	6.6	3.0	
Rimer	767	150	155	22	48	25	25	6.0	2.0	
Soil Area 3 Glaciated Clay Till										
Pewano	4424	220	215	34	31	25	23	6.2	3.0	
Blount	6588	180	180	18	24	17	36	6.7	2.0	
Morley	3539	150	170	12	21	19	39	6.2	2.0	
Soil Area 4 Glaciated Loam Till										
Brookston-K	3984	180	200	18	24	34	16	6.4	3.0	
Crosby	3887	160	175	12	20	27	22	6.0	2.0	
Miami	3843	180	175	18	19	26	28	6.0	2.0	
Soil Area 5 Glaciated Loam Till with Silt Mantle										
Brookston-R	699	160	170	34	30	30	20	6.2	2.5	
Fincastle	1162	130	140	14	21	25	27	6.0	2.0	
Burbeck	1807	160	160	8	19	22	31	6.2	2.0	
Soil Area 6 Illinois Glaciated Loam Till										
Blanchester	130	130	150	18	21	21	37	6.2	2.0	
Clermont	1454	90	95	6	13	15	41	6.0	2.0	
Loudon	2256	90	140	6	14	13	51	5.4	2.0	
Soil Area 7 Residual Sandstone										
Fairmount	366	150	190	2	11	24	21	6.4	2.0	
Soil Area 8 Lacustrine Sandstone and Shale										
Olmsted	299	180	180	18	27	47	13	6.8	3.0	
Canadea	299	160	145	14	21	41	14	6.6	2.0	
Plainfield	144	120	125	16	48	26	36	6.6	2.0	
Soil Area 9 Glaciated Limestone, Sandstone and Shale										
Marengo	1140	160	180	18	26	14	48	6.0	2.5	
Condit	2217	150	150	14	18	11	57	5.6	2.0	
Alexandria	2446	150	150	14	19	12	56	5.6	2.0	
Soil Area 10 Glaciated Clay, Clay Loam Till										
Trumbull	1335	120	140	14	21	10	56	5.8	2.0	
Ellsworth	1262	130	135	18	20	10	59	5.6	2.0	

TABLE 2. (Continued)—Number of Samples and the General Fertility Level of Soils by Soil Type—1961.

Soil Type	Number of ¹ Samples	Potassium lb/A		Phosphorus lb/A		Lime Required		pH Mode ²	Percent Organic Matter Mode ²
		Mode ²	Median ³	Mode ²	Median ³	Percent None ⁴	2T/A ⁵		
Soil Area 11 Glaciated Sandstone and Shale (Fragipan)									
Cambridge	52	90	115	22	27	5	79	4.8	2.0
Alden	86	130	150	21	26	9	63	5.5	2.0
Soil Area 12 Glaciated Shale and Sandstone Silty Clay Loam Till									
Wadsworth	632	150	150	18	25	19	37	6.4	2.0
Wayne	1043	190	170	28	34	21	32	6.4	2.0
Soil Area 13 Glaciated Sandstone									
Chippewa	608	150	145	46	43	21	29	6.4	2.0
Ravenna	1236	120	140	18	26	0	40	6.2	2.0
Wooster	5623	120	130	18	27	21	31	6.2	2.0
Soil Area 14 Illinois Glaciated Sandstone and Shale									
Hanover	252	125	150	8	16	12	46	5.2	2.0
Soil Area 15 Residual Sandstone and Shale									
Muskingum-K	8763	150	155	13	6	11	55	5.4	2.0
Tilsit	1422	150	155	5	14	12	52	6.2	2.0
Soil Area 16 Residual Sandstone and Shale									
Westmoreland	198	150	180	5	15	19	22	6.2	2.0
Soil Area 17 Residual Sandstone and Shale									
Upshur	127	150	180	6	15	23	24	5.9	2.0
Soil Area 18 Residual Sandstone and Shale Steep Areas									
Meigs	628	160	185	3	12	6	74	5.2	2.0
Muskingum-W	193	190	185	5	12	11	60	5.4	2.0
Terraces									
Westland	441	160	200	25	36	42	16	6.4	2.5
Fox	752	150	170	12	25	23	36	6.0	2.0
Chilo	723	150	165	10	39	22	35	6.0	2.0
Sebring	502	150	170	18	25	14	39	6.0	2.0
Mentor	982	130	150	9	32	12	47	6.2	2.0
Bottom Soils									
Sloam	596	180	190	15	31	57	12	6.4	3.0
Genessee	743	210	190	14	35	51	15	6.6	2.0
Elkins	1091	160	165	14	35	23	36	6.0	2.0
Wayland	516	130	150	14	26	15	43	6.0	2.0
Huntington	1368	150	145	8	21	17	46	6.0	2.0
Muck and Peat Soils									
Carlisle	231	175	190	34	46	72	19	5.4	30.0

¹Total number of samples submitted from January 1, 1961 to December 31, 1961.

²Mode: Value which occurs with greatest frequency.

³Median: Value on each side of which lie equal number of observations.

⁴Percent of total samples analyzed with no lime requirement.

⁵Percent of total samples which require more than 2 tons of lime.

TABLE 3.—Number of Samples and the General Fertility Level of Soils by County—1961.

County	Number of ¹ Samples	Potassium lb/A		Phosphorus lb/A		pH		Lime Required Percent		Percent Organic Matter Mode ²
		Mode ²	Median ³	Mode ²	Median ³	Mode ²	Median ³	None ⁴	2T/A ⁵	
Adams	1339	150	170	2	10	6.0	5.8	15	45	1.5
Allen	599	210	200	14	28	6.0	6.0	11	37	2.2
Ashland	1145	150	150	18	25	6.2	5.9	14	39	2.0
Ashtabula	743	130	120	8	20	5.2	5.5	5	70	2.5
Athens	268	130	170	2	5	5.1	5.2	13	67	1.5
Auglaize	1313	180	200	14	28	6.0	6.0	14	35	2.0
Belmont	482	150	180	10	20	6.0	5.7	12	56	2.0
Brown	1215	120	120	6	16	5.6	5.5	8	58	2.0
Butler	768	130	150	8	28	6.2	6.1	29	27	2.0
Carroll	930	130	140	12	27	6.0	5.6	8	55	2.0
Champaign	846	150	180	12	24	6.6	6.3	33	19	2.0
Clark	857	150	160	6	21	6.2	6.2	34	18	2.0
Clermont	767	90	100	6	16	6.3	6.0	23	40	2.0
Clinton	1628	150	150	14	24	6.0	6.2	25	21	2.0
Columbiana	1589	120	140	36	40	6.2	6.0	15	41	2.0
Coshocton	1226	130	140	6	21	6.4	5.9	16	43	2.0
Crawford	1290	150	170	16	26	6.0	5.9	15	43	2.0
Darke	1961	180	210	18	27	6.2	6.1	23	26	2.0
Defiance	357	330	300	22	26	6.3	6.2	21	24	3.0
Delaware	797	180	180	16	18	6.2	6.0	20	42	2.0
Erie	167	180	180	18	43	6.6	6.4	41	15	2.0
Fairfield	868	150	140	14	19	6.0	6.0	20	36	2.0
Fayette	1155	155	170	14	18	6.4	6.3	34	16	2.0
Franklin	767	160	180	14	16	6.6	6.3	38	22	2.0
Fulton	965	180	180	38	48	6.2	6.1	23	14	3.0
Gallia	393	120	150	6	14	6.3	5.9	18	42	2.0
Geauga	671	160	150	4	16	5.6	5.7	13	53	2.0
Green	472	160	160	18	25	5.6	6.0	23	35	2.0
Guernsey	714	160	170	4	10	5.2	5.4	7	56	2.0
Hamilton	148	190	170	10	58	6.0	6.0	30	37	2.0
Hancock	3511	180	195	20	29	6.0	6.0	18	31	2.0
Hardin	1173	180	200	12	32	6.2	6.1	23	31	2.0
Harrison	320	160	160	4	17	6.2	5.6	12	60	2.0
Henry	659	150	240	14	28	6.2	6.1	16	12	3.0
Highland	1927	120	130	6	15	6.2	6.1	24	26	2.0
Hocking	153	160	150	4	8	5.3	5.5	13	57	1.5
Holmes	1499	120	140	16	25	6.6	6.1	27	27	2.0
Huron	1407	120	150	18	23	6.2	6.1	30	32	2.0
Jackson	475	120	140	6	8	5.2	5.7	12	50	2.0
Jefferson	485	150	160	16	22	6.2	5.6	9	59	2.0
Knox	1195	160	160	18	25	6.2	5.7	10	53	2.0
Lake	70	130	130	12	17	5.6	5.5	6	60	2.0
Lawrence	359	170	160	5	9	5.6	5.6	13	52	2.0
Licking	1805	155	155	14	24	5.6	5.8	14	50	2.0
Logan	747	180	190	14	17	6.0	6.1	26	29	2.0
Lorain	780	160	150	10	18	6.6	5.9	18	45	2.0
Lucas	232	130	200	98	66	6.0	6.0	17	33	3.0

TABLE 3. (Continued)—Number of Samples and the General Fertility Level of Soils by County—1961.

County	Number of Samples	Potassium lb/A		Phosphorus lb/A		pH		Lime Required		Percent Organic Matter Mode ²
		Mode ²	Median ³	Mode ²	Median ³	Mode ²	Median ³	Percent None ⁴	2T/A ⁵	
Madison	1288	180	200	18	20	6.2	6.3	33	18	2.0
Mahoning	501	100	120	34	28	6.2	6.0	15	38	2.0
Marion	1255	180	190	25	24	6.3	6.2	25	31	2.0
Medina	581	130	140	16	23	6.3	6.0	15	41	2.0
Meigs	527	130	175	10	15	5.4	5.6	14	53	2.0
Mercer	1448	190	210	30	29	5.9	6.0	18	34	2.0
Miami	1435	180	180	16	24	6.0	6.1	24	19	2.0
Monroe	722	150	190	8	14	6.2	5.6	11	55	1.5
Montgomery	909	180	200	18	21	6.4	6.2	31	22	2.0
Morgan	488	150	170	4	9	6.2	5.6	14	54	1.5
Morrow	1034	130	155	8	18	6.7	5.9	16	45	2.0
Muskingum	1231	150	160	6	13	5.5	5.7	16	49	1.75
Noble	503	180	180	4	7	5.6	5.5	10	62	1.5
Ottawa	756	360	325	23	30	6.4	6.4	41	19	3.0
Paulding	357	360	300	13	24	6.0	6.1	15	31	3.0
Perry	515	130	140	8	14	6.2	5.8	11	47	2.0
Pickaway	1339	130	165	10	17	6.5	6.2	34	23	2.0
Pike	281	150	150	2	8	6.6	5.8	24	49	2.0
Portage	431	130	140	16	26	6.4	6.0	21	41	2.0
Preble	862	180	180	14	24	6.0	6.1	28	25	2.0
Putnam	885	360	270	18	31	6.0	6.0	11	33	3.0
Richland	886	120	145	14	21	5.6	5.7	12	53	2.0
Ross	716	150	150	4	11	6.7	6.2	36	27	2.0
Sandusky	858	130	220	18	28	6.6	6.5	54	7	3.0
Scioto	501	130	130	2	10	6.0	5.7	12	50	2.0
Seneca	2205	150	175	14	23	6.6	6.1	27	35	2.0
Shelby	1654	160	180	10	18	6.0	6.1	18	28	2.5
Stark	947	120	120	10	30	6.4	6.1	22	27	2.0
Summit	139	130	140	7	41	6.0	6.0	14	35	2.0
Trumbull	897	90	120	13	25	6.0	5.6	8	61	2.0
Tuscarawas	1456	130	140	8	21	6.3	6.1	21	33	2.0
Union	1507	180	190	10	13	6.0	6.1	27	28	2.0
Van Wert	1058	220	230	30	32	6.2	6.1	15	30	3.0
Vinton	246	120	140	4	10	4.8	5.6	15	50	2.0
Warren	804	155	160	6	27	6.0	6.1	25	26	2.0
Washington	858	140	150	6	11	5.2	5.6	11	54	2.0
Wayne	3265	120	145	18	32	6.2	6.2	25	25	2.0
Williams	729	155	180	18	29	6.2	5.9	14	41	2.0
Wood	1671	280	170	16	35	6.2	6.1	23	15	3.0
Wyandot	1113	150	180	18	26	6.2	6.2	31	29	2.0

¹Total number of samples submitted from 1 January 1961 to 31 December 1961.

²Mode: Value which occurs with greatest frequency.

³Median: Value on each side of which lie equal number of observations.

⁴Percent of total samples analyzed with no lime requirement.

⁵Percent of total samples analyzed which require more than 2 tons of lime.

TABLE 4 PERCENT DISTRIBUTION OF SOIL TEST RESULTS BY MAJOR SOIL TYPE.

HOYTVILLE - TOLEDO - 4360 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	0	2	6	8	4.5 -- 0	0 -- 26	0-1 -- 0
	M	1	7	38	46	4.5-5.0 -- 0	2 -- 57	1½-2 -- 4
	H	1	3	42	46	5.1-5.5 -- 5	3 -- 5	2½-3 -- 38
Total for K (Read Across)	2	12	86	100	5.6-6.0 -- 27	4 -- 8	3½-4 -- 45	
					6.0-6.5 -- 42	5 -- 2	4½-5 -- 11	
					6.6 -- 26	6+ -- 2	5+ -- 2	

PAULDING - LATTY - 787 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	0	1	6	7	4.5 -- 0	0 -- 15	0-1 -- 0
	M	0	3	44	47	4.5-5.0 -- 0	2 -- 60	1½-2 -- 5
	H	0	0	46	46	5.1-5.5 -- 7	3 -- 7	2½-3 -- 54
Total for K (Read Across)	0	4	96	100	5.6-6.0 -- 33	4 -- 13	3½-4 -- 36	
					6.0-6.5 -- 46	5 -- 4	4½-5 -- 5	
					6.6 -- 14	6+ -- 1	5+ -- 0	

WAUSEON - GRANBY - 1852 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	2	2	1	5	4.5 -- 0	0 -- 33	0-1 -- 0
	M	12	14	9	35	4.5-5.0 -- 0	2 -- 53	1½-2 -- 11
	H	12	19	29	60	5.1-5.5 -- 6	3 -- 8	2½-3 -- 53
Total for K (Read Across)	26	35	39	100	5.6-6.0 -- 26	4 -- 4	3½-4 -- 29	
					6.0-6.5 -- 36	5 -- 2	4½-5 -- 4	
					6.6 -- 32	6+ -- 0	5+ -- 3	

ROSELMS - 304 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	0	3	9	12	4.5 -- 0	0 -- 12	0-1 -- 0
	M	1	9	46	56	4.5-5.0 -- 6	2 -- 41	1½-2 -- 35
	H	0	2	30	32	5.1-5.5 -- 20	3 -- 9	2½-3 -- 56
Total for K (Read Across)	1	14	85	100	5.6-6.0 -- 31	4 -- 18	3½-4 -- 9	
					6.0-6.5 -- 31	5 -- 11	4½-5 -- 0	
					6.6 -- 12	6+ -- 9	5+ -- 0	

NAPPANEE - FULTON - 1863 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	1	4	7	12	4.5 -- 0	0 -- 22	0-1 -- 0
	M	2	14	37	53	4.5-5.0 -- 2	2 -- 49	1½-2 -- 30
	H	1	3	31	35	5.1-5.5 -- 10	3 -- 10	2½-3 -- 54
Total for K (Read Across)	4	21	75	100	5.6-6.0 -- 31	4 -- 13	3½-4 -- 14	
					6.0-6.5 -- 35	5 -- 4	4½-5 -- 1	
					6.6 -- 22	6+ -- 2	5+ -- 1	

PEWANO - 4424 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	1	4	4	9	4.5 -- 0	0 -- 25	0-1 -- 0
	M	2	14	31	47	4.5-5.0 -- 0	2 -- 52	1½-2 -- 10
	H	0	5	39	44	5.1-5.5 -- 7	3 -- 8	2½-3 -- 65
Total for K (Read Across)	3	23	74	100	5.6-6.0 -- 30	4 -- 11	3½-4 -- 22	
					6.0-6.5 -- 38	5 -- 3	4½-5 -- 3	
					6.6 -- 25	6+ -- 1	5+ -- 1	

RIMER - SEWARD - OTTOKEE - TEDROW - 767 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	3	2	1	6	4.5 -- 0	0 -- 25	0-1 -- 3
	M	8	14	10	32	4.5-5.0 -- 2	2 -- 50	1½-2 -- 49
	H	13	18	31	62	5.1-5.5 -- 13	3 -- 15	2½-3 -- 40
Total for K (Read Across)	24	34	42	100	5.6-6.0 -- 31	4 -- 8	3½-4 -- 6	
					6.0-6.5 -- 29	5 -- 2	4½-5 -- 1	
					6.6 -- 25	6+ -- 0	5+ -- 1	

BLOUNT - 6588 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	3	7	3	13	4.5 -- 0	0 -- 17	0-1 -- 0
	M	4	23	26	53	4.5-5.0 -- 2	2 -- 47	1½-2 -- 53
	H	0	6	28	34	5.1-5.5 -- 16	3 -- 11	2½-3 -- 44
Total for K (Read Across)	7	36	57	100	5.6-6.0 -- 32	4 -- 15	3½-4 -- 3	
					6.0-6.5 -- 33	5 -- 6	4½-5 -- 0	
					6.6 -- 17	6+ -- 4	5+ -- 0	

MORLEY - 3539 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PROSEPHORUS	L	4	9	4	17	4.5 -- 0	0 -- 19	0-1 -- 0
	M	5	28	23	56	4.5-5.0 -- 4	2 -- 42	1½-2 -- 78
	H	1	7	19	27	5.1-5.5 -- 19	3 -- 11	2½-3 -- 21
Total for K (Read Across)	10	44	46	100	5.6-6.0 -- 30	4 -- 16	3½-4 -- 1	
					6.0-6.5 -- 28	5 -- 6	4½-5 -- 0	
					6.6 -- 19	6+ -- 6	5+ -- 0	

BROOKSTON - RAGSDALE 699 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PROSEPHORUS	L	3	5	4	12	4.5 -- 0	0 -- 30	0-1 -- 0
	M	6	23	16	45	4.5-5.0 -- 0	2 -- 50	1½-2 -- 23
	H	2	13	28	43	5.1-5.5 -- 6	3 -- 8	2½-3 -- 54
Total for K (Read Across)	11	41	48	100	5.6-6.0 -- 27	4 -- 9	3½-4 -- 19	
					6.0-6.5 -- 37	5 -- 3	4½-5 -- 4	
					6.6 -- 30	6+ -- 0	5+ -- 0	

BROOKSTON - KOKOMO 3984 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PROSEPHORUS	L	2	8	6	16	4.5 -- 0	0 -- 34	0-1 -- 0
	M	2	16	28	46	4.5-5.0 -- 0	2 -- 50	1½-2 -- 11
	H	0	5	33	38	5.1-5.5 -- 4	3 -- 5	2½-3 -- 58
Total for K (Read Across)	4	29	67	100	5.6-6.0 -- 23	4 -- 7	3½-4 -- 23	
					6.0-6.5 -- 39	5 -- 2	4½-5 -- 6	
					6.6 -- 34	6+ -- 2	5+ -- 2	

FINCASTLE - REESVILLE 1162 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PROSEPHORUS	L	9	9	2	20	4.5 -- 0	0 -- 25	0-1 -- 3
	M	14	30	7	51	4.5-5.0 -- 2	2 -- 48	1½-2 -- 75
	H	2	13	14	29	5.1-5.5 -- 12	3 -- 12	2½-3 -- 22
Total for K (Read Across)	25	52	23	100	5.6-6.0 -- 28	4 -- 10	3½-4 -- 0	
					6.0-6.5 -- 32	5 -- 4	4½-5 -- 0	
					6.6 -- 26	6+ -- 1	5+ -- 0	

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CROSBY - 3887 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PROSEPHORUS	L	6	10	6	22	4.5 -- 0	0 -- 27	0-1 -- 0
	M	5	23	24	52	4.5-5.0 -- 1	2 -- 51	1½-2 -- 47
	H	1	5	20	26	5.1-5.5 -- 8	3 -- 9	2½-3 -- 45
Total for K (Read Across)	12	38	50	100	5.6-6.0 -- 28	4 -- 10	3½-4 -- 6	
					6.0-6.5 -- 37	5 -- 2	4½-5 -- 2	
					6.6 -- 26	6+ -- 1	5+ -- 0	

BURBECK - RUSSELL - XENIA 1807 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PROSEPHORUS	L	6	13	6	25	4.5 -- 0	0 -- 22	0-1 -- 3
	M	7	25	13	45	4.5-5.0 -- 4	2 -- 47	1½-2 -- 91
	H	2	9	19	30	5.1-5.5 -- 16	3 -- 13	2½-3 -- 6
Total for K (Read Across)	15	47	38	100	5.6-6.0 -- 26	4 -- 12	3½-4 -- 0	
					6.0-6.5 -- 32	5 -- 4	4½-5 -- 0	
					6.6 -- 22	6+ -- 2	5+ -- 0	

MIAMI - CELINA 3843 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PROSEPHORUS	L	6	12	7	25	4.5 -- 0	0 -- 26	0-1 -- 1
	M	5	21	20	46	4.5-5.0 -- 2	2 -- 46	1½-2 -- 84
	H	1	7	21	29	5.1-5.5 -- 13	3 -- 11	2½-3 -- 15
Total for K (Read Across)	12	40	48	100	5.6-6.0 -- 27	4 -- 12	3½-4 -- 0	
					6.0-6.5 -- 32	5 -- 3	4½-5 -- 0	
					6.6 -- 26	6+ -- 2	5+ -- 0	

BLANCHESTER - 130 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PROSEPHORUS	L	5	12	3	21	4.5 -- 0	0 -- 21	0-1 -- 0
	M	17	22	9	48	4.5-5.0 -- 5	2 -- 42	1½-2 -- 50
	H	2	9	20	31	5.1-5.5 -- 14	3 -- 12	2½-3 -- 44
Total for K (Read Across)	24	43	32	100	5.6-6.0 -- 34	4 -- 12	3½-4 -- 6	
					6.0-6.5 -- 25	5 -- 7	4½-5 -- 0	
					6.6 -- 22	6+ -- 6	5+ -- 0	

CLERMONT - AVONBURG 1454 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	33	4	1	38	4.5 -- 1	0 -- 15	0-1 -- 5
	M	36	11	2	49	4.5-5.0 -- 10	2 -- 44	1½-2 -- 85
	H	5	4	4	13	5.1-5.5 -- 20	3 -- 15	2½-3 -- 10
Total for K (Read Across)	74	19	7	100	5.6-6.0 -- 26	4 -- 13	3½-4 -- 0	
					6.0-6.5 -- 28	5 -- 7	4½-5 -- 0	
					6.6 -- 15	6+ -- 6	5+ -- 0	

MARENGO 1142 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	3	6	4	13	4.5 -- 0	0 -- 14	0-1 -- 0
	M	5	20	22	47	4.5-5.0 -- 4	2 -- 38	1½-2 -- 15
	H	1	8	31	40	5.1-5.5 -- 22	3 -- 7	2½-3 -- 61
Total for K (Read Across)	9	34	57	100	5.6-6.0 -- 35	4 -- 8	3½-4 -- 19	
					6.0-6.5 -- 25	5 -- 8	4½-5 -- 4	
					6.6 -- 14	6+ -- 7	5+ -- 1	

LOUDON - GRAYFORD - EDENTON 2256 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	21	13	6	40	4.5 -- 1	0 -- 13	0-1 -- 7
	M	15	13	6	34	4.5-5.0 -- 9	2 -- 36	1½-2 -- 89
	H	3	6	17	26	5.1-5.5 -- 28	3 -- 15	2½-3 -- 4
Total for K (Read Across)	39	32	29	100	5.6-6.0 -- 27	4 -- 18	3½-4 -- 0	
					6.0-6.5 -- 22	5 -- 9	4½-5 -- 0	
					6.6 -- 13	6+ -- 9	5+ -- 0	

CONDIT - BENNINGTON - 2220 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	9	10	3	22	4.5 -- 0	0 -- 11	0-1 -- 1
	M	10	30	14	54	4.5-5.0 -- 11	2 -- 32	1½-2 -- 61
	H	1	8	15	24	5.1-5.5 -- 27	3 -- 11	2½-3 -- 36
Total for K (Read Across)	20	48	32	100	5.6-6.0 -- 28	4 -- 19	3½-4 -- 2	
					6.0-6.5 -- 23	5 -- 10	4½-5 -- 0	
					6.6 -- 11	6+ -- 16	5+ -- 0	

FAIRMOUNT - MADDOX - HEITT - BRATTON - HAGERSTOWN - CEDARVILLE 366 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	6	18	24	48	4.5 -- 1	0 -- 24	0-1 -- 8
	M	4	9	15	28	4.5-5.0 -- 5	2 -- 55	1½-2 -- 83
	H	3	4	17	24	5.1-5.5 -- 8	3 -- 6	2½-3 -- 9
Total for K (Read Across)	13	31	56	100	5.6-6.0 -- 22	4 -- 7	3½-4 -- 0	
					6.0-6.5 -- 39	5 -- 4	4½-5 -- 0	
					6.6 -- 25	6+ -- 4	5+ -- 0	

ALEXANDRIA - CARDINGTON - 2447 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	7	11	4	22	4.5 -- 1	0 -- 12	0-1 -- 2
	M	10	30	13	53	4.5-5.0 -- 12	2 -- 32	1½-2 -- 86
	H	1	9	15	25	5.1-5.5 -- 27	3 -- 10	2½-3 -- 12
Total for K (Read Across)	18	50	32	100	5.6-6.0 -- 28	4 -- 20	3½-4 -- 0	
					6.0-6.5 -- 20	5 -- 10	4½-5 -- 0	
					6.6 -- 12	6+ -- 16	5+ -- 0	

HAGERSTOWN - CEDARVILLE - BURGIN 41 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	5	7	34	46	4.5 -- 5	0 -- 41	0-1 -- 5
	M	2	10	15	27	4.5-5.0 -- 5	2 -- 32	1½-2 -- 56
	H	2	5	20	27	5.1-5.5 -- 12	3 -- 5	2½-3 -- 39
Total for K (Read Across)	9	22	69	100	5.6-6.0 -- 15	4 -- 5	3½-4 -- 0	
					6.0-6.5 -- 27	5 -- 2	4½-5 -- 0	
					6.6 -- 41	6+ -- 5	5+ -- 0	

HANOVER - FALLSBURG - HILLWOOD - LOUDONVILLE - 252 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	15	15	2	32	4.5 -- 1	0 -- 12	0-1 -- 3
	M	12	21	12	45	4.5-5.0 -- 8	2 -- 42	1½-2 -- 93
	H	4	9	10	23	5.1-5.5 -- 25	3 -- 16	2½-3 -- 4
Total for K (Read Across)	31	45	24	100	5.6-6.0 -- 28	4 -- 16	3½-4 -- 0	
					6.0-6.5 -- 25	5 -- 10	4½-5 -- 0	
					6.6 -- 13	6+ -- 4	5+ -- 0	

OLMSTED - LORAIN - FRIES - MONROE - 299 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	3	2	5	10	4.5 -- 0	0 -- 47
	M	9	18	23	50	4.5-5.0 -- 1	2 -- 40
	H	4	9	27	40	5.1-5.5 -- 6	3 -- 2
Total for K (Read Across)	16	29	55	100	5.6-6.0 -- 13	4 -- 6	3 1/2-4 -- 29
					6.0-6.5 -- 33	5 -- 2	4 1/2-5 -- 16
					6.6 -- 47	6+ -- 3	5+ -- 8

CANADIA - CANADICE - PAINSVILLE - WILMER - 229 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	5	10	2	17	4.5 -- 0	0 -- 41
	M	13	29	10	52	4.5-5.0 -- 1	2 -- 45
	H	4	10	17	31	5.1-5.5 -- 7	3 -- 3
Total for K (Read Across)	22	49	29	100	5.6-6.0 -- 14	4 -- 6	3 1/2-4 -- 2
					6.0-6.5 -- 37	5 -- 3	4 1/2-5 -- 0
					6.6 -- 41	6+ -- 2	5+ -- 0

PLAINFIELD - COLOMA 144 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	4	2	2	8	4.5 -- 1	0 -- 26
	M	16	5	4	25	4.5-5.0 -- 12	2 -- 38
	H	23	21	23	67	5.1-5.5 -- 17	3 -- 10
Total for K (Read Across)	43	28	29	100	5.6-6.0 -- 22	4 -- 12	3 1/2-4 -- 10
					6.0-6.5 -- 22	5 -- 5	4 1/2-5 -- 3
					6.6 -- 26	6+ -- 9	5+ -- 2

TRUMBULL - MAHONING - 1334 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	9	8	2	19	4.5 -- 1	0 -- 10
	M	18	23	11	52	4.5-5.0 -- 12	2 -- 34
	H	5	10	14	29	5.1-5.5 -- 23	3 -- 8
Total for K (Read Across)	32	41	27	100	5.6-6.0 -- 31	4 -- 16	3 1/2-4 -- 7
					6.0-6.5 -- 24	5 -- 7	4 1/2-5 -- 0
					6.6 -- 9	6+ -- 6	5+ -- 0
						7 -- 8	
						8 -- 6	
						9+ -- 4	

ELLSWORTH - 1261 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	10	8	2	20	4.5 -- 4	0 -- 10
	M	18	27	8	53	4.5-5.0 -- 15	2 -- 31
	H	5	10	12	27	5.1-5.5 -- 24	3 -- 9
Total for K (Read Across)	33	45	22	100	5.6-6.0 -- 27	4 -- 15	3 1/2-4 -- 1
					6.0-6.5 -- 20	5 -- 8	4 1/2-5 -- 0
					6.6 -- 10	6+ -- 26	5+ -- 0

WADSWORTH - TRUMBULL - 632 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	6	6	2	14	4.5 -- 1	0 -- 19
	M	11	24	13	48	4.5-5.0 -- 5	2 -- 44
	H	3	12	23	38	5.1-5.5 -- 15	3 -- 7
Total for K (Read Across)	20	42	48	100	5.6-6.0 -- 27	4 -- 14	3 1/2-4 -- 0
					6.0-6.5 -- 33	5 -- 6	4 1/2-5 -- 0
					6.6 -- 19	6+ -- 4	5+ -- 0
						7 -- 3	
						8+ -- 3	

WAYNE - RITTMAN - 1040 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	3	4	2	9	4.5 -- 0	0 -- 21
	M	8	21	14	43	4.5-5.0 -- 5	2 -- 47
	H	2	13	33	48	5.1-5.5 -- 13	3 -- 9
Total for K (Read Across)	13	38	49	100	5.6-6.0 -- 25	4 -- 11	3 1/2-4 -- 0
					6.0-6.5 -- 36	5 -- 5	4 1/2-5 -- 0
					6.6 -- 21	6+ -- 7	5+ -- 0

CAMBRIDGE - 7-B-3 - 52 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	14	4	0	18	4.5 -- 19	0 -- 5
	M	31	10	4	45	4.5-5.0 -- 41	2 -- 14
	H	6	21	10	37	5.1-5.5 -- 15	3 -- 6
Total for K (Read Across)	51	35	14	100	5.6-6.0 -- 15	4 -- 11	3 1/2-4 -- 0
					6.0-6.5 -- 10	5 -- 8	4 1/2-5 -- 0
					6.6 -- 0	6+ -- 6	5+ -- 0
						7 -- 15	
						8 -- 25	
						9+ -- 10	

VENANGO - 7-B-2 - 108 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	20	9	1	30	4.5 -- 28	0 -- 2	0-1 -- 3
	M	23	24	6	53	4.5-5.0 -- 48	2 -- 5	1½-2 -- 49
	H	4	9	4	17	5.1-5.5 -- 12	3 -- 5	2½-3 -- 43
Total for K (Read Across)	47	42	11	100	5.6-6.0 -- 6	4 -- 9	3½-4 -- 5	
					6.0-6.5 -- 4	5 -- 9	4½-5 -- 0	
					6.6 -- 2	6+ -- 20	5+ -- 0	
						7 -- 22		
						9 -- 9		
						10+ -- 19		

REVANNA - TRUMBULL - 1238 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	5	5	1	11	4.5 -- 1	0 -- 16	0-1 -- 0
	M	22	22	6	50	4.5-5.0 -- 7	2 -- 44	1½-2 -- 64
	H	10	14	15	39	5.1-5.5 -- 15	3 -- 10	2½-3 -- 35
Total for K (Read Across)	37	41	22	100	5.6-6.0 -- 29	4 -- 15	3½-4 -- 1	
					6.0-6.5 -- 32	5 -- 5	4½-5 -- 0	
					6.6 -- 16	6+ -- 4	5+ -- 0	
						7 -- 4		
						8+ -- 2		

ALDEN - 86 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	2	6	2	10	4.5 -- 8	0 -- 9	0-1 -- 0
	M	16	22	12	50	4.5-5.0 -- 15	2 -- 28	1½-2 -- 14
	H	5	13	22	40	5.1-5.5 -- 26	3 -- 3	2½-3 -- 62
Total for K (Read Across)	23	41	36	100	5.6-6.0 -- 21	4 -- 14	3½-4 -- 20	
					6.0-6.5 -- 21	5 -- 10	4½-5 -- 4	
					6.6 -- 9	6+ -- 13	5+ -- 0	
						7 -- 13		
						8+ -- 5		

WOOSTER - CANFIELD - 5621 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	6	4	1	11	4.5 -- 1	0 -- 21	0-1 -- 1
	M	21	23	5	49	4.5-5.0 -- 5	2 -- 48	1½-2 -- 88
	H	9	17	14	40	5.1-5.5 -- 13	3 -- 9	2½-3 -- 11
Total for K (Read Across)	36	44	20	100	5.6-6.0 -- 24	4 -- 10	3½-4 -- 0	
					6.0-6.5 -- 36	5 -- 5	4½-5 -- 0	
					6.6 -- 21	6+ -- 3	5+ -- 0	
						7 -- 2		
						8+ -- 2		

CHIPPAWA - 605 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	3	3	2	8	4.5 -- 1	0 -- 21	0-1 -- 0
	M	11	13	7	31	4.5-5.0 -- 5	2 -- 50	1½-2 -- 42
	H	14	21	26	61	5.1-5.5 -- 11	3 -- 7	2½-3 -- 52
Total for K (Read Across)	28	37	35	100	5.6-6.0 -- 23	4 -- 8	3½-4 -- 4	
					6.0-6.5 -- 39	5 -- 5	4½-5 -- 1	
					6.6 -- 21	6+ -- 4	5+ -- 1	
						7 -- 3		
						8+ -- 2		

MUSKINGUM - KEENE - WELLSTON - 8761 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	10	18	12	40	4.5 -- 3	0 -- 11	0-1 -- 8
	M	8	18	15	41	4.5-5.0 -- 16	2 -- 34	1½-2 -- 88
	H	2	6	11	19	5.1-5.5 -- 24	3 -- 12	2½-3 -- 4
Total for K (Read Across)	20	42	38	100	5.6-6.0 -- 24	4 -- 17	3½-4 -- 0	
					6.0-6.5 -- 22	5 -- 9	4½-5 -- 0	
					6.6 -- 10	6+ -- 7	5+ -- 0	
						7 -- 7		
						8+ -- 3		

MEIGS - MUSKINGUM - 628 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\%}$	
PHOSPHORUS	L	5	16	23	44	4.5 -- 7	0 -- 6	0-1 -- 4
	M	3	14	19	36	4.5-5.0 -- 26	2 -- 20	1 $\frac{1}{2}$ -2 -- 93
	H	2	4	14	20	5.1-5.5 -- 30	3 -- 7	2 $\frac{1}{2}$ -3 -- 3
Total for K (Read Across)	10	34	56	100	5.6-6.0 -- 19	4 -- 19	3 $\frac{1}{2}$ -4 -- 0	
					6.0-6.5 -- 12	5 -- 12	4 $\frac{1}{2}$ -5 -- 0	
					6.6 -- 6	6+ -- 13	5+ -- 0	
						7 -- 12		
						8 -- 7		
						9+ -- 4		

WESTMORELAND - MUSKINGUM - 198 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\%}$	
PHOSPHORUS	L	7	14	15	36	4.5 -- 2	0 -- 19	0-1 -- 12
	M	4	17	21	42	4.5-5.0 -- 6	2 -- 59	1 $\frac{1}{2}$ -2 -- 88
	H	0	7	15	22	5.1-5.5 -- 8	3 -- 6	2 $\frac{1}{2}$ -3 -- 0
Total for K (Read Across)	11	38	51	100	5.6-6.0 -- 17	4 -- 6	3 $\frac{1}{2}$ -4 -- 0	
					6.0-6.5 -- 47	5 -- 3	4 $\frac{1}{2}$ -5 -- 0	
					6.6 -- 20	6+ -- 2	5+ -- 0	
						7 -- 3		
						8+ -- 2		

UPSHUR - 128 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\%}$	
PHOSPHORUS	L	12	13	13	38	4.5 -- 2	0 -- 23	0-1 -- 2
	M	4	10	17	31	4.5-5.0 -- 2	2 -- 53	1 $\frac{1}{2}$ -2 -- 73
	H	2	7	22	31	5.1-5.5 -- 5	3 -- 13	2 $\frac{1}{2}$ -3 -- 25
Total for K (Read Across)	18	30	52	100	5.6-6.0 -- 34	4 -- 5	3 $\frac{1}{2}$ -4 -- 0	
					6.0-6.5 -- 32	5 -- 2	4 $\frac{1}{2}$ -5 -- 0	
					6.6 -- 25	6+ -- 4	5+ -- 0	

MUSKINGUM - WESTMORE - MEIGS - 193 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\%}$	
PHOSPHORUS	L	6	17	21	44	4.5 -- 4	0 -- 11	0-1 -- 10
	M	1	14	22	37	4.5-5.0 -- 22	2 -- 29	1 $\frac{1}{2}$ -2 -- 83
	H	0	5	15	20	5.1-5.5 -- 27	3 -- 8	2 $\frac{1}{2}$ -3 -- 7
Total for K (Read Across)	7	36	58	100	5.6-6.0 -- 15	4 -- 16	3 $\frac{1}{2}$ -4 -- 0	
					6.0-6.5 -- 20	5 -- 14	4 $\frac{1}{2}$ -5 -- 0	
					6.6 -- 12	6+ -- 2	5+ -- 0	

TILSIT - JOHNSBURG - KEENE - 1422 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\%}$	
PHOSPHORUS	L	11	16	12	39	4.5 -- 3	0 -- 12	0-1 -- 3
	M	8	14	14	36	4.5-5.0 -- 15	2 -- 36	1 $\frac{1}{2}$ -2 -- 77
	H	3	7	15	25	5.1-5.5 -- 21	3 -- 10	2 $\frac{1}{2}$ -3 -- 20
Total for K (Read Across)	22	37	41	100	5.6-6.0 -- 26	4 -- 16	3 $\frac{1}{2}$ -4 -- 0	
					6.0-6.5 -- 22	5 -- 9	4 $\frac{1}{2}$ -5 -- 0	
					6.6 -- 13	6+ -- 8	5+ -- 0	
						7 -- 6		
						8+ -- 3		

WESTLAND - ABINGTON - PITCHIN - SEBENA - MONTGOMERY - 442 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\%}$	
PHOSPHORUS	L	2	4	4	10	4.5 -- 0	0 -- 42	0-1 -- 0
	M	4	11	24	39	4.5-5.0 -- 1	2 -- 42	1 $\frac{1}{2}$ -2 -- 20
	H	3	12	36	51	5.1-5.5 -- 5	3 -- 4	2 $\frac{1}{2}$ -3 -- 54
Total for K (Read Across)	9	27	64	100	5.6-6.0 -- 19	4 -- 6	3 $\frac{1}{2}$ -4 -- 20	
					6.0-6.5 -- 32	5 -- 4	4 $\frac{1}{2}$ -5 -- 6	
					6.6 -- 43	6+ -- 2	5+ -- 0	

FOX - OCKLEY - MILLCREEK - 752 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\%}$	
PHOSPHORUS	L	5	8	3	16	4.5 -- 0	0 -- 23	0-1 -- 1
	M	6	21	17	44	4.5-5.0 -- 6	2 -- 41	1 $\frac{1}{2}$ -2 -- 71
	H	2	12	26	40	5.1-5.5 -- 16	3 -- 12	2 $\frac{1}{2}$ -3 -- 25
Total for K (Read Across)	13	41	46	100	5.6-6.0 -- 28	4 -- 6	3 $\frac{1}{2}$ -4 -- 3	
					6.0-6.5 -- 28	5 -- 4	4 $\frac{1}{2}$ -5 -- 0	
					6.6 -- 23	6+ -- 3	5+ -- 0	

SLOAM - WABASH - ALGIERS - 596 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PROSEPIORUS	L	2	6	6	14	4.5 -- 0	0 -- 57	0-1 -- 0
	M	4	15	23	42	4.5-5.0 -- 0	2 -- 31	1½-2 -- 13
	H	2	9	33	44	5.1-5.5 -- 4	3 -- 5	2½-3 -- 43
Total for K (Read Across)	8	30	62	100	5.6-6.0 -- 15	4 -- 5	3½-4 -- 24	
					6.0-6.5 -- 25	5 -- 1	4½-5 -- 11	
					6.6 -- 56	6+ -- 1	5+ -- 9	

CHILO - LURAY - REYNOLDS - BLAGO - 723 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PROSEPIORUS	L	2	4	3	9	4.5 -- 1	0 -- 22	0-1 -- 0
	M	8	14	14	36	4.5-5.0 -- 4	2 -- 43	1½-2 -- 37
	H	10	19	26	55	5.1-5.5 -- 14	3 -- 8	2½-3 -- 45
Total for K (Read Across)	20	37	43	100	5.6-6.0 -- 29	4 -- 11	3½-4 -- 15	
					6.0-6.5 -- 30	5 -- 5	4½-5 -- 2	
					6.6 -- 22	6+ -- 4	5+ -- 1	
						7 -- 3		
						8+ -- 3		

GENESSEE - ROSS - SHOALS - DEFIANCE - 743 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PROSEPIORUS	L	2	6	5	13	4.5 -- 0	0 -- 51	0-1 -- 1
	M	5	14	18	37	4.5-5.0 -- 2	2 -- 34	1½-2 -- 51
	H	3	12	35	50	5.1-5.5 -- 7	3 -- 5	2½-3 -- 38
Total for K (Read Across)	10	32	58	100	5.6-6.0 -- 15	4 -- 6	3½-4 -- 6	
					6.0-6.5 -- 25	5 -- 2	4½-5 -- 2	
					6.6 -- 51	6+ -- 2	5+ -- 2	

SEBRING - PURDY - 502 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PROSEPIORUS	L	6	6	3	15	4.5 -- 0	0 -- 14	0-1 -- 2
	M	10	17	20	47	4.5-5.0 -- 6	2 -- 47	1½-2 -- 41
	H	5	8	25	38	5.1-5.5 -- 18	3 -- 12	2½-3 -- 40
Total for K (Read Across)	21	31	48	100	5.6-6.0 -- 33	4 -- 12	3½-4 -- 13	
					6.0-6.5 -- 29	5 -- 6	4½-5 -- 4	
					6.6 -- 14	6+ -- 5	5+ -- 0	
						7 -- 2		

ELKINS - DUNNING - 1091 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PROSEPIORUS	L	5	6	2	13	4.5 -- 1	0 -- 23	0-1 -- 0
	M	10	16	11	37	4.5-5.0 -- 5	2 -- 41	1½-2 -- 41
	H	6	14	30	50	5.1-5.5 -- 15	3 -- 8	2½-3 -- 45
Total for K (Read Across)	21	36	43	100	5.6-6.0 -- 26	4 -- 11	3½-4 -- 10	
					6.0-6.5 -- 29	5 -- 5	4½-5 -- 2	
					6.6 -- 24	6+ -- 4	5+ -- 2	
						7 -- 4		
						8+ -- 4		

MENTOR - GLENFORD - HOLSTON - MONOGANELA - ELK - CAPTINA - 981 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PROSEPIORUS	L	7	7	4	18	4.5 -- 1	0 -- 17	0-1 -- 2
	M	11	17	6	34	4.5-5.0 -- 10	2 -- 37	1½-2 -- 86
	H	6	18	25	48	5.1-5.5 -- 21	3 -- 11	2½-3 -- 12
Total for K (Read Across)	23	42	35	100	5.6-6.0 -- 27	4 -- 15	3½-4 -- 0	
					6.0-6.5 -- 24	5 -- 7	4½-5 -- 0	
					6.6 -- 17	6+ -- 6	5+ -- 0	
						7 -- 6		

MAYLAND - ATKINS - MELVIN - 516 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		<u>T/A</u>	<u>%</u>	
PHOSPHORUS	L	8	5	3	16	4.5 -- 1	0 -- 15	0-1 -- 2
	M	14	17	14	45	4.5-5.0 -- 8	2 -- 42	1½-2 -- 49
	H	4	11	24	39	5.1-5.5 -- 18	3 -- 12	2½-3 -- 39
Total for K (Read Across)	26	33	41	100		5.6-6.0 -- 32	4 -- 12	3½-4 -- 8
						6.0-6.5 -- 26	5 -- 7	4½-5 -- 2
						6.6 -- 15	6+ -- 5	5+ -- 0
							7 -- 4	
							8+ -- 3	

HUNTINGTON - LINSIDE - POPE - PHILO - CHAGRIN - LOBDELL - 1367 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		<u>T/A</u>	<u>%</u>	
PHOSPHORUS	L	11	13	3	27	4.5 -- 1	0 -- 21	0-1 -- 3
	M	11	17	10	38	4.5-5.0 -- 10	2 -- 36	1½-2 -- 88
	H	6	12	17	35	5.1-5.5 -- 19	3 -- 10	2½-3 -- 9
Total for K (Read Across)	28	42	30	100		5.6-6.0 -- 25	4 -- 15	3½-4 -- 0
						6.0-6.5 -- 24	5 -- 7	4½-5 -- 0
						6.6 -- 21	6+ -- 6	5+ -- 0
							7+ -- 5	

CARLISLE - WILLETTE - KERSTON - EDWARDS - WARNER - TANAS - 231 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		<u>T/A</u>	<u>%</u>	
PHOSPHORUS	L	6	4	5	15	4.5 -- 6	0 -- 72	0-1 -- 0
	M	4	10	11	25	4.5-5.0 -- 8	2 -- 9	1½-2 -- 2
	H	5	13	42	60	5.1-5.5 -- 23	3 -- 0	2½-3 -- 5
Total for K (Read Across)	15	27	58	100		5.6-6.0 -- 20	4 -- 0	3½-4 -- 3
						6.0-6.5 -- 19	5 -- 5	4½-5 -- 2
						6.6 -- 24	6+ -- 3	5+ -- 88
							7 -- 2	
							8 -- 0	
							9 -- 0	
							10 -- 2	
							10+ -- 7	

TABLE 5 PERCENT DISTRIBUTION OF SOIL TEST RESULTS BY COUNTY

ADAMS - 1339 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	10	20	21	51	4.5 -- 8	0 -- 15	0-1 -- 13
	M	4	10	12	26	4.5-5.0 -- 9	2 -- 40	1½-2 -- 81
	H	2	4	17	23	5.1-5.5 -- 23	3 -- 18	2½-3 -- 6
	Total for K (Read Across)	16	34	50	100	5.6-6.0 -- 27	4 -- 12	3½-4 -- 0
					6.0-6.5 -- 23	5 -- 11	4½-5 -- 0	
					6.6 -- 10	6+ -- 4	5+ -- 0	

ALLEN - 600 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	3	6	2	11	4.5 -- 0	0 -- 11	0-1 -- 0
	M	4	20	26	49	4.5-5.0 -- 4	2 -- 52	1½-2 -- 32
	H	0	4	35	40	5.1-5.5 -- 17	3 -- 16	2½-3 -- 54
	Total for K (Read Across)	7	30	63	100	5.6-6.0 -- 39	4 -- 10	3½-4 -- 13
					6.0-6.5 -- 31	5 -- 8	4½-5 -- 1	
					6.6 -- 11	6+ -- 2	5+ -- 0	

ASHLAND - 1145 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	4	6	2	12	4.5 -- 2	0 -- 14	0-1 -- 0
	M	11	29	14	54	4.5-5.0 -- 8	2 -- 47	1½-2 -- 73
	H	3	10	21	34	5.1-5.5 -- 16	3 -- 13	2½-3 -- 26
	Total for K (Read Across)	18	45	37	100	5.6-6.0 -- 28	4 -- 9	3½-4 -- 1
					6.0-6.5 -- 32	5 -- 10	4½-5 -- 0	
					6.6 -- 14	6+ -- 7	5+ -- 0	

ASHTABULA - 743 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	12	8	1	21	4.5 -- 6	0 -- 5	0-1 -- 0
	M	20	24	7	51	4.5-5.0 -- 18	2 -- 25	1½-2 -- 24
	H	6	11	11	28	5.1-5.5 -- 29	3 -- 9	2½-3 -- 62
	Total for K (Read Across)	38	43	19	100	5.6-6.0 -- 25	4 -- 7	3½-4 -- 13
					6.0-6.5 -- 18	5 -- 18	4½-5 -- 1	
					6.6 -- 4	6+ -- 7	5+ -- 0	
						7 -- 12		
						8+ -- 17		

ATHENS - 268 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	17	25	28	70	4.5 -- 4	0 -- 13	0-1 -- 16
	M	3	8	12	23	4.5-5.0 -- 33	2 -- 20	1½-2 -- 82
	H	0	1	6	7	5.1-5.5 -- 24	3 -- 11	2½-3 -- 2
Total for K (Read Across)	20	34	46	100	5.6-6.0 -- 13	4 -- 12	3½-4 -- 0	
					6.0-6.5 -- 13	5 -- 22	4½-5 -- 0	
					6.6 -- 13	6+ -- 20	5+ -- 0	

AUGLAIZE - 1313 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	1	4	3	8	4.5 -- 0	0 -- 14	0-1 -- 0
	M	2	20	28	50	4.5-5.0 -- 2	2 -- 51	1½-2 -- 45
	H	0	4	38	42	5.1-5.5 -- 14	3 -- 19	2½-3 -- 44
	Total for K (Read Across)	3	28	69	100	5.6-6.0 -- 35	4 -- 9	3½-4 -- 9
					6.0-6.5 -- 35	5 -- 6	4½-5 -- 1	
					6.6 -- 14	6+ -- 1	5+ -- 1	

BELMONT - 482 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	6	12	9	27	4.5 -- 4	0 -- 12	0-1 -- 4
	M	5	16	41	42	4.5-5.0 -- 16	2 -- 32	1½-2 -- 86
	H	1	7	33	31	5.1-5.5 -- 23	3 -- 15	2½-3 -- 10
	Total for K (Read Across)	12	35	53	100	5.6-6.0 -- 24	4 -- 10	3½-4 -- 0
					6.0-6.5 -- 21	5 -- 14	4½-5 -- 0	
					6.6 -- 12	6+ -- 17	5+ -- 0	

BROWN - 1215 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)				
PHOSPHORUS	L	24	20	3	47	4.5 -- 2	0 -- 8	0-1 -- 5
	M	7	15	7	29	4.5-5.0 -- 14	2 -- 34	1½-2 -- 86
	H	1	4	19	24	5.1-5.5 -- 31	3 -- 25	2½-3 -- 9
	Total for K (Read Across)	32	39	29	100	5.6-6.0 -- 27	4 -- 12	3½-4 -- 7
					6.0-6.5 -- 18	5 -- 15	4½-5 -- 0	
					6.6 -- 8	6+ -- 6	5+ -- 0	

BUTLER - 766 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	8	9	4	21	4.5 -- 0	0 -- 29	0-1 -- 1
	M	6	23	14	23	4.5-5.0 -- 1	2 -- 44	1½-2 -- 69
	H	2	8	26	36	5.1-5.5 -- 13	3 -- 17	2½-3 -- 25
Total for K (Read Across)	16	40	44	100	5.6-6.0 -- 28	4 -- 6	3½-4 -- 4	4½-5 -- 1
					6.0-6.5 -- 29	5 -- 4	4½-5 -- 1	
					6.6 -- 29	6+ -- 0	5+ -- 0	

CLERMONT - 767 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	24	28	7	59	4.5 -- 1	0 -- 23	0-1 -- 2
	M	6	9	9	24	4.5-5.0 -- 9	2 -- 37	1½-2 -- 89
	H	1	2	14	17	5.1-5.5 -- 19	3 -- 17	2½-3 -- 9
Total for K (Read Across)	31	39	30	100	5.6-6.0 -- 21	4 -- 8	3½-4 -- 0	4½-5 -- 0
					6.0-6.5 -- 26	5 -- 10	4½-5 -- 0	
					6.6 -- 24	6+ -- 5	5+ -- 0	

CARROLL - 930 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	5	14	8	27	4.5 -- 5	0 -- 8	0-1 -- 2
	M	6	23	15	44	4.5-5.0 -- 12	2 -- 37	1½-2 -- 84
	H	2	10	17	29	5.1-5.5 -- 24	3 -- 22	2½-3 -- 14
Total for K (Read Across)	13	47	40	100	5.6-6.0 -- 30	4 -- 9	3½-4 -- 0	4½-5 -- 0
					6.0-6.5 -- 21	5 -- 12	4½-5 -- 0	
					6.6 -- 8	6+ -- 12	5+ -- 0	

CLINTON - 1630 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	8	7	2	17	4.5 -- 0	0 -- 25	0-1 -- 1
	M	13	24	12	49	4.5-5.0 -- 1	2 -- 54	1½-2 -- 62
	H	2	10	22	34	5.1-5.5 -- 10	3 -- 15	2½-3 -- 26
Total for K (Read Across)	23	41	36	100	5.6-6.0 -- 27	4 -- 4	3½-4 -- 8	4½-5 -- 3
					6.0-6.5 -- 37	5 -- 2	4½-5 -- 3	
					6.6 -- 25	6+ -- 0	5+ -- 0	

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CHAMPAIGN - 846 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	4	9	9	22	4.5 -- 0	0 -- 33	0-1 -- 0
	M	6	18	18	42	4.5-5.0 -- 1	2 -- 48	1½-2 -- 45
	H	1	9	26	36	5.1-5.5 -- 8	3 -- 10	2½-3 -- 37
Total for K (Read Across)	11	36	53	100	5.6-6.0 -- 23	4 -- 6	3½-4 -- 9	4½-5 -- 4
					6.0-6.5 -- 36	5 -- 3	4½-5 -- 4	
					6.6 -- 32	6+ -- 0	5+ -- 5	

COLUMBIANA - 1590 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	2	1	1	4	4.5 -- 2	0 -- 15	0-1 -- 0
	M	18	16	5	39	4.5-5.0 -- 8	2 -- 44	1½-2 -- 77
	H	14	23	20	57	5.1-5.5 -- 14	3 -- 16	2½-3 -- 22
Total for K (Read Across)	34	40	26	100	5.6-6.0 -- 28	4 -- 8	3½-4 -- 1	4½-5 -- 0
					6.0-6.5 -- 39	5 -- 8	4½-5 -- 0	
					6.6 -- 15	6+ -- 9	5+ -- 0	

CLARK - 858 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	7	12	5	24	4.5 -- 0	0 -- 34	0-1 -- 1
	M	6	21	16	43	4.5-5.0 -- 1	2 -- 48	1½-2 -- 71
	H	1	8	24	33	5.1-5.5 -- 6	3 -- 11	2½-3 -- 39
Total for K (Read Across)	14	41	45	100	5.6-6.0 -- 26	4 -- 5	3½-4 -- 10	4½-5 -- 6
					6.0-6.5 -- 33	5 -- 2	4½-5 -- 6	
					6.6 -- 34	6+ -- 0	5+ -- 3	

COSHOCTON - 1226 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	8	10	3	21	4.5 -- 1	0 -- 16	0-1 -- 2
	M	12	25	10	46	4.5-5.0 -- 12	2 -- 41	1½-2 -- 86
	H	6	12	15	33	5.1-5.5 -- 17	3 -- 18	2½-3 -- 12
Total for K (Read Across)	26	46	28	100	5.6-6.0 -- 26	4 -- 8	3½-4 -- 0	4½-5 -- 0
					6.0-6.5 -- 28	5 -- 10	4½-5 -- 0	
					6.6 -- 16	6+ -- 7	5+ -- 0	

CRAWFORD - 1290 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\text{pH}}$	
PHOSPHORUS	L	4	6	1	11	4.5 -- 1	0 -- 15	0-1 -- 1
	M	7	28	18	53	4.5-5.0 -- 7	2 -- 42	1 $\frac{1}{2}$ -2 -- 48
	H	1	8	27	36	5.1-5.5 -- 20	3 -- 14	2 $\frac{1}{2}$ -3 -- 41
Total for K (Read Across)	12	42	46	100	5.6-6.0 -- 28	4 -- 10	3 $\frac{1}{2}$ -4 -- 8	
					6.0-6.5 -- 29	5 -- 12	4 $\frac{1}{2}$ -5 -- 1	
					6.6 -- 15	6+ -- 7	5+ -- 1	

ERIE - 167 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\text{pH}}$	
PHOSPHORUS	L	1	1	4	6	4.5 -- 0	0 -- 41	0-1 -- 1
	M	5	9	21	35	4.5-5.0 -- 2	2 -- 44	1 $\frac{1}{2}$ -2 -- 23
	H	12	18	29	59	5.1-5.5 -- 5	3 -- 4	2 $\frac{1}{2}$ -3 -- 27
Total for K (Read Across)	18	28	54	100	5.6-6.0 -- 20	4 -- 5	3 $\frac{1}{2}$ -4 -- 25	
					6.0-6.5 -- 31	5 -- 3	4 $\frac{1}{2}$ -5 -- 14	
					6.6 -- 42	6+ -- 3	5+ -- 10	

DARKE - 1961 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\text{pH}}$	
PHOSPHORUS	L	2	7	5	14	4.5 -- 0	0 -- 23	0-1 -- 0
	M	2	16	30	48	4.5-5.0 -- 1	2 -- 51	1 $\frac{1}{2}$ -2 -- 49
	H	0	4	34	38	5.1-5.5 -- 10	3 -- 18	2 $\frac{1}{2}$ -3 -- 41
Total for K (Read Across)	4	27	69	100	5.6-6.0 -- 33	4 -- 6	3 $\frac{1}{2}$ -4 -- 8	
					6.0-6.5 -- 34	5 -- 2	4 $\frac{1}{2}$ -5 -- 1	
					6.6 -- 22	6+ -- 0	5+ -- 1	

FAIRFIELD - 896 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\text{pH}}$	
PHOSPHORUS	L	8	9	3	20	4.5 -- 0	0 -- 20	0-1 -- 1
	M	14	27	12	53	4.5-5.0 -- 5	2 -- 44	1 $\frac{1}{2}$ -2 -- 61
	H	2	8	17	27	5.1-5.5 -- 16	3 -- 14	2 $\frac{1}{2}$ -3 -- 28
Total for K (Read Across)	24	44	32	100	5.6-6.0 -- 30	4 -- 11	3 $\frac{1}{2}$ -4 -- 7	
					6.0-6.5 -- 29	5 -- 8	4 $\frac{1}{2}$ -5 -- 2	
					6.6 -- 20	6+ -- 3	5+ -- 1	

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DEFIANCE - 357 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\text{pH}}$	
PHOSPHORUS	L	1	1	5	7	4.5 -- 0	0 -- 21	0-1 -- 0
	M	1	4	53	58	4.5-5.0 -- 1	2 -- 55	1 $\frac{1}{2}$ -2 -- 18
	H	1	3	31	35	5.1-5.5 -- 10	3 -- 9	2 $\frac{1}{2}$ -3 -- 53
Total for K (Read Across)	3	8	89	100	5.6-6.0 -- 22	4 -- 6	3 $\frac{1}{2}$ -4 -- 26	
					6.0-6.5 -- 46	5 -- 7	4 $\frac{1}{2}$ -5 -- 3	
					6.6 -- 21	6+ -- 2	5+ -- 0	

FAYETTE - 1155 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\text{pH}}$	
PHOSPHORUS	L	6	11	5	22	4.5 -- 0	0 -- 34	0-1 -- 0
	M	4	25	24	53	4.5-5.0 -- 0	2 -- 50	1 $\frac{1}{2}$ -2 -- 38
	H	1	6	18	25	5.1-5.5 -- 7	3 -- 10	2 $\frac{1}{2}$ -3 -- 38
Total for K (Read Across)	11	42	47	100	5.6-6.0 -- 20	4 -- 5	3 $\frac{1}{2}$ -4 -- 17	
					6.0-6.5 -- 39	5 -- 1	4 $\frac{1}{2}$ -5 -- 6	
					6.6 -- 34	6+ -- 0	5+ -- 1	

DELAWARE - 797 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\text{pH}}$	
PHOSPHORUS	L	6	13	6	25	4.5 -- 1	0 -- 20	0-1 -- 1
	M	4	22	24	50	4.5-5.0 -- 6	2 -- 38	1 $\frac{1}{2}$ -2 -- 49
	H	1	3	21	25	5.1-5.5 -- 19	3 -- 15	2 $\frac{1}{2}$ -3 -- 39
Total for K (Read Across)	11	38	51	100	5.6-6.0 -- 27	4 -- 10	3 $\frac{1}{2}$ -4 -- 10	
					6.0-6.5 -- 27	5 -- 11	4 $\frac{1}{2}$ -5 -- 0	
					6.6 -- 20	6+ -- 6	5+ -- 1	

FRANKLIN - 767 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	$\frac{\%}{\text{pH}}$	
PHOSPHORUS	L	5	9	6	20	4.5 -- 0	0 -- 38	0-1 -- 0
	M	4	20	27	51	4.5-5.0 -- 2	2 -- 40	1 $\frac{1}{2}$ -2 -- 49
	H	0	6	23	29	5.1-5.5 -- 9	3 -- 8	2 $\frac{1}{2}$ -3 -- 42
Total for K (Read Across)	9	35	56	100	5.6-6.0 -- 20	4 -- 6	3 $\frac{1}{2}$ -4 -- 7	
					6.0-6.5 -- 31	5 -- 6	4 $\frac{1}{2}$ -5 -- 2	
					6.6 -- 38	6+ -- 2	5+ -- 0	

FULTON - 957 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
L M H Total for P (Read Down)						T/A	%	
PHOSPHORUS	L	1	1	2				4
	M	6	10	15	31	4.5-5.0 -- 1	2 -- 63	1½-2 -- 19
	H	11	15	39	65	5.1-5.5 -- 7	3 -- 11	2½-3 -- 48
	Total for K (Read Across)	18	26	56	100	5.6-6.0 -- 29	4 -- 2	3½-4 -- 26
					6.0-6.5 -- 40	5 -- 1	4½-5 -- 4	
					6.6 -- 23	6+ -- 0	5+ -- 2	

GALLIA - 393 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
L M H Total for P (Read Down)						T/A	%	
PHOSPHORUS	L	12	13	13				38
	M	9	17	11	37	4.5-5.0 -- 8	2 -- 40	1½-2 -- 81
	H	2	5	18	25	5.1-5.5 -- 20	3 -- 17	2½-3 -- 16
	Total for K (Read Across)	23	35	42	100	5.6-6.0 -- 25	4 -- 6	3½-4 -- 0
					6.0-6.5 -- 28	5 -- 10	4½-5 -- 0	
					6.6 -- 18	6+ -- 9	5+ -- 0	

GEAUSA - 671 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
L M H Total for P (Read Down)						T/A	%	
PHOSPHORUS	L	9	17	11				37
	M	8	18	8	34	4.5-5.0 -- 15	2 -- 34	1½-2 -- 67
	H	4	8	17	29	5.1-5.5 -- 22	3 -- 15	2½-3 -- 25
	Total for K (Read Across)	21	43	36	100	5.6-6.0 -- 26	4 -- 10	3½-4 -- 2
					6.0-6.5 -- 23	5 -- 14	4½-5 -- 0	
					6.6 -- 13	6+ -- 14	5+ -- 0	

GREENE - 472 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
L M H Total for P (Read Down)						T/A	%	
PHOSPHORUS	L	6	6	4				16
	M	8	26	14	48	4.5-5.0 -- 2	2 -- 42	1½-2 -- 65
	H	1	11	24	36	5.1-5.5 -- 18	3 -- 24	2½-3 -- 21
	Total for K (Read Across)	15	43	42	100	5.6-6.0 -- 30	4 -- 9	3½-4 -- 7
					6.0-6.5 -- 27	5 -- 2	4½-5 -- 3	
					6.6 -- 23	6+ -- 0	5+ -- 1	

GUERNSEY - 713 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
L M H Total for P (Read Down)						T/A	%	
PHOSPHORUS	L	10	22	17				49
	M	4	15	20	39	4.5-5.0 -- 24	2 -- 27	1½-2 -- 86
	H	1	2	9	13	5.1-5.5 -- 28	3 -- 16	2½-3 -- 8
	Total for K (Read Across)	15	39	46	100	5.6-6.0 -- 21	4 -- 11	3½-4 -- 0
					6.0-6.5 -- 17	5 -- 20	4½-5 -- 0	
					6.6 -- 7	6+ -- 9	5+ -- 0	
						7 -- 9		
						8+ -- 1		

HAMILTON - 148 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
L M H Total for P (Read Down)						T/A	%	
PHOSPHORUS	L	2	3	4				9
	M	5	10	7	22	4.5-5.0 -- 7	2 -- 33	1½-2 -- 81
	H	11	13	39	69	5.1-5.5 -- 19	3 -- 15	2½-3 -- 15
	Total for K (Read Across)	18	32	50	100	5.6-6.0 -- 23	4 -- 8	3½-4 -- 0
					6.0-6.5 -- 20	5 -- 8	4½-5 -- 0	
					6.6 -- 31	6+ -- 6	5+ -- 0	

HANCLER - 3521 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
L M H Total for P (Read Down)						T/A	%	
PHOSPHORUS	L	1	3	2				6
	M	5	19	28	52	4.5-5.0 -- 2	2 -- 51	1½-2 -- 31
	H	1	7	34	42	5.1-5.5 -- 13	3 -- 16	2½-3 -- 41
	Total for K (Read Across)	7	29	64	100	5.6-6.0 -- 35	4 -- 8	3½-4 -- 16
					6.0-6.5 -- 33	5 -- 6	4½-5 -- 2	
					6.6 -- 17	6+ -- 1	5+ -- 2	

HARDIN - 1173 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
L M H Total for P (Read Down)						T/A	%	
PHOSPHORUS	L	1	4	3				8
	M	3	16	27	46	4.5-5.0 -- 1	2 -- 46	1½-2 -- 33
	H	0	5	41	46	5.1-5.5 -- 12	3 -- 14	2½-3 -- 47
	Total for K (Read Across)	4	25	71	100	5.6-6.0 -- 31	4 -- 9	3½-4 -- 13
					6.0-6.5 -- 34	5 -- 7	4½-5 -- 3	
					6.6 -- 22	6+ -- 1	5+ -- 4	

HARRISON - 320 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	8	16	11	35	4.5 -- 6	0 -- 12
	M	7	17	21	45	4.5-5.0 -- 22	2 -- 28
	H	2	7	11	20	5.1-5.5 -- 19	3 -- 12
Total for K (Read Across)	17	40	43	100	5.6-6.0 -- 20	4 -- 9	3½-4 -- 1
					6.0-6.5 -- 22	5 -- 16	4½-5 -- 0
					6.6 -- 11	6+ -- 7	5+ -- 0
						7 -- 10	
						8+ -- 6	

HENRY - 660 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	1	2	7	10	4.5 -- 0	0 -- 16
	M	7	9	34	50	4.5-5.0 -- 1	2 -- 72
	H	5	5	30	40	5.1-5.5 -- 5	3 -- 10
Total for K (Read Across)	13	16	71	100	5.6-6.0 -- 29	4 -- 2	3½-4 -- 33
					6.0-6.5 -- 50	5 -- 0	4½-5 -- 3
					6.6 -- 15	6+ -- 0	5+ -- 1

HIGHLAND - 153 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	18	12	5	35	4.5 -- 1	0 -- 24
	M	17	21	9	47	4.5-5.0 -- 20	2 -- 50
	H	1	6	11	18	5.1-5.5 -- 28	3 -- 15
Total for K (Read Across)	36	39	25	100	5.6-6.0 -- 25	4 -- 7	3½-4 -- 0
					6.0-6.5 -- 13	5 -- 4	4½-5 -- 0
					6.6 -- 13	6+ -- 0	5+ -- 0

HOCKING - 153 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	20	22	17	59	4.5 -- 1	0 -- 13
	M	7	12	12	31	4.5-5.0 -- 20	2 -- 30
	H	4	4	2	10	5.1-5.5 -- 28	3 -- 16
Total for K (Read Across)	31	38	31	100	5.6-6.0 -- 25	4 -- 20	3½-4 -- 0
					6.0-6.5 -- 13	5 -- 12	4½-5 -- 0
					6.6 -- 13	6+ -- 9	5+ -- 0

HOLMES - 1499 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	7	7	2	16	4.5 -- 0	0 -- 27
	M	18	23	8	49	4.5-5.0 -- 4	2 -- 46
	H	7	14	14	45	5.1-5.5 -- 13	3 -- 14
Total for K (Read Across)	32	44	24	100	5.6-6.0 -- 23	4 -- 5	3½-4 -- 0
					6.0-6.5 -- 33	5 -- 6	4½-5 -- 0
					6.6 -- 27	6+ -- 2	5+ -- 1

HURON - 1407 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	6	7	3	16	4.5 -- 1	0 -- 30
	M	11	29	12	52	4.5-5.0 -- 6	2 -- 38
	H	4	11	17	32	5.1-5.5 -- 16	3 -- 11
Total for K (Read Across)	21	47	32	100	5.6-6.0 -- 21	4 -- 7	3½-4 -- 8
					6.0-6.5 -- 27	5 -- 8	4½-5 -- 3
					6.6 -- 29	6+ -- 6	5+ -- 3

JACKSON - 475 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	17	25	14	55	4.5 -- 0	0 -- 12
	M	13	13	8	34	4.5-5.0 -- 15	2 -- 38
	H	2	5	3	11	5.1-5.5 -- 26	3 -- 22
Total for K (Read Across)	32	43	25	100	5.6-6.0 -- 23	4 -- 13	3½-4 -- 0
					6.0-6.5 -- 23	5 -- 12	4½-5 -- 0
					6.6 -- 13	6+ -- 3	5+ -- 0

JEFFERSON - 485 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	4	8	7	19	4.5 -- 5	0 -- 9
	M	8	25	16	49	4.5-5.0 -- 20	2 -- 32
	H	3	13	16	32	5.1-5.5 -- 22	3 -- 15
Total for K (Read Across)	15	46	39	100	5.6-6.0 -- 23	4 -- 11	3½-4 -- 0
					6.0-6.5 -- 21	5 -- 14	4½-5 -- 0
					6.6 -- 9	6+ -- 7	5+ -- 0
						7 -- 6	
						8+ -- 6	

KNOX - 1195 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	6	8	3	17	4.5 -- 0	0 -- 10
	M	10	22	14	46	4.5-5.0 -- 9	2 -- 37
	H	4	12	21	37	5.1-5.5 -- 27	3 -- 12
Total for K (Read Across)				20	42	38	100
					5.6-6.0 -- 29	4 -- 17	3½-4 -- 2
					6.0-6.5 -- 25	5 -- 9	4½-5 -- 0
					6.6 -- 10	6+ -- 8	5+ -- 0
						7 -- 6	
						8+ -- 1	

LICKING - 1806 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	7	9	3	19	4.5 -- 0	0 -- 14
	M	9	23	14	46	4.5-5.0 -- 9	2 -- 36
	H	2	12	21	35	5.1-5.5 -- 25	3 -- 17
Total for K (Read Across)				18	44	39	100
					5.6-6.0 -- 28	4 -- 12	3½-4 -- 6
					6.0-6.5 -- 24	5 -- 15	4½-5 -- 1
					6.6 -- 14	6+ -- 6	5+ -- 0

LAKE - 70 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	10	14	4	28	4.5 -- 3	0 -- 6
	M	9	26	41	46	4.5-5.0 -- 19	2 -- 34
	H	14	4	8	26	5.1-5.5 -- 23	3 -- 14
Total for K (Read Across)				33	44	23	100
					5.6-6.0 -- 37	4 -- 11	3½-4 -- 6
					6.0-6.5 -- 13	5 -- 19	4½-5 -- 1
					6.6 -- 5	6+ -- 3	5+ -- 0
						7 -- 10	
						8+ -- 3	

LOGAN - 747 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	3	13	14	30	4.5 -- 0	0 -- 26
	M	2	15	29	46	4.5-5.0 -- 2	2 -- 45
	H	1	4	19	24	5.1-5.5 -- 12	3 -- 17
Total for K (Read Across)				6	32	62	100
					5.6-6.0 -- 30	4 -- 7	3½-4 -- 6
					6.0-6.5 -- 31	5 -- 5	4½-5 -- 1
					6.6 -- 25	6+ -- 0	5+ -- 3

LOPAIN - 780 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	9	10	4	23	4.5 -- 1	0 -- 18
	M	12	25	16	53	4.5-5.0 -- 11	2 -- 26
	H	2	7	15	24	5.1-5.5 -- 19	3 -- 27
Total for K (Read Across)				23	42	35	100
					5.6-6.0 -- 25	4 -- 13	3½-4 -- 1
					6.0-6.5 -- 26	5 -- 5	4½-5 -- 0
					6.6 -- 18	6+ -- 5	5+ -- 0

LAWRENCE - 359 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	12	22	23	57	4.5 -- 4	0 -- 13
	M	3	10	10	23	4.5-5.0 -- 14	2 -- 35
	H	2	4	14	20	5.1-5.5 -- 23	3 -- 21
Total for K (Read Across)				17	36	47	100
					5.6-6.0 -- 25	4 -- 8	3½-4 -- 0
					6.0-6.5 -- 22	5 -- 11	4½-5 -- 0
					6.6 -- 12	6+ -- 5	5+ -- 0
						7+ -- 7	

LUCAS - 232 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	1	2	1	4	4.5 -- 0	0 -- 17
	M	4	4	14	22	4.5-5.0 -- 3	2 -- 60
	H	12	16	46	74	5.1-5.5 -- 12	3 -- 12
Total for K (Read Across)				17	22	61	100
					5.6-6.0 -- 35	4 -- 7	3½-4 -- 28
					6.0-6.5 -- 34	5 -- 4	4½-5 -- 9
					6.6 -- 16	6+ -- 0	5+ -- 0

MEDINA - 580 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER				
	L	M	H	Total for P (Read Down)		T/A	%				
PHOSPHORUS	L	7	7	1	15	4.5 -- 0	0 -- 15	0-1 -- 0			
	M	13	30	9	52	4.5-5.0 -- 6	2 -- 44	1½-2 -- 66			
	H	2	14	17	33	5.1-5.5 -- 16	3 -- 15	2½-3 -- 34			
Total for K (Read Across)					22	51	27	100	5.6-6.0 -- 29	4 -- 8	3½-4 -- 0
						6.0-6.5 -- 33	5 -- 9	4½-5 -- 0			
						6.6 -- 16	6+ -- 9	5+ -- 0			

HADISON - 1249 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER				
	L	M	H	Total for P (Read Down)		T/A	%				
PHOSPHORUS	L	4	8	9	21	4.5 -- 0	0 -- 33	0-1 -- 0			
	M	3	15	33	51	4.5-5.0 -- 1	2 -- 49	1½-2 -- 29			
	H	0	3	25	28	5.1-5.5 -- 7	3 -- 10	2½-3 -- 39			
Total for K (Read Across)					7	26	67	100	5.6-6.0 -- 21	4 -- 5	3½-4 -- 21
						6.0-6.5 -- 38	5 -- 3	4½-5 -- 9			
						6.6 -- 33	6+ -- 0	5+ -- 2			

MEIGS - 527 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER				
	L	M	H	Total for P (Read Down)		T/A	%				
PHOSPHORUS	L	5	15	15	35	4.5 -- 4	0 -- 14	0-1 -- 9			
	M	6	17	18	41	4.5-5.0 -- 16	2 -- 33	1½-2 -- 82			
	H	2	6	16	24	5.1-5.5 -- 23	3 -- 21	2½-3 -- 9			
Total for K (Read Across)					13	38	49	100	5.6-6.0 -- 22	4 -- 10	3½-4 -- 0
						6.0-6.5 -- 21	5 -- 12	4½-5 -- 0			
						6.6 -- 14	6+ -- 3	5+ -- 0			
							7 -- 2				
							8+ -- 5				

MAHONING - 501 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER				
	L	M	H	Total for P (Read Down)		T/A	%				
PHOSPHORUS	L	5	5	1	11	4.5 -- 2	0 -- 15	0-1 -- 0			
	M	26	16	7	49	4.5-5.0 -- 7	2 -- 47	1½-2 -- 66			
	H	12	15	13	40	5.1-5.5 -- 13	3 -- 15	2½-3 -- 32			
Total for K (Read Across)					43	36	21	100	5.6-6.0 -- 29	4 -- 7	3½-4 -- 1
						6.0-6.5 -- 34	5 -- 9	4½-5 -- 1			
						6.6 -- 15	6+ -- 1	5+ -- 0			
							7 -- 3				
							8+ -- 3				

MERCER - 1452 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER				
	L	M	H	Total for P (Read Down)		T/A	%				
PHOSPHORUS	L	1	6	3	10	4.5 -- 0	0 -- 18	0-1 -- 0			
	M	2	15	32	49	4.5-5.0 -- 1	2 -- 48	1½-2 -- 36			
	H	0	5	36	41	5.1-5.5 -- 14	3 -- 20	2½-3 -- 51			
Total for K (Read Across)					3	26	71	100	5.6-6.0 -- 34	4 -- 8	3½-4 -- 12
						6.0-6.5 -- 33	5 -- 6	4½-5 -- 1			
						6.6 -- 18	6+ -- 0	5+ -- 0			

MARION - 1255 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER				
	L	M	H	Total for P (Read Down)		T/A	%				
PHOSPHORUS	L	2	6	5	13	4.5 -- 0	0 -- 25	0-1 -- 0			
	M	3	22	31	56	4.5-5.0 -- 2	2 -- 44	1½-2 -- 29			
	H	0	5	26	31	5.1-5.5 -- 15	3 -- 12	2½-3 -- 46			
Total for K (Read Across)					5	33	62	100	5.6-6.0 -- 26	4 -- 8	3½-4 -- 20
						6.0-6.5 -- 33	5 -- 9	4½-5 -- 4			
						6.6 -- 24	6+ -- 2	5+ -- 1			

MORROW - 1036 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	9	11	5	25	4.5 -- 1	0 -- 16
	M	9	27	18	54	4.5-5.0 -- 6	2 -- 39
	H	1	6	14	21	5.1-5.5 -- 21	3 -- 16
Total for K (Read Across)	19	44	37	100	5.6-6.0 -- 27	4 -- 9	3 1/2-4 -- 3
					6.0-6.5 -- 29	5 -- 12	4 1/2-5 -- 1
					6.6 -- 16	6+ -- 8	5+ -- 0

MUSKINGUM - 1231 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	9	20	12	41	4.5 -- 2	0 -- 16
	M	6	17	17	40	4.5-5.0 -- 13	2 -- 35
	H	2	6	11	19	5.1-5.5 -- 24	3 -- 21
Total for K (Read Across)	17	43	40	100	5.6-6.0 -- 25	4 -- 10	3 1/2-4 -- 0
					6.0-6.5 -- 21	5 -- 11	4 1/2-5 -- 0
					6.6 -- 15	6+ -- 7	5+ -- 0

HOBLE - 503 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	9	24	29	62	4.5 -- 2	0 -- 10
	M	3	7	16	26	4.5-5.0 -- 17	2 -- 28
	H	1	1	10	12	5.1-5.5 -- 27	3 -- 20
Total for K (Read Across)	13	32	55	100	5.6-6.0 -- 27	4 -- 10	3 1/2-4 -- 0
					6.0-6.5 -- 17	5 -- 18	4 1/2-5 -- 0
					6.6 -- 10	6+ -- 5	5+ -- 0
						7 -- 7	
						8+ -- 2	

OTTAWA - 756 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	0	1	10	11	4.5 -- 0	0 -- 41
	M	1	2	42	45	4.5-5.0 -- 0	2 -- 48
	H	0	0	44	44	5.1-5.5 -- 3	3 -- 6
Total for K (Read Across)	1	3	96	100	5.6-6.0 -- 19	4 -- 4	3 1/2-4 -- 39
					6.0-6.5 -- 38	5 -- 1	4 1/2-5 -- 13
					6.6 -- 40	6+ -- 0	5+ -- 2

MIAMI - 1437 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	3	7	4	14	4.5 -- 0	0 -- 24
	M	3	23	26	52	4.5-5.0 -- 0	2 -- 57
	H	0	6	28	34	5.1-5.5 -- 6	3 -- 13
Total for K (Read Across)	6	36	58	100	5.6-6.0 -- 29	4 -- 4	3 1/2-4 -- 11
					6.0-6.5 -- 41	5 -- 2	4 1/2-5 -- 0
					6.6 -- 24	6+ -- 0	5+ -- 0

NONROE - 722 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	7	16	16	39	4.5 -- 2	0 -- 11
	M	4	13	24	40	4.5-5.0 -- 16	2 -- 34
	H	1	4	16	21	5.1-5.5 -- 27	3 -- 16
Total for K (Read Across)	12	33	56	100	5.6-6.0 -- 20	4 -- 8	3 1/2-4 -- 0
					6.0-6.5 -- 24	5 -- 16	4 1/2-5 -- 0
					6.6 -- 11	6+ -- 6	5+ -- 0
						7 -- 6	
						8+ -- 3	

MONTGOMERY - 910 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	4	9	7	21	4.5 -- 0	0 -- 31
	M	4	21	23	48	4.5-5.0 -- 1	2 -- 47
	H	1	7	25	31	5.1-5.5 -- 7	3 -- 14
Total for K (Read Across)	9	37	55	100	5.6-6.0 -- 24	4 -- 5	3 1/2-4 -- 5
					6.0-6.5 -- 35	5 -- 3	4 1/2-5 -- 1
					6.6 -- 31	6+ -- 0	5+ -- 0

MORGAN - 489 SAMPLES

	(A) POTASSIUM				(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)			
PHOSPHORUS	L	12	24	19	55	4.5 -- 2	0 -- 14
	M	4	12	17	33	4.5-5.0 -- 16	2 -- 32
	H	1	3	8	12	5.1-5.5 -- 28	3 -- 15
Total for K (Read Across)	17	39	44	100	5.6-6.0 -- 18	4 -- 12	3 1/2-4 -- 0
					6.0-6.5 -- 22	5 -- 18	4 1/2-5 -- 0
					6.6 -- 14	6+ -- 9	5+ -- 0

PAULDING - 357 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	1	2	12	15	4.5 -- 1	0 -- 15
	M	1	4	50	55	4.5-5.0 -- 4	2 -- 54
	H	1	0	29	30	5.1-5.5 -- 11	3 -- 14
Total for K (Read Across)	3	6	91	100	5.6-6.0 -- 29	4 -- 8	3½-4 -- 23
					6.0-6.5 -- 41	5 -- 7	4½-5 -- 4
					6.6 -- 14	6+ -- 2	5+ -- 0

PERRY - 515 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	12	19	7	38	4.5 -- 1	0 -- 11
	M	12	22	3	43	4.5-5.0 -- 10	2 -- 42
	H	3	6	10	19	5.1-5.5 -- 25	3 -- 22
Total for K (Read Across)	27	47	26	100	5.6-6.0 -- 29	4 -- 12	3½-4 -- 2
					6.0-6.5 -- 24	5 -- 10	4½-5 -- 1
					6.6 -- 11	6+ -- 3	5+ -- 0

PICKAWAY - 1340 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	9	14	4	27	4.5 -- 0	0 -- 34
	M	5	21	16	42	4.5-5.0 -- 3	2 -- 43
	H	1	6	24	31	5.1-5.5 -- 10	3 -- 13
Total for K (Read Across)	15	41	44	100	5.6-6.0 -- 24	4 -- 6	3½-4 -- 10
					6.0-6.5 -- 30	5 -- 4	4½-5 -- 2
					6.6 -- 33	6+ -- 0	5+ -- 1

PIKE - 281 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	15	28	16	59	4.5 -- 2	0 -- 24
	M	7	13	6	26	4.5-5.0 -- 12	2 -- 27
	H	3	3	9	15	5.1-5.5 -- 23	3 -- 19
Total for K (Read Across)	25	44	31	100	5.6-6.0 -- 22	4 -- 11	3½-4 -- 0
					6.0-6.5 -- 17	5 -- 11	4½-5 -- 0
					6.6 -- 24	6+ -- 8	5+ -- 0

PORTAGE - 431 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	4	8	4	16	4.5 -- 4	0 -- 21
	M	16	20	10	46	4.5-5.0 -- 11	2 -- 38
	H	11	13	14	38	5.1-5.5 -- 15	3 -- 10
Total for K (Read Across)	31	31	28	100	5.6-6.0 -- 20	4 -- 5	3½-4 -- 1
					6.0-6.5 -- 30	5 -- 11	4½-5 -- 0
					6.6 -- 20	6+ -- 3	5+ -- 1
						7 -- 7	
						8+ -- 5	

PREBLE - 863 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	4	10	5	19	4.5 -- 0	0 -- 28
	M	5	21	18	44	4.5-5.0 -- 0	2 -- 47
	H	1	8	28	37	5.1-5.5 -- 9	3 -- 15
Total for K (Read Across)	10	39	51	100	5.6-6.0 -- 31	4 -- 7	3½-4 -- 3
					6.0-6.5 -- 32	5 -- 3	4½-5 -- 0
					6.6 -- 28	6+ -- 0	5+ -- 0

PUTHAM - 885 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	1	3	8	12	4.5 -- 0	0 -- 11
	M	1	7	35	43	4.5-5.0 -- 2	2 -- 56
	H	1	4	40	45	5.1-5.5 -- 12	3 -- 17
Total for K (Read Across)	3	14	83	100	5.6-6.0 -- 40	4 -- 9	3½-4 -- 31
					6.0-6.5 -- 35	5 -- 6	4½-5 -- 3
					6.6 -- 11	6+ -- 1	5+ -- 1

RICHLAND - 886 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	8	6	2	16	4.5 -- 2	0 -- 12
	M	15	30	9	54	4.5-5.0 -- 11	2 -- 35
	H	4	10	16	30	5.1-5.5 -- 23	3 -- 21
Total for K (Read Across)	27	46	27	100	5.6-6.0 -- 30	4 -- 10	3½-4 -- 4
					6.0-6.5 -- 22	5 -- 14	4½-5 -- 0
					6.6 -- 12	6+ -- 8	5+ -- 2

ROSS - 717 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER										
L	M	H	Total for P (Read Down)														
PHOSPHORUS	L	12	14	8	34	4.5 -- 0	0 -- 36	0-1 -- 2									
	M	10	17	12	39	4.5-5.0 -- 4	2 -- 37	1½-2 -- 70									
	H	2	9	16	27	5.1-5.5 -- 12	3 -- 13	2½-3 -- 25									
Total for K (Read Across)					24	40	36	100	5.6-6.0 -- 20	4 -- 6	3½-4 -- 3	6.0-6.5 -- 20	5 -- 6	4½-5 -- 0	6.6 -- 36	6+ -- 2	5+ -- 0

SHELBY - 1656 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER										
L	M	H	Total for P (Read Down)														
PHOSPHORUS	L	4	12	5	21	4.5 -- 0	0 -- 18	0-1 -- 0									
	M	3	24	29	56	4.5-5.0 -- 0	2 -- 54	1½-2 -- 48									
	H	0	3	20	23	5.1-5.5 -- 10	3 -- 18	2½-3 -- 47									
Total for K (Read Across)					7	39	54	100	5.6-6.0 -- 35	4 -- 7	3½-4 -- 4	6.0-6.5 -- 37	5 -- 3	4½-5 -- 1	6.6 -- 18	6+ -- 0	5+ -- 0

SANDUSKY - 858 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER										
L	M	H	Total for P (Read Down)														
PHOSPHORUS	L	2	3	6	11	4.5 -- 0	0 -- 54	0-1 -- 0									
	M	4	13	30	47	4.5-5.0 -- 0	2 -- 39	1½-2 -- 17									
	H	6	11	25	42	5.1-5.5 -- 3	3 -- 4	2½-3 -- 43									
Total for K (Read Across)					12	27	61	100	5.6-6.0 -- 13	4 -- 2	3½-4 -- 30	6.0-6.5 -- 30	5 -- 1	4½-5 -- 6	6.6 -- 54	6+ -- 0	5+ -- 4

STARK - 946 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER										
L	M	H	Total for P (Read Down)														
PHOSPHORUS	L	8	2	1	11	4.5 -- 0	0 -- 22	0-1 -- 1									
	M	27	15	4	46	4.5-5.0 -- 4	2 -- 51	1½-2 -- 76									
	H	12	17	14	43	5.1-5.5 -- 12	3 -- 13	2½-3 -- 22									
Total for K (Read Across)					47	34	19	100	5.6-6.0 -- 24	4 -- 5	3½-4 -- 1	6.0-6.5 -- 38	5 -- 6	4½-5 -- 0	6.6 -- 22	6+ -- 3	5+ -- 0

SUMMIT - 139 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER										
L	M	H	Total for P (Read Down)														
PHOSPHORUS	L	7	3	1	11	4.5 -- 4	0 -- 14	0-1 -- 0									
	M	13	11	5	29	4.5-5.0 -- 6	2 -- 51	1½-2 -- 67									
	H	13	24	23	60	5.1-5.5 -- 17	3 -- 12	2½-3 -- 24									
Total for K (Read Across)					33	38	29	100	5.6-6.0 -- 24	4 -- 3	3½-4 -- 0	6.0-6.5 -- 37	5 -- 11	4½-5 -- 0	6.6 -- 12	6+ -- 9	5+ -- 9

TRUMBULL - 859 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER										
L	M	H	Total for P (Read Down)														
PHOSPHORUS	L	11	5	0	16	4.5 -- 5	0 -- 8	0-1 -- 1									
	M	27	18	4	49	4.5-5.0 -- 15	2 -- 31	1½-2 -- 57									
	H	11	14	10	35	5.1-5.5 -- 23	3 -- 17	2½-3 -- 39									
Total for K (Read Across)					49	37	14	100	5.6-6.0 -- 29	4 -- 10	3½-4 -- 3	6.0-6.5 -- 20	5 -- 15	4½-5 -- 0	6.6 -- 8	6+ -- 6	5+ -- 0
							7 -- 6							8+ -- 7			

SENECA - 2203 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER										
L	M	H	Total for P (Read Down)														
PHOSPHORUS	L	4	9	3	16	4.5 -- 1	0 -- 27	0-1 -- 0									
	M	5	25	22	52	4.5-5.0 -- 7	2 -- 38	1½-2 -- 53									
	H	1	7	24	32	5.1-5.5 -- 15	3 -- 13	2½-3 -- 35									
Total for K (Read Across)					10	41	49	100	5.6-6.0 -- 23	4 -- 7	3½-4 -- 10	6.0-6.5 -- 27	5 -- 9	4½-5 -- 2	6.6 -- 27	6+ -- 6	5+ -- 0

TUSCARAWAS - 1456 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	12	9	3	24	4.5 -- 2	0 -- 21
	M	14	21	10	45	4.5-5.0 -- 7	2 -- 46
	H	6	12	13	31	5.1-5.5 -- 15	3 -- 14
Total for K (Read Across)	32	42	26	100	5.6-6.0 -- 24	4 -- 7	3½-4 -- 0
					6.0-6.5 -- 31	5 -- 7	4½-5 -- 0
					6.6 -- 21	6+ -- 5	5+ -- 0

WARREN - 804 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	8	8	3	19	4.5 -- 0	0 -- 25
	M	12	18	10	40	4.5-5.0 -- 3	2 -- 49
	H	4	14	23	41	5.1-5.5 -- 13	3 -- 14
Total for K (Read Across)	24	30	36	100	5.6-6.0 -- 27	4 -- 5	3½-4 -- 22
					6.0-6.5 -- 32	5 -- 6	4½-5 -- 1
					6.6 -- 25	6+ -- 1	5+ -- 0

UNION - 1505 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	3	13	10	26	4.5 -- 0	0 -- 27
	M	3	18	32	53	4.5-5.0 -- 2	2 -- 45
	H	0	3	18	21	5.1-5.5 -- 13	3 -- 15
Total for K (Read Across)	6	34	60	100	5.6-6.0 -- 27	4 -- 7	3½-4 -- 7
					6.0-6.5 -- 31	5 -- 6	4½-5 -- 2
					6.6 -- 27	6+ -- 0	5+ -- 0

WASHINGTON - 859 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	16	19	11	46	4.5 -- 3	0 -- 11
	M	8	15	12	35	4.5-5.0 -- 13	2 -- 35
	H	2	5	12	19	5.1-5.5 -- 24	3 -- 17
Total for K (Read Across)	36	39	35	100	5.6-6.0 -- 24	4 -- 26	3½-4 -- 0
					6.0-6.5 -- 19	5 -- 5	4½-5 -- 0
					6.6 -- 11	6+ -- 6	5+ -- 0

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VAN HERT - 1058 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	1	2	2	5	4.5 -- 0	0 -- 15
	M	1	13	35	49	4.5-5.0 -- 0	2 -- 55
	H	0	3	43	46	5.1-5.5 -- 10	3 -- 16
Total for K (Read Across)	2	18	80	100	5.6-6.0 -- 34	4 -- 9	3½-4 -- 29
					6.0-6.5 -- 41	5 -- 4	4½-5 -- 4
					6.6 -- 15	6+ -- 1	5+ -- 0

MAYHE - 3262 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	5	3	1	9	4.5 -- 0	0 -- 25
	M	16	22	7	45	4.5-5.0 -- 4	2 -- 50
	H	6	16	24	46	5.1-5.5 -- 12	3 -- 13
Total for K (Read Across)	27	41	32	100	5.6-6.0 -- 23	4 -- 5	3½-4 -- 1
					6.0-6.5 -- 37	5 -- 5	4½-5 -- 0
					6.6 -- 24	6+ -- 2	5+ -- 1

VINTON - 246 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	21	21	10	52	4.5 -- 0	0 -- 15
	M	8	15	7	30	4.5-5.0 -- 3	2 -- 35
	H	3	7	8	18	5.1-5.5 -- 13	3 -- 14
Total for K (Read Across)	32	43	25	100	5.6-6.0 -- 27	4 -- 9	3½-4 -- 1
					6.0-6.5 -- 32	5 -- 18	4½-5 -- 0
					6.6 -- 25	6+ -- 9	5+ -- 0

WILLIAMS - 729 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER
	L	M	H	Total for P (Read Down)		T/A	%
PHOSPHORUS	L	2	5	3	10	4.5 -- 0	0 -- 14
	M	3	23	23	49	4.5-5.0 -- 3	2 -- 45
	H	1	12	18	41	5.1-5.5 -- 21	3 -- 22
Total for K (Read Across)	6	50	44	100	5.6-6.0 -- 34	4 -- 11	3½-4 -- 7
					6.0-6.5 -- 29	5 -- 7	4½-5 -- 1
					6.6 -- 13	6+ -- 1	5+ -- 1

WOOD - 1676 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	1	1	5	7	4.5 -- 0	0 -- 23	0-1 -- 0
	M	3	6	34	43	4.5-5.0 -- 0	2 -- 62	1½-2 -- 6
	H	4	7	39	50	5.1-5.5 -- 4	3 -- 11	2½-3 -- 41
Total for K (Read Across)	8	14	78	100	5.6-6.0 -- 31	4 -- 4	3½-4 -- 41	
					6.0-6.5 -- 43	5 -- 0	4½-5 -- 11	
					6.6 -- 22	6+ -- 0	5+ -- 1	

WYANDOT - 1112 SAMPLES

(A) POTASSIUM					(B) SOIL pH	(C) LIME DEFICIT	(D) ORGANIC MATTER	
	L	M	H	Total for P (Read Down)		T/A	%	
PHOSPHORUS	L	3	5	1	9	4.5 -- 0	0 -- 31	0-1 -- 0
	M	6	25	22	53	4.5-5.0 -- 2	2 -- 40	1½-2 -- 44
	H	1	9	28	38	5.1-5.5 -- 15	3 -- 13	2½-3 -- 41
Total for K (Read Across)	10	39	51	100	5.6-6.0 -- 23	4 -- 8	3½-4 -- 10	
					6.0-6.5 -- 29	5 -- 6	4½-5 -- 3	
					6.6 -- 31	6+ -- 2	5+ -- 2	

TABLE 6.—Percent Soils Testing Either Low, Medium, or High in Available Potassium for Each Soil Area in the 1956-1959 and 1961 Summaries.

Soil Area	Year	Number of Samples	"Available" Potassium		
			L	M	H
1. Lake Plain	1956-1959	1,264	0	4	96
	1961	545	1	9	90
2. Lake Plain	1956-1959	13,865	6	12	82
	1961	8,842	14	25	61
3. Glaciated Clay Till	1956-1959	16,099	2	23	75
	1961	14,551	7	34	59
4. Glaciated Loam Till	1956-1959	20,203	5	33	62
	1961	11,714	10	35	55
5. Glaciated Loam Till with Silt Mantle	1956-1959	4,752	9	43	48
	1961	3,668	17	37	36
6. Illinois Glaciated Loam Till	1956-1959	4,380	35	34	31
	1961	3,840	45	31	24
7. Residual Limestone	1956-1959	375	7	23	70
	1961	366	13	31	56
8. Lacustrine Sandstone and Shale	1956-1959	649	18	31	51
	1961	672	37	35	38
9. Glaciated Limestone, Sandstone	1956-1959	6,721	9	39	52
	1961	5,803	15	44	41
10. Glaciated Clay	1956-1959	3,337	10	40	50
	1961	2,597	33	43	24
11. Glaciated Sandstone and Shale (Fragipan)	1956-1959	707	18	38	44
	1961	148	37	38	25
12. Glaciated Shale and Sandstone	1956-1959	2,275	10	34	56
	1961	1,675	17	40	43
13. Glaciated Sandstone	1956-1959	4,576	16	39	45
	1961	7,467	34	41	25
14. Illinois Glaciated Sandstone and Shale	1956-1959	550	12	32	56
	1961	252	31	45	24
15. Residual Sandstone and Shale	1956-1959	9,374	9	30	61
	1961	10,185	21	40	39
16. Residual Sandstone and Shale	1956-1959	421	2	19	79
	1961	198	11	38	51
17. Residual Sandstone and Shale	1956-1959	2,459	4	25	71
	1961	756	14	32	54
18. Residual Sandstone and Shale	1956-1959	1,527	7	29	64
	1961	193	7	36	58
Terraces-Dark Colored Western, Ohio	1956-1959	893	2	19	79
	1961	442	9	27	64
Terraces-Light Colored Western, Ohio	1956-1959	1,150	5	30	65
	1961		13	41	46
Terraces-Dark Colored Eastern, Ohio	1956-1959	615	9	34	57
	1961	723	20	37	43
Terraces-Gray Colored Eastern, Ohio	1956-1959	504	13	37	49
	1961	502	21	31	48
Terraces-Light Colored Eastern, Ohio	1956-1959	1,440	15	36	49
	1961	981	23	42	35
Bottom Soils-Black Western, Ohio	1956-1959	936	4	22	73
	1961	596	8	30	62
Bottom Soils-Dark Brown Western, Ohio	1956-1959	1,408	6	26	68
	1961	743	10	32	58
Bottom Soils-Dark Colored Eastern, Ohio	1956-1959	1,083	12	36	52
	1961	1,091	21	36	43
Bottom Soils-Gray Eastern, Ohio	1956-1959	462	12	32	55
	1961	516	26	33	41
Bottom Soils-Brown Eastern, Ohio	1956-1959	1,623	12	35	53
	1961	1,367	28	42	30
Muck and Peat Soils	1956-1959	340	12	27	61
	1961	231	15	27	58

TABLE 7.—Percent of Soils Either Low, Medium or High in Phosphorus and Potassium in Specific Soil pH Ranges for Five Soil Types, 1961.

Soil Area	Soil Type	pH	Number of Samples	Phosphorus			Potassium		
				L	M	H	L	M	H
Lake Plain	Hoytville	4.6-5.0	(19)	21	37	42	0	11	89
		5.1-5.5	(218)	10	47	46	4	21	75
		5.6-6.0	(1167)	8	46	46	1	9	90
		6.1-6.5	(1819)	7	47	46	2	11	87
		6.6-7.0	(945)	7	47	46	2	13	85
		> 7.0	(179)	13	46	41	4	13	83
		All Soils	(4360)	8	46	44	2	12	86
Glaciated Clay Till	Blount	< 4.5	(11)	27	36	36	0	55	45
		4.6-5.0	(123)	20	50	30	10	42	48
		5.1-5.5	(917)	17	58	25	9	43	48
		5.6-6.0	(1938)	13	54	33	5	33	62
		6.1-6.5	(2018)	12	53	35	8	35	57
		6.6-7.0	(1049)	12	50	38	8	34	58
		> 7.0	(93)	14	53	33	12	35	54
All Soils	(6588)	13	53	34	7	36	57		
Glaciated Loam Till	Brookston	4.6-5.0	(11)	27	45	28	27	9	64
		5.1-5.5	(130)	15	52	38	8	41	56
		5.6-6.0	(807)	15	56	29	7	30	63
		6.1-6.5	(1565)	18	49	33	6	30	64
		6.6-7.0	(1088)	17	47	36	3	30	67
		> 7.0	(176)	27	53	20	6	40	54
		All Soils	(3984)	16	46	38	4	29	67
Glaciated Limestone Sandstone and Shale	Alexandria	< 4.5	(33)	48	27	25	27	46	27
		4.6-5.0	(300)	24	56	20	16	53	31
		5.1-5.5	(655)	27	50	23	20	50	30
		5.6-6.0	(693)	21	53	26	18	49	33
		6.1-6.5	(477)	17	56	27	19	46	35
		6.6-7.0	(265)	19	46	35	22	44	34
		> 7.0	(28)	4	54	43	18	50	32
All Soils	(2447)	22	53	25	18	50	32		
Residual Sandstone and Shale	Muskingum	< 4.5	(229)	51	31	18	12	31	57
		4.6-5.0	(1401)	53	33	14	12	41	47
		5.1-5.5	(2111)	45	38	17	16	41	43
		5.6-6.0	(2120)	36	43	21	22	43	35
		6.1-6.5	(1897)	34	43	23	25	43	32
		6.6-7.0	(928)	28	47	27	30	37	33
		> 7.0	(72)	31	38	31	21	38	41
All Soils	(8761)	40	41	19	20	42	38		

TABLE 8.—Percent of Soils Either Low, Medium or High in Available Phosphorus and Potassium in Specific Organic Matter Content Ranges for Five Soil Types, 1961.

Soil Area	Soil Type	Organic Matter	Number of Samples	Phosphorus			Potassium		
				L	M	H	L	M	H
Lake Plain	Hoytville	1.5-2.0	(168)	17	45	38	7	30	63
		2.5-3.0	(1664)	8	48	44	3	14	83
		3.5-4.0	(1951)	9	46	45	1	8	91
		4.5-5.0	(494)	6	37	57	1	8	91
		> 5.0	(97)	7	37	56	4	17	79
	All Soils	(4360)	8	46	44	2	12	86	
Glaciated Clay Till	Blount	0-1.0	(8)	25	50	25	12	25	63
		1.5-2.0	(3308)	16	55	29	10	41	49
		2.5-3.0	(2702)	10	52	38	5	30	65
		3.5-4.0	(139)	5	52	43	2	19	79
		All Soils	(6588)	13	53	34	7	36	57
Glaciated Loam Till	Brookston	1.5-2.0	(433)	19	40	41	9	37	54
		2.5-3.0	(2321)	17	49	34	6	30	64
		3.5-4.0	(934)	16	47	37	3	25	72
		4.5-5.0	(246)	13	48	39	3	18	79
		> 5.0	(50)	14	44	42	4	26	70
	All Soils	(3984)	16	46	38	4	29	67	
Glaciated Limestone Sandstone and Shale	Alexandria	0-1.0	(45)	58	33	9	29	45	26
		1.5-2.0	(2100)	22	53	25	19	50	31
		2.5-3.0	(290)	17	50	32	16	46	38
		3.5-4.0	(11)	36	55	9	27	55	18
		All Soils	(2447)	22	53	25	18	50	32
Residual Sandstone and Shale	Muskingum	0-1.0	(670)	62	27	11	20	40	40
		1.5-2.0	(7686)	39	42	19	20	43	37
		2.5-3.0	(352)	25	40	35	18	31	51
		All Soils	(8761)	40	41	19	20	42	38

TABLE 9.—Percentage of Soils Testing Low, Medium or High in Available Phosphorus and Potassium by Cropping Sequence, 1961.

Cropping Sequence	Phosphorus			Potassium		
	L	M	H	L	M	H
Continuous Corn	12	38	50	12	33	55
Corn Soybeans						
Corn-Small Grain (Legume)	17	53	30	13	33	54
Corn-Soybeans (Legume)						
Corn-Small Grain-Meadow	16	49	35	19	40	41
Corn-Corn-Small Grain-Meadow	13	48	39	13	35	52
Corn-Corn-Small Grain-Meadow-Meadow						
Corn-Small Grain-Meadow-Meadow	23	39	38	20	48	32
Corn-Small Grain-Meadow-Meadow-Meadow						
Rotation Meadow	24	39	37	39	38	23
Permanent Pasture	18	34	48	46	34	20

TABLE 10.—Laboratory Procedure for Determining Soil pH, Lime Deficit, Available Phosphorus and Potassium and Organic Matter Content.

Soil pH—the pH was determined with a model No. 2 Beckman Glass-Electrode pH meter, on a 1 to 1 soil-water suspension.

Lime Deficit—The lime deficit test was made, using the Shoemaker, et. al. lime buffer solution technique.¹

Available Phosphorus and Potassium—Phosphorus was extracted with 0.03N ammonium fluoride in 0.02N hydrochloric acid, using a soil-solution ratio of 1 to 10. After shaking 5 minutes and filtering,

5 ml of the extract was retained for phosphorus determination by the stannous chloride method. The resultant blue color was read with a Bausch and Lomb Spectronic 20 colorimeter. Potassium was extracted with a solution of 1N ammonium acetate, using a soil-solution ratio of 1 to 3. After shaking 5 minutes and filtering, potassium was determined in the extract using a Perkin-Elmer (52-C) flame photometer.

Organic Matter Content—Organic matter was determined by the wet combustion method (dichromate oxidation), using 0.5 grams of soil and back titration with 0.5N ferrous sulfate to measure the unreduced 1N potassium dichromate.

¹Shoemaker, H. E., McLean, E. O., Pratt, P. F., Buffer Methods for Determining Lime Requirement of Soils with Appreciable Amounts of Extractable Aluminum. SSSA Proc. 25:274-277. 1961.