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Distribution of Soils of the Northeastern United States

by

Edward J. Ciolkosz
and
Robert R. Dobos

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Introduction

Data on the distribution of various kinds of soils is very useful. Data for the distribution of soils of the World, the United States, and Pennsylvania has recently been published by Ciolkosz and Cunningham (1987). The data in Ciolkosz and Cunningham's report for the most part was obtained from general soil maps. The area of soils on these maps was obtained by digitizing the map or by plainmetry. A more accurate measure of soils data for the United States can be obtained from USDA Soil Conservation Service (SCS) detailed soil surveys. These data have recently been entered into a computer file called the map unit use file (MUUF). These data are available for the thirteen Northeastern States (CT, DE, ME, MD, MA, NH, NJ, NY, PA, RI, VT, VA, and WV). Although available, not all states have their mapping completed and entered into the MUUF.

Because of a need for the best available Northeast regional soils data, the MUUF data as of November 1988, for the Northeastern region is given in this report. These data were obtained from the USDA-SCS computer center in Fort Collins, Colorado, courtesy of Mr. Karl Langlois of the USDA-SCS Northeast National Tech. Center, Chester, Pennsylvania. For the states with incomplete data, the current data was proportionally expanded to equal the total land area of the particular state (Table 1). The data are arranged in three tables. Table 2 gives a summary of the percentage of soils at the order, suborder, and great group of Soil Taxonomy (1975) by region and by state. Table 3 gives the acreage data for the Northeast and Table 4 gives the acreage data by individual states.

References

Ciolkosz, E. J. and R. L. Cunningham. 1987. Location and Distribution of Soils of the World, United States, and Pennsylvania. Pennsylvania State University, Agronomy Series No. 95. 9 pp.

Soil Survey Staff. 1975. Soil Taxonomy. US Dept. of Agr. Soil Conservation Service. Washington, D.C. 754 pp.

Table 1. Water and land area (acres) and acres in the map unit use file (MUUF) for the Northeastern United States.

State	Acres		
	Water Area*	Land Area*	MUUF Data
CT	94,100	3,117,600	2,895,034
DE	71,100	1,237,400	1,132,549
ME	1,452,900	19,836,700	10,173,621
MD	422,700	6,271,800	6,156,035
MA	289,800	5,012,100	3,106,661
NH	178,000	5,760,300	4,879,867
NJ	204,500	4,779,400	4,038,397
NY	1,108,300	30,320,800	17,011,324
PA	269,500	28,727,700	27,022,345
RI	100,600	675,300	630,077
VT	218,300	5,934,600	3,432,075
VA	680,600	25,410,000	12,678,658
WV	74,200	15,433,900	9,830,005

*State acreage data from the 1982 census.

Table 2. Percentage of Order, Suborder, and Great Soil Group in the Northeast by region and by state.

Soil Order, Suborder, and Great Soil Group	Northeast Region	ME	NH	MA	RI	CT	VT	NY	PA	NJ	DE	MD	WV	VA
Alfisols	14.50	-	-	-	-	-	0.27	5.60	3.71	0.39	0.01	0.38	2.18	1.96
Aqualfs	3.28	-	-	-	-	-	0.10	1.90	1.00	0.05	**	0.02	0.04	0.17
Boralfs	**	-	-	-	-	-	-	**	-	-	-	-	-	-
Udalfs	11.22	-	-	-	-	-	0.17	3.70	2.71	0.34	0.01	0.36	2.14	1.79
Albaqualfs	0.02	-	-	-	-	-	-	-	-	-	-	-	-	0.02
Fragiaqualfs	1.17	-	-	-	-	-	-	0.13	0.95	0.02	-	0.01	0.03	0.02
Natraqualfs	**	-	-	-	-	-	-	-	-	-	-	-	-	**
Ochraqualfs	2.09	-	-	-	-	-	0.10	1.77	0.05	0.03	**	0.01	0.01	0.13
Umbraqualfs	**	-	-	-	-	-	-	-	-	-	-	**	-	-
Glossoboralfs	**	-	-	-	-	-	-	**	-	-	-	-	-	-
Fragiudalfs	0.92	-	-	-	-	-	-	0.14	0.52	0.10	**	0.03	0.11	0.02
Hapludalfs	10.25	-	-	-	-	-	0.17	3.56	2.19	0.24	0.01	0.33	2.03	1.72
Paleudalfs	0.06	-	-	-	-	-	-	-	-	-	-	-	**	0.05
Entisols	5.79	0.19	0.19	0.75	0.07	0.24	0.22	1.21	0.80	0.62	0.15	0.27	0.38	0.70
Aquents	2.00	0.11	0.02	0.04	**	0.02	0.05	0.40	0.46	0.16	0.01	0.15	0.12	0.43
Arents	**	-	-	-	-	-	-	-	**	-	-	-	-	-
Fluvents	0.32	-	**	0.03	-	0.01	0.03	0.05	0.05	**	-	0.02	0.04	0.10
Orthents	1.56	0.08	0.08	0.24	0.06	0.17	0.08	0.27	0.27	0.02	-	**	0.19	0.10
Psamments	1.92	**	0.09	0.44	0.01	0.04	0.06	0.49	0.02	0.44	0.14	0.10	0.03	0.06
Fluvaquents	1.58	0.11	0.02	0.02	**	0.02	0.04	0.35	0.46	0.02	**	0.13	0.12	0.26
Haplaquents	0.04	-	-	**	-	-	0.01	0.03	-	-	-	-	-	-
Hydraquents	0.04	-	-	-	-	-	-	**	-	-	-	0.01	-	0.04
Psammaquents	0.06	-	**	0.02	-	-	**	0.02	-	**	0.01	**	-	0.01
Sulfaquents	0.28	-	-	**	**	-	-	**	-	0.14	-	0.01	-	0.12
Arents	**	-	-	-	-	-	-	-	**	-	-	-	-	-
Udifluvents	0.32	-	**	0.03	-	0.01	0.03	0.05	0.05	**	-	0.02	0.04	0.10
Cryorthents	0.01	-	-	-	-	-	0.01	-	-	-	-	-	-	-
Udorthents	1.55	0.08	0.08	0.24	0.06	0.17	0.07	0.27	0.27	0.02	-	**	0.19	0.10
Quartzipsamments	1.24	-	-	0.28	-	-	-	0.23	0.01	0.43	0.14	0.10	0.03	0.03
Udipsamments	0.68	**	0.09	0.16	0.01	0.04	0.06	0.26	0.01	0.01	-	-	**	0.03

Table 2. Percentage of Order, Suborder, and Great Soil Group in the Northeast by region and by state. (cont.)

Soil Order, Suborder, and Great Soil Group	Northeast Region	ME	NH	MA	RI	CT	VT	NY	PA	NJ	DE	MD	WV	VA
Histosols	1.63	0.47	0.14	0.18	0.02	0.05	0.07	0.32	0.01	0.13	-	0.16	-	0.08
Fibrists	0.15	0.14	-	-	-	-	**	**	-	-	-	-	-	-
Folists	0.06	0.01	0.05	-	-	-	**	-	-	-	-	-	-	-
Hemists	0.51	0.16	0.09	0.04	**	0.01	**	0.05	-	**	-	0.13	-	0.02
Saprists	0.91	0.15	-	0.14	0.02	0.04	0.07	0.27	0.01	0.13	-	0.03	-	0.06
Borofibrists	0.14	0.14	-	-	-	-	**	-	-	-	-	-	-	-
Medifibrists	**	-	-	-	-	-	-	**	-	-	-	-	-	-
Sphagnofibrists	**	**	-	-	-	-	-	-	-	-	-	-	-	-
Borofolists	0.06	0.01	0.05	-	-	-	**	-	-	-	-	-	-	-
Borohemists	0.27	0.14	0.09	-	-	-	**	0.04	-	-	-	-	-	-
Medihemists	**	-	-	-	-	-	-	**	-	-	-	**	-	-
Sulfihemists	0.24	0.02	**	0.04	**	0.01	-	0.01	-	**	-	0.13	-	0.02
Borosaprists	0.17	0.15	-	-	-	-	0.01	0.01	-	-	-	-	-	-
Medisaprists	0.74	-	-	0.14	0.02	0.04	0.06	0.26	0.01	0.13	-	0.03	-	0.06
Inceptisols	36.90	3.44	1.03	1.87	0.36	1.76	1.10	11.67	7.94	0.47	0.03	0.68	3.72	2.83
Aquepts	8.35	2.82	0.28	0.34	0.06	0.21	0.33	3.08	1.02	0.12	0.02	0.02	0.01	0.05
Ochrepts	28.51	0.62	0.75	1.53	0.30	1.55	0.77	8.58	6.92	0.35	0.01	0.66	3.68	2.78
Umbrepts	0.04	-	-	**	-	-	-	0.01	-	-	-	-	0.03	**
Fragiaquepts	2.60	-	-	-	-	-	-	1.65	0.91	0.02	-	-	-	-
Haplaquepts	4.78	2.55	0.23	0.19	0.04	0.14	0.16	1.35	0.09	0.03	-	**	0.01	**
Humaquepts	0.97	0.27	0.05	0.15	0.02	0.07	0.17	0.08	0.02	0.07	0.02	0.02	-	0.05
Dystrochrepts	21.82	0.09	0.73	1.37	0.30	1.51	0.42	4.80	5.53	0.28	0.01	0.65	3.50	2.62
Eutrochrepts	2.50	0.53	0.02	0.15	-	0.04	0.35	0.96	0.10	0.01	-	0.01	0.18	0.16
Fragiochrepts	4.19	-	**	0.01	-	-	-	2.82	1.29	0.06	-	-	-	-
Haplumbrepts	0.04	-	-	**	-	-	-	0.01	-	-	-	-	0.03	**
Mollisols	0.17	-	-	-	-	**	**	0.09	0.03	**	-	0.01	0.03	0.01
Aquolls	0.08	-	-	-	-	**	-	0.07	0.01	**	-	**	**	**
Udolls	0.09	-	-	-	-	-	**	0.02	0.02	-	-	0.01	0.03	0.01
Argiaquolls	0.01	-	-	-	-	-	-	0.01	-	-	-	-	-	-
Haplaquolls	0.07	-	-	-	-	**	-	0.06	0.01	**	-	**	**	**
Argiudolls	**	-	-	-	-	-	-	-	-	-	-	-	**	**
Hapludolls	0.09	-	-	-	-	-	**	0.02	0.02	-	-	0.01	0.03	0.01

Table 2. Percentage of Order, Suborder, and Great Soil Group in the Northeast by region and by state. (cont.)

Soil Order, Suborder, and Great Soil Group	Northeast Region	ME	NH	MA	RI	CT	VT	NY	PA	NJ	DE	MD	WV	VA
Spodosols	15.28	8.92	2.41	0.49	-	**	2.23	0.97	0.07	0.16	**	0.02	0.01	**
Aquods	0.53	0.14	0.04	0.01	-	**	0.06	0.12	-	0.16	**	0.01	-	**
Orthods	14.74	8.78	2.37	0.48	-	-	2.17	0.85	0.07	**	-	0.01	0.01	**
Fragiaquods	0.16	0.02	-	-	-	-	0.03	0.08	-	-	-	-	-	-
Haplaquods	0.37	0.12	0.04	0.01	-	**	0.03	0.04	-	0.16	**	0.01	-	**
Cryorthods	0.05	0.01	0.01	-	-	-	0.03	-	-	-	-	-	-	-
Fragiorthods	0.53	-	-	0.01	-	-	0.12	0.39	0.01	-	-	-	-	-
Haplorthods	14.16	8.77	2.36	0.47	-	-	2.02	0.46	0.06	**	-	0.01	0.01	**
Ultisols	25.73	-	-	**	-	-	-	0.01	6.28	1.37	0.62	2.59	3.79	11.07
Aquults	2.51	-	-	-	-	-	-	-	0.61	0.12	0.24	0.58	0.05	0.91
Udults	23.22	-	-	**	-	-	-	0.01	5.67	1.25	0.38	2.01	3.74	10.16
Albaquults	0.03	-	-	-	-	-	-	-	-	-	-	**	-	0.03
Fragiaquults	0.31	-	-	-	-	-	-	-	0.27	0.01	-	0.02	0.02	-
Ochraquults	1.79	-	-	-	-	-	-	-	0.34	0.09	0.17	0.46	0.03	0.68
Paleaquults	0.19	-	-	-	-	-	-	-	-	0.01	**	0.02	-	0.16
Umbraquults	0.19	-	-	-	-	-	-	-	-	0.01	0.07	0.08	**	0.04
Fragiudults	4.01	-	-	**	-	-	-	-	2.22	0.17	**	0.33	0.79	0.49
Hapludults	17.96	-	-	**	-	-	-	0.01	3.45	1.07	0.38	1.61	2.83	8.61
Paleudults	1.11	-	-	-	-	-	-	-	-	-	-	0.07	0.12	0.93
Rhodudults	0.14	-	-	-	-	-	-	-	-	0.01	-	**	-	0.13

**Means < 0.005%
- No data thus 0.000%

Table 3. Order, Suborder, and Great Group acreage and percent distribution in the Northeast United States.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres	%
Alfisols	22,122,200	14.50	Aqualfs	5,004,300	3.28	Albaqualfs	24,700	0.02
						Fragiaqualfs	1,788,500	1.17
						Natraqualfs	7,400	**
						Ochraqualfs	3,182,100	2.09
						Umbraqualfs	1,600	**
			Boralfs	6,500	**	Glossoboralfs	6,500	**
			Udalfs	17,111,400	11.22	Fragiudalfs	1,396,400	0.92
						Hapludalfs	15,626,300	10.25
						Paleudalfs	88,700	0.06
Entisols	8,837,500	5.79	Aquents	3,050,400	2.00	Fluvaquents	2,410,400	1.58
						Haplaquents	64,500	0.04
						Hydraquents	66,600	0.04
						Psammaquents	88,000	0.06
						Sulfaquents	420,900	0.28
			Arents	2,800	**	Arents	2,800	**
			Fluvents	485,500	0.32	Udifluvents	485,500	0.32
			Orthents	2,376,400	1.56	Cryorthents	15,100	0.01
						Udorthents	2,361,300	1.55
			Psamments	2,922,400	1.92	Quartzipsamments	1,891,900	1.24
						Udipsamments	1,030,500	0.68
Histosols	2,491,100	1.63	Fibrists	232,200	0.15	Borofibrists	220,000	0.14
						Medifibrists	5,800	**
						Sphagnofibrists	6,400	**
			Folists	91,900	0.06	Borofolists	91,900	0.06
			Hemists	777,700	0.51	Borohemists	410,200	0.27
						Medihemists	4,300	**
						Sulfihemists	363,200	0.24
			Saprists	1,389,300	0.91	Borosaprists	258,400	0.17
						Medisaprists	1,130,900	0.74
						Haplaquolls	111,600	0.07

Table 3. Order, Suborder, and Great Group acreage and percent distribution in the Northeast United States. (cont.)

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres	%
Inceptisols	56,273,000	36.90	Aquepts	12,739,700	8.35	Fragiaquepts	3,972,200	2.60
						Haplaquepts	7,283,500	4.78
						Humaquepts	1,484,000	0.97
			Ochrepts	43,477,700	28.51	Dystrochrepts	33,274,900	21.82
						Eutrochrepts	3,818,400	2.50
						Fragiochrepts	6,384,400	4.19
			Umbrepts	55,600	0.04	Haplumbrepts	55,600	0.04
Mollisols	250,800	0.17	Aquolls	117,200	0.08	Argiaquolls	5,600	**
			Udolls	133,600	0.09	Argiudolls	2,300	**
						Hapludolls	131,300	0.09
Spodosols	23,297,600	15.28	Aquods	815,600	0.53	Fragiaquods	243,900	0.16
						Haplaquods	571,700	0.37
			Orthods	22,482,000	14.74	Cryorthods	76,100	0.05
						Fragiorthods	806,200	0.53
						Haplorthods	21,599,700	14.16
Ultisols	39,245,400	25.73	Aquults	3,829,800	2.51	Albaquults	39,700	0.03
						Fragiaquults	479,600	0.31
						Ochraquults	2,733,100	1.79
						Paleaquults	282,500	0.19
						Umbraquults	294,900	0.19
			Udults	35,415,600	23.22	Fragiudults	6,112,600	4.01
						Hapludults	27,391,600	17.96
						Paleudults	1,700,300	1.11
						Rhodudults	211,100	0.14
						total land area*	152,517,600	

*See Table 1
**Means < 0.005% of the region

Table 4. Order, Suborder, and Great Soil Group data for Connecticut.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Entisols	360,000	11.55	Aquents	31,200	1.00	Fluvaquents	29,008	31,200	1.00
			Fluvents	7,500	0.24	Udifluvents	6,970	7,500	0.24
			Orthents	260,900	8.37	Udorthents	242,243	260,900	8.37
			Psamments	60,400	1.94	Udipsamments	56,113	60,400	1.94
Histosols	75,500	2.42	Hemists	15,000	0.48	Sulfihemists	13,900	15,000	0.48
			Saprists	60,500	1.94	Mediasaprists	56,150	60,500	1.94
Inceptisols	2,680,600	85.98	Aquepts	323,800	10.38	Haplaquepts	205,557	221,400	7.10
						Humaquepts	95,088	102,400	3.28
			Ochrepts	2,356,800	75.60	Dystrochrepts	2,130,342	2,294,100	73.59
						Eutrochrepts	58,262	62,700	2.01
Mollisols	1,200	0.04	Aquolls	1,200	0.04	Haplaquolls	1,107	1,200	0.04
Spodosols	300	0.01	Aquods	300	0.01	Haplaquods	294	300	0.01
							2,895,034	3,117,600	

Table 4. Order, Suborder, and Great Soil Group data for Delaware.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Alfisols	17,600	1.42	Aqualfs	1,400	0.11	Ochraqualfs	1,237	1,400	0.11
			Udalfs	16,200	1.31	Fragiudalfs	5,253	5,700	0.46
						Hapludalfs	9,629	10,500	0.85
Entisols	228,800	18.50	Aquents	10,700	0.87	Fluvaquents	3,398	3,700	0.30
						Psammaquents	6,440	7,000	0.57
			Psamments	218,100	17.63	Quartzipsamments	199,663	218,100	17.63
Inceptisols	46,400	3.75	Aquepts	29,500	2.38	Humaquepts	26,981	29,500	2.38
			Ochrepts	16,900	1.37	Dystrochrepts	15,464	16,900	1.37
Spodosols	2,700	0.22	Aquods	2,700	0.22	Haplaquods	2,450	2,700	0.22
Ultisols	941,900	76.11	Aquults	361,900	29.24	Ochraquults	231,893	253,400	20.48
						Paleaquults	1,728	1,900	0.15
						Umbraquults	97,611	106,600	8.61
			Udults	580,000	46.87	Fragiudults	4,433	4,800	0.39
						Hapludults	526,369	575,200	46.48
							1,132,549	1,237,400	

Table 4. Order, Suborder, and Great Soil Group data for Maine.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres MUUF	Acres Expanded	%
Entisols	293,700	1.48	Aquents	161,500	0.81	Fluvaquents	82,842	161,500	0.81
			Orthents	128,800	0.65	Udorthents	66,080	128,800	0.65
			Psamments	3,400	0.02	Udipsamments	1,755	3,400	0.02
Histosols	710,500	3.59	Fibrists	222,300	1.12	Borofibrists	110,731	215,900	1.09
						Sphagnofibrists	3,287	6,400	0.03
			Folists	13,000	0.07	Borofolists	6,658	13,000	0.07
			Hemists	243,100	1.23	Borohemists	110,575	215,600	1.09
						Sulfihemists	14,123	27,500	0.14
			Saprists	232,100	1.17	Borosaprists	119,044	232,100	1.17
Inceptisols	5,250,400	26.47	Aquepts	4,303,000	21.69	Haplaquepts	1,992,386	3,884,800	19.58
						Humaquepts	214,497	418,200	2.11
			Ochrepts	947,400	4.78	Dystrochrepts	68,666	133,900	0.68
						Eutrochrepts	417,235	813,500	4.10
Spodosols	13,582,100	68.46	Aquods	210,200	1.06	Fragiaquods	13,434	26,200	0.13
						Haplaquods	94,343	184,000	0.93
			Orthods	13,371,900	67.40	Cryorthods	5,360	10,500	0.05
						Haplorthods	6,852,605	13,361,400	67.35
							10,173,621	19,836,700	

Table 4. Order, Suborder, and Great Soil Group data for Maryland.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Alfisols	577,400	9.21	Aqualfs	34,200	0.55	Fragiaqualfs	19,668	20,000	0.32
						Ochraqualfs	12,326	12,600	0.20
						Umbraqualfs	1,597	1,600	0.03
			Udalfs	543,200	8.66	Fragiudalfs	48,725	49,600	0.79
						Hapludalfs	484,453	493,600	7.87
Entisols	412,100	6.56	Aquents	221,800	3.53	Fluvaquents	196,476	200,200	3.19
						Hydraquents	6,914	7,000	0.11
						Psammaquents	760	800	0.01
						Sulfaquents	13,555	13,800	0.22
			Fluvents	25,400	0.40	Udifluvents	24,963	25,400	0.40
			Orthents	7,500	0.12	Udorthents	7,337	7,500	0.12
			Psamments	157,400	2.51	Quartzipsamments	154,468	157,400	2.51
Histosols	247,700	3.96	Hemists	202,800	3.24	Medihemists	2,328	2,400	0.04
						Sulfihemists	196,676	200,400	3.20
			Saprists	44,900	0.72	Mediasaprists	44,065	44,900	0.72
Inceptisols	1,034,200	16.48	Aquepts	23,400	0.37	Haplaquepts	3,000	3,100	0.05
						Humaquepts	19,927	20,300	0.32
			Ochrepts	1,010,800	16.11	Dystrochrepts	976,616	995,000	15.86
						Eutrochrepts	15,460	15,800	0.25
Mollisols	19,200	0.30	Aquolls	3,300	0.05	Haplaquolls	3,275	3,300	0.05
			Udolls	15,900	0.25	Hapludolls	15,590	15,900	0.25
Spodosols	24,000	0.38	Aquods	9,700	0.15	Haplaquods	9,570	9,700	0.15
			Orthods	14,300	0.23	Haplorthods	14,040	14,300	0.23
Ultisols	3,957,200	63.11	Aquults	886,200	14.14	Albaquults	381	400	0.01
						Fragiaquults	26,782	27,300	0.44
						Ochraquults	700,378	713,500	11.38
						Paleaquults	25,102	25,600	0.41
						Umbraquults	117,233	119,400	1.90
			Udults	3,071,000	48.97	Fragiudults	493,784	503,100	8.02
						Hapludults	2,405,726	2,451,100	39.08
						Paleudults	108,090	110,100	1.76
						Rhodudults	6,770	6,800	0.11
							6,156,035	6,271,800	

Table 4. Order, Suborder, and Great Soil Group data for Massachusetts.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Entisols	1,143,500	22.82	Aquents	65,700	1.31	Fluvaquents	20,842	33,600	0.67
						Haplaquents	2,882	4,600	0.09
						Psammaquents	14,862	24,000	0.48
						Sulfaquents	2,161	3,500	0.07
			Fluvents	45,700	0.91	Udifluvents	28,326	45,700	0.91
			Orthents	368,200	7.35	Udorthents	228,204	368,200	7.35
			Psamments	663,900	13.25	Quartzipsamments	260,209	419,800	8.38
						Udipsamments	151,286	244,100	4.87
Histosols	268,800	5.36	Hemists	58,600	1.17	Sulfihemists	36,319	58,600	1.17
			Saprists	210,200	4.19	Mediasaprists	130,285	210,200	4.19
Inceptisols	2,847,400	56.80	Aquepts	517,500	10.33	Haplaquepts	180,087	290,500	5.80
						Humaquepts	140,727	227,000	4.53
			Ochrepts	2,327,900	46.43	Dystrochepts	1,295,529	2,090,200	41.69
						Eutrochepts	140,713	227,000	4.53
						Fragiochrepts	6,610	10,700	0.21
			Umbrepts	2,000	0.04	Haplumbrepts	1,269	2,000	0.04
Spodosols	745,700	14.88	Aquods	16,700	0.33	Haplaquods	10,356	16,700	0.33
			Orthods	729,000	14.55	Fragiorthods	11,791	19,000	0.38
						Haplorthods	440,093	710,000	14.17
Ultisols	6,700	0.14	Udults	6,700	0.14	Fragiudults	1,782	2,900	0.06
						Hapludults	2,328	3,800	0.08
							3,106,661	5,012,100	

Table 4. Order, Suborder, and Great Soil Group data for New Hampshire.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Entisols	294,300	5.12	Aquents	37,700	0.66	Fluvaquents	31,640	37,300	0.65
						Psammaquents	324	400	0.01
			Fluvents	4,500	0.08	Udifluvents	3,780	4,500	0.08
			Orthents	115,800	2.01	Udorthents	98,106	115,800	2.01
			Psamments	136,300	2.37	Udipsamments	115,441	136,300	2.37
Histosols	221,100	3.84	Folists	76,500	1.33	Borofolists	64,836	76,500	1.33
			Hemists	144,600	2.51	Borohemists	119,120	140,600	2.44
						Sulfihemists	3,353	4,000	0.07
Inceptisols	1,571,700	27.29	Aquepts	428,000	7.43	Haplaquepts	291,195	353,200	6.13
						Humaquepts	63,391	74,800	1.30
			Ochrepts	1,143,700	19.86	Dystrochrepts	939,242	1,108,700	19.25
						Eutrochrepts	27,202	32,100	0.56
						Fragiochrepts	2,430	2,900	0.05
Spodosols	3,673,200	63.75	Aquods	58,200	1.01	Haplaquods	49,322	58,200	1.01
			Orthods	3,615,000	62.74	Cryorthods	10,685	12,600	0.22
						Haplorthods	3,051,800	3,602,400	62.52
							4,879,867	5,760,300	

Table 4. Order, Suborder, and Great Soil Group data for New Jersey.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Alfisols	595,400	12.46	Aqualfs	76,100	1.59	Fragiaqualfs	31,040	36,700	0.77
						Ochraqualfs	33,273	39,400	0.82
			Udalfs	519,300	10.87	Fragiudalfs	123,820	146,500	3.07
						Hapludalfs	314,973	372,800	7.80
Entisols	938,100	19.63	Aquents	248,800	5.21	Fluvaquents	23,064	27,300	0.57
						Psammaquents	330	400	0.01
						Sulfaquents	186,793	221,100	4.63
			Fluvents	300	0.01	Udifluvents	220	300	0.01
			Orthents	31,100	0.65	Udorthents	26,258	31,100	0.65
			Psamments	657,900	13.76	Quartzipsamments	544,841	644,800	13.49
						Udipsamments	11,108	13,100	0.27
Histosols	192,600	4.03	Hemists	2,000	0.04	Sulfihemists	1,665	2,000	0.04
			Saprists	190,600	3.99	Medisaprists	161,036	190,600	3.99
Inceptisols	714,500	14.96	Aquepts	179,900	3.77	Fragiaquepts	29,320	34,700	0.73
						Haplaquepts	32,622	38,600	0.81
						Humaquepts	90,066	106,600	2.23
			Ochrepts	534,600	11.19	Dystrochepts	359,239	425,200	8.90
						Eutrochrepts	10,789	12,800	0.27
						Fragiochrepts	81,597	96,600	2.02
Mollisols	2,400	0.05	Aquolls	2,400	0.05	Haplaquolls	2,050	2,400	0.05
Spodosols	246,900	5.17	Aquods	244,600	5.12	Haplaquods	206,683	244,600	5.12
			Orthods	2,300	0.05	Haplorthods	1,930	2,300	0.05
Ultisols	2,089,500	43.70	Aquults	184,000	3.86	Fragiaquults	16,940	20,000	0.42
						Ochraquults	121,909	144,300	3.02
						Paleaquults	6,645	7,900	0.17
						Umbraquults	9,946	11,800	0.25
			Udults	1,905,500	39.84	Fragiudults	217,287	257,200	5.38
						Hapludults	1,383,993	1,637,700	34.24
						Rhododults	8,960	10,600	0.22
							4,038,397	4,779,400	

Table 4. Order, Suborder, and Great Soil Group data for New York.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Alfisols	8,548,300	28.20	Aqualfs	2,900,100	9.57	Fragiaqualfs	113,329	202,000	0.67
						Ochraqualfs	1,513,768	2,698,100	8.90
			Boralfs	6,500	0.02	Glossoboralfs	3,660	6,500	0.02
			Udalfs	5,641,700	18.61	Fragiudalfs	117,515	209,500	0.69
						Hapludalfs	3,047,701	5,432,200	17.92
Entisols	1,870,700	6.17	Aquents	638,500	2.10	Fluvaquents	307,811	548,600	1.81
						Haplaquents	28,400	50,600	0.17
						Hydraquents	443	800	**
						Psammaquents	21,037	37,500	0.12
						Sulfaquents	570	1,000	**
			Fluvents	74,800	0.25	Udifluvents	41,949	74,800	0.25
			Orthents	404,300	1.33	Udorthents	226,851	404,300	1.33
			Psamments	753,100	2.49	Quartzipsamments	195,305	348,100	1.15
						Udipsamments	227,247	405,000	1.34
Histosols	495,200	1.65	Fibrists	5,800	0.02	Medifibrists	3,268	5,800	0.02
			Hemists	72,600	0.25	Borohemists	28,093	50,100	0.17
						Medihemists	1,057	1,900	0.01
						Sulfihemists	11,535	20,600	0.07
			Saprists	416,800	1.38	Borosaprists	6,672	11,900	0.04
						Medisaprists	227,159	404,900	1.34
Inceptisols	17,805,800	58.69	Aquepts	4,699,100	15.50	Fragiaquepts	1,418,004	2,527,400	8.34
						Haplaquepts	1,151,880	2,053,100	6.77
						Humaquepts	66,560	118,600	0.39
			Ochrepts	13,093,400	43.15	Dystrochrepts	4,111,740	7,328,800	24.14
						Eutrochrepts	818,472	1,458,800	4.81
						Fragiochrepts	2,415,765	4,305,800	14.20
			Umbrepts	13,300	0.04	Haplumbrepts	7,435	13,300	0.04
Mollisols	112,400	0.37	Aquolls	88,800	0.29	Argiaquolls	3,150	5,600	0.02
						Haplaquolls	46,654	83,200	0.27
			Udolls	23,600	0.08	Hapludolls	13,215	23,600	0.08
Spodosols	1,477,400	4.88	Aquods	185,300	0.61	Fragiaquods	67,742	120,700	0.40
						Haplaquods	36,229	64,600	0.21
			Orthods	1,292,100	4.27	Fragiorthods	336,180	599,200	1.98
						Haplorthods	388,749	692,900	2.29
Ultisols	11,000	0.04	Udults	11,000	0.04	Hapludults	6,179	11,000	0.04
							17,011,324	30,320,800	

Table 4. Order, Suborder, and Great Soil Group data for Pennsylvania.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Alfisols	5,652,900	19.68	Aqualfs	1,524,800	5.31	Fragiaqualfs	1,358,468	1,444,200	5.03
						Ochraqualfs	75,812	80,600	0.28
			Udalfs	4,128,100	14.37	Fragiudalfs	743,376	790,300	2.75
						Hapludalfs	3,139,656	3,337,800	11.62
Entisols	1,218,300	4.24	Aquents	714,700	2.49	Fluvaquents	672,310	714,700	2.49
			Arents	2,800	0.01	Arents	2,603	2,800	0.01
			Fluvents	69,100	0.24	Udifluvents	65,033	69,100	0.24
			Orthents	410,200	1.43	Udorthents	385,836	410,200	1.43
			Psamments	21,500	0.07	Quartzipsamments	11,428	12,100	0.04
						Udipsamments	8,803	9,400	0.03
Histosols	18,400	0.06	Saprists	18,400	0.06	Medisaprists	17,312	18,400	0.06
Inceptisols	12,106,200	42.15	Aquepts	1,557,300	5.42	Fragiaquepts	1,307,767	1,390,300	4.84
						Haplaquepts	132,309	140,700	0.49
						Humaquepts	24,732	26,300	0.09
			Ochrepts	10,548,900	36.73	Dystrochrepts	7,932,880	8,443,600	29.37
						Eutrochrepts	138,212	146,900	0.51
						Fragiochrepts	1,851,523	1,968,400	6.85
Mollisols	40,800	0.14	Aquolls	16,700	0.06	Haplaquolls	15,741	16,700	0.06
			Udolls	24,100	0.08	Hapludolls	22,666	24,100	0.08
Spodosols	109,200	0.38	Orthods	109,200	0.38	Fragiorthods	9,230	9,800	0.03
						Haplorthods	93,513	99,400	0.35
Ultisols	9,581,900	33.35	Aquults	934,400	3.25	Fragiaquults	383,916	408,100	1.42
						Ochraquults	495,041	526,300	1.83
			Udults	8,647,500	30.10	Fragiudults	3,191,309	3,392,700	11.81
						Hapludults	4,942,869	5,254,800	18.29
							27,022,345	28,727,700	

Table 4. Order, Suborder, and Great Soil Group data for Rhode Island.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Entisols	101,300	14.99	Aquents	5,900	0.87	Fluvaquents	2,000	2,100	0.31
						Sulfaquents	3,555	3,800	0.56
			Orthents	83,700	12.39	Udorthents	78,128	83,700	12.39
			Psamments	11,700	1.73	Udipsamments	10,910	11,700	1.73
Histosols	28,200	4.18	Hemists	600	0.09	Sulfihemists	575	600	0.09
			Saprists	27,600	4.09	Medisaprists	25,770	27,600	4.09
Inceptisols	545,800	80.83	Aquepts	86,500	12.81	Haplaquepts	51,817	55,500	8.22
						Humaquepts	28,962	31,000	4.59
			Ochrepts	459,300	68.02	Dystrochrepts	428,360	459,300	68.02
							630,077	675,300	

Table 4. Order, Suborder, and Great Soil Group data for Vermont.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Alfisols	404,600	6.82	Aqualfs	148,900	2.51	Ochraqualfs	86,132	148,900	2.51
			Udalfs	255,700	4.31	Hapludalfs	147,850	255,700	4.31
Entisols	329,000	5.54	Aquents	73,300	1.23	Fluvaquents	34,127	59,000	0.99
						Haplaquents	5,385	9,300	0.16
						Psammaquents	2,917	5,000	0.08
			Fluvents	40,200	0.68	Udifluvents	23,241	40,200	0.68
			Orthents	123,800	2.08	Cryorthents	8,734	15,100	0.25
						Udorthents	62,879	108,700	1.83
			Psamments	91,700	1.55	Udipsamments	53,040	91,700	1.55
Histosols	106,300	1.79	Fibrists	4,100	0.07	Borofibrists	2,400	4,100	0.07
			Folists	2,400	0.04	Borofolists	1,412	2,400	0.04
			Hemists	3,900	0.07	Borohemists	2,274	3,900	0.07
			Saprists	95,900	1.61	Borosaprists	8,337	14,400	0.24
						Medisaprists	47,105	81,500	1.37
Inceptisols	1,680,500	28.32	Aquepts	502,100	8.46	Haplaquepts	139,401	241,000	4.06
						Humaquepts	150,983	261,100	4.40
			Ochrepts	1,178,400	19.86	Dystrochrepts	374,133	646,900	10.90
						Eutrochrepts	307,378	531,500	8.96
Mollisols	5,500	0.09	Udolls	5,500	0.09	Hapludolls	3,180	5,500	0.09
Spodosols	3,408,700	57.44	Aquods	86,900	1.46	Fragiaquods	22,452	38,800	0.65
						Haplaquods	27,800	48,100	0.81
			Orthods	3,321,800	55.98	Cryorthods	30,673	53,000	0.89
						Fragiothods	103,073	178,200	3.00
						Haplorthods	1,787,169	3,090,600	52.09
							3,432,075	5,934,600	

Table 4. Order, Suborder, and Great Soil Group data for Virginia.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Alfisols	2,994,200	11.77	Aqualfs	263,200	1.03	Albaqualfs	12,334	24,700	0.10
						Fragiaqualfs	18,370	36,800	0.14
						Natraqualfs	3,696	7,400	0.03
						Ochraqualfs	96,932	194,300	0.76
			Udalfs	2,731,000	10.74	Fragiudalfs	16,759	33,600	0.13
						Hapludalfs	1,305,159	2,615,700	10.29
						Paleudalfs	40,755	81,700	0.32
Entisols	1,063,600	4.17	Aquents	651,800	2.56	Fluvaquents	200,770	402,400	1.58
						Hydraquents	29,338	58,800	0.23
						Psammaquents	6,419	12,900	0.05
						Sulfaquents	88,660	177,700	0.70
			Fluvents	158,500	0.62	Udifluvents	79,105	158,500	0.62
			Orthents	157,300	0.62	Udorthents	78,511	157,300	0.62
			Psamments	96,000	0.37	Quartzipsamments	23,266	46,600	0.18
						Udipsamments	24,645	49,400	0.19
Histosols	126,800	0.50	Hemists	34,500	0.14	Sulfihemists	17,214	34,500	0.14
			Saprists	92,300	0.36	Medisaprists	46,050	92,300	0.36
Inceptisols	4,319,300	17.00	Aquepts	69,800	0.28	Haplaquepts	782	1,600	0.01
						Humaquepts	34,038	68,200	0.27
			Ochrepts	4,248,400	16.72	Dystrochrepts	1,997,255	4,002,800	15.75
						Eutrochrepts	122,543	245,600	0.97
			Umbrepts	1,100	**	Haplumbrepts	561	1,100	**
Mollisols	16,900	0.07	Aquolls	2,200	0.01	Haplaquolls	1,112	2,200	0.01
			Udolls	14,700	0.06	Argiudolls	162	300	**
						Hapludolls	7,169	14,400	0.06
Spodosols	6,900	0.02	Aquods	1,000	**	Haplaquods	474	1,000	**
			Orthods	5,900	0.02	Haplorthods	2,951	5,900	0.02
Ultisols	16,882,300	66.47	Aquults	1,387,000	5.45	Albaquults	19,618	39,300	0.15
						Ochraquults	522,437	1,047,000	4.12
						Paleaquults	123,274	247,100	0.97
						Umbraquults	26,735	53,600	0.21
			Udults	15,495,300	61.02	Fragiudults	375,849	753,300	2.96
						Hapludults	6,554,873	13,137,000	51.75
						Paleudults	704,128	1,411,200	5.55
						Rhodudults	96,714	193,800	0.76
							12,678,658	25,410,000	

Table 4. Order, Suborder, and Great Soil Group data for West Virginia.

ORDER	Acres	%	SUBORDER	Acres	%	GREAT GROUP	Acres		
							MUUF	Expanded	%
Alfisols	3,331,800	21.59	Aqualfs	55,600	0.36	Fragiaqualfs	31,056	48,800	0.32
						Ochraqualfs	4,354	6,800	0.04
			Udalfs	3,276,200	21.23	Fragiudalfs	102,662	161,200	1.04
						Hapludalfs	1,979,544	3,108,000	20.14
						Paleudalfs	4,485	7,000	0.05
Entisols	584,100	3.79	Aquents	188,800	1.22	Fluvaquents	120,256	188,800	1.22
			Fluvents	59,500	0.39	Udifluvents	37,913	59,500	0.39
			Orthents	284,800	1.85	Udorthents	181,386	284,800	1.85
			Psamments	51,000	0.33	Quartzipsamments	28,684	45,000	0.29
						Udipsamments	3,807	6,000	0.04
Inceptisols	5,670,200	36.74	Aquepts	19,800	0.13	Haplaquepts	12,600	19,800	0.13
			Ochrepts	5,611,200	36.36	Dystrochrepts	3,400,808	5,339,500	34.60
						Eutrochrepts	173,043	271,700	1.76
			Umbrepts	39,200	0.25	Haplumbrepts	24,983	39,200	0.25
Mollisols	52,400	0.34	Aquolls	2,600	0.02	Haplaquolls	1,655	2,600	0.02
			Udolls	49,800	0.32	Argiudolls	1,254	2,000	0.01
						Hapludolls	30,415	47,800	0.31
Spodosols	20,500	0.13	Orthods	20,500	0.13	Haplorthods	13,066	20,500	0.13
Ultisols	5,774,900	37.41	Aquults	76,300	0.49	Fragiaquults	15,411	24,200	0.16
						Ochraquults	30,933	48,600	0.31
						Umbraquults	2,210	3,500	0.02
			Udults	5,698,600	36.92	Fragiudults	763,418	1,198,600	7.77
						Hapludults	2,752,073	4,321,000	28.00
						Paleudults	113,989	179,000	1.16
							9,830,005	15,433,900	