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TB75: Chemical and Physical Properties of the Bangor, Dixmont, Caribou, Conant, Perham and Daigle Soil Mapping Units

R. V. Rourke

R. Bangs

CHEMICAL AND PHYSICAL PROPERTIES OF THE BANGOR, DIXMONT, CARIBOU, CONANT, PERHAM AND DAIGLE SOIL MAPPING UNITS

R. V. ROURKE
and
R. Bangs

SPECIFIC INFORMATION FOR
SOILS ENGINEERING
URBAN DEVELOPMENT PLANNING
WATERSHED MANAGEMENT
AGRICULTURAL SOIL AND WATER MANAGEMENT

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UNIVERSITY OF MAINE ORONO

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SUMMARY

Bangor, Dixmont, Caribou, Conant, Perham and Daigle soils were each sampled at five locations. The morphology of the soils was described. The chemical and physical properties were determined on an horizonal basis for each location in the laboratory. Weighted means of the properties were presented in 20 cm. depth ranges. Changes in classification and nomenclature of the soils were proposed.

Chemical and Physical Properties of the Bangor, Dixmont, Caribou, Conant, Perham and Daigle Soil Mapping Units

R. V. Rourke and R. Bangs[1]

INTRODUCTION

The soil resources of Maine are one of the basic assets in the development of the state. Soils have varying features that can be identified. All soils having the same general appearance and the same general physical and chemical properties are grouped into a soil series. The series name is derived from the town or feature near which the soil was first described. The series acts as a basis for mapping units which are used to delineate, on aerial photographs, soils having similar characteristics. Soil maps can be interpreted for many purposes when used in conjunction with interpretive guides (14).

Soil surveys have been published for Penobscot, N. Aroostook, S. Aroostook, S. Somerset, Androscoggin and Sagadahoc, and Cumberland counties.

This study is a continuation of work that has been done (10, 11, 12, 17) in the characterization of Maine soils. The soils sampled and characterized in this report are located in Aroostook, Penobscot, Piscataquis, and Somerset counties. These soils are utilized intensively for the production of potatoes and associated rotational crops.

The Bangor soils are well drained and exist in close association with the moderately well drained Dixmont soils. Bangor soils are generally at higher positions in the landscape than Dixmont soils. Dixmont soils may occur as small depressional areas surrounded by Bangor soils. Both soils have developed in glacial till that is more than one meter (40 inches) deep. Bangor and Dixmont soils are extensive in central Penobscot county.

The well drained Caribou soils and the moderately well drained Conant soils are on glacial till that is more than one meter deep and are often in close association on the landscape. These soils lend themselves to intensive agricultural use because they often exist as large, contiguous units capable of being cultivated with modern, labor-saving machinery. These soils are in the eastern portion of Aroostook county between Houlton and Van Buren.

Perham soils are well drained and are in close association in the landscape with the moderately well to somewhat poorly drained Daigle soils. These soils are generally more than one meter deep and are used for agricultural and forestry production. In Maine they are in Aroostook, Penobscot, and Washington counties.

[1]Assistant Soil Scientist and Laboratory Technician respectively Department of Plant and Soil Sciences, Maine Agricultural Experiment Station, College of Life Sciences and Agriculture, Orono, Maine.

The data from these investigations will assist in the classification of these soils according to Soil Taxonomy (16). The present classification of these soils is as follows:

Bangor - Coarse-loamy, mixed, frigid, Typic Haplorthod
Dixmont - Coarse-loamy, mixed, frigid, Aquic Haplorthod
Caribou - Fine-loamy, mixed, frigid, Alfic Haplorthod
Conant - Fine-loamy, mixed, frigid, Aqualfic Haplorthod
Perham - Fine-loamy, mixed, frigid, Alfic Fragiorthod
Daigle - Fine-loamy, mixed, frigid, Alfic Fragiaqualf

FIELD PROCEDURE

The soil sampling sites were selected and described in cooperation with Soil Scientists from the Soil Conservation Service, U.S.D.A. Five pedons of each soil mapping unit were sampled. The sites were at least 1.6 kilometers apart. At each site 30 $cm.^2$ (12 inches x 12 inches) of soil was removed on an horizonal basis to a depth of one meter. Soil cores were removed from each horizon for laboratory evaluation of moisture retention and bulk density.

LABORATORY PROCEDURE

The bulk horizonal samples were screened and the volume of mineral material larger than 2 mm. in diameter was determined by water displacement. Subsamples were removed from the material less than 2 mm. in diameter for other analyses.

(Soil cores were placed on porous ceramic plates and the moisture retention at various pressures up to one bar were determined. Soil moisture at tensions greater than one bar and was determined in soil that had passed the 2 mm. sieve. The techniques of soil moisture measurement were as presented by Richards (9).) Available water has been considered to be the difference in moisture retention at 0.33 and 15 bars. The weight and volume of the cores were corrected for coarse fragment content, and water retention reported on the basis of material less than 2 mm. in diameter (8).

Bulk density is reported based on oven dried cores used for moisture measurements. Total core weight and volume was adjusted to remove material larger than 2 mm. from the bulk density measurement.

Easily oxidized organic carbon was determined on air dry soil using the Walkley-Black method as described by Allison (1). The factor utilized for correction was 1.33.

Particle size distribution in the mineral portion of the soils was determined using sieves and a pipette as described by Day (2). Overnight shaking in a dilute solution of sodium metaphosphate was used to accomplish dispersion of the soil aggregates. Organic matter was removed by oxidizing with hydrogen peroxide.

Soil reaction was measured in a solution of 0.01M $CaCl_2$ at a solution to soil ratio of 2:1, and in distilled water at a solution to soil ratio of 1:1. Samples were allowed to stand overnight before measurements were made. Procedures utilized were as described by Peech (6).

Exchange acidity was measured by the barium chloride triethanolamine technique as described by Peech (7). Exchangeable cations (Ca, K, Na, Mg) were determined by atomic absorption or flame emission. A 10 gram sample of air-dry soil was leached with 300 ml of 1.0N NH_4OAc buffered at a pH 7.0. Extracts used for the determination of Ca and Mg were diluted with $LaCl_3$ in a 1:1 ratio to suppress the interference of Al and P

Fine clay (<.0002 mm.) was determined in selected horizons of Caribou and Perham soils by centrifugation (15).

RESULTS and DISCUSSION

Composite tables that present the weighted means of various measured soil properties for each group of soils in 20 cm. depth (8 inch) intervals to a one meter depth are presented in Appendix A. The technique of determining the weighted mean has been previously presented (11). The description and laboratory analyses of each soil sampled are presented in Appendix B.

Particle size distribution

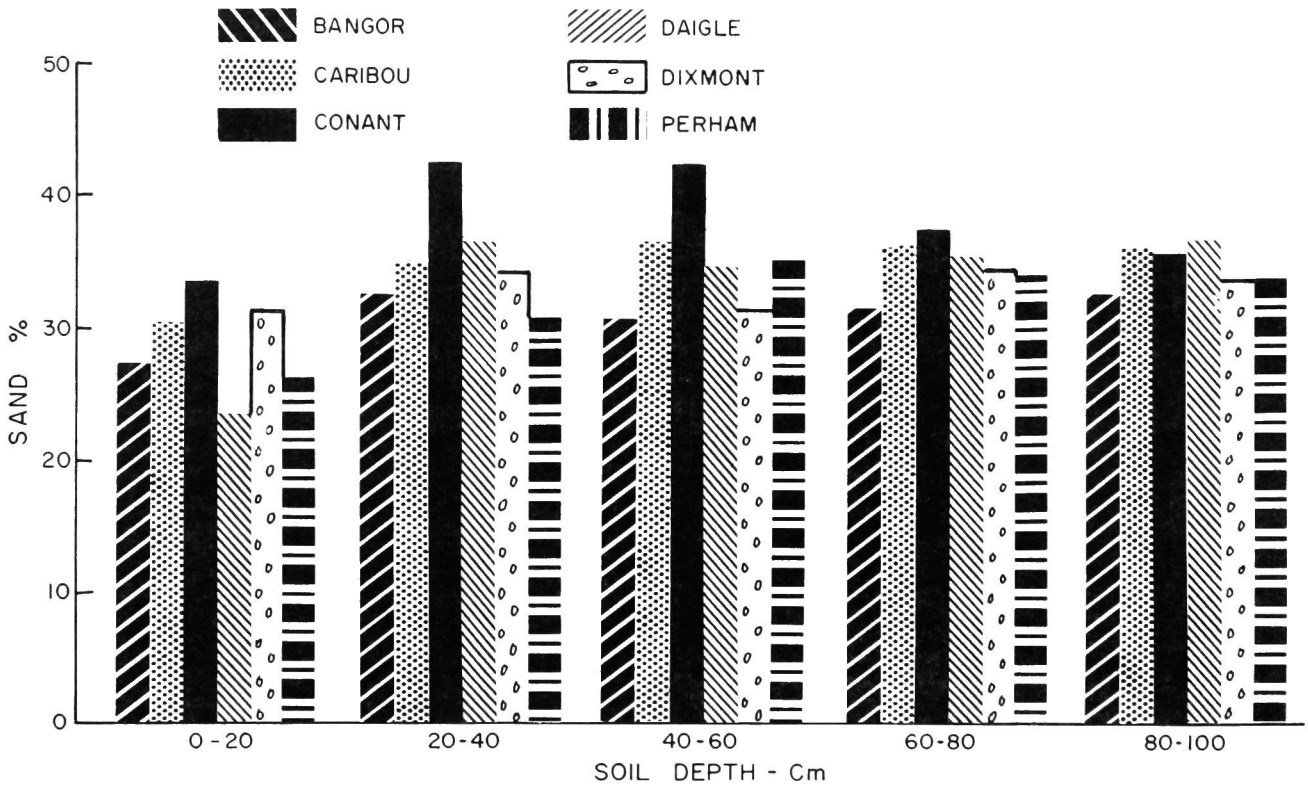
Graphic representation of the sand, silt and clay relationships in the soils sampled are presented in Figures 1 through 3 and in Appendix A, Tables 1 and 2.

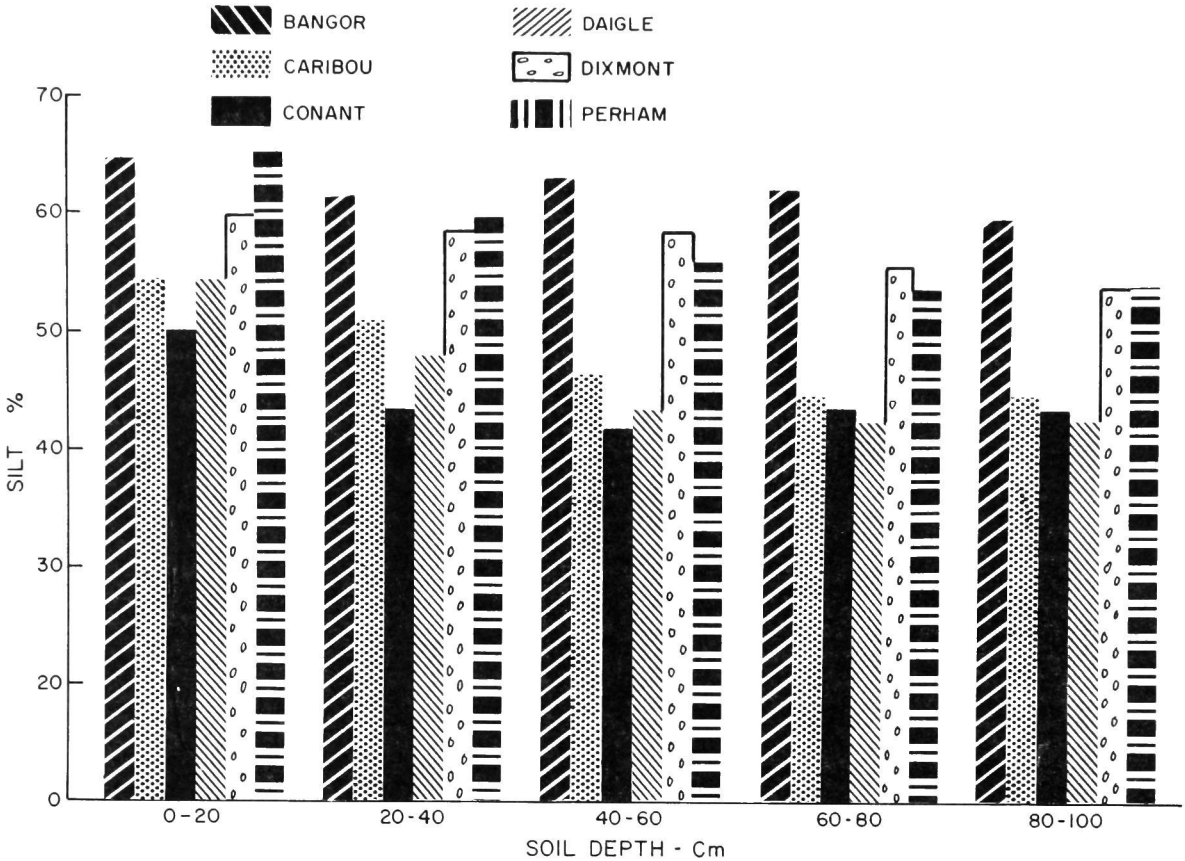
The Conant soils had more sand in the top 60 cm. (24 inches) than the other soils. The sand content in all soils was nearly uniform below 60 cm. (24 inches).

The silt content of the Bangor soils was greater, except for the 20 cm. (0-8 inch) depth, than the other five soils. Perham soils were highest in silt in the surface layer but decreased in silt with increasing depth. Within catena sequences, the numerical trend was for well drained soils to have higher silt contents than their moderately well drained associate.

The numerical trend for average clay content showed the Bangor soils to be lowest in clay volume at all depth intervals. The Dixmont soils averaged only slightly higher in clay content than the Bangor soils. Caribou and Conant soils averaged higher clay levels than Bangor and Dixmont soils. Perham and Daigle soils were highest in average clay content, and averaged more than 20% clay below 60 cm. (24 inches).

The fine clay content of the horizons measured is presented in Table 1. An argillic horizon is one in which clay has accumulated as a result of leaching and illuviation (16). Within an argillic horizon the ratio of fine clay (<.0002 mm.) to total


BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
50
40
30
20
10
0
SAND %
0 - 20
20-40
40-60
60-80
80-100
SOIL DEPTH - Cm


BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
70
60
50
40
30
20
0
SILT %
0-20
20-40
40-60
60-80
80-100
SOIL DEPTH - Cm

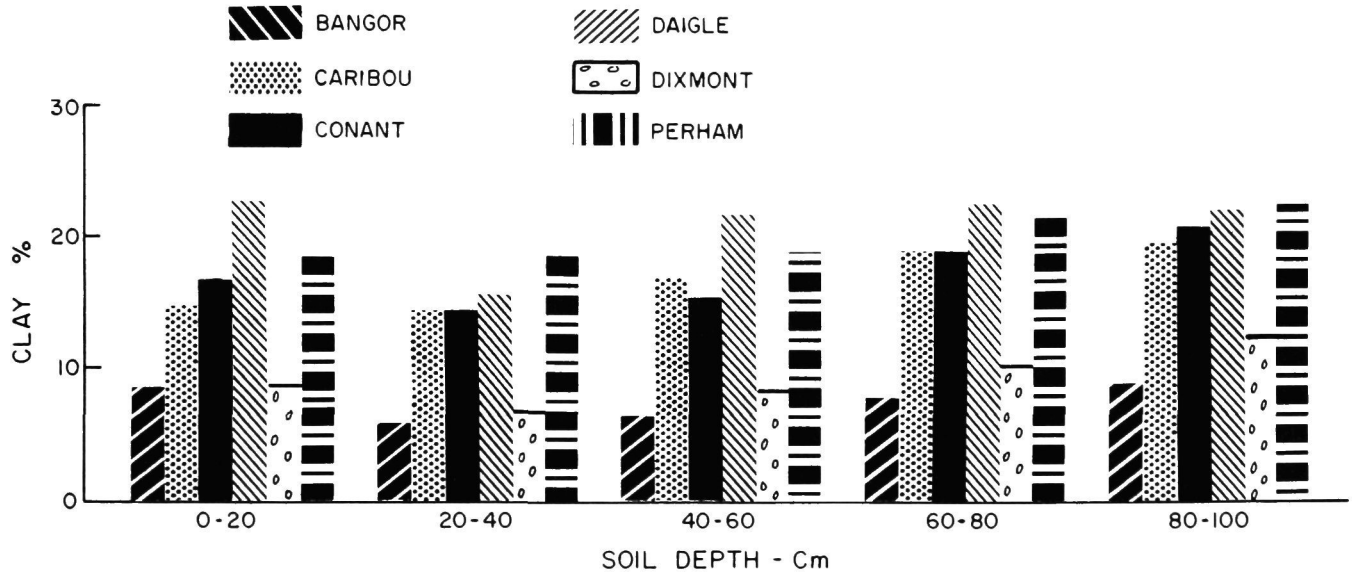

BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
30
20
10
0
CLAY %
0-20
20-40
40-60
60-80
80-100
SOIL DEPTH - Cm

Table 1. Fine clay, fine to total clay relationships, and total clay values of eluvial and illuvial horizons for selected horizons of Caribou and Perham soils.

Soil	Horizon	<0.0002 mm %	fine clay/ total clay	total clay illuvial/ total clay eluvial
Caribou				
S-1	A'_2	1.45	.10	---
	B'_2	2.12	.15	1.0
S-2	A'_2	1.41	.10	---
	B'_2	1.38	.07	1.5
S-3	A'_2	1.72	.14	---
	B'_2	2.30	.13	1.5
S-4	A'_2	0.00	---	---
	B'_{21}	0.72	.04	1.5
S-5	A'_2	2.30	.12	---
	B'_{21}	3.52	.15	1.2
Perham				
S-1	A'_2	2.88	.19	---
	B'_{21}	5.72	.17	2.1
S-2	A'_2	0.96	.06	---
	B'_{21}	3.06	.12	1.6
S-3	A'_2	0.52	48	---
	B'_{21}	0.23	.16	1.3
	B'_{22}	3.42	.15	1.6
S-4	A'_2	1.86	.10	---
	B'_{21}	3.31	.17	1.1
	B'_{22}	2.36	.12	1.1
S-5	A'_2	1.44	.13	---
	B'_2	2.36	.16	1.3

clay is narrower than the ratio in the horizon above (16). The ratio of clay in the zone of accumulation to clay in the zone of leaching must be 1.2 or more for the illuvial horizon to be considered argillic when the eluviated zone has between 15% and 40% total clay. Sites 2 through 5 of the Caribou soil had sufficient clay increase to be considered argillic. Only site 5 had an increase of the fine to total clay ratio that would indicate some illuviation in the potential argillic horizon. In the case of Perham soils, sites, 1, 2, 3 and 5 had sufficient increase in clay to be considered as having an argillic horizon but only sites 2 and 5 had an increase of fine to total clay in the illuvial horizon. Site 4 Perham had the needed increase of fine clay to total clay but the clay accumulation ratio in the illuvial horizon at site 4 Perham was not adequate to make the horizon argillic. Other data indicate that the clays of these soils are mostly micas but that, in the top 30 cm. (12 inches), vermiculite and aluminus vermiculite are also significant components.[1/]

Particle size classes are defined based upon the weighted average of the clay content in the control section of a soil pedon (16). They are used to assist in classifying and grouping soils at the family level, and are based upon the clay content between 25 and 100 cm. (10 to 40 inches) for the soils listed in Table 2.

Table 2. Weighted means and standard deviations of percent clay in the 25 to 100 cm. particle-size control section of six soils replicated five times.

Soil	% Clay Weighted Average	Weighted Standard Deviation
Bangor	7.10	2.51
Caribou	17.62	3.89
Conant	17.48	4.76
Daigle	20.69	5.83
Dixmont	9.75	3.42
Perham	20.55	6.08

As shown in Table 2, Perham and Daigle soils average more than 20% clay on a weighted basis in their particle size control section. The weighted standard deviation indicates considerable range in clay content from 25 to 100 cm. (10 to 40 inches) and between replicates. The range within each soil is a result of clay increases with increasing depth. These soils should be placed in the fine-loamy particle size class as they contain more

[1/]Tomar, J.S. 1974. Chemical and mineralogical composition of Caribou and Perham soils in relation to weathering and soil formation. M.S. Thesis - University of Maine.

than 18% clay on a weighted basis.

Caribou and Conant soils have a weighted average of less than 18% clay in their particle size control section. Their weighted standard deviations are smaller than those of Perham and Daigle suggesting less variation in clay content between 25 and 100 cm. (10 to 40 inches) and between replicates. Caribou and Conant soils are in the coarse-loamy particle size class since the weighted mean of their clay content is less than 18%.

The weighted average of clay content in the particle size control section of Bangor and Dixmont soils is less than 10%. Bangor and Dixmont soils have the lowest weighted standard deviations indicating less variation in clay content in the 25 to 100 cm. (10 to 40 inches) control section and less variation in clay content between replicates than exists in the other soils sampled. Bangor and Dixmont soils are in the coarse-loamy particle size class. They can be separated from Caribou and Conant soils by maintaining their weighted average of clay in the control section at less than 10% or 12%.

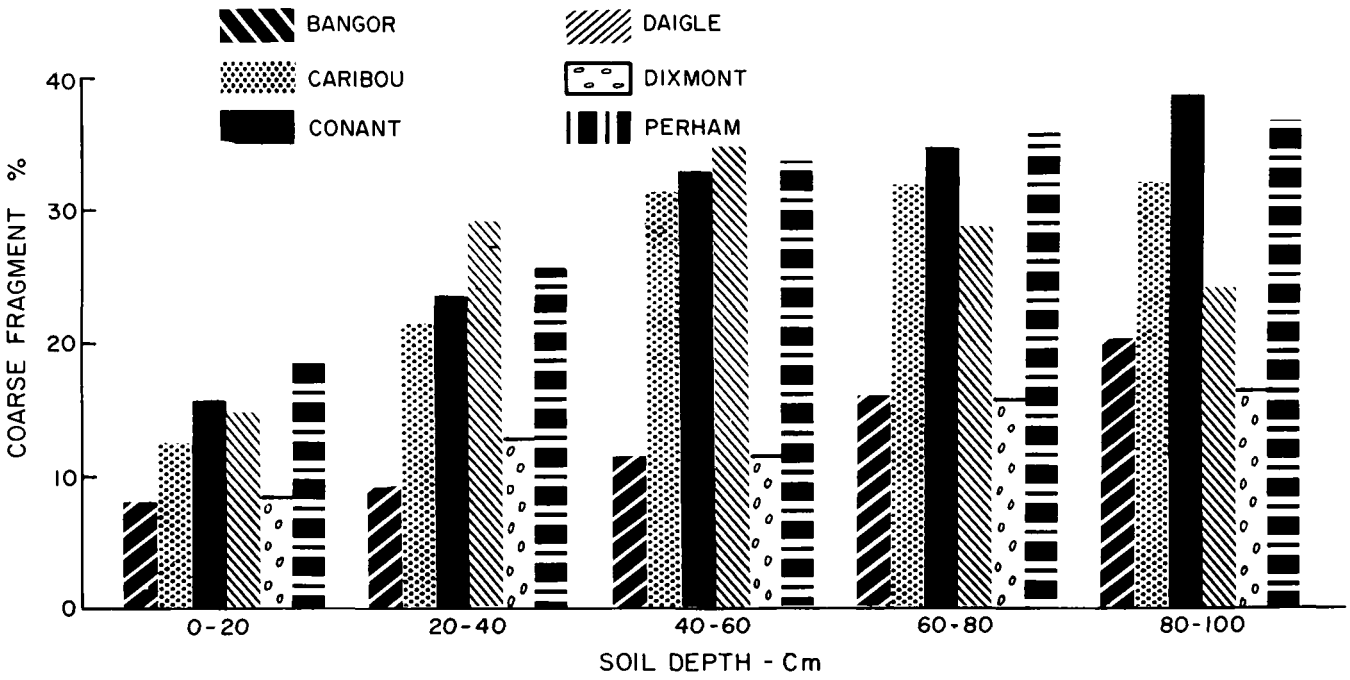
Rock Fragment Volume

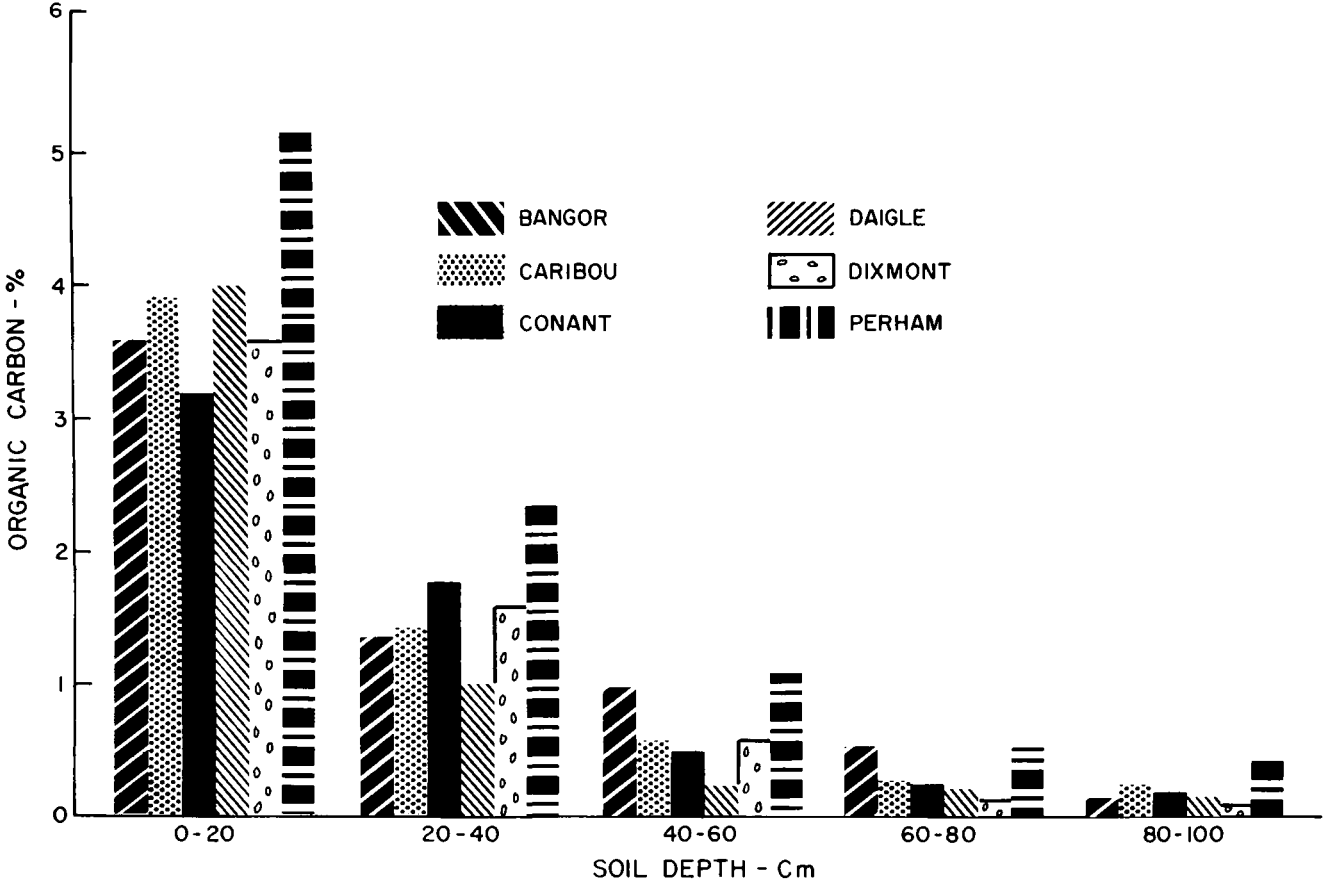
The volume of material larger than 2 mm. in 20 cm. (8 inch) depth zones is shown in Figure 4 and in Appendix A, Table 3. None of the soils had an average coarse fragment content greater than 35%. The Bangor and Dixmont soils were consistently lower in coarse material throughout their profiles to 100 cm. (40 inches) than were the other soils. The surface layer of Caribou, Conant, Perham and Daigle soils were lower in coarse material than deeper depth zones possibly reflecting stone removal as a result of agricultural practices. Rock fragment volumes were generally above 25% in the Caribou, Conant, Perham, and Daigle soils at depths greater than 40 cm. (16 inches). Rock fragment volume increased as depth increased with the exception of the Daigle soils which peaked in the 40 to 60 cm. (16 to 24 inch) depth zone and then decreased with increasing depth.

The high rock fragment volumes of the four previously mentioned soils is of importance since these soils are used intensively for potato production and stones are a problem in potato harvest. The high rock fragment volume will also reduce water and nutrient retention. Beneficial relationships between stones and potato production have been reported and a relationship suggested between higher soil temperatures and higher total moisture contents when stones were not removed (13).

Organic Carbon

The weighted means of the organic carbon content of the six soils are presented in Figure 5 and Appendix A, Table 4. Organic carbon contents decreased as depth increased as shown in Figure 5. As seen in Appendix B, the relationship present in Figure 5


BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
COARSE FRAGMENT %
40
30
20
10
0
0-20
20-40
40-60
60-80
80-100
SOIL DEPTH - Cm


6
5
4
3
2
1
0
ORGANIC CARBON - %
BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
0-20
20-40
40-60
60-80
80-100
SOIL DEPTH - Cm

is generally true once the B horizon has been reached. Surface horizons at individual sites vary in organic carbon possibly as a result of agricultural management.

The highest organic carbon levels were found in the surface horizons of the well drained Perham soils. The moderately well drained Conant, Daigle, and Dixmont soils were lower than their well drained catena members at depth zones below 40 cm. (16 inches). This condition may reflect the lack of root penetration into this region as a result of anaerobic conditions with the flucuating water table.

Bulk Density

The average bulk density of the six soils is presented as 20 cm. (8 inch) depth averages in Figure 6 and Appendix A, Table 5. The density values reported have been corrected for content of material larger than 2 mm. and reflect only the solid material less than 2 mm. present in a given volume. This allows the available water and nutrient levels to be adjusted for coarse material by the data presented for volume of coarse material of each soil.

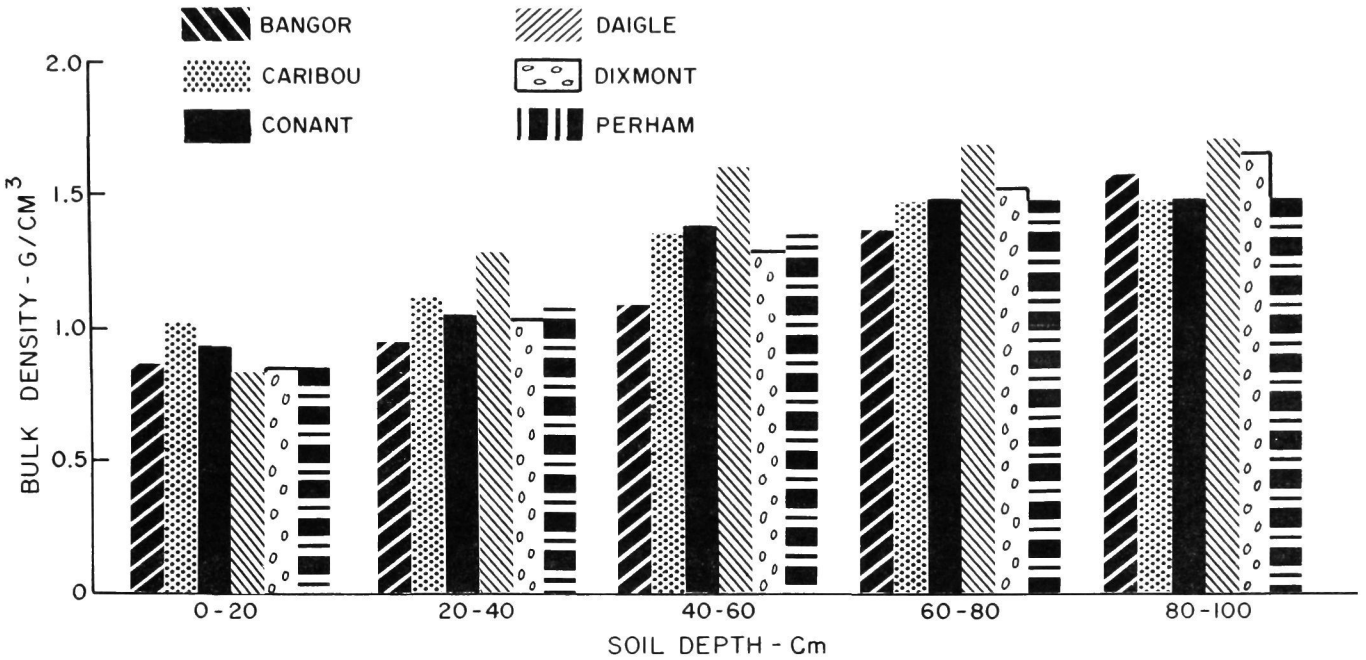
Daigle soils increased in bulk density as depth increased to a level exceeding an average of $1.5 g/cm.^3$ at the 40 to 60 cm. (16 to 24 inch) depth zone. Other soils increased at a slower rate with Caribou, Conant, and Perham soils not averaging more than $1.5 g/cm.^3$ at the 80 to 100 cm. (32 to 40 inch) depth zone.

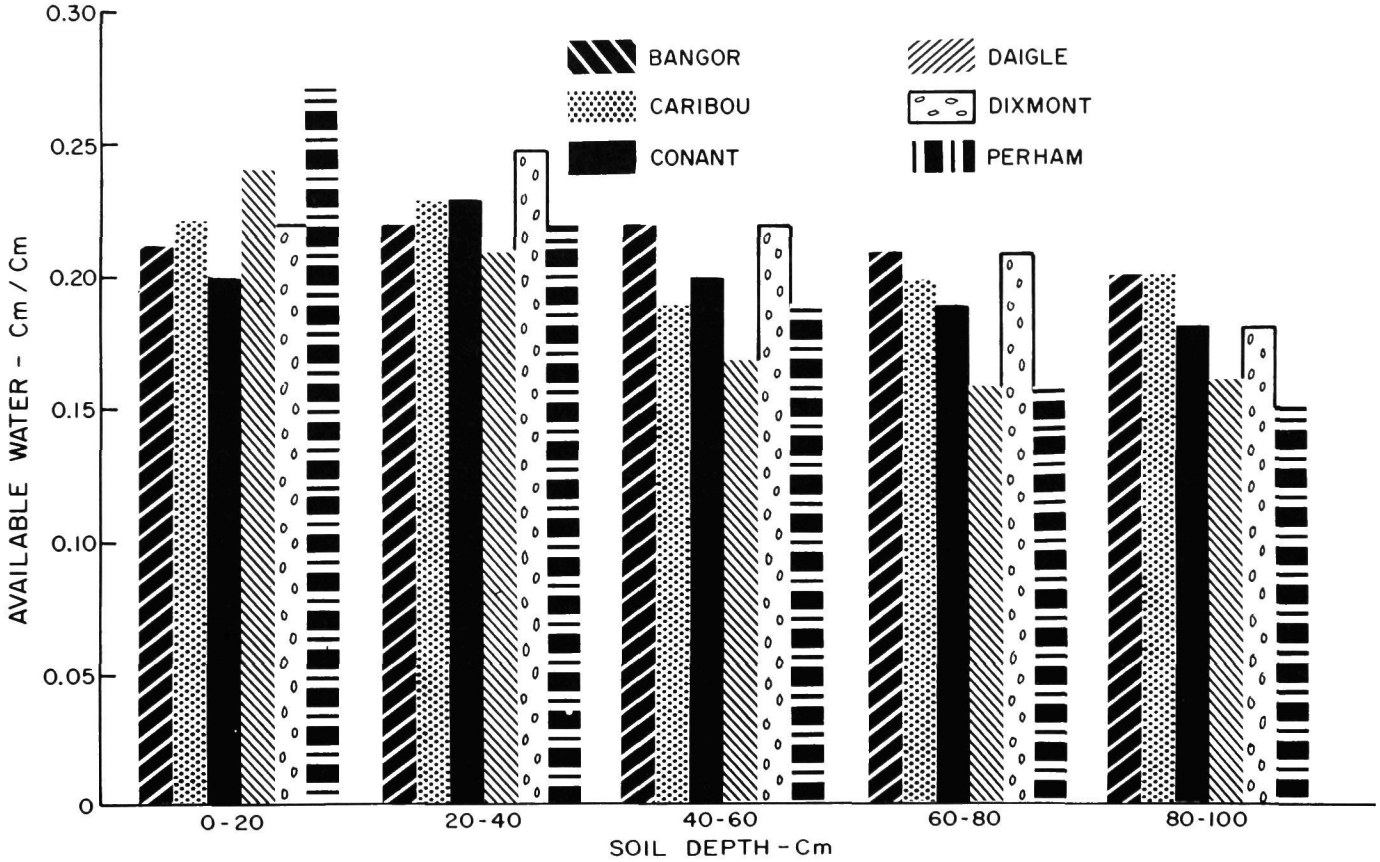
As the soil becomes more dense, water movement and root penetration are reduced. Soils containing excessive water or little pore space are not as productive as soil with better aeration and pore space. The combination of a high bulk density and a high seasonal water table make the Daigle soils more difficult to manage for farming than the Conant soils.

Brittleness of moist soil structure units has previously been associated with the presence of a fragipan (16). A review of the 30 soil profiles described in this publication indicates that four profiles (Dixmont sites 3 and 4, Bangor site 2, and Perham site 4) were described as having brittle horizons. At Bangor site 2 the brittle zone was a 15 cm. (6 inch) layer from 79 cm. to 94 cm. (31 to 37 inches). At all other sites the brittle zone, once it was encountered, was continuous to 100 cm. (40 inches). Bangor and Dixmont soils are not considered to have a fragipan. Perham and Daigle soils have been classified as having a fragipan.

Available Water

Available water as described in this publication is the difference between soil water contents at 0.33 bars and 15 bars multiplied by the bulk density and expressed as centimeters of water available for plant use per centimeter of soil free


BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
2.0
1.5
1.0
0.5
0
BULK DENSITY - G/CM 3
0-20
20-40
40-60
60-80
80-100
SOIL DEPTH - Cm


0.30
0.25
0.20
0.15
0.10
0.05
0
AVAILABLE WATER - Cm / Cm
BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
0-20
20-40
40-60
60-80
80-100
SOIL DEPTH - Cm

mineral material larger than 2 mm. Weighted averages of the centimeters of available water per centimeter of soil in 20 cm. (8 inch) depth zones are presented in Figure 7 and Appendix A, Table 6.

Perham soils retained the most available water of the six soils in the surface 20 cm. zone. This reflects the high organic carbon content of this soil as compared to the other five. Perham was also highest in material larger than 2 mm. thus the available water should be reduced by 18.7% to accommodate the volume of soil filled with coarse material. This reduction of soil volume resulted in an available water content of 0.22 cm./cm. Bangor soils retained 0.21 cm./cm. of soil or 0.19 cm./cm. of soil and coarse material. Bangor and Dixmont soils were consistently lower in volume of material larger than 2 mm. than the other soils, and as seen in Figure 7, high in available water. The combination of less material larger than 2 mm. and higher moisture resulted in these soils being rated as good reservoirs of water for plant use.

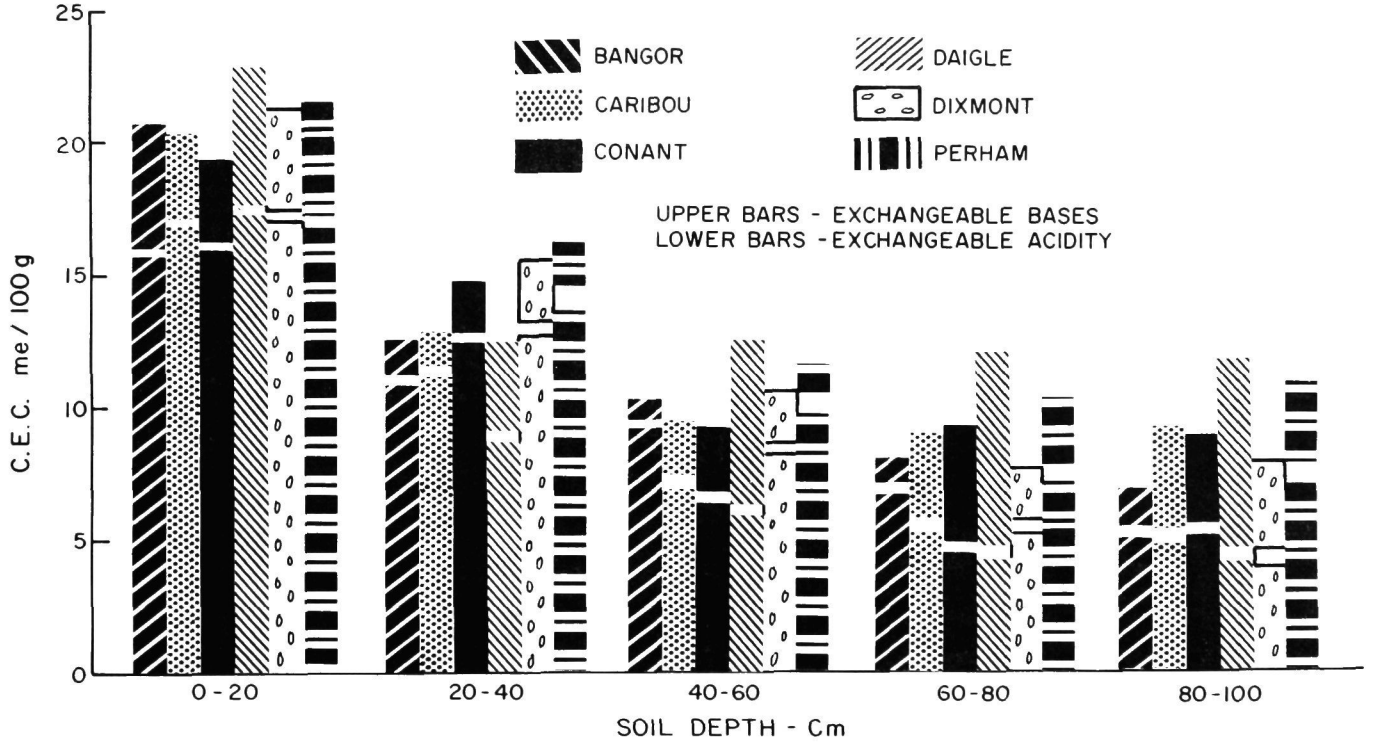
Caribou, Conant, Perham, and Daigle soils averaged above 25% material greater than 2 mm. at depths exceeding 40 cm. (16 inches). Caribou, Conant, Bangor and Dixmont soils retained similar amounts of available water on a stone-free basis. The stone volumes of Caribou and Conant resulted in these soils retaining less available water than Bangor and Dixmont soils. Perham and Daigle soils, at depths below 20 cm. (8 inches), retain less available water than the other four soils.

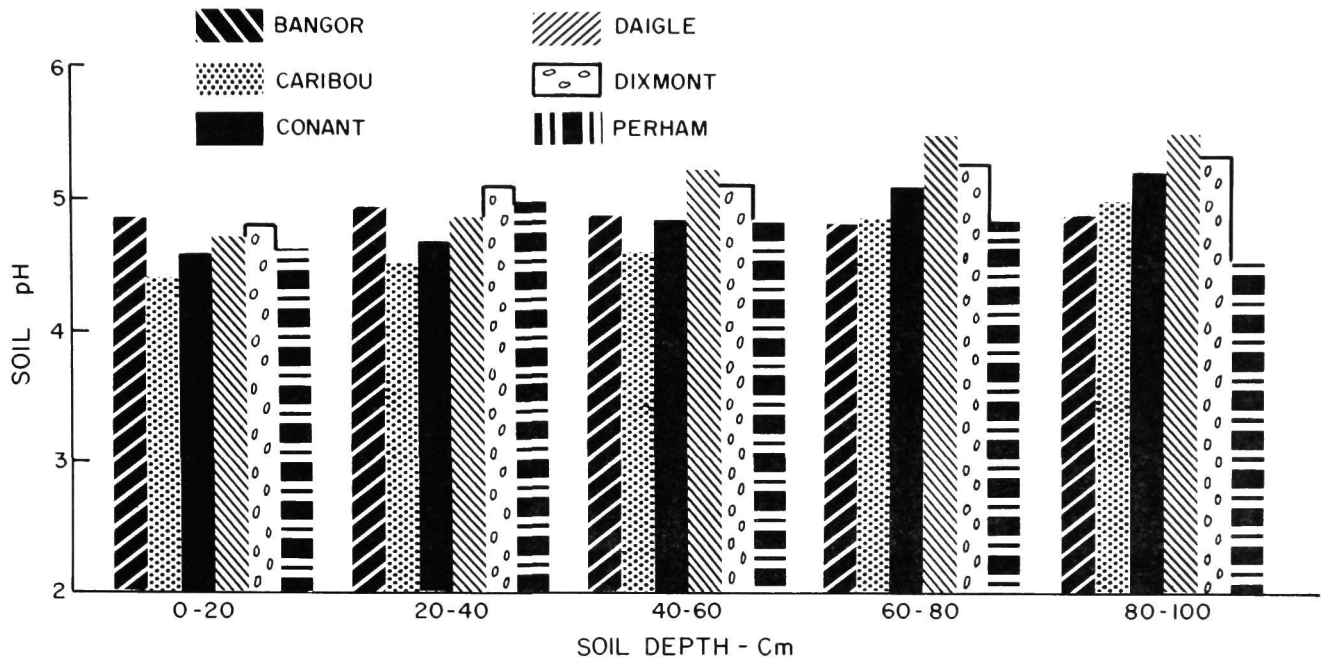
Cation Exchange Capacity

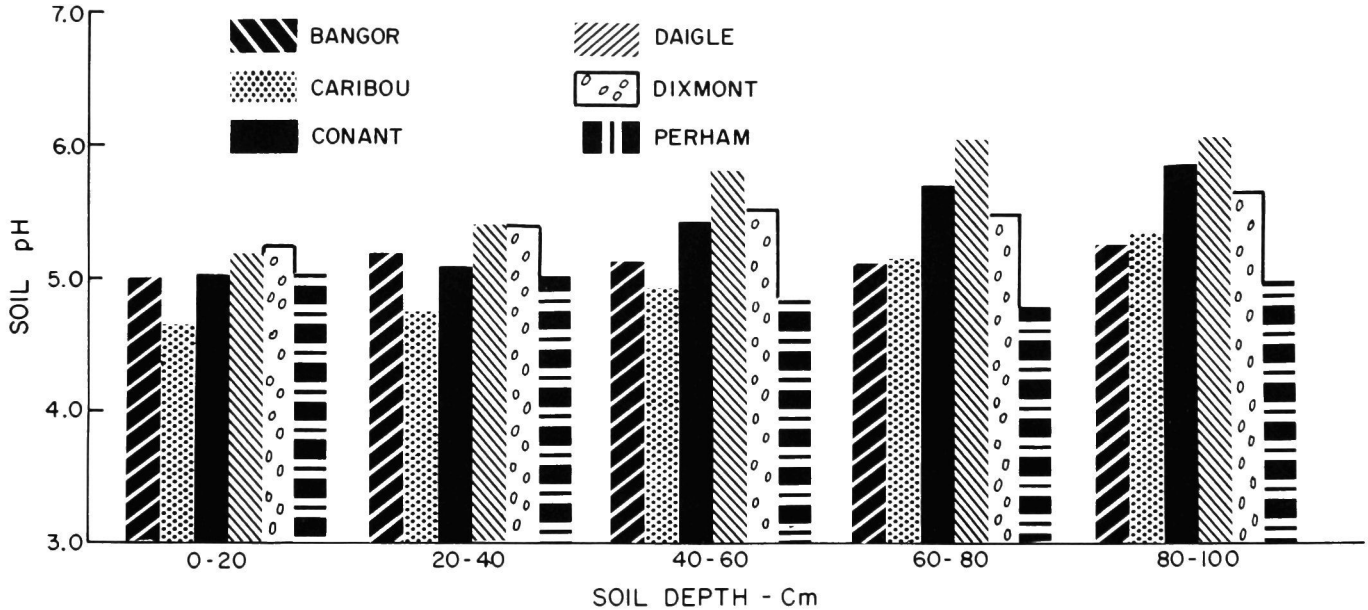
Cation exchange capacity, as determined by summation of exchangeable bases and exchangeable acidity, is presented as weighted means in Figure 8 and Appendix A, Table 7 Exchangeable acidity is presented as weighted means in Appendix A, Table 8.

With the exception of Conant, the average exchange acidity level was highest in the surface and decreased with depth to 100 cm. (40 inches). The lowest average exchange acidity in Conant was in the 60 cm. to 80 cm. (24 to 32 inch) zone. Again with the exception of Conant, the moderately well drained members (Daigle and Dixmont) had lower average exchange acidity levels below the 40 cm. to 60 cm. (16 to 24 inch) zone than did their well drained counterparts. Conant followed this trend until the 80 cm. to 100 cm. (32 to 40 inch) zone at which point exchange acidity increased to levels that exceeded the average exchange acidity of Caribou.

Exchangeable bases (Ca^{++}, Mg^{++}, K^{+}, Na^{+}) do not follow a pattern of decrease or increase that appears to be consistent with drainage, clay content, or organic carbon content. In the Caribou, Conant, and Daigle soils average exchangeable bases reached a minimum in the 20 cm. to 40 cm. (8 to 16 inch) zone


25
20
15
10
5
0
C.E.C. me / 100 g
BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
UPPER BARS - EXCHANGEABLE BASES
LOWER BARS - EXCHANGEABLE ACIDITY
0 - 20
20 - 40
40 - 60
60 - 80
80 - 100
SOIL DEPTH - Cm


BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
6
5
4
3
2
SOIL pH
0-20
20-40
40-60
60-80
80-100
SOIL DEPTH - Cm


7.0
6.0
5.0
4.0
3.0
SOIL pH
BANGOR
CARIBOU
CONANT
DAIGLE
DIXMONT
PERHAM
0-20
20-40
40-60
60-80
80-100
SOIL DEPTH - Cm

and then increased with depth. The Bangor, Dixmont, and Perham soils reached a minimum average of exchangeable bases in the 40 cm. to 60 cm. (16 to 24 inch) zone and then increased with depth.

Cation exchange capacity of the drainage pairs (Caribou and Conant, Bangor and Dixmont, Perham and Daigle) varied only slightly at depths below 40 cm. (16 inches). Within these groups the relationship of exchangeable bases to exchangeable acidity varied considerably.

Soil Reaction

Weighted means of pH in 20 cm. (8 inch) depth zones, as measured in $CaCl_2$ and water, is presented graphically in Figures 9 and 10 and in Appendix A, Tables 9 and 10. All of the soils were acid, with average pH below 6.0 in all depth zones. Soil reaction as measured in $CaCl_2$ was lower, but variation between depth zones was slightly less, than when measured in water.

Dixmont, and to a lesser degree the Bangor, soils exhibited increased pH (water) with the depth below the 40 cm. to 60 cm. (16 to 24 inch) zone. Bangor soils did not vary in average pH ($CaCl_2$ solution) more than 0.1 pH unit from the surface to the 80 cm. to 100 cm. (32 to 40 inch) zone, while Dixmont soils showed a steady increase in pH with depth. Dixmont soils were less acid than Bangor soils.

Caribou and Conant soils increased in pH (water) with depth. Caribou soils were more acid than Conant soils. The same relationship remained when soil reaction was measured in $CaCl_2$ solution.

In Perham soils pH (water), decreased slightly from the surface to the 60 cm. to 80 cm. (24 to 32 inch) zone and then increased slightly. Average pH of the Daigle soils increased with depth to the 60 cm. to 80 cm. (24 to 32 inch) zone and was then constant when pH was measured in either water or $CaCl_2$. Perham soils were nearly uniform in average pH from the surface to the 80 cm. to 100 cm. (32 to 40 inch) zone. Perham soils were more acid than Daigle soils.

CONCLUSIONS

Bangor and Dixmont soils averaged less than 10% clay in their weighted average particle size control sections. Caribou and Conant soils had a weighted average particle size control section in which the clay content was more than 10% and less than 18%. Perham and Daigle soils had a weighted average particle size of more than 18% clay. Perham and Daigle were in the "fine-loamy" particle size class while Caribou, Conant, Bangor, and Dixmont were in the "coarse-loamy" particle size class. Caribou and Conant can be separated from Bangor and Dixmont soils on the basis of clay content.

None of the soils analyzed had a strong argillic horizon. The observed increase in clay was a difference possibly resulting from ablation till over basal till and not the result of clay movement.

Profile descriptions of these soils should be written to indicate the presence of contrasting tills using techniques available (Roman Numeral sequences).

Bangor and Dixmont soils had a lower coarse material volume than did the Caribou, Conant, Perham or Daigle soil.

The organic carbon content of the soils sampled was highest in the surface of the weighted depth zones.

Bulk density of the soils increased to values that would reduce water movement and root penetration within a depth of 100 cm. (40 inches). No fragipan was described consistently within any of these soils.

Water retained by these soils in a form available to plants must be reduced to reflect the presence of material greater than 2 mm.

Cation exchange capacity was little influenced by the difference between well drained and modertely well drained soils within catena sequences.

All of the soils sampled were acid. Within drainage sequences the moderately well drained soils were less acid than the well drained soils.

The lack of an argillic horizon, the particle size class data, and the inconsistent fragipan suggest that the classification of Caribou, Conant, Daigle and Perham soils be changed.

Caribou should be classified as "Coarse-loamy, mixed, frigid, Typic Haplorthod". Conant should be classified as "Coarse-loamy, mixed, frigid, Aquic Haplorthod. Perham should be classified as "Fine-loamy, mixed, frigid, Typic Haplorthod" Daigle should be classified as "Fine-loamy, mixed, frigid, Aquic Haplorthod"

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APPENDIX A

Table 1. Weighted means and range of the sand (2.0-0.05 mm) content of 6 soil mapping units expressed as percent at 20-cm. depth zones.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	27.2	(17.4-47.5)	32.4	(20.5-52.6)	30.8	(20.3-44.3)	31.2	(19.1-44.3)	32.2	(24.6-38.1)
Caribou	30.4	(22.3-36.3)	34.7	(27.3-38.9)	36.4	(30.8-43.4)	36.1	(29.1-41.3)	35.9	(29.1-41.3)
Conant	33.6	(25.2-49.3)	42.4	(21.6-49.3)	42.3	(32.0-60.9)	37.4	(30.9-51.8)	36.0	(30.9-40.9)
Daigle	23.5	(17.6-35.0)	36.4	(27.1-42.6)	34.3	(29.7-37.6)	35.2	(29.8-44.9)	35.7	(30.6-44.9)
Dixmont	31.3	(17.1-42.6)	34.2	(20.8-46.4)	33.0	(19.9-45.4)	34.4	(17.7-41.8)	33.8	(17.7-41.8)
Perham	26.2	(20.7-31.7)	30.9	(20.7-45.0)	35.2	(24.7-45.0)	34.2	(30.0-45.0)	33.7	(30.0-36.7)

Table 2. Weighted means and range of the clay content (<0.002 mm) content of 6 soil mapping units expressed as percent at 20-cm. depth zones.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	8.2	(4.4-13.5)	5.7	(1.3-11.2)	6.3	(4.3-8.5)	7.6	(3.9-13.6)	8.6	(7.1-13.6)
Caribou	14.8	(10.0-16.4)	14.3	(9.2-19.3)	17.0	(10.8-23.2)	19.1	(14.3-23.2)	19.3	(14.3-22.7)
Conant	16.3	(4.4-21.0)	14.2	(4.3-26.9)	15.6	(9.2-20.5)	19.0	(12.5-24.1)	20.6	(17.6-24.1)
Daigle	22.4	(14.2-28.3)	15.6	(8.4-24.0)	22.1	(16.1-29.0)	22.4	(15.3-29.0)	22.0	(16.3-26.7)
Dixmont	8.7	(2.6-12.4)	6.9	(2.6-11.9)	8.7	(3.3-13.1)	10.2	(4.0-15.2)	12.3	(10.0-17.9)
Perham	18.7	(16.4-21.0)	18.9	(10.8-25.7)	18.8	(10.7-33.0)	21.9	(14.0-33.0)	22.3	(14.2-29.5)

Table 3. Weighted means and range of the coarse fragment volume by percent of material larger than 2 mm of 6 soil mapping units at 20-cm. depth zones.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	8.1	(2.1-19.7)	9.2	(2.0-19.1)	11.0	(7.0-26.2)	15.9	(5.1-45.3)	20.1	(6.1-45.3)
Caribou	12.6	(3.4-16.0)	21.2	(11.1-44.9)	31.2	(16.2-65.3)	32.1	(22.4-36.4)	32.0	(22.4-43.5)
Conant	15.3	(7.0-33.1)	23.3	(10.8-40.6)	32.5	(17.2-43.3)	34.7	(21.6-49.1)	38.9	(21.6-63.6)
Daigle	15.0	(6.2-35.8)	28.9	(15.2-35.8)	34.4	(18.1-49.7)	28.4	(15.6-49.7)	24.0	(15.6-41.7)
Dixmont	8.5	(2.3-26.1)	12.7	(7.6-26.1)	11.3	(6.1-19.8)	15.8	(6.5-26.4)	16.4	(6.5-26.4)
Perham	18.7	(10.4-30.2)	25.7	(14.4-38.2)	33.6	(15.1-60.4)	35.0	(16.9-56.4)	36.5	(22.8-56.4)

Table 4. Weighted means and range of the organic carbon content by percent of material <2 mm of 6 soil mapping units at 20-cm.depth zones.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	3.6	(1.4-6.9)	1.4	(0.4-2.7)	1.0	(0.2-2.7)	0.4	(0.1-1.4)	0.2	(0.1-0.4)
Caribou	3.9	(2.4-12.5)	1.4	(0.2-2.5)	0.6	(0.2-2.5)	0.3	(0.2-0.4)	0.3	(0.2-0.4)
Conant	3.2	(0.8-3.8)	1.8	(0.5-4.0)	0.5	(0.3-1.9)	0.3	(0.2-0.5)	0.3	(0.2-0.3)
Daigle	4.0	(1.4-7.5)	1.0	(0.2-3.2)	0.2	(0.2-0.6)	0.2	(0.2-0.3)	0.2	(0.2-0.3)
Dixmont	3.6	(1.8-5.5)	1.6	(0.2-2.9)	0.6	(0.1-2.6)	0.2	(0.1-0.4)	0.1	(0.1-0.2)
Perham	5.2	(3.0-7.5)	2.4	(0.7-4.4)	1.1	(0.3-4.4)	0.5	(0.2-0.8)	0.5	(0.2-0.7)

Table 5. Weighted means and range of bulk density as g/cm^3 of stone free soil of 6 soil mapping units in 20-cm. depth zones.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	0.8	(0.6-1.0)	0.9	(0.8-1.3)	1.1	(0.8-1.5)	1.4	(0.9-1.7)	1.6	(1.5-1.7)
Caribou	1.0	(0.5-1.3)	1.1	(0.8-1.6)	1.4	(1.0-1.6)	1.5	(1.2-1.7)	1.5	(1.2-1.7)
Conant	0.9	(0.5-1.5)	1.0	(0.7-1.5)	1.4	(1.1-1.7)	1.5	(1.3-1.7)	1.5	(1.5-1.5)
Daigle	0.8	(0.6-1.2)	1.3	(0.7-1.6)	1.6	(1.3-1.8)	1.7	(1.4-1.8)	1.7	(1.5-1.8)
Dixmont	0.8	(0.7-1.0)	1.0	(0.9-1.5)	1.3	(0.9-1.6)	1.5	(1.2-1.8)	1.6	(1.6-1.8)
Perham	0.9	(0.5-1.2)	1.1	(0.5-1.7)	1.3	(0.5-1.7)	1.5	(1.3-1.7)	1.5	(1.3-1.6)

Table 6. Weighted means and range of centimeters of plant available water retained in each centimeter of 20-cm. depth zones for stone free soil in 6 soil mapping units.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	0.21	(0.17-0.24)	0.22	(0.19-0.27)	0.22	(0.18-0.27)	0.21	(0.17-0.30)	0.20	(0.17-0.22)
Caribou	0.22	(0.20-0.27)	0.23	(0.16-0.27)	0.19	(0.14-0.27)	0.20	(0.09-0.25)	0.20	(0.09-0.25)
Conant	0.20	(0.17-0.23)	0.23	(0.17-0.32)	0.20	(0.16-0.27)	0.19	(0.16-0.24)	0.18	(0.14-0.24)
Daigle	0.24	(0.17-0.31)	0.21	(0.17-0.26)	0.17	(0.14-0.19)	0.16	(0.12-0.20)	0.16	(0.12-0.20)
Dixmont	0.22	(0.18-0.28)	0.25	(0.18-0.31)	0.22	(0.15-0.31)	0.21	(0.15-0.27)	0.18	(0.17-0.23)
Perham	0.27	(0.16-0.34)	0.22	(0.15-0.30)	0.19	(0.10-0.26)	0.16	(0.08-0.20)	0.15	(0.08-0.20)

Table 7. Weighted means and range of C.E.C. of 6 soil mapping units in 20-cm. depth zones expressed as m.e./100g. soil.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	20.6	(12.4-31.1)	12.6	(6.8-16.5)	10.4	(6.0-16.5)	8.0	(5.3-13.1)	6.8	(5.3-8.3)
Caribou	20.4	(16.7-29.9)	12.9	(7.0-19.5)	9.5	(6.7-16.7)	9.1	(7.3-11.3)	9.2	(7.3-10.8)
Conant	19.4	(9.7-31.1)	14.9	(6.4-24.5)	9.4	(6.4-16.9)	9.3	(7.2-12.2)	8.9	(4.1-10.4)
Daigle	22.8	(15.7-28.9)	12.4	(8.1-20.5)	12.5	(7.0-16.4)	12.0	(7.0-16.4)	11.6	(7.3-14.6)
Dixmont	21.3	(15.6-28.1)	15.7	(6.3-20.3)	10.6	(5.7-20.3)	7.6	(5.4-14.0)	7.9	(5.4-11.9)
Perham	21.5	(18.1-23.7)	16.4	(7.7-23.7)	11.6	(7.7-23.7)	10.4	(7.7-12.4)	10.7	(9.2-12.4)

Table 8. Weighted means and range of exchange acidity of 6 soil mapping units in 20-cm. depth zones expressed as m.e./100g. soil.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	15.7	(11.0-23.7)	11.0	(5.6-15.0)	9.1	(4.9-15.0)	6.7	(4.1-12.0)	4.9	(3.8-7.3)
Caribou	16.7	(12.8-26.5)	11.2	(5.4-17.3)	6.8	(4.3-14.4)	5.1	(2.9-6.5)	4.8	(2.9-6.5)
Conant	16.0	(9.3-24.9)	12.5	(6.7-19.0)	6.4	(3.1-12.4)	4.4	(2.4-8.8)	5.2	(2.4-9.9)
Daigle	17.3	(7.0-23.7)	8.8	(3.4-17.7)	5.2	(4.4-7.9)	4.2	(2.6-6.5)	4.0	(2.6-6.5)
Dixmont	17.0	(13.2-21.8)	12.7	(5.2-17.7)	8.3	(4.1-17.7)	5.2	(3.2-12.7)	3.9	(3.2-4.6)
Perham	16.8	(7.6-22.0)	13.9	(7.3-22.0)	9.9	(5.4-22.0)	7.3	(3.3-10.0)	7.1	(3.3-9.8)

Table 9. Weighted means and range of soil reaction in a 2:1 $CaCl_2$:soil solution of 6 mapping units expressed as 20-cm. depth zones.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	4.8	(4.7-5.2)	4.9	(4.4-5.2)	4.8	(4.7-5.1)	4.8	(4.5-5.0)	4.9	(4.7-5.0)
Caribou	4.4	(3.9-4.8)	4.5	(4.2-4.8)	4.6	(4.2-5.1)	4.8	(4.2-6.2)	5.0	(4.2-6.2)
Conant	4.6	(3.7-5.2)	4.6	(4.0-5.2)	4.8	(4.6-5.5)	5.1	(4.6-6.0)	5.2	(4.6-6.0)
Daigle	4.7	(4.2-5.5)	4.9	(4.2-5.6)	5.2	(4.6-5.8)	5.5	(4.4-6.4)	5.5	(4.4-6.4)
Dixmont	4.8	(4.5-5.0)	5.0	(4.8-5.3)	5.1	(4.9-5.6)	5.2	(4.9-5.6)	5.3	(5.0-6.0)
Perham	4.6	(4.2-6.6)	4.7	(4.0-6.6)	4.6	(4.0-6.6)	4.5	(4.0-6.0)	4.6	(4.0-6.0)

Table 10. Weighted means and range of soil reaction in a 1:1 water:soil solution of 6 mapping units expressed as 20-cm. depth zones.

Soil	0-20 cm.		20-40 cm.		40-60 cm.		60-80 cm.		80-100 cm.	
	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range	$\bar{x}$	Range
Bangor	5.0	(4.4-5.5)	5.2	(4.7-6.0)	5.1	(4.6-6.0)	5.2	(4.6-5.3)	5.3	(5.0-5.4)
Caribou	4.6	(4.2-5.2)	4.7	(4.4-5.2)	4.9	(4.4-5.6)	5.2	(4.7-5.7)	5.3	(4.7-6.4)
Conant	5.0	(4.4-5.6)	5.1	(4.5-5.7)	5.4	(5.0-6.2)	5.7	(5.0-6.6)	5.8	(5.2-6.6)
Daigle	5.2	(4.8-5.8)	5.4	(5.0-6.2)	5.8	(5.1-6.2)	6.1	(5.0-7.0)	6.1	(5.0-7.0)
Dixmont	5.2	(4.8-5.6)	5.4	(4.9-5.8)	5.5	(5.0-5.9)	5.5	(5.2-5.9)	5.7	(5.2-6.2)
Perham	5.0	(4.7-6.0)	5.0	(4.4-6.7)	4.8	(4.4-6.7)	4.8	(4.4-6.2)	4.9	(4.4-6.2)

APPENDIX B

Bangor Mapping Unit Site No. 1

Location: Atkinson, Piscataquis County, Maine, 1972

Horizon	Depth	
A_p	0-10 cm.	Very dark grayish brown (10YR 3/2) silt loam; weak fine granular structure; friable; abrupt wavy boundary.
B_{21}	10-20 cm.	Yellowish red (5YR 4/6) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{22}	20-48 cm.	Dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{23}	48-66 cm.	Olive brown (2.5Y 4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	66-79 cm.	Olive (5Y 5/3) silt loam; strong very coarse prismatic structure separating to weak fine subangular blocky structure inside prisms and olive gray (5Y 5/2) prism edges; friable; abrupt smooth boundary.
II C_1	79-94 cm.	Olive (5Y 4/4) silt loam; strong very coarse prismatic structure separating to strong thick platy structure inside prisms and olive gray (5Y 5/2) prism edges; firm; abrupt smooth boundary.
II C_2	94-112 cm.	Olive (5Y 5/3) silt loam; strong very coarse prismatic structure separating to weak fine subangular blocky structure inside the prisms and olive gray (5Y 5/2) prism edges; firm; thin films on 10% of the peds; abrupt smooth boundary.
II C_3	112-122 cm.	Light olive brown (2.5Y 5/4) sandy loam; strong very coarse prismatic structure separating to strong medium subangular blocky structure inside the prisms and olive gray (5Y 5/2) prism edges; firm; thin films on 20% of the peds.

Soil Series Bangor Site No. 1

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (< .002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-10	Ap	26.43	65.31	8.26	2.86	3.66	4.42	6.60	8.89	37.69	27.62
10-20	B_{21}	26.73	68.75	4.52	4.38	4.41	4.40	5.80	7.74	34.57	34.18
20-48	B_{22}	32.51	61.63	5.86	5.48	5.37	5.28	7.68	8.70	30.09	31.54
48-66	B_{23}	35.16	60.76	4.08	5.46	5.54	5.96	8.54	9.66	22.52	38.24

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc	Available Water (cm./cm.)
0-10	Ap	84.8	76.4	55.1	51.9	48.9	26.6	23.4	22.5	21.9	0.64	0.21
10-20	B_{21}	62.8	55.2	41.3	36.4	31.6	18.6	15.7	13.2	12.2	0.80	0.23
20-48	B_{22}	50.7	45.5	35.5	31.2	25.4	15.7	12.3	9.7	8.1	0.84	0.23
48-66	B_{23}	44.2	40.0	31.5	29.3	26.2	13.4	10.7	8.6	7.6	0.93	0.22

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-10	Ap	15.8	--	0.6	0.8	0.3	0.5	0.4	1.3	19.7
10-20	B_{21}	--	--	0.2	1.6	1.2	1.3	1.3	2.6	8.2
20-48	B_{22}	2.2	1.4	0.4	1.0	0.4	0.9	1.7	3.1	11.1
48-66	B_{23}	--	0.6	1.0	0.8	1.1	0.9	1.4	3.0	8.8

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq/100 g.						
0-10	Ap	5.7	4.75	4.9	6.8	0.3	<0.1	0.2	23.7	31.1	23.8
10-20	B_{21}	2.5	4.7	4.85	1.2	.1	<0.1	<0.1	16.7	18.2	8.2
20-48	B_{22}	1.2	4.85	5.2	0.7	.1	<0.1	<0.1	11.8	12.8	7.8
48-66	B_{23}	1.2	4.7	5.1	0.8	0.1	<0.1	<0.1	10.9	12.0	9.2

Soil Series Bangor Site No. 1

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
66-79	II A'$_2$	40.93	55.17	3.90	4.79	6.72	7.66	10.82	10.94	29.41	25.76
79-94	II C$_1$	38.06	54.26	7.68	4.04	4.34	7.20	12.70	9.78	18.96	35.30
94-112	II C$_2$	36.32	54.42	9.26	2.86	4.69	7.06	12.10	9.61	20.62	33.80
112-122	II C$_3$	54.28	40.92	4.80	5.06	6.53	13.14	18.74	10.81	15.92	25.00

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct	0.33 pct	0.67 pct	1.0 pct.	2.0 pct	3.0 pct.	5.0 pct	15.0 pct.	Bulk Density g/cc	Available Water (cm./cm.)
66-79	II A'$_2$	27.3	25.2	21.9	20.3	17.4	11.8	10.3	7.7	6.3	1.25	0.20
79-94	II C$_1$	18.1	17.6	16.8	16.4	15.7	13.5	11.1	8.2	4.7	1.68	0.20
94-112	II C$_2$	19.4	18.9	18.0	17.7	17.2	13.8	12.0	9.0	6.0	1.67	0.20
112-122	II C$_3$	19.7	19.2	18.3	17.7	16.8	14.1	12.5	9.3	6.4	1.63	0.19

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
66-79	II A'$_2$	2.8	1.3	1.2	0.1	0.6	0.9	1.2	4.6	12.7
79-94	II C$_1$	--	--	1.4	0.5	0.8	0.7	1.3	4.6	9.3
94-112	II C$_2$	--	--	--	0.5	0.4	0.8	1.0	3.4	6.1
112-122	II C$_3$	--	1.5	1.8	--	0.2	0.4	1.2	5.1	10.2

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M CaCl$_2$ 2:1	pH H$_2$O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq./100 g.						
66-79	II A'	0.7	4.7	5.0	0.7	<0.1	<0.1	<0.1	8.8	9.8	10.2
79-94	II C$_1$	0.1	4.75	5.2	0.9	0.1	<0.1	<0.1	6.2	7.4	16.2
94-112	II C$_2$	0.1	4.7	5.2	1.0	<0.1	<0.1	0.1	6.0	7.3	17.8
112-122	II C$_3$	0.1	4.7	5.25	1.3	0.1	<0.1	0.1	5.6	7.2	22.2

Bangor Mapping Unit Site No. 2

Location: Dover Foxcroft, Piscataquis County, Maine, 1972

Horizon	Depth	Description
A_{p1}	0-10 cm.	Very dark grayish brown (10YR 3/2) silt loam; strong medium granular structure; friable; abrupt smooth boundary.
A_{p2}	10-20 cm.	Dark brown (10YR 3/3) silt loam; moderate medium granular structure; friable; abrupt smooth boundary.
B_{21}	20-51 cm.	Dark brown (7.5YR 4/4) silt loam; weak fine granular structure; friable; abrupt wavy boundary.
B_{22}	51-68 cm.	Light olive brown (2.5Y 5/4) silt loam; weak fine granular and weak thin platy structure; friable; abrupt wavy boundary.
II A'_2	68-79 cm.	Olive (5Y 5/3) silt loam; weak fine subangular block structure; friable; abrupt wavy boundary.
II C_1	79-94 cm.	Olive (5Y 5/3) silt loam; strong very coarse prismatic structure separating to weak thin platy and weak fine subangular blocky structure inside the prisms; firm and brittle; abrupt smooth boundary.
II C_2	94-109 cm.	Dark olive gray (5Y 3/2) silt loam; strong very coarse prismatic structure separating to strong medium platy and moderate medium subangular blocky structure inside the prisms; firm. Olive (5Y 5/3) films in pores and on 25% of the peds.

Soil Series ..... Bangor ..... Site No. 2

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
0-10	Ap_1	17.40	71.82	10.78	1.78	2.94	2.91	4.44	5.33	25.39	46.43
10-20	Ap_2	22.71	70.52	6.77	3.66	3.96	3.71	5.34	6.04	27.23	43.29
20-51	B_{21}	20.53	71.88	7.59	3.29	3.22	3.07	4.72	6.23	25.91	45.97
51-68	B_{22}	20.30	74.66	5.04	3.55	3.16	3.28	4.76	5.55	22.18	52.48

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g./cc	Available Water (cm./cm.)
		0.059 pct	0.1 pct	0.33 pct.	0.67 pct.	1.0 pct	2.0 pct	3.0 pct	5.0 pct.	15.0 pct.	
0-10	Ap_1	52.6	50.7	45.1	43.0	42.3	30.6	24.9	22.5	22.2	0.75	0.17
10-20	Ap_2	49.1	45.4	38.8	35.5	35.2	22.0	19.2	16.1	16.0	0.74	0.17
20-51	B_{21}	53.5	49.6	40.8	36.0	34.6	22.6	17.5	14.9	14.0	0.82	0.22
51-68	B_{22}	44.0	41.0	35.4	31.4	27.7	20.7	14.9	12.7	10.6	0.93	0.23

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm	TOTAL
0-10	Ap_1	--	--	0.4	--	0.3	0.3	0.3	0.8	2.1
10-20	Ap_2	--	--	--	1.1	0.1	0.7	0.6	1.6	4.1
20-51	B_{21}	--	0.3	0.5	1.1	0.8	1.0	1.1	2.2	7.0
51-68	B_{22}	--	1.2	1.0	0.5	0.5	1.1	1.3	3.3	8.9

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct.
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g						
0-10	Ap_1	6.9	4.7	5.0	6.3	0.4	< 0.1	0.2	20.4	27.4	25.5
10-20	Ap_2	3.9	4.7	4.95	2.3	0.2	< 0.1	0.1	16.5	19.2	14.1
20-51	B_{21}	2.7	4.85	5.15	1.2	0.1	< 0.1	0.1	15.0	16.5	9.1
51-68	B_{22}	1.4	4.9	5.2	0.8	< 0.1	< 0.1	< 0.1	12.0	13.1	8.4

Soil Series Bangor Site No. 2

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (< .002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of < 2mm									
68-79	II A'$_2$	19.14	75.24	5.62	3.22	2.62	2.74	4.59	5.97	24.17	51.07
79-94	II C$_1$	25.16	66.72	8.12	2.92	3.94	4.42	6.90	6.98	21.63	45.09
94-109	II C$_2$	34.60	56.96	8.44	5.28	5.60	6.00	9.24	8.48	20.46	36.50

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct	0.1 pct	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct.	3.0 pct	5.0 pct	15.0 pct.	Bulk Density g./cc	Available water (cm./cm.)
68-79	II A'	40.0	38.3	34.4	30.8	28.9	18.1	13.7	10.7	7.7	1.12	0.30
79-94	II C$_1$	23.8	21.7	21.0	20.0	18.9	14.4	10.9	8.4	6.3	1.52	0.22
94-109	II C$_2$	19.6	19.0	16.4	15.3	14.2	11.6	9.8	7.9	5.4	1.58	0.17

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-.1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
68-79	II A'$_2$	7.9	1.6	1.9	2.0	1.4	1.3	1.4	2.6	20.1
79-94	II C$_1$	--	1.6	4.5	1.5	1.2	1.0	1.5	2.5	13.8
94-109	II C$_2$	--	5.8	0.4	3.2	2.7	2.5	3.2	4.5	22.3

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq./100 g.						
68-79	II A'$_2$	0.5	5.0	5.4	0.7	<0.1	<0.1	<0.1	10.1	11.1	9.0
79-94	II C$_1$	0.4	5.05	5.4	0.7	<0.1	<0.1	<0.1	7.3	8.3	12.0
94-109	II C$_2$	0.2	5.0	5.2	0.8	<0.1	<0.1	0.1	4.8	5.9	18.6

Bangor Mapping Unit Site No. 3

Location: Hartland, Somerset County, Maine, 1972

Horizon	Depth	Description
A_p	0-18 cm.	Dark brown (10YR 4/3) silt loam; moderate medium granular structure; friable; abrupt smooth boundary.
B_{21}	18-23 cm.	Dark brown (7.5YR 4/4) silt loam; moderate medium granular structure; friable; abrupt smooth boundar
B_{22}	23-30 cm.	Dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	30-48 cm.	Olive (5Y 5/3) silt loam; strong fine subangular blocky structure; friable; abrupt smooth boundary.
II C_1	48-66 cm.	Olive (5Y 4/3) silt loam; strong very coarse prismatic structure separating to moderate medium subangular blocky structure inside prisms and pale olive (5Y 6/3) prism edges; friable; clear wavy boundary.
II C_2	66-84 cm.	Olive (5Y 4/4) silt loam; strong very coarse prismatic structure separating to strong medium subangular blocky structure inside prisms and pale olive (5Y 6/3) prism edges; friable; clear wavy boundary.
II C_3	84-100 cm.	Olive (5Y 5/3) silt loam; strong very coarse prismatic structure separating to moderate medium platy and moderate medium subangular blocky structure inside prisms and pale olive (5Y 6/3) prism edges; firm.

Soil Series Bangor Site No. 3

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
		Percent of <2mm									
0-18	Ap	23.96	71.52	4.52	2.96	3.48	4.18	6.64	6.70	29.66	41.86
18-23	B_{21}	26.48	69.14	4.38	4.31	4.16	4.51	6.84	6.66	26.79	42.35
23-30	B_{22}	31.30	66.82	1.88	4.15	4.79	5.87	8.83	7.66	26.84	39.98
30-48	II A'_2	30.50	63.98	5.52	3.82	4.70	5.70	8.62	7.66	24.42	39.56

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g/cc	Available Water (cm./cm.)
		0.059 pct.	0.1 pct	0.33 pct	0.67 pct	1.0 pct	2.0 pct	3.0 pct.	5.0 pct.	15.0 pct.	
0-18	Ap	57.6	51.6	42.1	39.5	36.4	20.1	14.3	12.0	10.4	0.76	0.24
18-23	B_{21}	42.1	38.0	31.2	28.1	24.4	16.3	12.2	10.3	8.9	0.95	0.21
23-30	B_{22}	39.2	35.1	28.3	24.4	20.4	13.6	9.9	8.0	6.2	1.00	0.22
30-48	II A'_2	25.6	23.7	20.6	18.8	16.3	12.3	9.1	7.0	5.0	1.26	0.20

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm.	TOTAL
0-18	Ap	--	--	--	0.2	0.2	0.2	0.5	1.2	2.3
18-23	B_{21}	--	--	--	1.1	--	0.9	1.3	2.2	5.5
23-30	B_{22}	--	--	--	0.5	0.6	1.0	1.2	2.2	5.5
30-48	II A'_2	2.5	1.1	0.2	1.4	0.8	0.5	1.0	2.0	9.5

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct.
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq/100 g.						
0-18	Ap	2.9	4.9	5.2	2.9	<0.1	<0.1	0.1	13.7	16.9	18.9
18-23	B_{21}	1.7	5.25	5.5	3.3	<0.1	<0.1	<0.1	12.1	15.7	22.9
23-30	B_{22}	0.9	5.25	5.5	1.4	<0.1	<0.1	<0.1	7.9	9.6	17.7
30-48	II A'_2	0.4	4.95	5.2	0.9	<0.1	<0.1	0.1	5.6	6.8	17.7

Soil Series ..... Bangor ..... Site No. 3

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
48-66	II C_1	27.52	63.97	8.51	3.02	3.94	4.66	8.28	7.62	21.51	42.46
66-84	II C_2	26.11	64.99	8.90	3.26	3.82	4.52	7.36	7.15	21.38	43.61
84-100	II C_3	27.43	64.77	7.80	3.44	4.18	4.69	7.48	7.64	18.94	45.83

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g/cc	Available Water (cm./cm.)
		0.059 pct	0.1 pct.	0.33 pct	0.67 pct.	1.0 pct.	2.0 pct.	3.0 pct	5.0 pct.	15.0 pct	
48-66	II C_1	21.7	20.6	18.3	16.8	15.3	12.5	9.8	7.5	5.0	1.45	0.19
66-84	II C_2	18.6	17.8	16.2	15.3	14.2	12.8	9.5	7.5	5.1	1.54	0.17
84-100	II C_3	18.8	18.4	17.2	16.5	15.6	12.8	9.4	7.0	4.5	1.56	0.20

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
48-66	II C_1	--	1.3	1.1	2.0	1.3	1.0	1.2	3.0	10.9
66-84	II C_2	--	3.3	0.9	1.4	0.8	1.5	1.7	3.4	13.0
84-100	II C_3	3.6	3.4	0.9	1.2	0.6	0.9	1.4	2.9	14.9

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq/100 g.						
48-66	II C_1	0.2	4.5	4.6	1.0	<0.1	<0.1	0.1	5.4	6.7	19.4
66-84	II C_2	0.1	4.7	5.0	1.6	0.2	<0.1	0.1	4.2	6.2	32.3
84-100	II C_3	0.1	4.9	5.15	2.2	0.3	<0.1	0.1	3.8	6.5	41.5

Bangor Mapping Unit Site No. 4

Location: Palmyra, Somerset County, Maine, 1972

Horizon	Depth	Description
A_p	0-18 cm.	Dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{21}	18-25 cm.	Strong brown (7.5YR 5/6) loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{22}	25-38 cm.	Yellowish brown (10YR 5/6) sandy loam; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	38-48 cm.	Light olive brown (2.5Y 5/6) silt loam; weak thin platy structure; friable; abrupt smooth boundary.
II C_1	48-53 cm.	Olive (5Y 5/4) silt loam; weak thin platy structure; friable; abrupt smooth boundary.
II C_2	53-71 cm.	Olive (5Y 5/3 and 5/4) loam; moderate medium platy and moderate fine subangular blocky structure; firm; abrupt smooth boundary.
II C_3	71-100 cm.	Olive (5Y 4/3) silt loam; moderate medium subangular blocky structure; very firm; brittle. Thin films and stains on 20% of the peds.

Soil Series Bangor Site No. 4

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
0-18	Ap	37.36	53.11	9.53	9.24	7.66	6.48	7.60	6.38	21.58	31.53
18-25	B_{21}	47.51	47.51	4.98	15.64	11.26	8.03	7.50	5.08	24.42	23.09
25-38	B_{22}	52.58	46.10	1.32	15.30	11.97	9.48	9.66	6.17	19.35	26.75
38-48	II A'_2	39.40	56.28	4.32	9.68	9.00	7.06	7.74	5.92	23.49	32.79

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g/cc	Available Water (cm./cm.)
		0.059 pct	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct	2.0 pct.	3.0 pct	5.0 pct.	15.0 pct.	
0-18	Ap	41.1	38.2	31.6	27.9	24.9	19.9	15.9	13.1	11.0	0.93	0.19
18-25	B_{21}	48.4	44.2	33.4	26.6	22.5	18.4	13.7	12.2	10.8	0.84	0.19
25-38	B_{22}	46.7	43.8	34.4	28.0	22.9	15.8	12.9	11.5	10.1	0.91	0.22
38-48	II A'_2	41.6	38.7	31.0	26.2	23.2	16.4	12.9	11.4	9.7	1.03	0.22

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm	TOTAL
0-18	Ap	--	--	0.3	0.5	0.6	1.2	2.2	6.3	11.1
18-25	B_{21}	--	--	1.1	1.2	1.7	2.4	4.5	8.2	19.1
25-38	B_{22}	--	--	0.4	1.6	1.0	1.8	3.8	7.6	16.2
38-48	II A'_2	--	--	--	0.2	0.3	0.9	2.4	6.6	10.4

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g.						
0-18	Ap	2.5	5.15	5.4	5.0	0.2	0.3	0.2	13.8	19.5	29.2
18-25	B_{21}	1.7	5.2	5.4	1.8	0.1	0.5	0.1	12.7	15.2	16.5
25-38	B_{22}	1.4	5.25	5.6	1.2	0.1	0.6	0.1	11.5	13.5	14.8
38-48	II A'_2	1.1	5.1	6.0	0.8	<0.1	0.8	0.1	10.5	12.3	14.6

Soil Series Bangor Site No. 4

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
		Percent of <2mm									
48-53	II C_1	35.94	57.17	6.89	7.42	6.52	6.50	8.38	7.12	22.52	34.65
53-71	II C_2	44.29	48.84	6.87	6.76	6.86	7.08	12.10	11.49	22.19	26.65
71-100	II C_3	42.52	50.42	7.06	6.01	6.30	7.01	12.01	11.19	22.25	28.17

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g/cc.	Available Water (cm./cm.)
		0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	
48-53	II C_1	32.2	30.6	26.2	23.1	21.4	15.8	12.2	10.0	6.9	1.15	0.22
53-71	II C_2	21.4	20.0	17.4	15.7	14.4	12.5	10.9	8.6	5.4	1.46	0.18
71-100	II C_3	20.2	19.1	17.3	15.1	13.9	12.4	10.2	8.3	5.5	1.48	0.18

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
48-53	II C_1	--	6.1	2.8	0.6	1.9	2.0	3.5	9.3	26.2
53-71	II C_2	1.9	1.1	1.9	2.7	1.8	1.8	2.4	4.5	18.1
71-100	II C_3	14.8	4.7	4.9	4.3	2.6	2.8	3.8	7.4	45.3

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct.
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g						
48-53	II C_1	0.7	5.1	5.3	0.7	<0.1	<0.1	0.1	7.7	8.7	11.5
53-71	II C_2	0.2	5.0	5.25	0.8	<0.1	<0.1	0.1	4.9	6.0	18.3
71-100	II C_3	0.2	5.0	5.3	0.9	<0.1	<0.1	0.1	4.1	5.3	22.6

Bangor Mapping Unit Site No. 5

Location: Exeter, Penobscot County, Maine, 1972

Horizon	Depth	Description
A_p	0-13 cm.	Dark grayish brown (10YR 4/2) silt loam; strong coarse granular structure; friable; abrupt smooth boundary.
B_{21}	13-28 cm.	Dark brown (7.5YR 4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{22}	28-53 cm.	Yellowish brown (10YR 5/8) silt loam; weak fine granular structure; friable; abrupt wavy boundary.
B_{23}	51-61 cm.	Light olive brown (2.5Y 5/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	61-68 cm.	Light olive brown (2.5Y 5/4) silt loam; moderate medium platy structure; friable; abrupt smooth boundary.
II C_1	68-84 cm.	Olive (5Y 5/4) silt loam; moderate medium platy structure; firm; abrupt smooth boundary.
II C_2	84-100 cm.	Olive (5Y 5/4) silt loam; strong very coarse prismatic structure separating to moderate medium platy structure inside prisms and gray (5Y 6/1) prism edges; firm.

Soil Series Bangor Site No. 5

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (< .002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm.									
0-13	Ap	26.27	60.23	13.50	4.94	5.54	4.14	5.65	6.00	21.41	38.82
13-28	B_{21}	26.71	62.07	11.22	7.64	4.24	3.78	5.31	5.74	21.66	40.41
28-53	B_{22}	30.43	62.83	6.74	8.79	4.96	4.45	6.00	6.23	23.87	38.96
53-61	B_{23}	30.35	61.99	7.66	6.94	5.29	4.48	6.82	6.82	20.35	41.64

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g /cc	Available Water (cm./cm.)
0-13	Ap	43.3	41.2	37.4	34.7	33.3	22.4	15.9	15.0	12.3	0.82	0.21
13-28	B_{21}	44.2	41.7	35.5	32.0	30.1	19.0	15.0	11.5	9.3	0.83	0.22
28-53	B_{22}	41.4	38.8	32.4	27.9	24.8	19.9	13.1	10.4	6.8	1.06	0.27
53-61	B_{23}	36.4	34.6	29.2	25.0	22.0	15.0	10.1	8.6	6.0	1.17	0.27

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm	TOTAL
0-13	Ap	--	--	0.3	1.6	0.5	1.2	1.3	3.0	7.9
13-28	B_{21}	--	--	0.2	1.1	0.6	1.3	2.6	4.2	10.0
28-53	B_{22}	--	0.9	0.2	1.0	0.9	1.0	1.7	3.8	9.5
53-61	B_{23}	--	--	0.8	0.2	0.6	1.1	2.4	5.4	10.5

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq /100 g.						
0-13	Ap	4.4	4.75	4.4	9.4	0.2	<0.1	0.1	14.0	23.8	41.2
13-28	B_{21}	1.4	4.4	4.7	1.1	<0.1	<0.1	<0.1	11.0	12.4	11.3
28-53	B_{22}	0.9	4.7	4.95	1.0	<0.1	<0.1	<0.1	8.6	9.9	13.1
53-61	B_{23}	0.6	4.9	4.8	0.8	<0.1	<0.1	<0.1	6.3	7.4	14.9

Soil Series Bangor Site No. 5

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (< .002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
61-68	II A'$_2$	29.89	60.19	9.92	5.80	4.94	4.60	7.15	7.40	23.17	37.02
68-84	II C$_1$	24.55	61.83	13.62	4.26	3.99	3.84	6.04	6.42	21.17	40.66
84-100	II C$_2$	24.95	63.63	11.42	4.80	4.08	3.83	5.85	6.39	19.51	44.12

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g./cc.	Available Water (cm./cm.)
		0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	
61-68	II A'$_2$	26.1	24.9	22.4	20.3	18.6	14.9	10.9	8.5	5.3	1.36	0.23
68-84	II C$_1$	20.8	20.3	19.2	18.3	17.6	14.7	12.0	9.6	6.5	1.59	0.20
84-100	II C$_2$	22.5	21.9	20.6	19.7	19.3	15.7	12.2	9.5	6.3	1.54	0.22

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
61-68	II A'$_2$	--	--	--	0.8	0.3	0.5	1.0	2.5	5.1
68-84	II C$_1$	--	--	0.7	1.0	1.0	1.3	2.0	5.4	11.4
84-100	II C$_2$	--	0.6	1.3	2.0	1.1	1.8	4.0	5.2	16.0

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq./100 g.						
61-68	II A'$_2$	0.4	4.7	5.05	0.8	<0.1	<0.1	<0.1	5.8	6.9	15.9
68-84	II C$_1$	0.2	4.7	5.3	1.6	<0.1	<0.1	<0.1	4.6	6.5	29.2
84-100	II C$_2$	0.2	4.85	5.4	2.9	0.2	<0.1	<0.1	4.1	7.4	44.6

Caribou Mapping Unit
Site 1

Location: Crouseville, Aroostook County, Maine, 1970.

Horizon	Depth	Description
Ap_1	0-18 cm.	Yellowish brown (10YR5/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
Ap_2	18-28 cm.	Yellowish brown (10YR5/4) silt loam; weak thin platy structure; friable; abrupt smooth boundary.
B_{21}	28-43 cm.	Light yellowish brown (10YR6/4) loam; weak fine granular structure; friable; clear smooth boundary.
II A'_2	43-58 cm.	Yellowish brown (10YR5/4) loam; moderate fine and medium subangular blocky structure; friable; clear smooth boundary.
II C	58-100 cm.	Light yellowish brown (10YR6/4) outside ped color and dark brown (10YR4/3) inside ped color, loam; moderate medium subangular blocky structure; friable.

Soil Series Caribou Site No. 1

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-18	Ap_1	31.68	52.73	15.59	5.40	5.50	5.91	8.32	6.55	19.14	33.59
18-28	Ap_2	31.79	51.96	16.25	7.20	5.47	5.62	7.52	5.98	18.20	33.76
28-43	$B2_1$	35.01	49.40	15.59	7.04	6.57	6.15	8.34	6.91	17.50	31.90
43-58	II A'_2	37.79	48.13	14.08	7.30	6.65	6.64	9.30	7.90	18.39	29.74
58-100	II C	41.27	44.47	14.26	8.48	7.46	7.41	9.84	8.08	17.55	26.92

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct.	0.33 pct	0.67 pct	1.0 pct	2.0 pct	3.0 pct	5.0 pct	15.0 pct	Bulk Density g/cc	Available Water (cm./cm.)
0-18	Ap_1	39.4	37.4	34.1	32.7	31.7	22.9	19.6	16.1	11.6	1.06	0.24
18-28	Ap_2	33.2	31.9	29.8	28.8	28.2	21.6	18.9	15.3	11.6	1.25	0.23
28-43	$B2_1$	39.1	37.5	33.6	33.1	27.1	17.0	14.8	12.4	9.7	1.13	0.27
43-58	II A'_2	32.7	31.3	28.6	27.0	25.4	14.4	12.1	10.0	6.6	1.14	0.25
58-100	II C	25.8	25.4	24.4	21.3	20.0	14.6	12.5	10.5	7.8	1.49	0.25

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-18	Ap_1	0.0	0.0	0.2	1.0	1.0	2.0	4.4	6.3	14.9
18-28	Ap_2	0.0	0.0	0.4	0.7	0.9	1.6	3.6	4.5	11.7
28-43	$B2_1$	0.0	0.0	0.0	3.4	7.3	8.3	7.2	7.3	33.5
43-58	II A'_2	4.2	1.1	4.9	17.1	11.4	10.2	8.7	7.7	65.3
58-100	II C	5.7	3.1	3.0	6.9	4.0	4.5	4.5	4.7	36.4

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq/100 g.						
0-18	Ap_1	3.1	4.45	4.55	2.4	0.4	<0.1	0.4	14.4	17.7	18.6
18-28	Ap_2	2.5	4.4	4.45	1.8	0.2	<0.1	0.2	14.4	16.7	13.8
28-43	$B2_1$	1.3	4.5	4.6	0.5	<0.1	<0.1	0.1	9.9	10.7	7.5
43-58	II A'_2	0.6	4.55	4.65	0.1	<0.1	<0.1	0.1	6.5	6.9	5.8
58-100	II C	0.4	4.55	4.75	1.4	0.3	<0.1	0.1	5.4	7.3	26.3

Caribou Mapping Unit
Site 2

Location: Presque Isle, Aroostook County, Maine, 1970.

Horizon	Depth	Description
O_1	2-0 cm.	Loose Leaves.
A_1	0-11 cm.	Very dark grayish brown (10YR3/2) silt loam; moderate medium granular structure; friable; abrupt wavy boundary.
A_2	11-13 cm.	Light brownish gray (10YR6/2) silt loam; weak fine platy structure; friable; abrupt broken boundary.
B_{21_h}	13-13.5 cm.	Dusky red (2.5YR3/2) silt loam; weak fine granular structure; friable; abrupt broken boundary.
$B_{22_{ir}}$	13.5-20 cm.	Strong brown (7.5YR5/6) silt loam; weak fine granular structure; friable; abrupt wavy boundary.
B_{23}	20-33 cm.	Yellowish brown (10YR5/6) silt loam; weak medium granular structure; friable; clear wavy boundary.
B_3	33-43 cm.	Light olive brown (2.5Y5/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	43-56 cm.	Light yellowish brown (2.5Y6/4) outside ped color and dark grayish brown (2.5Y4/2) inside ped color, loam; moderate medium subangular blocky structure; firm; clear smooth boundary.
II C	56-100 cm.	Light yellowish brown (2.5Y6/4) outside ped color and dark grayish brown (10YR4/2) inside ped color, loam; strong very coarse prismatic structure separating to medium subangular blocky secondary structure, prism faces are light brownish gray (2.5Y6/2); firm.

Soil Series Caribou Site No. 2

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (< .002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
		Percent of < 2mm									
0-11	A1	22.34	62.19	15.47	1.57	2.24	3.54	6.72	8.27	27.39	34.80
11-13	A2	24.37	65.68	9.95	1.49	2.29	3.87	7.78	8.94	30.64	35.04
13-20	B21+B22	29.48	59.27	11.25	4.55	4.28	4.91	7.33	8.41	29.68	29.59
20-33	B23	38.15	52.63	9.22	7.01	6.41	7.24	8.56	8.93	25.53	27.10
33-43	B3	38.88	50.30	10.82	5.41	6.58	8.04	10.54	8.31	23.34	26.96
43-56	II A'2	43.36	42.66	13.98	7.39	8.09	8.97	10.84	8.07	16.49	26.17
56-100	II C	39.06	40.36	20.58	9.09	6.94	6.76	9.17	7.10	14.18	26.18

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g./cc	Available Water (cm./cm.)
		0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct	1.0 pct.	2.0 pct	3.0 pct	5.0 pct.	15.0 pct.	
0-11	A1	77.7	76.0	71.5	70.6	69.9	34.2	31.9	30.0	27.5	0.49	0.22
11-13	A2	36.7	35.5	32.5	30.8	29.4	17.8	13.5	10.8	9.2	1.18	0.27
13-20	B21+B22	73.0	69.5	56.6	53.6	52.2	28.2	23.0	21.7	21.2	0.74	0.26
20-33	B23	56.5	52.0	41.5	38.3	36.5	19.0	15.7	14.1	12.4	0.88	0.26
33-43	B3	38.8	36.3	30.1	27.0	25.8	15.5	13.3	11.6	9.6	1.05	0.22
43-56	II A'2	23.2	22.6	20.1	17.9	16.5	13.1	11.0	8.9	5.7	1.35	0.19
56-100	II C	22.7	22.1	21.0	19.9	18.8	15.7	13.6	11.6	8.8	1.54	0.19

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-11	A1	0.0	0.0	0.0	0.8	0.4	0.5	0.6	1.1	3.4
11-13	A2	0.0	0.0	0.0	5.8	0.0	1.2	1.8	3.4	12.2
13-20	B21+B22	0.0	0.0	0.0	0.6	0.5	1.0	2.8	3.8	8.7
20-33	B23	0.0	0.0	0.0	0.6	0.8	1.2	3.1	5.4	11.1
33-43	B3	0.0	0.0	0.4	0.5	1.0	2.6	5.3	7.4	17.2
43-56	II A'2	0.0	0.0	2.4	4.0	3.9	3.8	6.7	8.1	28.9
56-100	II C	1.6	1.2	1.1	4.9	3.7	4.5	7.2	7.2	31.4

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct.
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g.						
0-11	A1	12.5	3.9	4.15	4.5	0.9	<0.1	0.1	24.3	29.9	18.7
11-13	A2	2.6	3.9	4.25	1.8	0.3	<0.1	<0.1	16.5	18.8	12.2
13-20	B21+B22	5.2	4.2	4.45	1.6	0.2	<0.1	0.1	26.5	28.5	7.0
20-33	B23	2.3	4.4	4.45	0.1	<0.1	<0.1	<0.1	17.3	17.7	2.2
33-43	B3	1.3	4.45	4.55	<0.1	<0.1	<0.1	<0.1	10.3	10.7	3.7
43-56	II A'2	0.6	4.35	4.65	0.1	<0.1	<0.1	<0.1	6.3	6.7	6.0
56-100	II C	0.2	4.25	4.7	1.6	0.6	<0.1	0.1	6.5	8.9	27.0

Caribou Mapping Unit
Site 3

Location: Presque Isle, Aroostook County, Maine, 1970.

Horizon	Depth	Description
Ap	0-20 cm.	Dark brown (10YR3/3) loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{21}	20-33 cm.	Yellowish brown (10YR5/6) silt loam; weak fine granular structure; friable; abrupt wavy boundary.
II A'_2	33-58 cm.	Olive brown (2.5Y4/4) loam; weak medium subangular blocky structure; friable; clear smooth boundary.
II C	58-100 cm.	Yellowish brown (10YR5/4) outside ped color and dark brown (10YR4/3) inside ped color, loam; moderate medium subangular blocky structure; friable.

Soil Series Caribou Site No. 3

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-20	Ap	36.32	48.51	15.17	4.69	5.70	6.54	9.97	9.42	20.87	27.64
20-33	B_{21}	32.59	51.76	15.65	5.81	5.62	5.59	7.97	7.60	20.54	31.22
33-58	II A'_2	38.33	49.42	12.25	8.73	7.29	6.82	8.31	7.18	18.51	30.91
58-100	II C	35.85	47.02	17.13	6.95	7.18	6.47	8.22	7.03	17.16	29.86

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct	0.1 pct.	0.33 pct.	0.67 pct	1.0 pct.	2.0 pct.	3.0 pct	5.0 pct	15.0 pct	Bulk Density g/cc	Available Water (cm./cm.)
0-20	Ap	39.1	37.6	34.1	33.0	31.8	22.9	19.3	16.6	14.8	1.03	0.20
20-33	B_{21}	56.6	53.7	46.5	43.4	41.4	23.8	19.3	16.2	13.8	0.82	0.27
33-58	II A'_2	31.3	33.8	29.6	25.5	23.2	17.3	13.4	11.0	7.7	1.00	0.22
58-100	II C	33.4	31.5	28.6	26.0	24.9	16.7	13.6	11.2	7.4	1.16	0.24

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-20	Ap	0.0	1.2	0.2	1.1	1.7	2.2	4.0	5.6	16.0
20-33	B_{21}	0.0	0.0	3.9	3.3	2.4	4.1	6.2	7.0	26.9
33-58	II A'_2	6.6	5.7	4.6	3.3	4.7	4.8	6.5	8.7	44.9
58-100	II C	1.2	3.5	4.5	5.9	4.7	6.0	7.5	10.2	43.5

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq./100 g						
0-20	Ap	3.1	4.5	4.75	3.1	0.4	<0.1	0.3	15.0	18.9	20.6
20-33	B_{21}	2.1	4.6	4.9	1.8	0.2	<0.1	0.1	15.0	17.2	12.8
33-58	II A'_2	0.6	4.7	5.0	0.8	0.1	<0.1	0.1	7.4	8.5	12.9
58-100	II C	0.3	4.75	5.15	2.5	0.4	<0.1	0.1	5.5	8.6	36.0

Caribou Mapping Unit
Site 4

Location: Presque Isle, Aroostook County, Maine, 1970.

Horizon	Depth	Description
Ap	0-23 cm.	Dark yellowish brown (10YR4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_2	23-33 cm.	Yellowish brown (10YR5/4) loam; moderate medium platy structure; friable; abrupt wavy boundary.
II A'_2	33-41 cm.	Light olive brown (2.5Y6/4) outside ped color and olive brown (2.5Y4/4) inside ped color, loam; moderate medium platy structure; firm, abrupt wavy boundary.
II C_1	41-74 cm.	Yellowish brown (10YR5/4) outside ped color and dark brown (10YR4/3) inside ped color, loam; strong very coarse prismatic structure separating to medium subangular blocky secondary structure, prism faces are pale brown (10YR6/3); firm; gradual wavy boundary.
II C_2	74-100 cm.	Dark brown (10YR3/3) loam; strong very coarse prismatic structure separating to coarse subangular blocky secondary structure, prism faces are dark grayish brown (10YR4/2); firm.

Soil Series Caribou Site No. 4

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm.									
0-23	Ap	31.40	54.96	13.64	3.55	4.37	5.84	8.88	8.76	21.59	33.37
23-33	B_2	37.32	49.83	12.85	6.75	6.37	7.65	9.46	7.09	18.95	30.88
33-41	II A'_2	36.95	49.69	13.36	6.01	6.27	8.04	9.57	7.06	15.88	33.81
41-74	II C_1	30.79	49.36	19.85	4.52	5.30	6.64	8.31	6.02	15.45	33.91
74-100	II C_2	29.06	49.26	21.68	4.58	4.97	5.90	7.71	5.90	16.23	33.03

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct	1.0 pct.	2.0 pct.	3.0 pct.	5.0 pct	15.0 pct.	Bulk Density g/cc.	Available Water (cm./cm.)
0-23	Ap	39.4	36.2	32.1	29.4	28.4	27.8	18.9	15.2	11.1	1.05	0.22
23-33	B_2	29.1	27.2	24.3	21.4	20.6	16.1	12.8	10.2	6.9	1.21	0.21
33-41	II A'_2	24.8	23.3	21.4	19.5	18.9	14.9	11.4	9.1	5.7	1.33	0.21
41-74	II C_1	17.8	17.4	16.7	16.0	15.7	14.5	13.7	11.0	7.8	1.64	0.14
74-100	II C_2	18.2	17.9	17.1	16.5	16.2	15.6	15.4	13.4	11.5	1.68	0.09

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-23	Ap	0.0	0.8	0.2	1.4	0.6	1.5	3.4	5.4	13.3
23-33	B_2	0.0	0.0	1.0	1.8	0.4	2.6	5.1	8.2	19.1
33-41	II A'_2	0.0	0.0	1.6	1.4	1.8	2.7	4.7	8.8	21.0
41-74	II C_1	0.0	2.1	2.1	2.1	1.7	1.9	4.9	9.3	24.1
74-100	II C_2	1.2	1.0	2.1	1.5	1.5	2.0	3.7	9.4	22.4

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq./100 g.						
0-23	Ap	2.4	4.2	4.4	1.7	0.2	<0.1	0.2	17.3	19.5	11.3
23-33	B_2	0.7	4.5	4.65	0.5	<0.1	<0.1	0.1	8.2	9.0	8.9
33-41	II A'_2	0.4	4.35	4.6	0.4	<0.1	<0.1	0.1	6.3	7.0	10.0
41-74	II C_1	0.2	4.5	4.9	3.2	0.6	<0.1	0.1	5.5	9.5	42.1
74-100	II C_2	0.2	5.35	5.7	5.9	1.0	<0.1	0.1	3.5	10.6	67.0

Caribou Mapping Unit
Site 5

Location: Presque Isle, Aroostook County, Maine, 1970.

Horizon	Depth	Description
Ap	0-28 cm.	Dark yellowish brown (10YR4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_2	28-31.5 cm.	Yellowish brown (10YR5/6) loam; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	31.5-43 cm.	Yellowish brown (10YR5/4) outside ped color and brown (10YR4/3) inside ped color, loam; strong, coarse prismatic structure separating to medium subangular blocky secondary structure, prism faces are pale brown (10YR6/3); firm; clear smooth boundary.
II C_1	43-68 cm.	Yellowish brown (10YR5/4) outside ped color and dark yellowish brown (10YR3/4) inside ped color, loam; strong, coarse prismatic structure separating to medium and coarse subangular blocky secondary structure, prism faces are dark gray (10YR4/1); firm; gradual smooth boundary.
II C_2	68-100 cm.	Yellowish brown (10YR5/4) outside ped color and dark brown (10YR4/3) inside ped color, loam; moderate medium and fine subangular blocky structure; firm.

Soil Series Caribou ....

Site No. 5 ....

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
		Percent of <2mm									
0-28	Ap	27.29	56.30	16.41	4.75	3.94	4.25	6.72	7.63	25.36	30.94
28-31.5	B_2	31.55	49.51	18.94	4.47	5.60	6.05	8.40	7.03	18.50	31.01
31.5-43	II A'_2	32.26	48.46	19.28	4.93	6.01	6.35	8.28	6.69	18.07	30.39
43-68	II C_1	33.82	42.93	23.25	4.87	6.94	6.45	8.47	7.09	16.15	26.78
68-100	II C_2	34.37	42.96	22.67	6.94	6.38	6.16	8.02	6.87	16.84	26.12

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g/cc	Available Water (cm./cm.)
		0.059 pct	0.1 pct	0.33 pct	0.67 pct.	1.0 pct	2.0 pct	3.0 pct	5.0 pct	15.0 pct.	
0-28	Ap	33.7	31.9	28.5	27.3	26.9	21.1	20.3	16.6	11.2	1.23	0.21
28-31.5	B_2	29.7	27.8	24.6	21.9	21.0	19.5	15.4	13.2	9.0	1.25	0.20
31.5-43	II A'_2	20.0	19.0	17.7	16.9	16.5	15.7	13.2	11.3	7.4	1.60	0.16
43-100	II C_1	20.2	20.0	19.1	18.5	18.1	17.8	14.7	12.9	9.8	1.62	0.15
68-100	II C_2	27.2	26.7	25.8	25.4	24.9	18.5	16.1	14.4	11.8	1.53	0.21

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm.	TOTAL
0-28		0.0	0.0	0.3	0.8	0.7	1.5	3.1	6.3	12.7
28-31.5	Ap	0.0	0.0	0.0	1.1	1.0	2.0	4.1	7.8	16.0
31.5-43	B_2	0.0	0.9	0.4	0.3	0.2	1.4	4.1	8.9	16.2
43-68	II A'_2	0.0	1.2	2.6	2.2	2.5	3.3	4.8	8.7	25.3
68-100	II C_1	0.0	4.5	2.8	3.5	2.0	2.6	4.6	6.3	26.3
	II C_2									

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct.
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g.						
0-28	Ap	2.5	4.85	5.2	4.2	1.0	<0.1	0.2	12.8	18.3	30.0
28-31.5	B_2	0.9	4.8	5.15	1.6	0.3	<0.1	0.1	8.6	10.7	19.6
31.5-43	II A'_2	0.2	4.65	5.1	2.4	0.6	<0.1	0.1	5.4	8.6	37.2
43-68	II C_1	0.2	5.1	5.55	6.0	0.8	<0.1	0.1	4.3	11.3	61.9
68-100	II C_2	0.2	6.15	6.35	7.0	0.7	<0.1	0.1	2.9	10.8	73.1

CONANT MAPPING UNIT

Site 1

Location: Washburn, Aroostook County, Maine, 1971.

Horizon	Depth	Description
Ap_1	0-15 cm.	Dark brown (10YR 3/3) loam; weak fine granular structure; friable; abrupt smooth boundary.
Ap_2	15-28 cm.	Dark brown (10YR 3/3) gravelly silt loam; weak medium platy structure; friable; abrupt smooth boundary.
B_2	28-36 cm.	Yellowish brown (10YR 5/4) gravelly loam with common fine distinct light brownish gray (2.5Y 6/2) mottles; weak fine platy structure; friable; abrupt smooth boundary.
II A'_2	36-48 cm.	Light brownish gray (2.5Y 6/2) gravelly loam with common medium faint light olive brown (2.5Y 5/4) mottles; weak coarse platy structure; firm; clear wavy boundary.
II C_1	48-74 cm.	Light brownish gray (10YR 6/2) outside ped color and dark brown (10YR 4/3) inside ped color; gravelly loam; strong coarse prismatic structure with prism interiors separating to moderate medium and coarse subangular blocky structure; firm; (vertical prism channels are light brownish gray (2.5Y 6/2) with (10YR 5/8) yellowish brown edges); gradual wavy boundary.
II C_2	74-100 cm.	Same as horizon above except prism interiors have moderate coarse subangular blocky structure.

Soil Series Conant Site No. 1

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-15	Ap1	32.89	49.77	17.34	6.98	6.48	6.11	7.40	5.92	18.41	31.36
15-28	Ap2	31.39	51.20	17.41	5.72	5.98	6.09	7.49	6.11	18.82	32.38
28-36	B2	39.14	46.08	14.78	9.81	8.11	6.94	8.08	6.20	17.18	28.90
36-48	II A'2	41.77	45.72	12.51	8.44	8.61	8.08	9.61	7.03	15.63	30.09
48-74	II C1	36.43	43.11	20.46	7.25	7.01	6.85	8.72	6.60	15.17	27.94
74-100	II C2	35.42	40.52	24.06	7.51	6.86	6.74	8.13	6.18	15.43	25.09

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct	0.1 pct.	0.33 pct	0.67 pct	1.0 pct.	2.0 pct	3.0 pct.	5.0 pct	15.0 pct.	Bulk Density g./cc.	Available Water (cm./cm.)
0-15	Ap1	43.4	38.5	34.2	31.4	30.7	28.7	18.2	16.1	12.6	0.94	0.20
15-28	Ap2	41.7	37.2	33.2	30.4	29.8	25.1	19.0	17.0	13.7	1.00	0.20
28-36	B2	34.4	30.5	27.1	24.4	23.4	22.6	14.7	12.4	9.0	1.24	0.22
36-48	II A'2	25.8	23.4	21.4	19.1	18.6	14.9	11.4	9.4	5.6	1.33	0.21
48-74	II C1	21.6	20.6	19.3	18.3	17.7	16.5	13.5	12.2	7.9	1.70	0.19
74-100	II C2	24.8	24.0	22.6	21.8	21.3	17.4	14.7	13.2	9.9	1.47	0.19

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-15	Ap1	-	0.7	0.3	0.6	0.9	1.3	3.3	5.8	12.9
15-28	Ap2	-	1.0	0.9	0.4	1.3	1.4	4.6	10.6	20.2
28-36	B2	-	-	-	0.6	1.6	3.3	6.9	12.6	25.0
36-48	II A'2	-	-	0.4	1.9	2.7	3.8	6.1	9.3	24.2
48-74	II C1	-	1.4	1.2	3.2	3.6	4.3	6.9	10.0	30.6
74-100	II C2	-	3.7	4.0	4.1	4.0	4.6	6.9	9.0	36.3

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq /100 g.						
0-15	Ap1	3.5	5.0	5.4	6.0	0.4	<0.1	0.2	12.4	19.1	35.1
15-28	Ap2	3.8	4.95	5.45	6.3	0.5	<0.1	0.1	13.0	20.0	35.0
28-36	B2	1.5	5.05	5.65	4.7	0.3	<0.1	<0.1	8.1	13.3	39.1
36-48	II A'2	0.5	5.1	5.7	2.6	0.2	<0.1	<0.1	3.4	6.4	46.9
48-74	II C1	0.3	5.5	6.15	5.4	0.7	<0.1	<0.1	3.1	9.4	67.0
74-100	II C2	0.2	5.95	6.55	6.3	1.2	<0.1	<0.1	2.4	10.1	76.2

CONANT MAPPING UNIT

Site 2

Location: Washburn, Aroostook County, Maine, 1971.

Horizon	Depth	Description
O_2	5-0 cm.	Reddish black (10R 2/1) organic layer.
A_2	0-8 cm.	White (10YR 8/1) gravelly silt loam; weak thin platy structure; friable; abrupt wavy boundary.
$B_{21}h$	8-23 cm.	Reddish brown (5YR 4/4) gravelly silt loam; weak fine granular structure; friable; abrupt wavy boundary.
B_{22}	23-38 cm.	Dark brown (10YR 3/3) gravelly loam with common fine distinct light olive brown (2.5Y 5/4) and light brownish gray (2.5Y 6/2) mottles; moderate medium granular structure; friable; clear wavy boundary.
II A'_2	38-48 cm.	Light olive gray (5Y 6/2) gravelly loam; moderate medium platy structure; firm; abrupt wavy boundary.
II C_1	48-64 cm.	Light yellowish brown (2.5Y 6/4) outside ped color and dark brown (10YR 4/3) inside ped color gravelly silt loam; strong very coarse prismatic structure with prism interiors separating to moderate medium subangular block structure; firm; (vertical prism channels are gray (10YR 5/1); gradual wavy boundary.
II C_2	64-100 cm.	Pale brown (10YR 6/3) outside ped color and dark brown (10YR 4/3) inside ped color gravelly loam; structure and consistence are same as horizon above.

Soil Series Conant Site No. 2

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (< .002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
5-0	O_2										
0-8	A_2	25.25	59.61	15.14	4.19	3.71	3.92	7.23	6.20	21.52	38.09
8-23	$B_{21}h$	32.22	50.51	17.27	7.24	5.86	5.25	7.77	6.10	20.19	30.32
23-38	B_{22}	44.30	40.75	14.95	10.52	9.33	7.73	10.10	6.62	16.11	24.64
38-48	II A'_2	41.43	44.86	13.71	9.00	8.26	7.44	9.79	6.94	16.73	28.13
48-64	II C_1	31.96	51.48	16.56	5.34	5.81	5.86	8.14	6.81	20.06	31.42
64-100	II C_2	30.86	49.19	19.95	5.18	5.65	5.84	7.87	6.32	18.44	30.75

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g/cc	Available Water (cm./cm.)
		0.059 pct.	0.1 pct	0.33 pct.	0.67 pct	1.0 pct.	2.0 pct.	3.0 pct	5.0 pct.	15.0 pct.	
5-0	O_2	258.9	211.4	199.3	191.6	188.0	56.1	55.9		49.5	0.16	0.24
0-8	A_2	37.5	35.4	32.7	30.9	30.2	25.8	16.7	13.4	10.2	0.90	0.20
8-23	$B_{21}h$	51.0	44.1	36.3	32.7	32.4	19.0	16.5	15.0	12.4	0.82	0.20
23-38	B_{22}	45.2	40.8	35.4	31.8	30.9	17.4	15.2	13.7	10.4	0.86	0.22
38-48	II A'_2	21.2	20.8	19.7	19.0	18.8	15.0	12.0	10.2	6.6	1.42	0.19
48-64	II C_1	21.5	21.2	19.7	18.9	18.6	15.6	13.2	11.2	7.6	1.51	0.18
64-100	II C_2	20.0	19.5	18.7	18.1	17.8	15.5	15.2	13.2	9.4	1.52	0.14

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)							
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm	TOTAL
5-0	O_2	-	-	-	-	Trace	0.4	0.4	0.4	1.2
0-8	A_2	-	2.3	3.4	4.4	3.4	4.5	6.9	8.2	33.1
8-23	$B_{21}h$	2.5	.	0.8	2.4	1.3	1.9	3.9	5.2	18.0
23-38	B_{22}	-	0.7	2.2	4.2	3.2	3.5	7.2	10.5	31.5
38-48	II A'_2	-	3.5	2.6	3.1	3.6	4.6	8.7	13.6	39.7
48-64	II C_1	-	2.3	1.8	2.7	2.1	2.9	4.2	6.6	22.6
64-100	II C_2	-	1.5	1.1	1.6	2.4	2.5	4.6	7.9	21.6

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq/100 g.						
5-0	O_2	24.7	3.5	4.05	11.1	2.0	0.1	1.0	40.1	54.3	26.2
0-8	A_2	2.1	3.7	4.35	0.8	0.3	<0.1	<0.1	18.4	19.7	6.6
8-23	$B_{21}h$	2.0	4.05	4.5	0.2	0.1	<0.1	<0.1	17.2	17.7	2.8
23-38	B_{22}	1.2	4.35	4.85	<0.1	<0.1	<0.1	<0.1	12.7	13.1	3.0
38-48	II A'_2	0.5	4.6	5.15	0.2	0.1	<0.1	<0.1	6.7	7.2	6.9
48-64	II C_1	0.3	4.65	5.5	2.8	0.5	<0.1	<0.1	5.3	8.8	39.8
64-100	II C_2	0.2	5.5	6.3	6.3	0.8	<0.1	<0.1	3.1	10.4	70.2

CONANT MAPPING UNIT

Site 3

Location: Crouseville, Aroostook County, Maine, 1971.

Horizon	*Depth*	*Description*
Ap	0-13 cm.	*Brown (10YR 4/3) loam; moderate fine granular structure; friable; abrupt smooth boundary.*
A_2	13-15 cm.	*Pockets of very pale brown (10YR 7/3) gravelly loam; weak thin platy structure; friable; abrupt broken boundary.*
B_{21}	15-38 cm.	*Yellowish brown (10YR 5/6) gravelly loam; weak thin platy structure; friable; abrupt smooth boundary.*
B_{22}	38-43 cm.	*Yellowish brown (10YR 5/4) gravelly loam with common medium distinct light olive brown (2.5Y 5/4) mottles; weak fine granular structure; friable; abrupt smooth boundary.*
II A'_2	43-64 cm.	*Light yellowish brown (2.5Y 6/4) outside ped color and olive brown (2.5Y 4/4) inside ped color gravelly loam; weak fine subangular blocky structure; friable; clear wavy boundary.*
II C	64-100 cm.	*Yellowish brown (10YR 5/4) outside ped color and brown (10YR 4/3) inside ped color very gravelly loam; moderate fine subangular blocky structure; friable.*

Soil Series Conant Site No. 3

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (< .002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm.						
0-13	Ap	45.35	42.05	12.60	11.56	10.45	9.17	9.39	4.78	14.36	27.69
13-38	A_2+B_{21}	49.26	37.50	13.24	9.62	10.95	11.68	11.91	5.10	12.90	24.60
38-43	B_{22}	42.23	40.09	17.68	7.67	8.85	9.28	10.41	6.02	14.25	25.84
43-64	II A'_2	37.89	42.36	19.75	7.92	7.53	6.92	8.66	6.86	13.63	28.73
64-100	II C	32.31	45.14	22.55	5.22	5.85	6.18	8.33	6.73	15.80	29.34

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g /cc	Available Water (cm./cm.)
		0.059 pct	0.1 pct.	0.33 pct	0.67 pct.	1.0 pct.	2.0 pct	3.0 pct	5.0 pct	15.0 pct.	
0-13	Ap	34.1	31.2	29.1	28.5	27.9	21.4	16.7	14.3	9.8	1.02	0.20
13-38	A_2+B_{21}	25.0	24.4	23.2	22.6	22.2	18.7	13.8	12.1	7.3	1.47	0.23
38-43	B_{22}	23.1	21.9	20.8	19.7	19.1	19.1	14.4	12.8	8.5	1.35	0.17
43-64	II A'_2	27.7	26.7	24.9	23.6	23.0	17.5	15.6	14.0	9.9	1.44	0.22
64-100	II C	27.4	26.7	26.0	25.5	24.9	19.5	15.9	13.9	9.4	1.46	0.24

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-13	Ap	·	0.6	0.8	0.6	0.8	1.1	2.4	6.6	12.9
13-38	A_2+B_{21}	1.7	2.2	0.4	1.6	1.4	1.8	3.0	7.8	19.9
38-43	B_{22}	-	-	4.7	6.6	3.7	6.3	7.9	11.4	40.6
43-64	II A'_2	-	2.2	4.4	4.5	3.7	3.7	4.1	2.1	24.7
64-100	II C	-	6.1	6.6	11.5	5.9	5.7	4.7	8.6	49.1

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct.
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g.						
0-13	Ap	2.4	4.35	4.85	1.1	0.1	<0.1	0.1	13.4	14.8	9.4
13-38	A_2+B_{21}	0.8	4.5	4.95	<0.1	<0.1	<0.1	<0.1	9.3	9.7	4.1
38-43	B_{22}	0.9	4.6	4.95	0.2	<0.1	<0.1	<0.1	9.8	10.3	4.8
43-64	II A'_2	0.5	4.6	4.95	3.1	<0.1	<0.1	<0.1	8.8	12.2	27.9
64-100	II C	0.3	4.65	5.2	3.1	0.4	<0.1	0.1	6.2	9.9	37.4

CONANT MAPPING UNIT

Site 4

Location: Presque Isle, Aroostook County, Maine, 1971.

Horizon	Depth	Description
O_1	5-0 cm.	Loose leaves.
A_1	0-8 cm.	Dark brown (10YR 3/3) silt loam; moderate fine and medium granular structure; friable; abrupt smooth boundary.
B_{21h}	8-13 cm.	Dark reddish brown (2.5YR 3/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{22}	13-18 cm.	Reddish brown (5YR 4/4) gravelly silt loam; weak fine granular structure; friable; abrupt wavy boundary.
B_{23}	18-30 cm.	Strong brown (7.5YR 5/6) gravelly loam; weak fine granular structure; friable; abrupt wavy boundary.
B_{24}	30-41 cm.	Yellowish brown (10YR 5/4) fine sandy loam with few fine distinct (2.5Y 5/2) grayish brown mottles; weak fine granular structure; friable; abrupt wavy boundary.
II A'_2	41-51 cm.	Light olive brown (2.5Y 5/4) outside ped color and dark grayish brown (2.5Y 4/2) inside ped color very gravelly loam; weak medium platy and subangular blocky structure; friable; abrupt wavy boundary.
II C_1	51-81 cm.	Light olive brown (2.5Y 5/4) outside ped color and dark brown (10YR 3/3) inside ped color gravelly loam; moderate medium subangular blocky structure; friable; gradual wavy boundary.
II C_2	81-100 cm.	Olive (2.5Y 4/4) outside ped color and dark yellowish brown (10YR 4/4) inside ped color very gravelly loam; moderate medium subangular blocky structure; friable.

Soil Series .....Conant..... Site No. 4

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (< .002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
0-8	A_1	25.64	54.40	19.96	3.99	3.94	4.46	6.74	6.51	20.43	33.97
8-13	B_{21}	34.02	52.94	13.04	7.79	5.61	5.46	7.96	7.20	20.92	32.02
13-18	B_{22}	38.87	50.77	10.36	8.98	6.21	6.28	9.09	8.31	21.47	29.30
18-30	B_{23}	49.22	46.40	4.38	7.28	6.03	6.96	14.88	14.07	23.67	22.73

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g./cc.	Available Water (cm./cm.)
		0.059 pct	0.1 pct	0.33 pct	0.67 pct	1.0 pct.	2.0 pct.	3.0 pct	5.0 pct	15.0 pct	
0-8	A_1	78.3	74.4	70.4	67.9	66.7	40.1	32.2	32.2	31.1	0.54	0.21
8-13	B_{21}	79.9	71.4	55.0	52.8	51.9	37.9	22.6	22.5	22.1	0.58	0.19
13-18	B_{22}	68.4	61.0	46.2	43.1	42.0	32.2	21.2	21.0	19.4	0.62	0.17
18-30	B_{23}	66.3	59.4	45.3	42.0	40.3	28.3	20.3	18.6	15.8	0.69	0.20

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-8	A_1	-	-	-	0.2	0.2	0.7	2.0	3.9	7.0
8-13	B_{21}	-	-	-	0.6	0.6	1.4	3.5	5.4	11.5
13-18	B_{22}	-	-	-	1.3	1.0	1.7	6.1	8.3	18.4
18-30	B_{23}	-	-	-	1.3	1.0	1.9	4.4	6.3	14.9

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct.
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g.						
0-8	A_1	8.7	4.35	4.75	5.0	0.8	<0.1	0.3	24.9	31.1	19.9
8-13	B_{21}	3.6	4.45	4.85	1.8	0.2	<0.1	0.2	24.8	27.1	8.5
13-18	B_{22}	3.4	4.55	4.9	0.7	<0.1	<0.1	0.2	23.7	24.8	4.4
18-30	B_{23}	2.2	4.65	4.95	0.4	<0.1	<0.1	0.2	19.0	19.8	4.0

Soil Series Conant Site No. 4

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm.									
30-41	B_{24}	56.41	39.27	4.32	8.45	7.30	8.18	16.58	15.90	19.92	19.35
41-51	II A'_2	49.52	40.79	9.69	8.53	8.09	8.74	13.66	10.50	17.04	23.75
51-81	II C_1	41.85	42.47	15.68	7.86	7.68	7.83	10.54	7.94	16.66	25.81
81-100	II C_2	40.74	40.66	18.60	7.54	8.69	7.08	9.89	7.54	15.49	25.17

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct	0.33 pct.	0.67 pct.	1.0 pct	2.0 pct.	3.0 pct.	5.0 pct.	15.0 pct	Bulk Density g./cc.	Available Water (cm./cm.)
30-41	B_{24}	55.9	51.0	41.7	38.7	37.4	22.5	19.0	16.0	13.3	0.79	0.22
41-51	II A'_2	36.4	34.5	31.1	29.7	28.6	16.4	15.0	12.3	9.0	1.23	0.27
51-81	II C_1	26.5	25.1	22.5	21.5	20.9	14.3	12.5	8.9	6.6	1.29	0.20
81-100	II C_2	21.0	20.5	19.2	18.8	18.7	15.9	14.3	12.0	9.0	1.46	0.15

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
30-41	B_{24}	-	-	-	1.7	1.3	1.5	3.3	4.6	12.4
41-51	II A'_2	-	0.8	4.7	6.6	4.4	6.1	8.3	32.9	63.8
51-81	II C_1	10.3	4.2	2.3	4.3	4.2	3.9	5.6	7.8	42.6
81-100	II C_2	24.8	1.0	1.4	3.8	1.8	2.4	3.2	25.2	63.6

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq./100 g.						
30-41	B_{24}	1.8	4.65	5.05	0.2	<0.1	<0.1	0.2	15.3	15.9	3.8
41-51	II A'_2	0.8	4.8	5.15	<0.1	<0.1	<0.1	<0.1	8.6	9.0	4.4
51-81	II C_1	0.3	4.75	5.45	2.0	0.2	<0.1	0.1	4.8	7.2	33.3
81-100	II C_2	0.3	5.05	5.70	5.0	0.5	0.1	0.1	4.2	9.9	57.6

CONANT MAPPING UNIT

Site 5

Location: Presque Isle, Aroostook County, Maine, 1971.

Horizon	Depth	Description
Ap	0-23 cm.	Dark brown (10YR 4/3) silt loam; moderate medium granular structure; friable; abrupt smooth boundary.
A_{1b}	23-30 cm.	Very dark grayish brown (10YR 3/2) and yellowish brown (10YR 5/6) gravelly silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{21}	30-46 cm.	Yellowish brown (10YR 5/4) gravelly loam with common fine distinct (2.5Y 5/4) mottles; weak medium granular structure; friable; abrupt smooth boundary.
II A'_2	46-56 cm.	Olive brown (2.5Y 4/4) gravelly sandy loam; weak medium platy structure; friable; abrupt smooth boundary.
II C_1	56-68 cm.	Light olive brown (2.5Y 5/4) outside ped color and yellowish brown (10YR 5/4) inside ped color gravelly loam; strong coarse prismatic structure with prism interiors separating to weak medium subangular blocky structure; friable; (vertical prism channels are light brownish gray (2.5Y 6/2) with yellowish brown (10YR 5/8) edges); clear wavy boundary.
II C_2	68-100 cm.	Yellowish brown (10YR 5/4) outside ped color and dark brown (10YR 4/3) inside ped color gravelly loam; structure, consistency and prism colors are similar to horizon above.

Soil Series Conant Site No. 5

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-23	Ap	25.32	53.64	21.04	5.22	4.52	4.34	5.93	5.31	19.79	33.85
23-30	A_1	21.60	51.47	26.93	3.23	3.88	4.24	5.67	4.58	19.22	32.25
30-46	B_{21}	40.10	39.70	20.20	7.84	7.70	8.03	10.08	6.45	12.09	27.61
46-56	II A'_2	60.90	29.91	9.19	11.88	11.42	12.66	15.74	9.20	14.63	15.28
56-68	II C_1	51.79	35.74	12.47	11.18	9.64	10.32	12.99	7.66	14.67	21.07
68-100	II C_2	40.90	41.52	17.58	8.15	7.30	7.63	10.33	7.49	17.20	24.32

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g./cc.	Available Water (cm./cm.)
0-23	Ap	41.0	39.6	36.3	35.7	35.3	28.3	25.2	21.2	16.5	1.13	0.22
23-30	A_1	69.6	67.7	63.2	62.6	60.6	33.6	28.5	23.1	20.4	0.75	0.32
30-46	B_{21}	41.9	40.7	37.3	36.4	36.1	20.9	19.6	16.8	12.8	1.09	0.27
46-56	II A'_2	28.0	25.9	21.7	20.5	20.3	11.4	9.9	8.1	6.1	1.12	0.17
56-68	II C_1	18.4	18.1	17.1	16.9	16.8	14.2	12.5	10.0	6.8	1.60	0.16
68-100	II C_2	21.4	21.0	19.9	19.1	18.7	14.4	13.2	11.1	8.1	1.49	0.18

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-23	Ap	-	0.7	1.9	0.9	0.7	1.1	2.0	3.5	10.8
23-30	A_1	19.6	4.0	0.9	2.4	0.9	1.4	1.9	3.3	34.4
30-46	B_{21}	7.5	1.6	1.2	2.0	1.2	2.0	3.5	5.5	24.5
46-56	II A'_2	-	-	1.3	1.0	0.6	1.8	4.6	7.9	17.2
56-68	II C_1	8.1	6.9	3.0	3.1	2.0	3.3	6.3	10.6	43.3
68-100	II C_2	2.7	1.8	0.8	1.5	2.0	2.3	4.8	6.8	22.7

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq./100 g.						
0-23	Ap	3.1	5.2	5.55	3.6	1.3	<0.1	0.3	13.9	19.2	27.6
23-30	A_1	4.0	4.75	5.15	5.6	1.0	<0.1	0.3	17.5	24.5	28.6
30-46	B_{21}	1.9	4.6	5.0	3.5	0.5	<0.1	0.4	12.4	16.9	26.6
46-56	II A'_2	0.6	4.75	5.25	1.8	0.3	<0.1	0.2	6.1	8.5	28.2
56-68	II C_1	0.4	4.85	5.3	1.8	0.3	<0.1	0.2	5.8	8.2	29.3
68-100	II C_2	0.2	5.05	5.45	4.9	0.6	<0.1	0.2	4.1	9.9	58.6

DAIGLE MAPPING UNIT

Site 1

Location: Wade, Aroostook County, Maine, 1971.

Horizon	*Depth*	*Description*
Ap	0-18 cm.	*Very dark grayish brown (10YR 3/2) gravelly silt loam; moderate medium and fine granular structure; friable; abrupt smooth boundary.*
B_{21}	18-33 cm.	*Yellowish brown (10YR 5/4) gravelly silt loam with few fine distinct olive gray (5Y 5/2) mottles; weak fine granular structure; friable; abrupt wavy boundary.*
II A'_2	33-41 cm.	*Light olive gray (5Y 6/2) outside ped color and dark grayish brown (2.5Y 4/2) inside ped color; gravelly loam; moderate medium and thin platy structure; firm; clear wavy boundary.*
II C_1	41-66 cm.	*Light brownish gray (2.5Y 6/2) outside ped color and dark brown (10YR 3/3) inside ped color gravelly loam; strong thick platy and strong very fine subangular blocky structure; firm; gradual wavy boundary.*
II C_2	66-100 cm.	*Similar to horizon above except having coarse prismatic structure with vertical prism faces gray (10YR 5/1)*

Soil Series *Daigle* Site No. *1*

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
0-18	Ap	26.32	54.62	19.06	5.51	4.17	4.31	6.49	5.84	22.68	31.94
18-33	B_{21}	34.98	50.82	14.20	7.42	6.52	6.20	8.18	6.66	22.97	27.85
33-41	II A'_2	42.60	46.26	11.14	10.61	8.24	7.20	9.34	7.21	21.53	24.73
41-66	II C_1	36.32	46.43	17.25	7.19	6.03	6.28	9.02	7.80	19.11	27.32
66-100	II C_2	44.92	37.99	17.09	10.75	9.36	7.91	9.66	7.24	10.18	27.81

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g/cc	Available Water (cm./cm.)
		0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct	1.0 pct.	2.0 pct	3.0 pct	5.0 pct.	15.0 pct	
0-18	Ap	50.4	47.3	42.7	41.5	41.0	32.0	25.4	22.3	21.9	0.80	0.17
18-33	B_{21}	41.6	37.7	32.9	30.8	29.4	17.8	14.8	12.6	11.4	0.98	0.21
33-41	II A'_2	20.3	19.0	17.0	15.8	14.8	12.5	10.6	8.3	5.7	1.67	0.19
41-66	II C_1	19.5	18.7	17.4	16.9	16.4	13.5	12.3	10.3	8.3	1.75	0.16
66-100	II C_2	17.1	16.5	15.6	15.1	14.9	14.1	12.6	10.8	7.7	1.78	0.14

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
0-18	Ap	-	2.5	1.8	4.3	1.7	1.5	2.7	5.1	19.6
18-33	B_{21}	-	6.8	3.1	3.3	3.4	4.0	6.4	8.8	35.8
33-41	II A'_2	-	1.6	3.7	3.1	3.7	2.9	5.8	9.0	29.8
41-66	II C_1	-	2.1	1.5	3.2	2.4	3.5	6.1	11.8	30.6
66-100	II C_2	-	1.2	0.3	1.7	1.6	2.0	4.8	9.7	21.3

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq/100 g.						
0-18	Ap	4.1	5.45	5.8	10.1	0.9	<0.1	0.2	11.2	22.5	50.2
18-33	B_{21}	1.8	5.5	5.85	7.9	0.6	<0.1	0.1	7.0	15.7	55.4
33-41	II A'_2	0.6	5.6	5.95	5.4	0.4	<0.1	<0.1	3.4	9.4	63.8
41-66	II C_1	0.2	5.85	6.25	5.6	0.4	<0.1	0.1	4.6	10.8	57.4
66-100	II C_2	0.2	5.95	6.4	6.2	0.6	<0.1	0.1	2.6	9.6	72.9

DAIGLE MAPPING UNIT

Site 2

Location: Perham, Aroostook County, Maine, 1971.

Horizon	*Depth*	*Description*
Ap	0-15 cm.	*Dark brown (10YR 3/3) loam; moderate fine and medium granular structure; friable; abrupt smooth boundary.*
B_{21}	15-23 cm.	*Yellowish brown (10YR 5/4) gravelly loam with grayish brown (2.5Y 5/2) mottles; weak fine and medium granular structure; friable; clear wavy boundary. Some pockets of A_2 light gray (10YR 7/1)*
II A'_2	23-33 cm.	*Olive gray (5Y 5/3) gravelly loam; weak medium and thick platy structure; friable; abrupt wavy boundary.*
II C_1	33-61 cm.	*Yellowish brown (10YR 5/4) outside ped color and brown (10YR 4/3) inside ped color gravelly loam; moderate thick platy and moderate medium subangular blocky structure; firm; gradual wavy boundary.*
II C_2	61-100 cm.	*Dark yellowish brown (10YR 4/4) outside ped color and dark brown (10YR 3/3) inside ped color; moderate medium subangular blocky structure; firm.*

Soil Series *Daigle* Site No. *2*

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm.									
0-15	Ap	26.14	47.44	26.42	5.50	4.87	4.79	6.52	4.46	15.69	31.75
15-23	B_{21}	28.78	48.84	22.38	5.54	5.67	5.29	7.22	5.06	17.59	31.25
23-33	II A'_2	40.73	46.26	13.01	8.36	7.69	7.11	9.91	7.66	20.64	25.62
33-61	II C_1	29.73	43.53	26.74	4.61	4.76	5.44	8.11	6.81	17.14	26.39
61-100	II C_2	30.56	43.22	26.22	4.75	4.98	5.71	8.23	6.89	16.05	27.17

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g/cc	Available Water (cm./cm.)
0-15	Ap	48.5	45.7	43.9	42.8	42.4	32.0	26.4	22.1	19.6	0.83	0.20
15-23	B_{21}	37.4	35.7	33.5	32.8	32.5	22.3	20.2	16.9	13.0	1.17	0.24
23-33	II A'_2	20.3	18.9	17.5	16.5	15.7	13.2	11.8	9.6	6.5	1.56	0.17
33-61	II C_1	24.9	24.2	23.2	22.7	22.4	17.8	16.6	14.5	12.8	1.60	0.17
61-100	II C_2	20.1	19.8	19.2	18.8	18.5	17.4	16.4	14.8	12.4	1.74	0.12

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
0-15	Ap	-	-	1.3	1.0	0.7	1.0	2.1	5.0	11.1
15-23	B_{21}	-	-	1.8	3.7	1.6	1.8	4.5	7.9	21.3
23-33	II A'_2	4.0	0.8	1.4	2.0	2.3	2.1	4.0	7.4	24.0
33-61	II C_1	8.6	2.3	1.2	4.4	3.8	3.3	4.8	5.9	34.3
61-100	II C_2	-	3.3	2.0	2.7	2.0	2.1	3.8	6.9	22.8

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq/100 g						
0-15	Ap	4.2	4.9	5.35	4.8	0.7	<0.1	0.2	15.5	21.3	27.2
15-23	B_{21}	2.2	4.75	5.2	2.6	0.4	<0.1	0.1	12.9	16.1	19.9
23-33	II A'_2	0.5	4.8	5.35	1.8	0.4	<0.1	<0.1	5.7	8.1	29.6
33-61	II C_1	0.2	5.4	5.95	7.6	2.0	<0.1	0.2	4.4	14.3	69.2
61-100	II C_2	0.2	5.95	6.55	7.6	2.2	<0.1	0.1	3.2	13.2	75.8

DAIGLE MAPPING UNIT

Site 3

Location: Perham, Aroostook County, Maine, 1971.

Horizon	*Depth*	*Description*
Ap_1	0-15 cm.	*Yellowish brown (10YR 5/4) silt loam; weak fine granular structure; very friable; abrupt smooth boundary.*
Ap_2	15-23 cm.	*Yellowish brown (10YR 5/4) gravelly silt loam; weak medium platy structure; friable abrupt smooth boundary.*
B_{21}	23-28 cm.	*Yellowish brown (10YR 5/8) gravelly silt loam with few medium distinct light olive gray (5Y 6/2) mottles; weak medium platy structure; friable; abrupt smooth boundary.*
II A'_2	28-41 cm.	*Olive brown (2.5Y 4/4) gravelly loam with few fine faint grayish brown (2.5 Y 5/2) mottles; moderate medium platy structure; firm; abrupt smooth boundary.*
II C_1	41-74 cm.	*Yellowish brown (10YR 5/4) outside ped color and dark yellowish brown (10YR 3/4) inside ped color gravelly loam; moderate medium subangular blocky structure; firm; clear wavy boundary.*
II C_2	74-100 cm.	*Same as horizon above except moderate coarse subangular blocky structure.*

Soil Series *Daigle* Site No. *3*

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
0-15	Ap_1	25.96	55.66	18.38	5.22	4.64	5.00	6.78	4.32	19.35	36.31
15-23	Ap_2	27.75	55.73	16.52	5.24	4.96	5.12	6.82	5.61	18.75	36.98
23-28	B_{21}	35.39	50.56	14.05	8.36	8.09	7.03	8.49	3.42	19.86	30.70
28-41	II A'_2	42.21	45.85	11.94	9.00	8.56	7.46	9.24	7.95	17.60	28.25
41-74	II C_1	37.55	47.17	15.28	6.70	6.65	6.88	9.74	7.58	17.82	29.35
74-100	II C_2	37.08	46.62	16.30	6.70	6.79	7.15	10.16	6.28	17.02	29.60

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g./cc	Available Water (cm./cm.)
		0.059 pct.	0.1 pct.	0.33 pct	0.67 pct.	1.0 pct.	2.0 pct	3.0 pct	5.0 pct	15.0 pct.	
0-15	Ap_1	47.2	44.2	39.7	38.2	37.6	29.2	24.7	19.6	13.3	1.00	0.26
15-23	Ap_2	44.9	42.1	38.0	36.9	35.1	30.4	24.0	19.3	13.4	1.02	0.25
23-28	B_{21}	55.7	50.8	42.3	38.7	37.1	26.3	21.5	18.7	14.3	0.93	0.26
28-41	II A'_2	26.0	24.3	21.5	20.3	19.5	14.6	13.3	11.5	7.2	1.39	0.20
41-74	II C_1	24.8	22.6	21.4	19.6	19.1	15.2	13.3	11.1	7.5	1.39	0.19
74-100	II C_2	22.7	21.1	20.2	18.9	18.3	15.1	13.4	10.7	7.3	1.54	0.20

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
0-15	Ap_1	-	0.5	0.3	1.4	1.6	2.0	3.9	4.2	13.9
15-23	Ap_2	-	-	-	1.8	1.2	2.0	4.3	5.9	15.2
23-28	B_{21}	-	-	7.8	2.1	2.7	3.8	6.0	8.7	31.1
28-41	II A'_2	-	3.3	0.3	4.8	3.5	3.8	6.1	11.1	32.9
41-74	II C_1	1.8	3.2	4.4	4.5	3.1	3.4	4.9	7.0	32.3
74-100	II C_2	-	-	-	0.6	0.9	1.1	3.8	9.2	15.6

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g.						
0-15	Ap_1	3.2	4.6	5.25	2.6	0.5	<0.1	0.3	17.2	20.7	16.9
15-23	Ap_2	3.2	4.5	5.05	2.2	0.3	<0.1	0.2	17.7	20.5	13.6
23-28	B_{21}	2.1	4.7	5.25	0.7	<0.1	<0.1	0.2	15.6	16.7	6.6
28-41	II A'_2	0.7	4.75	5.25	<0.1	<0.1	<0.1	0.2	7.8	8.3	6.0
41-74	II C_1	0.3	4.55	5.1	0.1	<0.1	<0.1	0.2	6.5	7.0	7.1
74-100	II C_2	0.2	4.35	5.0	0.5	0.1	<0.1	0.1	6.5	7.3	11.0

DAIGLE MAPPING UNIT

Site 4

Location: Spaulding, Aroostook County, Maine, 1971.

Horizon	*Depth*	*Description*
Ap	0-10 cm.	*Dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.*
A_2	10-12.7 cm.	*Light gray (10YR 7/2) gravelly silt loam in pockets.*
B_{21h}	10-20 cm.	*Yellowish red (5YR 5/6) and reddish yellow (5YR 6/8) gravelly silt loam; weak fine granular structure; friable; abrupt smooth boundary.*
B_{22}	20-28 cm.	*Yellowish brown (10YR 5/4) gravelly silt loam with common medium faint light brownish gray (10YR 6/2) mottles; weak fine granular and weak medium subangular blocky structure; friable; clear wavy boundary.*
II A'_2	28-38 cm.	*Light olive brown (2.5Y 5/4) outside ped color and dark grayish brown (2.5Y 4/2) inside ped color gravelly loam with few fine distinct yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky structure; firm; abrupt wavy boundary.*
II C_1	38-66 cm.	*Yellowish brown (10YR 5/4) outside ped color and dark brown (10YR 3/3) inside ped color very gravelly loam; moderate medium and coarse subangular blocky structure; firm; gradual wavy boundary.*
II C_2	66-94 cm.	*Similar to horizon above.*
III R	94 cm.	*Rotten shale.*

Soil Series *Daigle* Site No. *4*

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (< .002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
0-10	Ap	17.63	58.80	23.57	3.51	3.19	2.85	3.82	4.26	23.83	34.97
10-20	A_2&B_{21}	17.74	59.32	22.94	3.80	3.14	2.85	3.76	4.19	25.99	33.33
20-28	B_{22}	27.10	51.53	21.37	7.17	5.60	4.52	5.55	4.26	21.32	30.21
28-38	II A'_2	34.95	46.31	18.74	8.56	7.31	5.93	7.35	5.80	17.99	28.32
38-66	II C_1	37.27	38.78	23.95	9.39	8.22	6.48	7.43	5.75	14.78	24.00
66-94	II C_2	34.51	40.64	24.85	8.18	8.23	6.55	7.29	4.26	14.98	25.66
94	III R										

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g/cc	Available Water (cm./cm.)
		0.059 pct.	0.1 pct.	0.33 pct	0.67 pct.	1.0 pct.	2.0 pct	3.0 pct.	5.0 pct.	15.0 pct	
0-10	Ap	67.7	62.1	57.6	56.1	55.0	34.6	32.6	27.4	25.2	0.79	0.26
10-20	A_2&B_{21}	67.1	61.2	54.3	51.2	50.5	29.2	25.9	22.2	18.1	0.87	0.31
20-28	B_{22}	36.4	34.1	32.0	29.7	24.4	21.0	18.9	16.0	10.1	1.28	0.28
28-38	II A'_2	29.9	28.2	26.7	25.0	24.0	15.9	16.2	13.8	9.4	1.35	0.23
38-66	II C_1	26.5	25.4	24.0	22.8	22.5	18.4	17.4	15.6	12.8	1.62	0.18
66-94	II C_2	23.6	23.3	22.5	21.4	20.8	18.0	16.8	15.4	12.6	1.78	0.18
94	III R											

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
0-10	Ap	-	1.4	0.6	1.2	0.6	1.1	2.4	3.3	10.6
10-20	A_2&B_{21}	-	-	1.5	2.0	2.4	3.1	4.9	7.6	21.5
20-28	B_{22}	-	-	4.9	2.4	3.4	3.6	7.5	9.3	31.1
28-38	II A'_2	-	3.6	1.5	3.5	3.4	3.9	7.2	10.2	33.3
38-66	II C_1	7.4	2.1	5.0	5.1	4.5	6.2	8.6	10.8	49.7
66-94	II C_2	-	2.3	5.0	4.9	4.5	5.9	8.0	11.1	41.7
94	III R									

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct.
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g.						
0-10	Ap	7.5	4.35	4.85	6.2	0.9	<0.1	0.3	21.4	28.9	26.0
10-20	A_2&B_{21}	3.8	4.25	4.85	3.2	0.5	<0.1	<0.1	20.9	24.8	15.7
20-28	B_{22}	1.0	4.25	5.0	1.6	0.4	<0.1	<0.1	12.9	15.1	14.6
28-38	II A'_2	0.4	4.35	5.1	1.8	0.5	<0.1	0.1	8.7	11.2	22.3
38-66	II C_1	0.2	5.5	6.2	9.3	2.6	<0.1	0.2	4.2	16.4	74.4
66-94	II C_2	0.3	6.4	7.05	9.3	2.5	<0.1	0.1	2.6	14.6	82.2
94	III R										

DAIGLE MAPPING UNIT

Site 5

Location: *Wade, Aroostook County, Maine*, 1971.

Horizon	*Depth*	*Description*
A_2	0-1.3 cm.	*Light brownish gray (10YR 6/2) silt loam; weak fine granular structure; friable; abrupt smooth boundary.*
B_{21h}	1.3-20 cm.	*Strong brown (7.5YR 5/6) silt loam; weak fine granular structure; friable; abrupt wavy boundary.*
B_{22}	20-25 cm.	*Yellowish brown (10YR 5/6) gravelly silt loam; weak fine granular structure; friable; clear wavy boundary.*
B_{23}	25-30 cm.	*Yellowish brown (10YR 5/4) gravelly loam with few fine distinct light brownish gray (2.5Y 6/2) mottles; weak fine granular structure; friable; abrupt wavy boundary.*
II A'_2	30-43 cm.	*Light olive brown (2.5Y 5/4) gravelly loam; weak medium subangular blocky structure;* friable; *abrupt smooth boundary.*
II C_1	43-74 cm.	*Yellowish brown (10YR 5/4) outside ped color and dark brown (10YR 3/3) inside ped color; gravelly clay loam;* strong very coarse *prismatic structure with prism interiors* separating to moderate medium subangular blocky *structure; firm; gradual wavy boundary. Vertical prism faces are light yellowish brown (10YR 6/4)*
II C_2	74-100 cm.	*Same as horizon above except gravelly loam texture.*

Soil Series Daigle Site No. 5

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm.									
0-1.3	A_2	20.08	62.54	17.38	1.35	1.72	3.40	7.16	6.45	23.17	39.37
1.3-20	$B_{21}h$	19.26	52.47	28.27	2.09	2.87	3.50	5.79	5.01	18.98	33.49
20-25	B_{22}	35.93	55.63	8.44	4.62	5.95	7.06	14.97	3.33	28.53	27.10
25-30	B_{23}	41.69	49.43	8.88	5.57	8.82	8.67	11.48	7.15	25.00	24.43
30-43	II A'_2	37.23	46.67	16.10	4.86	6.50	7.31	10.62	7.94	16.55	30.12
43-74	II C_1	29.82	41.17	29.01	5.03	4.83	5.19	8.23	6.54	14.83	26.34
74-100	II C_2	31.04	42.27	26.69	5.93	6.34	6.75	9.21	2.81	18.20	24.07

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct	3.0 pct	5.0 pct	15.0 pct.	Bulk Density g./cc	Available Water (cm./cm.)
0-1.3	A_2	33.4	32.5	29.6	28.4	27.1	22.4	17.3	12.7	8.9	1.13	0.23
1.3-20	$B_{21}h$	96.1	88.6	77.6	75.2	74.8	55.1	39.5	32.6	29.8	0.56	0.27
20-25	B_{22}	61.5	58.1	47.0	42.5	40.9	29.8	25.5	22.2	18.7	0.74	0.21
25-30	B_{23}	52.1	49.4	40.8	36.2	33.8	28.3	23.2	18.9	15.1	0.86	0.22
30-43	II A'_2	27.7	26.7	23.6	21.6	20.2	17.7	14.8	12.4	8.3	1.27	0.19
43-74	II C_1	21.7	21.5	20.8	20.3	20.0	18.7	17.2	15.3	12.7	1.69	0.14
74-100	II C_2	22.7	22.4	21.2	20.6	20.4	18.1	16.5	15.0	11.7	1.68	0.16

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
0-1.3	A_2									
1.3-20	$B_{21}h$	-	-	-	-	1.0	0.8	1.5	2.9	6.2
20-25	B_{22}	2.0	0.9	-	0.4	0.4	0.6	1.6	4.1	10.0
25-30	B_{23}	-	3.6	-	0.7	1.2	1.7	4.0	6.7	17.9
30-43	II A'_2	4.6	-	1.1	1.4	1.9	2.7	3.8	4.6	20.1
43-74	II C_1	-	1.8	1.0	2.7	2.3	2.2	3.7	4.4	18.1
74-100	II C_2	-	-	2.7	2.8	2.5	3.0	5.5	9.5	26.0
		-	3.2	1.7	2.4	2.8	2.7	4.9	7.4	25.1

Depth (cm.)	Horizon	Organic Carbon pct.	pH 0.1M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq./100 g.						
0-1.3	A_2	1.4	4.15	4.75	2.8	0.4	<0.1	<0.1	15.9	19.3	17.6
1.3-20	$B_{21}h$	4.0	4.4	4.85	1.6	0.3	<0.1	<0.1	23.7	25.8	8.1
20-25	B_{22}	2.2	4.55	5.0	<0.1	<0.1	<0.1	<0.1	17.5	17.9	2.2
25-30	B_{23}	1.4	4.7	5.15	<0.1	<0.1	<0.1	<0.1	13.8	14.2	2.8
30-43	II A'_2	0.6	4.6	5.3	<0.1	<0.1	<0.1	<0.1	7.9	8.3	4.8
43-74	II C_1	0.2	4.8	5.6	7.4	1.4	<0.1	<0.1	6.0	15.0	60.0
74-100	II C_2	0.2	5.2	5.75	8.2	1.6	<0.1	<0.1	4.5	14.5	69.0

Dixmont Mapping Unit Site No. 1

Location: Orneville, Piscataquis County, Maine, 1972.

Horizon	Depth	Description
A_{p1}	0-15 cm.	Dark brown (10YR 3/3) silt loam; moderate medium granular structure; friable; abrupt smooth boundary.
A_{p2}	15-36 cm.	Dark brown (10YR 4/3) silt loam; moderate medium granular structure; friable; clear wavy boundary.
B_{21}	36-46 cm.	Dark yellowish brown (10YR 4/4) silt loam with common fine faint light gray (10YR 6/1) mottles; weak fine granular structure; friable; clear wavy boundary.
B_{22}	46-53 cm.	Light yellowish brown (2.5Y 6/4) silt loam with many fine faint light brownish gray (2.5Y 6/2) mottles; weak fine granular and subangular blocky structure; friable; abrupt wavy boundary.
II A'_2	53-64 cm.	Olive (5Y 5/3) silt loam with few fine faint light brownish gray (2.5Y 6/2) mottles; weak fine subangular blocky structure; firm; clear smooth boundary.
II C_1	64-79 cm.	Light olive brown (2.5Y 5/4) silt loam with thin grayish brown (2.5Y 5/2) films on some peds; strong very coarse prismatic structure with prism interiors separating to moderate medium platy structure; firm; clear smooth boundary.
II C_2	79-91 cm.	Like II C_1 except having many black (10YR 2/1) Mn stains.
II C_3	91-100 cm.	Dark olive gray (5Y 3/2) silt loam with 20% of the peds having thin grayish brown (2.5Y 5/2) films; strong very coarse prismatic structure with prism interiors separating to moderate medium platy structure; firm; clear smooth boundary.
II C_4	100-130 cm.	Like II C_3 except thin films exist on 40% of the peds.

Soil Series Dixmont Site No. 1

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (< .002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-15	Ap_1	17.14	70.46	12.40	1.42	2.52	3.46	3.67	6.07	25.04	45.42
15-36	Ap_2	25.40	67.63	6.97	5.16	4.27	4.08	5.94	5.95	14.41	53.22
36-46	B_{21}	20.81	69.23	9.96	2.31	3.76	3.85	5.45	5.44	20.87	48.36
46-53	B_{22}	25.68	64.01	10.31	6.18	3.56	4.04	5.94	5.96	18.42	45.59
53-64	II A'_2	19.94	69.20	10.86	3.06	3.38	3.88	3.82	5.80	23.31	45.89

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct	0.1 pct	0.33 pct	0.67 pct	1.0 pct.	2.0 pct	3.0 pct	5.0 pct	15.0 pct	Bulk Density g/cc	Available Water (cm./cm.)
0-15	Ap_1	61.4	58.5	53.4	52.3	50.6	29.1	24.3	21.9	19.3	0.69	0.24
15-36	Ap_2	50.9	47.8	42.2	40.8	39.7	21.7	15.3	12.5	11.2	0.90	0.28
36-46	B_{21}	45.7	43.9	38.4	36.4	34.5	25.8	14.9	10.8	8.3	1.04	0.31
46-53	B_{22}	27.5	26.5	23.0	21.2	19.4	15.7	11.5	8.5	6.5	1.30	0.22
53-64	II A'_2	19.2	18.9	17.8	17.3	16.8	14.8	10.9	8.2	5.6	1.65	0.20

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-15	Ap_1	-	-	0.5	0.6	0.1	0.1	0.3	0.7	2.3
15-36	Ap_2	-	-	0.5	1.0	0.9	0.9	1.3	3.0	7.6
36-46	B_{21}	2.6	0.4	0.3	1.5	0.8	1.1	1.4	3.2	11.3
46-53	B_{22}	-	1.1	0.7	0.2	0.4	0.7	0.9	2.1	6.1
53-64	II A'_2	-	0.8	0.8	0.9	0.8	1.2	1.4	3.3	9.2

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq./100 g.						
0-15	Ap_1	4.8	4.8	5.5	10.1	0.5	<0.1	0.2	17.2	28.1	38.8
15-36	Ap_2	2.5	4.9	5.55	5.1	0.2	<0.1	<0.1	13.2	18.7	29.4
36-46	B_{21}	1.4	4.9	5.75	5.6	0.3	<0.1	<0.1	10.4	16.5	37.0
46-53	B_{22}	0.8	4.9	5.75	2.6	0.2	<0.1	<0.1	7.8	10.8	27.8
53-64	II A'_2	0.3	4.9	5.75	2.3	0.2	<0.1	<0.1	5.2	7.9	34.2

Soil Series Dixmont Site No. 1

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of 2mm									
64-79	II C_1	24.43	63.53	12.04	4.12	3.91	4.20	6.00	6.20	23.21	40.32
79-91	II C_2	17.66	67.18	15.16	2.84	2.79	2.82	4.24	4.97	25.40	41.78
91-100	II C_3	21.74	60.40	17.86	2.90	3.74	3.80	5.54	5.76	17.42	42.98
100-130	II C_4	21.03	61.82	17.15	3.04	3.65	3.68	5.36	5.30	16.09	45.73

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct	0.1 pct	0.33 pct	0.67 pct	1.0 pct	2.0 pct.	3.0 pct	5.0 pct	15.0 pct.	Bulk Density g/cc	Available Water (cm./cm.)
64-79	II C_1	18.5	18.2	17.4	17.0	16.1	13.7	10.8	8.3	5.1	1.78	0.22
79-91	II C_2	18.6	18.3	17.8	17.4	16.8	15.9	12.8	10.5	7.0	1.75	0.19
91-100	II C_3	19.1	18.7	18.0	17.6	16.9	15.7	13.9	11.2	7.0	1.74	0.19
100-130	II C_4	18.8	18.5	18.1	17.8	17.1	16.4	15.7	12.6	8.4	1.72	0.17

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in 2 mm	TOTAL
64-79	II C_1	--	0.6	--	1.7	1.0	1.2	1.4	3.3	9.2
79-91	II C_2	--	--	0.3	1.2	0.8	0.6	1.0	2.6	6.5
91-100	II C_3	2.7	--	0.5	0.2	0.6	0.9	1.6	4.5	11.0
100-130	II C_4	6.1	0.4	--	0.1	0.2	0.5	0.5	1.4	9.2

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq/100 g						
64-79	II C_1	0.2	5.1	5.6	3.6	0.4	<0.1	<0.1	4.6	8.8	47.7
79-91	II C_2	0.2	5.1	5.65	6.2	0.9	<0.1	<0.1	4.6	11.9	61.4
91-100	II C_3	0.2	5.2	5.6	6.1	0.9	<0.1	0.1	4.3	11.5	62.6
100-130	II C_4	0.1	5.3	5.65	15.3	1.2	<0.1	0.1	4.4	21.1	79.2

Dixmont Mapping Unit Site No. 2

Location: Sebec, Piscataquis County, Maine, 1972.

Horizon	Depth	Description
A_p	0-13 cm.	Very dark grayish brown (10YR 3/2) silt loam; moderate medium granular structure; friable; abrupt smooth boundary.
B_{21}	13-23 cm.	Dark reddish brown (5YR 3/4) silt loam; moderate medium granular structure; friable; abrupt smooth boundary.
B_{22}	23-43 cm.	Dark brown (10YR 4/3) silt loam with few fine distinct gray (2.5Y 6/1) and olive (5Y 4/4) mottles; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	43-53 cm.	Dark grayish brown (2.5Y 4/2) silt loam with few fine distinct gray (2.5Y 6/1) and olive (5Y 4/4) mottles; weak medium platy structure; firm; abrupt smooth boundary.
II C_1	53-84 cm.	Olive gray (5Y 4/2) silt loam with few thin olive (5Y 5/3) films on peds; strong very coarse prismatic structure with prism interiors separating to moderate medium platy structure; firm; abrupt smooth boundary.
II C_2	84-100 cm.	Olive gray (5Y 4/2) silt loam with 50% of the peds having thin films; strong very coarse prismatic structure with gray (2.5Y 6/1) boundaries the prism interiors separating to moderate medium subangular blocky structure; firm.

Soil Series Dixmont Site No 2

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of < 2mm									
0-13	Ap	24.70	66.78	8.52	1.89	3.26	4.14	7.51	7.90	28.02	38.76
13-23	B_{21}	28.53	64.51	6.96	4.70	4.12	4.54	7.43	7.74	26.31	38.20
23-43	B_{22}	31.48	62.42	6.10	5.78	4.52	4.96	8.08	8.14	22.34	40.08
43-53	II A'_2	31.21	62.63	6.16	4.92	4.70	5.14	8.42	8.03	23.23	39.40
53-84	II C_1	34.53	55.41	10.06	6.22	5.25	5.77	8.92	8.37	20.89	34.52
84-100	II C_2	34.46	55.24	10.30	5.22	5.03	5.77	9.04	8.04	20.84	34.40

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct	0.33 pct.	0.67 pct	1.0 pct	2.0 pct	3.0 pct	5.0 pct	15.0 pct.	Bulk Density g/cc	Available Water (cm./cm.)
0-13	Ap	52.7	49.7	42.0	39.9	39.8	28.5	23.0	22.7	20.4	0.83	0.18
13-23	B_{21}	47.9	41.5	35.0	31.5	29.6	19.2	15.3	15.1	13.5	0.99	0.21
23-43	B_{22}	42.3	38.1	31.1	27.6	24.8	18.2	11.8	9.9	8.7	1.08	0.24
43-53	II A'_2	27.5	25.5	21.1	19.5	18.7	14.4	11.2	8.9	7.2	1.31	0.18
53-84	II C_1	24.4	23.1	21.0	18.8	17.9	11.3	9.2	7.6	5.2	1.44	0.23
84-100	II C_2	17.3	16.8	16.4	14.3	13.6	12.2	10.1	8.6	5.8	1.63	0.17

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-13	Ap	4.7	--	--	0.2	0.4	0.3	0.5	1.3	7.4
13-23	B_{21}	--	--	0.7	0.7	0.8	0.8	1.6	3.4	8.0
23-43	B_{22}	--	2.0	--	0.1	0.5	0.8	1.5	2.6	7.5
43-53	II A'_2	--	--	0.4	0.2	0.6	1.0	1.7	3.8	7.7
53-84	II C_1	--	0.3	0.8	1.2	0.9	0.9	1.7	4.3	10.1
84-100	II C_2	--	1.7	0.8	0.3	1.2	1.2	2.3	5.3	12.8

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq/100 g						
0-13	Ap	3.9	4.5	5.2	1.8	0.2	<0.1	0.1	21.8	24.0	9.2
13-23	B_{21}	1.8	5.0	5.5	3.4	<0.1	<0.1	<0.1	15.0	18.7	19.8
23-43	B_{22}	0.6	5.3	5.75	3.7	<0.1	<0.1	<0.1	11.5	15.5	25.8
43-53	II A'_2	0.1	5.4	5.8	2.8	<0.1	<0.1	<0.1	8.3	11.4	27.2
53-84	II C_1	0.2	5.6	5.9	2.7	0.1	<0.1	0.1	4.3	7.3	41.1
84-100	II C_2	0.2	6.0	6.15	4.8	0.2	<0.1	0.1	3.8	9.0	57.8

Dixmont Mapping Unit Site No. 3

Location: Dover Foxcroft, Piscataquis County, Maine, 1972.

Horizon	Depth	Description
A_p	0-10 cm.	Dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{21}	10-13 cm.	Dark brown (7.5YR 4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{22}	13-25 cm.	Yellowish brown (10YR 5/4) silt loam with common fine distinct grayish brown (2.5Y 5/2) mottles; weak fine granular structure; friable; abrupt smooth boundary.
B_{23}	25-48 cm.	Light olive brown (2.5Y 5/4) silt loam with common medium distinct olive gray (5Y 5/2) mottles; weak medium subangular blocky structure; friable; gradual wavy boundary.
II A'_2	48-68 cm.	Olive brown (2.5Y 4/4) silt loam; strong very coarse prismatic structure with prism edges olive gray (5Y 5/2) and prism interiors separating to thin and medium platy structure; friable; abrupt smooth boundary.
II C_1	68-81 cm.	Dark olive gray (5Y 3/2) silt loam with some films of olive gray (5Y 4/2) on ped surfaces; strong very coarse prismatic structure with prism edges olive gray (5Y 5/2) and prism interiors separating to moderate medium platy structure; firm and brittle.
II C_2	81-100 cm.	Like II C_1 except some increase in number of films.

Soil Series Dixmont Site No 3

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-10	Ap	28.85	62.02	9.13	3.63	4.82	5.12	7.92	7.36	24.77	37.25
10-13	B_{21}	31.18	64.13	4.69	4.58	4.90	5.06	7.92	8.72	23.82	40.31
13-25	B_{22}	38.13	59.32	2.55	5.58	5.65	6.00	9.59	11.31	24.12	35.20
25-48	B_{23}	37.82	58.90	3.28	4.18	5.40	6.19	10.21	11.84	29.40	29.50

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct	0.33 pct	0.67 pct	1.0 pct	2.0 pct	3.0 pct	5.0 pct	15.0 pct.	Bulk Density g/cc	Available Water (cm./cm.)
0-10	Ap	60.2	57.7	54.0	53.1	49.0	27.1	23.2	22.6	21.5	0.74	0.24
10-13	B_{21}	62.6	57.8	50.0	46.9	41.9	22.6	19.2	16.8	15.6	0.79	0.24
13-25	B_{22}	47.5	44.5	37.7	34.0	28.9	19.4	15.0	12.7	10.3	0.94	0.26
25-48	B_{23}	42.8	40.4	34.0	29.8	25.3	16.6	13.5	10.1	8.5	1.07	0.27

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm	TOTAL
0-10	Ap	--	--	0.6	0.6	0.1	0.3	0.4	1.1	3.1
10-13	B_{21}	--	1.1	1.1	0.9	1.0	2.0	1.7	3.9	11.7
13-25	B_{22}	4.1	3.7	0.7	1.8	1.4	1.4	1.5	3.2	17.8
25-48	B_{23}	1.9	1.6	0.8	0.3	0.5	0.8	1.2	2.3	9.4

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq/100 g						
0-10	Ap	5.5	4.7	5.0	2.8	0.2	<0.1	0.2	20.6	23.9	13.8
10-13	B_{21}	3.4	4.8	4.8	1.2	0.1	<0.1	0.1	19.9	21.4	7.0
13-25	B_{22}	1.9	4.95	4.9	0.9	<0.1	<0.1	<0.1	14.4	15.6	7.7
25-48	B_{23}	1.2	5.0	5.0	1.0	<0.1	<0.1	<0.1	12.0	13.3	9.8

Soil Series Dixmont Site No. 3

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
		Percent of <2mm									
48-68	II A'2	33.48	61.14	5.38	4.02	5.37	5.77	9.22	9.10	27.85	33.29
68-81	II C1	45.25	50.76	3.99	7.10	7.25	8.34	12.32	10.24	24.79	25.97
81-100	II C2	38.90	50.20	10.90	4.92	5.84	6.86	11.32	9.96	21.73	28.47

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)									Bulk Density g/cc	Available Water (cm./cm.)
		0.059 pct.	0.1 pct	0.33 pct	0.67 pct	1.0 pct.	2.0 pct.	3.0 pct	5.0 pct	15.0 pct		
48-68	II A'2	39.3	37.4	32.2	29.4	25.0	16.5	13.7	11.4	9.0	1.15	0.27
68-81	II C1	27.6	25.8	21.7	19.0	15.4	9.9	8.7	7.1	5.1	1.32	0.22
81-100	II C2	17.3	17.1	16.2	15.4	14.1	11.1	9.5	7.9	5.6	1.63	0.17

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm.	TOTAL
48-68	II A'2	5.2	3.2	0.7	2.0	0.7	1.1	1.4	3.1	17.4
68-81	II C1	--	2.8	1.5	1.6	1.9	2.4	3.5	7.0	20.7
81-100	II C2	--	0.6	0.2	1.2	0.8	1.1	2.2	6.4	12.5

Depth (cm.)	Horizon	Organic Carbon pct	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct.
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq /100 g						
48-68	II A'2	0.4	5.0	5.2	1.0	<0.1	<0.1	<0.1	12.7	14.0	9.3
68-81	II C1	0.2	5.15	5.15	0.8	<0.1	<0.1	<0.1	6.9	8.0	13.8
81-100	II C2	0.1	5.2	5.65	3.2	0.4	<0.1	0.1	3.6	7.4	51.4

Dixmont Mapping Unit Site No. 4

Location: Hartland, Somerset County, Maine, 1972.

Horizon	Depth	Description
A_p	0-18 cm	Dark brown (7.5YR 3/2) silt loam; weak fine granular structure; very friable; abrupt smooth boundary.
B_{21}	18-30 cm.	Dark brown (10YR 4/3) silt loam with spots of strong brown (7.5YR 5/6); weak fine granular structure; friable; abrupt smooth boundary.
B_{22}	30-46 cm.	Yellowish brown (10YR 5/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	46-53 cm.	Olive brown (2.5Y 4/4) sandy loam with common medium faint grayish brown (2.5Y 5/2) mottles; weak medium platy structure; friable; abrupt smooth boundary.
II C_1	53-68 cm.	Very dark grayish brown (2.5Y 3/2) silt loam; strong very coarse prismatic structure with prism edges light brownish gray (2.5Y 6/2) and prism interiors separating to moderate coarse platy structure; friable to firm; smooth wavy boundary.
II C_2	68-100 cm.	Very dark grayish brown (2.5Y 3/2) loam; strong very coarse prismatic structure with prism edges light brownish gray (2.5Y 6/2) and prism interiors separating to moderate thick platy structure; firm and brittle.

Soil Series ... Dixmont ..... Site No. ... 4 .....

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-05)	Silt (05-002)	Clay (< 002)	Very Coarse (2-1)	Coarse (1-5)	Medium (5-25)	Fine (25-1)	Very Fine (1-05)	(05-02)	(02-002)
					Percent of <2mm						
0-18	Ap	35.68	52.56	11.76	5.58	6.52	6.76	9.12	7.70	22.64	29.92
18-30	B_{21}	38.90	54.24	6.86	7.48	7.03	7.92	9.00	7.47	22.61	31.63
30-46	B_{22}	31.90	59.74	8.36	4.16	6.54	6.20	8.14	6.86	23.92	35.82
46-53	II A'_2	45.40	48.72	5.88	6.20	9.00	9.42	12.00	8.78	20.49	28.23
53-68	II C_1	32.51	56.31	11.18	6.98	7.25	7.60	9.80	7.86	28.39	27.92
68-100	II C_2	41.76	48.25	9.99	8.58	8.43	7.95	9.28	7.52	19.59	28.66

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g/cc	Available Water (cm./cm.)
		0.059 pct.	0.1 pct	0.33 pct.	0.67 pct.	1.0 pct	2.0 pct	3.0 pct	5.0 pct	15.0 pct.	
0-18	Ap	48.0	46.0	40.8	39.2	36.2	27.8	19.4	18.4	16.2	0.74	0.18
18-30	B_{21}	42.3	40.1	35.2	31.8	27.7	19.0	15.2	12.9	12.4	0.94	0.21
30-46	B_{22}	53.0	50.0	42.6	38.5	33.2	22.7	18.2	15.5	13.7	0.87	0.25
46-53	II A'_2	36.1	32.7	28.4	25.0	21.7	13.8	11.0	9.3	7.0	0.98	0.21
53-68	II C_1	17.3	16.9	15.7	14.6	13.6	12.3	10.2	8.4	5.8	1.52	0.15
68-100	II C_2	16.0	15.8	15.1	14.2	13.2	12.0	9.5	7.7	4.8	1.72	0.18

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm.	TOTAL
0-18	Ap	--	--	0.4	0.8	0.3	0.6	0.6	1.7	4.4
18-30	B_{21}	10.8	7.9	0.5	1.7	1.1	0.6	1.0	2.5	26.1
30-46	B_{22}	7.6	2.1	0.2	0.4	0.6	0.5	0.4	1.3	13.1
46-53	II A'_2	--	--	0.9	0.1	0.4	0.6	1.6	4.5	8.1
53-68	II C_1	8.5	--	0.8	1.1	0.6	0.2	1.6	7.0	19.8
68-100	II C_2	15.3	1.6	0.8	0.8	0.9	1.0	1.4	4.6	26.4

Depth (cm.)	Horizon	Organic Carbon pct	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g.						
0-18	Ap	4.1	4.7	5.0	3.1	0.2	<0.1	0.2	16.1	19.7	18.3
18-30	B_{21}	2.7	4.85	5.35	2.7	0.1	<0.1	0.1	14.8	17.8	16.8
30-46	B_{22}	2.6	4.95	5.3	2.2	0.1	<0.1	0.2	17.7	20.3	12.8
46-53	II A'_2	1.1	4.95	5.3	1.0	<0.1	<0.1	0.1	10.0	11.3	11.5
53-68	II C_1	0.2	5.2	5.4	1.3	0.2	<0.1	0.1	4.1	5.8	29.3
68-100	II C_2	0.05	5.4	5.8	1.7	0.3	<0.1	0.1	3.2	5.4	40.7

Dixmont Mapping Unit Site No. 5

Location: Palmyra, Somerset County, Maine, 1972.

Horizon	Depth	Description
Ap	0-23 cm.	Dark brown (10YR 4/3) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{21}	23-28 cm.	Dark yellowish brown (10YR 4/4) loam with few fine distinct light gray (5Y 7/2) mottles; weak fine granular structure; friable; abrupt smooth boundary.
B_{22}	28-38 cm.	Olive (5Y 5/3) loam with few fine faint light gray (5Y 7/2) mottles; weak coarse platy structure; friable; abrupt smooth boundary.
II A'_2	38-53 cm.	Olive (5Y 5/3) loam with few fine faint light gray (5Y 7/2) mottles and very dark gray (5YR 3/1) stains; strong very coarse prismatic structure with light gray (5Y 7/2) prism edges, separating to moderate coarse platy and moderate fine subangular block structure inside prisms; friable; abrupt smooth boundary.
II C_1	53-71 cm.	Olive (5Y 5/3) silt loam with few fine faint light gray (5Y 7/2) mottles and very dark gray (5YR 3/1) stains; strong very coarse prismatic structure with light gray (5Y 7/2) prism edges separating to strong thin platy and strong fine subangular blocky structure inside the prisms; firm; light olive brown (2.5Y 4/4) films on 40% of ped surfaces; clear smooth boundary.
II C_2	71-100 cm.	Brown (10YR 4/3) silt loam with few fine faint light gray (5Y 7/2) mottles and very dark gray (5YR 3/1) stains; strong very coarse prismatic structure with light gray (5Y 7/2) prism edges separating to strong medium platy and strong fine subangular block structure inside the prisms; firm to very firm.

Soil Series Dixmont Site No. 5

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-23	Ap	42.65	50.05	7.30	10.96	9.74	7.55	7.98	6.42	20.69	29.36
23-28	B_{21}	46.44	44.90	8.66	11.54	10.11	8.31	9.34	7.14	17.28	27.62
28-38	B_{22}	41.65	47.74	10.61	8.56	8.62	7.56	9.29	7.62	16.67	31.07
38-53	II A'_2	38.15	49.99	11.86	7.20	7.31	6.88	9.20	7.56	16.96	33.03
53-71	II C_1	36.80	50.10	13.10	6.86	6.69	6.89	8.96	7.40	15.14	34.96
71-100	II C_2	34.37	51.61	14.02	6.84	6.26	6.25	8.24	6.78	17.87	33.74

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct	0.33 pct.	0.67 pct	1.0 pct	2.0 pct.	3.0 pct	5.0 pct.	15.0 pct	Bulk Density g/cc	Available Water (cm./cm.)
0-23	Ap	36.5	35.5	32.7	31.9	31.6	20.0	16.5	13.4	10.8	1.05	0.23
23-28	B_{21}	37.8	36.7	33.1	29.7	28.7	19.2	16.3	13.8	10.0	1.14	0.26
28-38	B_{22}	27.5	26.7	24.1	21.9	21.3	17.6	15.1	12.4	8.3	1.28	0.20
38-53	II A'_2	21.2	20.4	19.2	18.0	17.6	16.6	14.3	11.6	7.2	1.53	0.18
53-71	II C_1	19.8	19.4	18.4	17.5	17.2	17.2	14.2	10.9	5.8	1.57	0.20
71-100	II C_2	19.7	19.4	18.5	17.8	17.2	16.5	14.6	11.5	7.1	1.57	0.18

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm.	TOTAL
0-23	Ap	--	--	0.4	0.5	0.6	1.2	2.9	8.8	14.4
23-28	B_{21}	--	--	--	0.5	0.2	0.9	2.3	9.0	12.9
28-38	B_{22}	--	2.3	--	1.8	0.5	1.1	3.3	11.0	20.0
38-53	II A'_2	--	--	--	0.3	0.8	1.1	2.4	6.4	11.0
53-71	II C_1	--	--	0.4	0.5	0.1	1.4	2.5	6.7	11.6
71-100	II C_2	5.2	0.8	1.2	1.2	0.9	1.6	1.4	9.6	21.9

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					meq/100 g						
0-23	Ap	2.9	4.9	5.4	2.3	0.4	<0.1	0.2	15.6	18.6	16.1
23-28	B_{21}	1.5	4.9	5.4	0.9	0.1	<0.1	0.1	13.6	14.8	8.1
28-38	B_{22}	0.5	5.1	5.3	0.7	<0.1	<0.1	<0.1	8.0	9.0	11.1
38-53	II A'_2	0.2	5.2	5.4	0.8	0.1	<0.1	<0.1	5.2	6.3	17.5
53-71	II C_1	0.1	5.2	5.35	0.9	0.2	0.1	0.1	4.4	5.7	22.8
71-100	II C_2	0.1	5.0	5.2	1.0	0.2	<0.1	0.1	4.6	6.0	23.3

Perham Mapping Unit
Site 1

Location: Wade, Aroostook County, Maine, 1970.

Horizon	Depth	Description
Ap	0-18 cm.	Dark brown (10YR3/3) loam; weak fine and medium granular structure; friable; abrupt smooth boundary.
B_{21}	18-30 cm.	Strong brown (7.5YR5/6) silt loam; weak fine granular structure; friable; clear wavy boundary.
B_{22}	30-43 cm.	Yellowish brown (10YR5/4) loam; weak fine granular structure; friable; clear wavy boundary.
II A'_2	43-53 cm.	Light olive brown (2.5Y5/4) loam; weak medium subangular blocky structure; friable; abrupt smooth boundary.
II C_1	53-71 cm.	Yellowish brown (10YR5/4) outside ped color and dark brown (10YR4/3) inside ped color, clay loam; strong medium prismatic structure separating to moderate fine and medium subangular block secondary structure, prism faces are light brownish gray (2.5Y6/2); firm; clear wavy boundary.
II C_2	71-100 cm.	Dark yellowish brown (10YR3/4) outside ped color and dark brown (10YR4/3) inside ped color, clay loam; structure and consistence like horizon above.

Soil Series Perham Site No. 1

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (< .002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
					Percent of <2mm						
0-18	Ap	31.74	49.12	19.14	6.37	6.39	5.65	7.44	5.89	19.74	29.38
18-30	B_{21}	30.04	50.15	19.81	6.94	5.60	5.03	6.61	5.86	18.15	32.00
30-43	B_{22}	32.73	44.28	22.99	7.75	6.24	5.64	7.25	5.85	14.33	29.95
43-53	II A'_2	40.99	43.65	15.36	7.98	7.27	7.14	10.11	8.49	17.77	25.88
53-71	II C_1	30.28	36.70	33.02	6.35	5.19	5.11	7.34	6.29	15.23	21.47
71-100	II C_2	29.95	40.53	29.52	6.58	5.22	5.12	7.04	5.99	15.78	24.75

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)									Bulk Density g/cc.	Available Water (cm./cm.)
		0.059 pct.	0.1 pct	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct	3.0 pct.	5.0 pct	15.0 pct.		
0-18	Ap	39.8	38.5	36.0	35.1	35.0	29.1	21.5	17.7	13.6	1.17	0.26
18-30	B_{21}	47.6	46.3	40.8	36.1	33.3	27.6	21.4	19.1	15.4	1.15	0.29
30-43	B_{22}	41.0	39.6	33.0	29.6	28.2	24.3	20.5	17.6	12.0	1.10	0.23
43-53	II A'_2	23.2	21.6	19.4	18.2	17.4	17.3	15.4	13.7	10.0	1.54	0.14
53-71	II C_1	19.1	18.6	17.8	17.4	17.1	16.0	15.8	14.4	11.9	1.72	0.10
71-100	II C_2	20.4	19.9	18.9	18.3	18.1	17.9	17.3	15.7	13.7	1.58	0.08

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
0-18	Ap	0.0	2.1	0.8	1.5	1.8	2.8	4.4	7.6	21.0
18-30	B_{21}	0.0	1.3	0.4	2.4	2.6	4.0	4.7	6.5	21.9
30-43	B_{22}	0.0	5.0	4.1	5.6	6.1	5.8	5.7	5.9	38.2
43-53	II A'_2	16.2	7.5	6.4	7.6	6.0	5.2	5.9	5.6	60.4
53-71	II C_1	0.0	1.4	0.0	2.2	2.0	2.0	4.1	5.2	16.9
71-100	II C_2	0.0	4.4	0.6	2.9	2.0	2.6	4.4	5.9	22.8

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq./100 g.						
0-18	Ap	4.2	5.5	6.0	8.8	0.6	<0.1	0.2	10.9	20.6	47.1
18-30	B_{21}	3.0	6.55	6.7	9.9	0.4	<0.1	0.1	7.6	18.1	58.0
30-43	B_{22}	1.8	5.65	5.85	4.6	0.4	<0.1	0.2	10.0	15.3	34.6
43-53	II A'_2	1.1	5.4	5.55	2.6	0.4	<0.1	0.2	7.5	10.8	30.6
53-71	II C_1	0.6	4.95	5.15	5.0	0.9	<0.1	0.2	5.4	11.6	53.4
71-100	II C_2	0.6	6.05	6.2	7.6	1.3	0.1	0.1	3.3	12.4	73.4

Perham Mapping Unit
Site 2

Location: Perham, Aroostook County, Maine, 1970.

Horizon	Depth	Description
Ap	0-10 cm.	Brown (10YR4/3) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{21}	10-20 cm.	Brown (7.5YR4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	20-29 cm.	Yellowish brown (10YR5/4) silt loam; weak fine subangular blocky structure; friable; abrupt irregular boundary.
II C_1	29-71 cm.	Dark yellowish brown (10YR4/4) outside ped color and dark brown (10YR3/3) inside ped color, loam; moderate medium subangular blocky structure; firm; gradual wavy boundary.
II C_2	71-100 cm.	Yellowish brown (10YR5/4) outside ped color and dark yellowish brown (10YR4/4) inside ped color, loam; strong fine and medium subangular blocky structure; firm.

Soil Series Perham Site No. 2

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-10	Ap	26.95	53.59	19.46	4.60	4.36	4.70	7.10	6.19	19.14	34.45
10-20	B_{21}	27.36	54.86	17.78	4.13	4.47	4.83	7.61	6.32	21.97	32.89
20-29	II A'_2	31.98	52.11	15.91	5.78	5.16	5.72	8.44	6.88	21.53	30.58
29-71	II C_1	30.15	44.17	25.68	4.59	4.83	5.24	8.28	7.21	17.73	26.44
71-100	II C_2	32.77	42.89	24.34	6.12	5.35	5.62	8.57	7.11	16.36	26.53

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct.	0.33 pct.	0.67 pct	1.0 pct.	2.0 pct.	3.0 pct.	5.0 pct.	15.0 pct.	Bulk Density g/cc	Available Water (cm./cm.)
0-10	Ap	53.5	49.2	42.9	40.6	39.6	30.0	25.7	23.2	22.4	0.77	0.16
10-20	B_{21}	51.2	47.2	40.7	37.7	36.6	33.7	22.6	18.4	14.8	0.93	0.24
20-29	II A'_2	40.6	38.4	33.7	30.4	28.1	20.4	15.9	13.5	10.3	1.05	0.24
29-71	II C_1	21.5	20.9	19.8	19.2	19.0	16.4	14.3	12.3	10.6	1.70	0.16
71-100	II C_2	22.1	21.6	20.5	19.7	19.5	16.7	14.8	13.4	10.6	1.65	0.16

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
0-10	Ap	0.0	0.0	0.0	2.5	0.8	1.2	2.2	3.7	10.4
10-20	B_{21}	0.0	0.0	1.7	1.1	1.3	2.3	3.9	4.4	14.7
20-29	II A'_2	0.0	0.0	0.4	1.7	1.5	2.6	4.0	5.1	15.3
29-71	II C_1	16.3	2.5	1.4	2.8	1.6	1.7	3.0	3.3	32.6
71-100	II C_2	1.7	1.3	1.7	3.8	2.4	3.4	4.0	7.5	25.8

Depth (cm.)	Horizon	Organic Carbon pct	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq/100 g						
0-10	Ap	6.0	4.45	4.8	3.4	0.7	<0.1	0.4	18.9	23.5	19.6
10-20	B_{21}	3.9	4.35	4.65	1.1	0.1	<0.1	<0.1	17.6	19.0	7.4
20-29	II A'_2	1.5	4.45	4.7	0.1	<0.1	<0.1	0.1	11.2	11.6	3.4
29-71	II C_1	0.7	4.0	4.35	1.0	0.2	<0.1	0.1	10.0	11.4	12.3
71-100	II C_2	0.6	3.95	4.4	1.4	0.2	<0.1	0.1	9.8	11.6	15.5

Perham Mapping Unit
Site 3

Location: Perham, Aroostook County, Maine, 1970.

Horizon	Depth	Description
Ap	0-23 cm.	Dark yellowish brown (10YR4/4) silt loam; weak fine and medium granular structure; friable abrupt smooth boundary.
B_{21}	23-25 cm.	Strong brown (7.5YR5/6) loam; weak medium granular structure; friable; abrupt smooth boundary.
II A'_2	25-38 cm.	Light olive brown (2.5Y5/4) loam; weak medium subangular blocky structure; friable; clear smooth boundary.
II C_1	38-71 cm.	Yellowish brown (10YR5/4) outside ped color and dark yellowish brown (10YR4/4) inside ped color, loam; strong coarse prismatic structure separating to moderate medium subangular blocky secondary structure, prism faces are light gray (10YR7/1); firm; gradual smooth boundary.
II C_2	71-100 cm.	Brown (10YR5/3) outside ped color and dark brown (10YR4/3) inside ped color, loam; structure and consistence like horizon above.

Soil Series Perham Site No. 3

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-23	Ap	30.15	53.45	16.40	8.16	5.72	4.95	6.36	4.96	19.08	34.37
23-25	B_{21}	35.92	49.24	14.84	7.86	7.03	6.24	8.47	6.32	17.16	32.08
25-38	II A'_2	42.30	46.85	10.85	8.73	7.58	7.49	10.91	7.59	17.50	29.35
38-71	II C_1	44.95	41.10	13.95	9.88	8.76	8.06	10.90	7.35	16.01	25.09
71-100	II C_2	36.73	40.38	22.89	8.03	6.38	6.24	9.23	6.85	14.84	25.54

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct	0.1 pct	0.33 pct	0.67 pct	1.0 pct	2.0 pct	3.0 pct	5.0 pct	15.0 pct	Bulk Density g/cc	Available Water (cm./cm.)
0-23	Ap	51.1	49.4	45.0	43.9	43.6	29.2	22.9	19.2	15.2	1.00	0.30
23-25	B_{21}	40.1	37.6	32.1	28.1	25.8	19.0	16.4	14.3	10.3	1.03	0.22
25-38	II A'_2	22.7	21.3	18.4	17.0	15.9	15.1	13.3	11.6	8.8	1.53	0.15
38-71	II C_1	26.0	24.2	21.4	19.4	18.5	14.0	11.8	10.1	7.6	1.32	0.18
71-100	II C_2	19.9	19.2	18.1	17.4	16.5	15.7	14.1	12.6	9.6	1.43	0.12

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
0-23	Ap	0.0	0.0	1.2	2.0	1.4	2.3	3.9	5.9	16.7
23-25	B_{21}	0.0	2.9	0.0	2.9	3.9	4.4	7.8	13.1	35.0
25-38	II A'_2	0.0	0.0	1.4	2.5	2.4	3.3	4.3	6.8	20.7
38-71	II C_1	0.0	3.8	4.0	2.8	3.5	4.5	5.8	7.6	32.0
71-100	II C_2	6.1	8.7	2.6	5.7	4.5	4.6	5.8	10.2	48.2

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct.
					← meq/100 g. →						
0-23	Ap	4.4	4.35	4.95	2.1	0.4	<0.1	0.2	19.0	21.8	12.8
23-25	B_{21}	2.2	4.55	4.85	0.4	<0.1	<0.1	0.1	12.2	12.9	5.4
25-38	II A'_2	1.1	4.5	4.7	0.1	<0.1	<0.1	0.1	8.9	9.3	4.3
38-71	II C_1	0.8	4.3	4.6	0.1	<0.1	<0.1	0.1	7.3	7.7	5.2
71-100	II C_2	0.3	4.0	4.45	0.5	<0.1	<0.1	0.1	8.4	9.2	8.7

Perham Mapping Unit
Site 4

Location: Spaulding, Aroostook County, Maine, 1970.

Horizon	Depth	Description
Ap_1	0-10 cm.	Dark yellowish brown (10YR4/4) silt loam; moderate fine and medium granular structure; friable; abrupt smooth boundary.
Ap_2+B_{21}	10-23 cm.	Dark yellowish brown (10YR4/4) mixed with strong brown (7.5YR5/6) silt loam; weak fine and medium granular structure; friable; abrupt smooth boundary.
B_{21}	23-30 cm.	Strong brown (7.5YR5/6) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{22}	30-43 cm.	Dark yellowish brown (10YR4/4) loam; weak fine granular structure; friable; clear wavy boundary.
II A'_2	43-51 cm.	Olive brown (2.5Y4/4) loam; moderate fine subangular blocky structure; friable; abrupt wavy boundary.
II C_1	51-61 cm.	Yellowish brown (10YR5/4) outside ped color and dark brown (10YR4/3) inside ped color, loam; strong medium subangular blocky structure; brittle; firm, abrupt smooth boundary.
II C_2	61-100 cm.	Light olive brown (2.5Y5/4) outside ped color and dark yellowish brown (10YR3/4) inside ped color, loam; coarse prismatic structure separating to strong medium subangular blocky secondary structure, prism faces are gray (10YR6/1); brittle; very firm.

Soil Series Perham Site No 4

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL Sand (2-.05)	TOTAL Silt (.05-.002)	TOTAL Clay (<.002)	SAND Very Coarse (2-1)	SAND Coarse (1-.5)	SAND Medium (.5-.25)	SAND Fine (.25-.1)	SAND Very Fine (.1-.05)	SILT (.05-.02)	SILT (.02-.002)
		Percent of <2mm									
0-10	Ap	20.84	58.20	20.96	4.81	3.76	3.25	4.28	4.74	25.03	33.17
10-23	Ap_2+B_{21}	20.66	59.00	20.34	5.44	3.60	2.95	3.98	4.69	25.58	33.42
23-30	B_{21}	24.80	54.20	21.00	6.35	5.06	4.02	4.79	4.58	23.52	30.68
30-43	B_{22}	30.34	45.74	23.92	7.58	7.32	5.47	5.63	4.34	20.75	24.99
43-51	II A'_2	36.27	44.75	18.98	10.02	8.58	6.39	6.46	4.82	17.94	28.11
51-61	II C_1	33.72	45.77	20.51	10.18	8.12	6.37	6.59	5.01	17.17	27.58
61-100	II C_2				9.51	7.69	5.65	6.09	4.78	18.33	27.44

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures) 0.059 pct.	0.1 pct	0.33 pct.	0.67 pct.	1.0 pct.	2.0 pct.	3.0 pct.	5.0 pct	15.0 pct	Bulk Density g/cc	Available Water (cm./cm.)
0-10	Ap	66.3	63.7	56.3	54.2	53.9	33.3	26.2	24.1	24.1	0.77	0.25
10-23	Ap_2+B_{21}	54.2	52.6	46.4	43.6	42.7	37.2	23.2	19.9	18.0	0.90	0.26
23-30	B_{21}	67.7	64.8	54.9	50.2	49.5	28.2	25.4	22.7	21.1	0.80	0.27
30-43	B_{22}	45.8	44.4	39.0	35.7	34.7	25.8	21.1	18.3	15.3	1.02	0.24
43-51	II A'_2	32.2	31.0	28.8	26.6	23.8	18.7	15.1	13.2	9.0	1.26	0.25
51-61	II C_1	29.1	28.0	26.7	25.4	24.0	15.8	14.2	12.5	8.5	1.40	0.25
61-100	II C_2	24.9	24.7	23.7	22.8	22.4	16.0	14.4	12.5	9.6	1.44	0.20

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume) 3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in.-2 mm	TOTAL
0-10	Ap	0.0	1.3	0.0	1.0	1.9	1.9	3.4	4.8	14.3
10-23	Ap_2+B_{21}	0.0	0.0	0.6	2.1	1.6	2.1	3.2	4.8	14.4
23-30	B_{21}	8.4	2.3	0.5	3.6	2.2	3.7	5.5	7.5	33.7
30-43	B_{22}	10.0	1.0	1.2	1.7	2.8	3.2	6.0	8.1	34.0
43-51	II A'_2	0.0	4.1	4.8	5.5	7.1	7.5	11.2	14.2	54.4
51-61	II C_1	0.0	2.0	2.8	4.4	2.6	4.8	6.9	9.1	32.6
61-100	II C_2	0.0	3.3	2.8	2.8	2.8	3.4	6.4	7.8	29.3

Depth (cm.)	Horizon	Organic Carbon pct.	pH .01M $CaCl_2$ 2:1	pH H_2O 1:1	Exchangeable Bases Ca	Mg	Na	K	Acidity	CEC (Sum)	Base Saturation (Sum) pct
					meq/100 g.						
0-10	Ap	6.5	4.2	4.5	3.3	0.5	<0.1	0.4	18.5	22.8	18.8
10-23	Ap_2+B_{21}	4.4	4.15	4.5	1.8	0.2	0.1	0.1	18.9	21.1	10.4
23-30	B_{21}	2.9	4.4	4.45	1.1	0.1	<0.1	0.1	20.7	22.1	6.3
30-43	B_{22}	1.7	4.35	4.55	0.9	0.1	<0.1	0.1	15.3	16.5	7.3
43-51	II A'_2	0.7	4.35	4.7	0.9	0.2	<0.1	0.1	9.5	10.8	12.0
51-61	II C_1	0.3	4.2	4.55	1.4	0.3	<0.1	0.1	8.5	10.4	18.3
61-100	II C_2	0.2	4.3	4.7	2.3	0.7	<0.1	0.1	6.8	10.0	32.0

Perham Mapping Unit
Site 5

Location: Spaulding, Aroostook County, Maine, 1970.

Horizon	Depth	Description
Ap	0-18 cm.	Dark yellowish brown (10YR3/4) silt loam; moderate medium granular structure; friable; abrupt wavy boundary.
B_{21}	18-43 cm.	Reddish brown (5YR4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
B_{22}	43-53 cm.	Brown (7.5YR4/4) silt loam; weak fine granular structure; friable; abrupt smooth boundary.
II A'_2	53-71 cm.	Light olive brown (2.5Y5/4) silt loam; weak medium subangular blocky structure; friable; abrupt smooth boundary.
II C	71-100 cm.	Yellowish brown (10YR5/4) outside ped color and dark yellowish brown (10YR4/4) inside ped color, silt loam; moderate medium subangular blocky structure; firm.

Soil Series Perham Site No. 5

SIZE CLASS AND PARTICLE DIAMETER (mm)

Depth (cm.)	Horizon	TOTAL			SAND					SILT	
		Sand (2-.05)	Silt (.05-.002)	Clay (<.002)	Very Coarse (2-1)	Coarse (1-.5)	Medium (.5-.25)	Fine (.25-.1)	Very Fine (.1-.05)	(.05-.02)	(.02-.002)
		Percent of <2mm									
0-18	Ap	21.23	59.85	18.92	6.12	3.82	3.12	4.16	4.01	23.90	35.95
18-43	B21	24.73	57.95	17.32	8.37	4.72	3.63	4.21	3.80	23.79	34.16
43-53	B22	26.97	60.52	12.51	7.84	5.28	4.37	5.08	4.40	23.78	36.74
53-71	II A'2	34.74	54.58	10.68	8.93	7.03	6.07	7.13	5.58	19.53	35.05
71-100	II C	35.13	50.63	14.24	8.27	7.04	6.24	7.79	5.79	16.66	33.97

Depth (cm.)	Horizon	WATER CONTENT (Bar Pressures)								Bulk Density g./cc	Available Water (cm./cm.)
		0.059 pct.	0.1 pct	0.33 pct.	0.67 pct	1.0 pct.	2.0 pct	3.0 pct	5.0 pct	15.0 pct.	
0-18	Ap	140.1	125.1	107.8	98.7	95.8	40.2	35.5	34.2	33.4	0.46	0.34
18-43	B21	86.7	80.4	65.5	61.0	57.8	29.1	24.1	21.9	21.2	0.53	0.23
43-53	B22	71.5	68.6	56.1	48.0	45.6	23.5	19.0	16.8	15.8	0.66	0.26
53-71	II A'2	34.3	33.0	27.8	24.9	22.3	15.3	12.6	10.6	8.8	1.18	0.22
71-100	II C	23.3	22.3	20.6	19.0	17.8	14.7	12.2	9.9	7.2	1.31	0.18

Depth (cm.)	Horizon	COARSE FRAGMENTS (Percent by Volume)								
		3+ inches	3-2 inches	2-1.5 inches	1.5-1 inches	1-.75 inches	.75-.50 inches	.50-.25 inches	.25 in - 2 mm	TOTAL
0-18	Ap	14.7	1.6	2.0	1.3	2.0	2.3	3.5	2.8	30.2
18-43	B21	4.0	3.8	1.4	1.4	1.8	1.7	2.5	2.9	19.5
43-53	B22	8.4	4.6	0.5	0.8	1.8	2.2	3.9	4.2	26.4
53-71	II A'2	0.0	0.0	1.9	1.5	1.9	2.3	3.1	4.4	15.1
71-100	II C	2.6	13.6	10.0	8.4	5.3	4.8	5.5	6.2	56.4

Depth (cm.)	Horizon	Organic Carbon pct.	pH		Exchangeable Bases				Acidity	CEC (Sum)	Base Saturation (Sum) pct
			.01M $CaCl_2$ 2:1	H_2O 1:1	Ca	Mg	Na	K			
					meq /100 g.						
0-18	Ap	7.5	4.65	4.9	3.5	1.0	<0.1	0.3	17.2	22.1	22.2
18-43	B21	4.4	4.5	4.8	1.2	0.3	<0.1	0.1	22.0	23.7	7.2
43-53	B22	2.7	4.55	4.85	0.5	0.1	<0.1	0.1	17.6	18.4	4.3
53-71	II A'2	0.8	4.6	4.85	0.4	<0.1	<0.1	<0.1	10.0	10.7	6.5
71-100	II C	0.7	4.5	4.85	2.4	0.1	<0.1	0.1	7.4	10.1	26.7