When the above tables are examined in the light of the characteristics of podsolization it will be seen that in group (*a*), the best developed of the profiles, the base-saturation is still fairly high, indicating that the profiles are not extreme ones. The data presented do not conform wholly to the requirements of podsolization even for the A 2 layer, which is regarded as the most characteristic of a podsol profile. In the first case there is evidence of clay-movement with a resulting increase in the base-exchange capacity of the B horizon, while in the second case practically no clay has moved and the capacity is lower in B than in A 2. The pH values are high, considering the profile development. The available phosphate figures are very low.

In the second group (*b*), the moderately podsolized soils, the data presented are very similar to those of group (*a*). There is evidence of clay-movement, and the requirements for the A 2 layer are satisfied with regard to base-exchange capacity and percentage base-saturation. The soils are heavier in texture than in group (*a*), and it is to be expected that podsol-development would be slower. Very low phosphate figures are again shown. Group (*c*) is not strongly enough represented to enable comment to be made.

In class (*d*), those characterized as brown soils, leached volcanic ash is dealt with. Dr. Grange has explained that although the leaching process has gone on the soils are so high in iron that no bleached layer (A 2) shows up, despite downward movement of the sesquioxides. It will be seen from the table that the chemical data do not give support to podsolization, although there is evidence of leaching in that the percentage base-saturation is fairly low. The remarkable drop in this figure in the B horizon cannot be accounted for at this stage. This class is also low in phosphates, though not quite as badly off as the preceding classes. The immature soils, group (*e*), are those developed under a similar climate to the other soils, but their development has not gone far enough for a definite profile to be recognized. In these classes the zone of illuviation may be in the C horizon, with the result that little evidence of podsolization will be seen. With a base-saturation of 70 per cent. to 80 per cent. they cannot be regarded as badly leached, and it is possible that phosphate responses will be seen on these types without the necessity of adding lime. The available phosphate content is still low.

In conclusion, it can be said that there is some evidence of podsolization in the soils of groups (*a*), (*b*), (*c*), but the chemical data do not differentiate them to any extent. Group (*d*) seems definitely of a different soil type, and further work will be necessary on these soils. The immature soils show no evidence of podsolization. The low content of available phosphate in these soils must be stressed, and top-dressings with lime and super or basic slag are necessary on the soils with low base-saturation, while on the soils with high base-saturation phosphates alone should be quite effective.

SKELETAL SOILS.

Sample No.	Depth.	Available P_2O_5.	pH.	Clay.	Loss on Ignition.	Texture.
			(*a*) ON CRETACEOUS ARGILLITE.			
			Mount Vernon.			
	In.	Per Cent.		Per Cent.	Per Cent.	
1561	0–6	0·005	5·8	38·0	10·3	Clay loam.
		Available potash, 0·033 per cent.				
			(*b*) ALLUVIUM.			
			Stortford Lodge.			
1523	0–6	0·064	6·6	28·4	11·7	..
1524A	6–12	0·063	5·8	27·2	7·4	..
1524B	18–24	0·052	5·5	18·1	7·7	..
1525	0–6	0·053	6·8	45·8	12·5	Clay.
1526A	6–12	0·054	5·6	..	8·5	..
1526B	18–24	0·040	5·9	..	5·4	..
			Hastings.			
1485	0–6	0·043	5·7	40·0	11·8	Clay loams.
			Havelock North.			
1487	0–6	0·044	5·6	..	10·5	..
			Pakowai Road.			
1527	0–6	0·036	7·5	25·5	7·7	Clayey silt.
1528A	6–12	0·034	7·3	21·9	6·7	Clayey silt.
1528B	18–24	0·047	7·0	31·0	7·2	Clayey silt.
			Hastings.			
1483	0–6	0·043	5·4	48·6	12·1	Clay.
			Stortford Lodge.			
1489	0·6	0·046	5·2	46·5	15·5	Clay.

A clay loam derived from a white argillite (3A) gives a poorish pasture which should respond well to phosphates because of the low phosphate-level in the topsoil and parent material.

When the soils surrounding Hastings (3B) are examined it will be seen that, in marked contrast to all the other soils considered, they are well supplied with phosphates. The phosphate-level is well sustained into the subsoil, as is to be expected from soils that have been added to in recent times by flooding.