

at an average cost of 2½ dollars per square mile, not including travelling-expenses. Later costs have been quoted by the same organization at 4 dollars per square mile. Still later no mention is made of the cost. Apparently the value of the work has established itself in the minds of the farmers, and the expense is no longer of interest to them. It is not likely that a detailed soil survey of New Zealand lands could be made at anything like the cost per unit of area to the United States, whatever it may be at present. In that immense country very large areas occur having a uniform soil origin and structure. The average cost of surveying such a country per square mile must always be small compared with that for comparatively small islands like New Zealand, where change of soil type is frequent, large-scale maps non-existent, and the surface extremely variable.

CONCLUSION.

The writer's opinion is that for New Zealand a complete soil survey will come in time, but that much good can be done in the meantime by means of a reconnaissance survey by which one may gain a knowledge of all the types existing, and may describe without being able to map them. By such means a soil survey may be begun, and the descriptions of types should be intelligible to the local scientific officers of the Department. Although it might not be possible for them to delimit the boundaries of types, and say just where one soil ends and another begins, it should be possible in typical cases to recognize types. At present, except in pressing cases, the detailed soil survey of New Zealand will be made to coincide with the topographical survey which the Lands Department is executing. Approval has been given to the resumption of the North Island reconnaissance soil survey interrupted by the war and since delayed for financial reasons.

No systematic soil survey has been undertaken of the soils of Great Britain, but several most readable treatises have been published on the soils of certain districts. Chief among these is Sir A. D. Hall and Sir John Russell's delightful "Agriculture of Soils of Kent, Surrey, and Sussex" (1911). Others are G. W. Robinson's "Survey of the Soils and Agriculture of Shropshire" (1912); Dr. Luxmore's "Soils of Dorset"; Goodwin's "Soils of Nottinghamshire"; L. F. Newman's "Soils and Agriculture of Norfolk"; and lastly the memoir of Mr. T. H. Rigg (formerly of this Laboratory and now of the Cawthron Institute, Nelson) on "The Soils and Crops of the Market-garden District of Biggleswade" (1916). The first two named of these surveyors take a most comprehensive view of their duties, and produce works of value to the historian and rural economist. In the American publications we miss those milestones on the road which a race creeps by to greatness. To quote a few lines from Robinson: "In Shropshire, at the time of Domesday, land had a mean annual value of about 2d. per acre. A horse was worth something of the order of 10s., an ox 30d., a cow 20d., and a slave £1. There were about 25,000 slaves in Shropshire who had no legal rights whatever."

It is to be hoped that when New Zealand soil surveys come to be written they may be as true a record of rural history and craft as those to which the British authors have set their names.