

ture, sunshine, &c., are factors that must receive careful consideration.

Pot or plot experiments with the various fertilizers are at present the only means of gaining reliable or accurate knowledge of a soil's needs, but the incentive given by Dr. Dyer in 1894 in publishing his results by the one per cent citric acid solution has resulted in many agricultural chemists on this continent directing their attention to this important subject, and the probabilities are that ere long we shall be agreed upon laboratory methods for determining available plant food in soils.

The standards of fertility as suggested by Dr. Hilgard, of the California Experiment Station, are stated and deductions made from Canadian data are given. The latter show that good agricultural soils possess usually between .25% and .5% of potash—less than .15% indicating the value of potassic fertilizers; phosphoric acid is usually between .15% and .22% but the adequacy of this element depends largely on the amount of lime associated with it. In lime, less than 1% in clay soils indicates that their productiveness will be increased by an application of a calcareous fertilizer. Peaty soils have always responded well to a dressing of lime. Richness in nitrogen invariably indicates, in Canada, loams of excellent productiveness. Omitting prairie soils, the large number of our good soils contain between .125% and .225 of nitrogen; many, however, reach .5% and some exceed 1.0%.

BRITISH COLUMBIA.

As far as our investigations in this province have carried us, the soils fall into three well marked groups: (a) Deltaic, as at the mouth of the Fraser and Pitt Rivers, very rich in plant food; (b) Valley soils, of alluvial origin, of more than average fertility; and (c) Bench and plateau soils at varying altitudes—frequently light and sandy, ranging from very poor to soils of medium fertility.