A CRITICAL STUDY OF SOME OF THE FACTORS CONCERNED IN MEASURING THE EFFECT OF SELECTION IN THE POTATO

J. R. Livermore

Each year it becomes more apparent that there may be a difference in the yielding ability of different strains of the same variety of potatoes. This cannot be entirely accounted for by variation in disease content or other external factors. Oftentimes two strains, growing side by side, vary quite markedly in yield, yet no disease can be detected in either strain.

It is increasingly important, then, that adequate means for measuring these differences should be devised. Failure, in the past, on the part of some investigators to isolate high-yielding strains might well be due, in part at least, to weaknesses in the methods employed to determine the relative yield of the various strains rather than to a fault in the principle of pure line selection when applied to the potato.

It was the purpose of the investigations reported herein to study some of the more obvious sources of error in interpreting results of selection experiments with the potato.

MATERIALS AND METHODS

Certified seed stock was obtained from Hickox-Rumsey Co., Batavia, N. Y. In 1924 this consisted of a pure line of No. 9, a Smooth Rural type potato; in 1925 a pure line of Green Mountain stock; and in 1926 another pure line of the No. 9, Smooth Rural type.

In 1924 and 1926 a crop of clover was turned under for the potato crop, and in 1925 a timothy sod with a little clover was plowed under.

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2Extension Instructor in Plant Breeding.