EFFECT OF SIZE OF SEED PIECE AND RATE OF PLANTING ON YIELDS OF WHITE POTATOES

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There has been a marked rehabilitation of the potato industry in New Jersey in the past few years (1) due in part to a reduction in acreage so that only the most suitable soils are planted to the crop. In addition, a pronounced increase in the use of certified seed of desirable varieties, combined with the adoption of disease control measures and better cultural methods has contributed to more economical production. With the above developments in production methods, the problem of the best size of seed piece and rate of planting has become rather important.

It is obvious that the most profitable combination of rate of planting and size of seed piece will be that which makes the most efficient use of the soil and climate at hand. Seed pieces should be large enough to give the young plants a vigorous start and they must be so spaced that all parts of the upper soil horizons contribute moisture or nutrients to the growing plants. Over-population of plants is to be avoided since the reserve supplies of nutrients and moisture must carry the plants through critical periods when shortages of these are likely to occur.

Although much work has been reported on various phases of the problem under a wide range of conditions, it is still a moot question. Perhaps one should not expect any set of experiments to yield the solution of the problem for any other region than where they were carried out. However, if such experiments are carefully conducted, they should throw some light on the causes underlying the observed results as well as indicating the most profitable empirical practices. During the three years 1924-26, experiments of this nature have been conducted in central New Jersey where the crop is grown intensively on a comparatively large acreage.

EXPERIMENTAL METHODS

Certified Maine-grown tubers of the Green Mountain variety were used each year, the tubers being in good condition at the time of cutting seed. The seed pieces were cut in three sizes, viz., 3/4 ounce, 1 ounce, and 1 1/2 ounces, by hand during the period of about two

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3Reference by number is to "Literature Cited," p. 523.