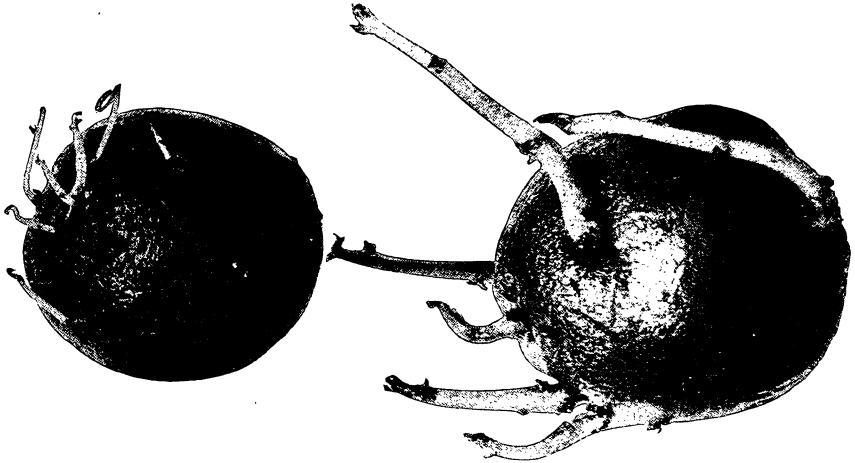

New York Agricultural Experiment Station.

GENEVA, N. Y.



TUBER SHOWING "SPINDLING-SPROUT."

NORMAL TUBER WITH STOCKY SPROUTS.

"SPINDLING-SPROUT" OF POTATOES.

SUMMARIZED BY

F. H. HALL

FROM BULLETIN BY

F. C. STEWART AND F. A. SIRRINE.

PUBLISHED BY THE DEPARTMENT OF AGRICULTURE.

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§ Connected with Grape Culture investigations. **Connected with Hop Culture investigations. *On leave of absence.

POPULAR EDITION *
OF
BULLETIN No. 399.

“SPINDLING-SPROUT” OF POTATOES.

F. H. HALL.

**Dry, hot
weather
weakens
potatoes.**

Potatoes produce best in moist, cool climates, as in their original home on the plateaus of the Andes. They seem to “run out” quite rapidly in sections with much hot, dry weather during their maturing period; and it is usually considered necessary in such sections to renew the stock, sometimes annually, sometimes biennially, by using seed grown farther north where climatic conditions are more favorable. This is quite commonly done on Long Island; and experiences there during 1914, following the hot, dry summer of 1913, emphasize the necessity for the practice. Ordinarily, specific symptoms of deterioration extend only to reduction in yield; but in 1914 a marked change in the character of the plants was so common as to attract general notice.

**Spindling-
sprout
disease.**

In almost every field planted with home-grown seed on Long Island in 1914 there were many missing hills and the plants varied greatly in size. Investigation, particularly in one field near Riverhead, showed that the trouble approaches a disease in character, tracing back directly to the tubers. The affected tubers could be easily selected among those left in the lot used for seed as about one-third of the whole number bore exceedingly slender sprouts like those observed on affected plants in the field; while the remainder bore the sturdy, robust sprouts characteristic of the variety, Green Mountain. There was little difficulty in separating the tubers, for nearly all were plainly sound and vigorous or plainly affected with “spindling-sprout,” with very few showing any intermediate degree; and all the sprouts on each tuber were of the same character, either stocky or slender.

* This is a brief review of Bulletin No. 399 of this Station on The Spindling-Sprout Disease of Potatoes, by F. C. Stewart and F. A. Sirrine. Anyone interested in the detailed account of the investigations will be furnished, on application, with copies of the complete bulletin, so long as these are available.

Names of those who so request will be placed on the Station mailing list to receive future bulletins, popular or complete, as desired.

About forty of these tubers were planted at Geneva for observation; and all those with slender sprouts produced weak, spindling plants and yielded only small tubers, averaging half a pound to the hill; while the tubers with stocky sprouts gave healthy plants and yielded nearly one and one-half pounds to the hill.

The field at Riverhead improved considerably as the season advanced and by the middle of June showed 95 per ct. of a full stand, of which, however, nearly 30 per ct. of the plants were distinctly smaller than usual. In another case, where many tubers of the variety Norcross were seen to be producing small sprouts before planting, the owner's field and an experimental patch planted for the Station showed nearly 50 per ct. of small plants.

Examination of bulletins and periodicals showed that this trouble is not a new or uncommon one; as the same or very similar symptoms are reported for potatoes in other States and in Europe. In a few of the cases described, however, the trouble, though similar, is probably not identical with spindling sprout. Various causes are suggested for the condition, but growth of the seed tubers in hot, dry weather is most commonly given, and is probably the true explanation.

As the effect of this trouble is a serious lessening of the yield, every effort should be made to avoid tubers affected by it. Although occasional instances of spindling-sprout are reported from Maine and even from Canada, northern-grown tubers are generally free from the affection, and should be used when the location, in the South, or hot, dry weather during the previous season seem liable to produce deterioration of the seed. Whether "spindling-sprout" is liable to occur can usually be told with considerable certainty by a sprouting test. From four to eight weeks before planting time a small quantity of the potatoes should be put in a warm, dark place to sprout. If all of the tubers produce strong sprouts it is safe to assume that the seed is suitable for planting; but if some of the tubers produce spindling sprouts, the seed is not fit to plant. It seems as if this should be a simple method of avoiding trouble with spindling-sprout.