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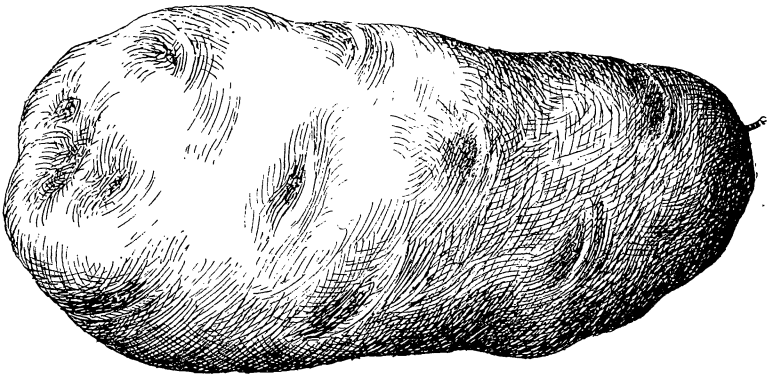

PROFITABLE POTATO FERTILIZING. II.

F. H. HALL AND W. H. JORDAN.

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The Bulletins published by the Station will be sent free to any farmer applying for them.

*Connected with Fertilizer Control.
†Connected with Second Judicial Department Branch Station.

POPULAR EDITION*

OF

BULLETIN NO. 154.

PROFITABLE POTATO FERTILIZING. II.

F. H. HALL.

Report of progress.

The investigations of the past year in the application of commercial fertilizers in potato growing have been in continuation of those of 1897 (Bulletin 137) and have followed the same lines, with one added feature. The work has been done on four farms in different parts of Long Island, taking in 30 eighth-acre or tenth-acre plats on each farm, and has included: (1) A comparison of different amounts of complete fertilizer, from 500 lbs. to 2,000 lbs.; (2) a test of the relative efficiency of the common Long Island formula (4-8-10 mixture) and a fertilizer based on the composition of the potato (a 7-4-10 mixture); (3) the use, side by side, of sulphate and muriate as a source of potash; and (4) the new tests, a comparison of the Long Island formula containing the full amount of potash, 10 per ct., with the same mixture in which the potash was reduced to two-thirds, one-third and nothing. The materials used in compounding all the fertilizers were nitrate of soda, dried blood, acid phosphate, sulphate or muriate of potash and land plaster.

Results as to amount.

In 1897, 1000 lbs. per acre was found to be the limit of profitab e application, the increased yield of large tubers from the use of 500 lbs. or 1000 lbs. of fertilizer costing 18 cts. a bushel; while the added tubers produced by the next 500 lbs. cost 75 cts. a

*This is a brief review of Bulletin No. 154 of this Station on Commercial Fertilizers for Potatoes, by W. H. Jordan. Anyone specially interested in the detailed account of the investigations will be furnished, on application, with a copy of the complete bulletin; and the names of those who so request will be placed upon the Station mailing list to receive future bulletins, popular or complete as desired.

bushel, and by the next 500 lbs., increasing the amount of fertilizer to 2,000 lbs. per acre, $5.75 a bushel. In 1898, however, 1,500 lbs. gave best results, as shown in the following table:

RESULTS FROM USE OF DIFFERENT AMOUNTS OF FERTILIZERS ON POTATOES.

Amount of fertilizer.	Yield per acre.		Value of increase.	Gain.
	Total.	Increased.		
	Bu.	*Bu.*		
None.	107.4	....	....	....
500 lbs.	140.8	33.4	$14.98	$ 8.73
1000 lbs.	168.1	60.7	27.59	15.09
1500 lbs.	192.2	84.8	38.41	19.66
2000 lbs.	197.1	89.7	40.42	15.42

L. I. formula vs. potato formula. As in 1897, the 4-8-10 mixture gave better results than the formula based on the supposed draft of the potato upon the soil; but the difference was not so pronounced. In 1897 the L. I. formula gave an average increased yield of 22.9 bu. per acre over the "potato" formula; in 1898, a gain of 6.3 bu.

Potash. The results for 1898 of the tests of muriate and sulphate as a source of potash are inconclusive; but those of 1897 showed no deleterious effects from the muriate.

A surprise awaited the investigator in the tests with different amounts of potash in otherwise equivalent fertilizer mixtures. Notwithstanding the large quantity of potash taken from the soil by potato tubers, 60 lbs. in 200 bu., the crops on the four farms in these tests seemed to find a sufficient supply of this element in the natural soil; for the plats receiving only nitrogen and phosphoric acid averaged slightly more than those receiving one-third or two-thirds the full amount of potash per acre and only a fraction of a bushel less than that receiving the entire 100 lbs.