THE EFFECT OF APPLICATIONS OF COMMON SALT
UPON THE YIELD AND QUALITY OF SUGAR BEETS
AND UPON THE COMPOSITION OF THE ASH

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For many years farmers have been interested in results from salt applications to sugar beets. Tests conducted by Brock (1) showed that, in several years of trial, the use of salt had increased stand, yield, and sucrose percentage over the results from comparable areas not receiving salt. In these tests, commercial fertilizers were used with and without salt, and in some cases only salt was applied. As a result of this report many Michigan beet growers, especially in that portion of the state where salt could be secured cheaply and in quantity, have applied salt to the soil each year for their sugar beet crop. No accurate figures can be obtained as to the acreage treated, nor the total amount of salt used, although both of these totals are known to be large.

Agricultural literature contains many references to experiments with salt as a soil amendment on many different crops. Townsend, cited by Saylor (6), reported Michigan tests in which a 200-pound-per-acre application of salt had increased the yield of beets from 8.69 tons per acre to 11.18 tons. Other Michigan tests of the same general nature are on record.

In 1909, Mette (5) found that, “The yield of beets on plots receiving salt was increased 2,312 kg. per hectare (about 2,058 pounds per acre) over the yield on the plots not so treated. The average sucrose content of the beets on the plots receiving salt was 21.48 per cent as compared to 20.58 per cent for the beets on the check plots.”

De Ruijter de Wildt and Mol (2) observed that, “In a third test, sugar beets were grown on land that had been flooded with sea water and contained, as shown by analysis, 35,000 kg. of common salt per hectare to a depth of 60 cm. The composition of these beets showed that the salt content of the soil had reduced the sugar content, changed the relationship of potassium and sodium by greatly increasing the sodium content, and had increased the chlorine and ash content.”

In 1915, Tottingham (7) found that soil cultures of sugar beets in greenhouse where sodium chloride was supplied have exceeded the control in yield. Also, in plat experiments in the field with sugar beets at Madison, Wis., an increase in yield was secured by the use of sodium chloride.

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3Figures in parenthesis refer to “Literature Cited”, p. 106.