any serious problem during these tests. It is indicated that better control of the six-spotted leafhoppers was obtained with higher concentrations of DDT.

Early blight was first found on the 3rd of August; but was not present in serious amounts until the 24th. No late blight was present. In the spray plots, Copper zinc chromate, Zerlate, Yellow cuprocide, Dithane D-14, Cuprous oxide (H. H. Robertson Co.), were outstanding in early blight control. In the dust plots, Zerlate, Copper zinc chromate, Copper 8-quinolinolate, Tribasic copper sulfate, Dithane Z-78 and Zinc nitrodithioacetate gave very good early blight control.

There was no significant difference in yields from the dust plots. In the spray plots, Zerlate, Zinc nitrodithioacetate, Dithane D-14, Parzate and Micronized cuprous oxide (C & H), ranked high in yields.

A second plot of mixed varieties was used in testing certain dust materials. Early blight readings showed that best control of this disease was obtained by the use of copper zinc chromate, 35 per cent defoliation, as compared with copper 8 quinolinolate 40 per cent, and DDT alone with 70 per cent. The results with copper zinc chromate dust are in keeping with those from the spray plots receiving this material as the fungicide.

EFFECT OF SOURCE OF POTASH IN THE FERTILIZER ON YIELD AND STARCH CONTENT OF POTATOES

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Muriate and sulfate of potash are the most common forms in which potassium is supplied to crops from commercial fertilizers. Other less common forms include double sulfate of potash-magnesia, manure salts, potassium metaphosphate and potassium nitrate. The effects of these various chemical sources of potash, particularly of the muriate, or chloride, and sulfate on crop yield and quality have been investigated.
extensively for many years. In fact, the literature on the effect of source of potash alone would fill a large volume.

No attempt is made here to review all of the literature on source of potash. Instead, the reader is referred to literature reviews by Hartwell (4), Schuster (7) and Sweetman (8).

As early as 1887 Scovell reported that in Kentucky the chloride source of potash produced slightly higher yields of potatoes than did the sulfate. A few years later Voorhees (1895) in New Jersey and Jenkins (1896) in Connecticut reported similar results. These and other investigators during this period either reported no difference in the effect of chloride and sulfate on the starch content of potato tubers or a higher content resulting from sulfate. Shiver (1901) also reported a reduction of starch in sweet potatoes fertilized with chloride, as compared with sulfate.

More research on the effect of source of potash on potatoes has been done in Germany than in any other country. Numerous papers have been published in European journals since about 1920. Results of these investigations invariably show that sulfate produces a higher starch content of the tubers than does chloride. Similar results have been reported from Great Britain. Houghland and Schricker (1933) concluded from work done in Virginia that potash fertilizer caused a slight depression in the starch content of the Irish Cobbler variety, which was greater for the chloride than for the sulfate source.

The starch content of potato tubers has been found by most investigators to be closely related to the dry matter content and fairly closely related to mealiness. Most people consider that mealiness constitutes high quality in cooked potatoes, other characteristics being satisfactory. A few, however, prefer potatoes to be somewhat waxy or “soggy” when cooked. Because of this difference in opinion, source of potash will be discussed only in relation to yield and starch content, leaving the matter of quality to be decided by the reader.

In much of the early experimental work on starch in potatoes actual determinations of starch were made. Some investigators estimated the starch content from the specific gravity of the tubers. In 1937 the German workers Von Scheele, Svensson and Rasmusson reported a very close relationship between the specific gravity of tubers and their starch and dry matter content. Since that time specific gravity, as determined by the Archimedes method of weighing the tubers in air and water or by immersing in brine solutions, has been largely used to calculate the starch content of potato tubers.