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**RELATION OF MATURITY IN BLISS
TRIUMPH POTATO SEED STOCKS TO
EFFECTIVENESS OF ETHYLENE
CHLORHYDRIN AND OTHER
TREATMENTS**

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TECHNICAL BULLETIN

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AGRICULTURAL EXPERIMENT STATION
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a $\frac{1}{2}$ percent solution was about as effective as the ethylene chlorhydrin treatment.

The Bliss Triumph stock from Maine was more dormant than the same variety from Nebraska. Treatment of freshly cut seed pieces by either the gassing or dipping methods was injurious, but gassing of seed pieces which had been cut for 24 hours was more effective than the similar treatment of whole tubers. The best results with the Maine stock were secured with the gassing treatment using one-half cubic centimeter of ethylene chlorhydrin per liter of air space of the container in which the tubers were treated, and the 1:32 ethylene chlorhydrin dip treatment. Much better results were obtained with the ethylene chlorhydrin dip treatments than with the thiocyanate treatments on the Nebraska seed.

Two tests were conducted with locally grown Bliss Triumph stocks in the springs of 1930 and 1931^a. Both tests demonstrated the extreme dormancy of newly harvested tubers, and the necessity of using cut seed pieces for the ethylene chlorhydrin dip treatment. The gassing treatment was tried in the second experiment and was more effective when prolonged for 48 hours.

Bliss Triumph tubers from the local fall crop were used for a test of the ethylene chlorhydrin dip treatment in February, 1934. Three strengths of the treating solution were used to treat freshly cut seed pieces. All of the treated seed pieces were stored in hampers and covered with burlap sacks for 72 hours. The response to the treatments was large and the 1:32, 1:16 and 1:8 concentrations of ethylene chlorhydrin solution were not injurious to this very dormant seed stock.

A stock of Bliss Triumph potatoes from North Dakota was used for an experiment beginning on October 17, 1934. The stock was not very dormant, since an untreated lot and a lot treated before cutting sprouted readily. The 1:30 and 1:15 treatments on freshly cut seed pieces caused decay. The best response was obtained with the 1:120 solution on freshly cut seed pieces and the 1:30 solution on whole tubers. There was more seed-piece decay when the seed pieces were cut for 48 hours than when freshly cut tubers were treated.

The potatoes used in the 1935 spring experiment had been harvested from the experimental plots on December 14, 1934.

^aThese tests were conducted by the late H. H. Wedgworth, Associate Plant Pathologist at the Everglades Experiment Station from 1930 to 1932.