

obtain *Fusarium* infection. Seed stocks that had 90-100% (heavy) of their pieces with multiple infections were compared with stocks that had 0-10% (light) of their pieces infected. The selected stocks were held at 4.5 C., approximate farm storage temperature, and five days before cutting seedpieces one-half of each stock was transferred to 15-21 C. and the other half remained at 4.5 C. The warm and cool tubers of each stock were cut separately, thoroughly mixed, and seedpiece samples treated with 7% fungicidal dusts at 8 oz./cwt. of pieces. Dusts of Dithane M-45, Captan, Polyram, Difolatan and Daconil were applied while the seedpieces tumbled in a rotating cylinder. The treated seedpieces were planted the next day. Yields from heavily contaminated, cool seedpieces were 30 to 55% less than those from lightly contaminated seedpieces. Warming heavily contaminated tubers increased yields 38%. All fungicides increased yields from heavily contaminated stocks 17 to 100%. Captan and Dithane gave largest yield increases. No fungicide increased yields from lightly contaminated seed stocks.

#### **A new method for applying liquid seed treatments.**

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A mechanical aerosol fog generator was tested as a method of applying liquid seed treatments to pre-cut Russet Burbank seed potatoes. The degree of effectiveness was determined by the control of *Fusarium* seed piece decay as compared to cut seed treated with Polyram and M-45 dust seed treaters. Liquid application of Polyram, M-45, thiabendazole, benomyl and chlorothalonil applied at 2 lb. formulated material/100 gal. were as effective in controlling seed piece decay as were the Polyram and M-45 dusts applied at 1 lb./cwt. Previously, dust formulations of thiabendazole and benomyl have proved toxic to cut seed pieces; this was not true with liquid application.

The application of liquid seed treatments by the fog generator proved to be less discomforting to workers than dusts.

#### **Loss of potato seed vigor.**

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Losses in yield attributed to loss of seed vigor after a few months of seed storage are questioned. Certified Russet Burbank (CRB) seed grown in 1967 and 1968 were planted in 1969 and 1970, respectively, after nearly 2 years storage at 38 F. (3 C.). In 1969 one rate of fertilizer was used and the number of plants which developed at the seed piece and the number of tubers per plant were determined. The results concurred with the common theory that more plants arise from the mother tuber as potato seed gets older. In 1970 the plants were grown on four fertilizer rates to compensate for the large number of plants expected to develop, and yield data were taken. A maximum yield of 331 cwt./acre was obtained with the highest rate of fertilizer. These results indicate that losses in yield attributed to decreased seed vigor over a period of a few months may actually have resulted from insufficient fertilizer for the additional plants, rather than from decreased vitality of the mother tuber.

#### **Errata:**

Page 258, table 2, column 3, line 4, read 0.613a not 0613.a; in table 3, column 3, line 2, read 0.482b not 04.82b.