

Control of *Fusarium* Stem Rot of Carnation with a Pre-Harvest Spray

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The introduction of various chemicals into the mist propagative system has been successful in combatting some diseases of carnation (CFGA Bulletin 81). Most chemicals, however, reduced rooting and were not effective in controlling *Fusarium* stem rot when applied in the mist. In view of this

a study was conducted in which a fungicide was applied to mother block plants previous to removal of cuttings from them.

Initially a suspension of the macroconidia of *Fusarium roseum* f. *cerealis* was applied to Red Sim and Miller's Yellow

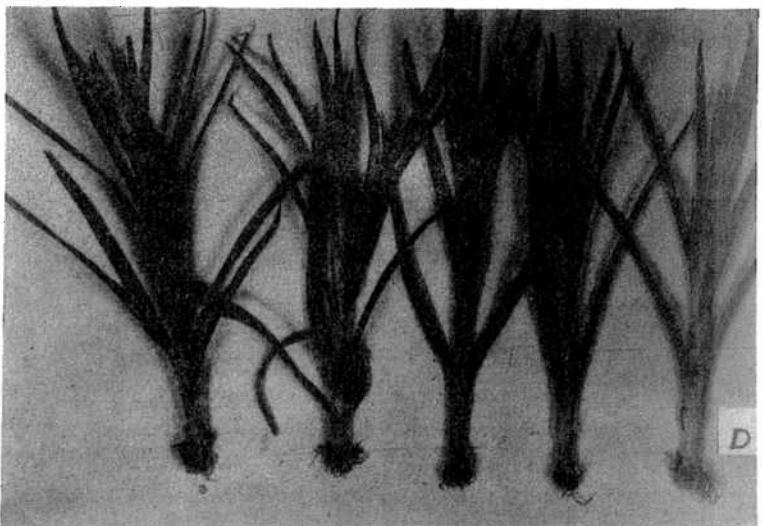
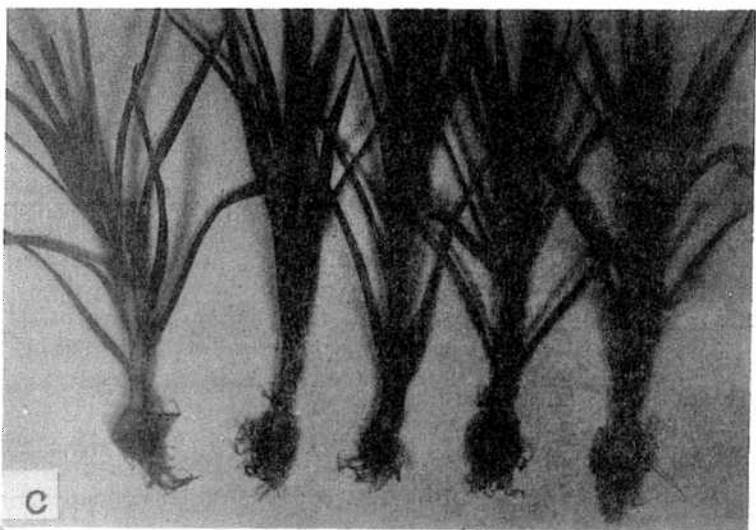
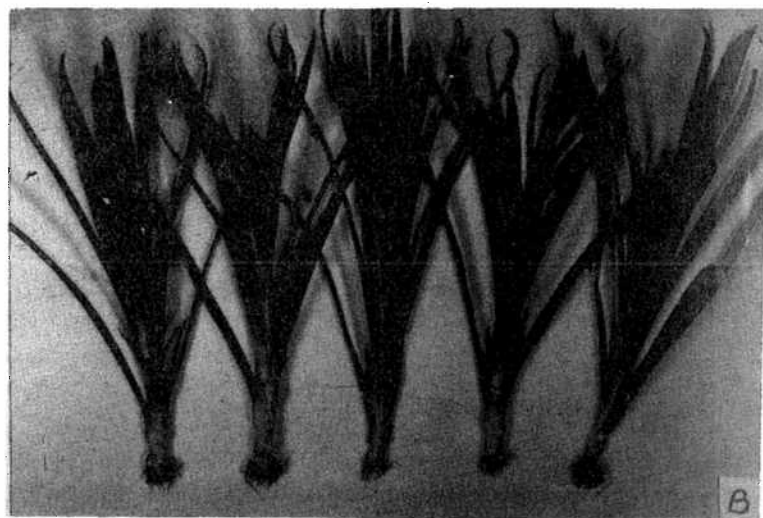


Fig. 1. Representative illustrations of tests involving a pre-harvest spray of Omadine 1483. a, infested cuttings rooted under conventional mist showing symptoms of *Fusarium* stem rot; b, infested cuttings which had received a pre-harvest spray and were rooted under mist containing Omadine 1483; c, infested cuttings which had received a pre-harvest spray and were rooted under conventional mist; d, uninoculated control rooted under conventional mist.

plants in a mother block. Approximately 24 hours later a solution containing Omadine 1483 (1000 ppm) was sprayed on the infested plants. This type of spray program is hereafter referred to as a pre-harvest spray. Twenty-four hours after the application of Omadine 1483, cuttings were removed from the parent plants and propagated under mist: one half of the cuttings were misted with a water spray and the others with a spray containing Omadine 1483 at the rate of 2 ppm. Appropriate inoculated and uninoculated controls were also propagated under the same conditions. All cuttings were allowed to root for 21 days.

After the rooting period all cuttings were rated for severity of disease and degree of rooting. Representative illustrations of the results of this test are shown in Figure 1. The cuttings which had received a pre-harvest spray of Omadine 1483 and were subsequently rooted under mist (tap water only) did not develop symptoms of Fusarium stem rot (Fig. 1c). Further, stimulation of

rooting was noted in these cuttings when they were compared with the uninoculated, unsprayed controls (Fig. 1c compared with Fig. 1d). While those which had received a pre-harvest spray and were later rooted under mist containing Omadine 1483 (Fig. 1b) were free of disease, a reduction in rooting was noted. Symptoms of Fusarium stem rot were easily detected on cuttings which had been infested but were not given a pre-harvest spray (Fig. 1a).

In conclusion: A dual effect was noted when cuttings on infested mother blocks were sprayed with Omadine 1483. Not only was Fusarium stem rot controlled but rooting was accelerated over that of the uninoculated controls.

Ed.note: Omadine 1483 is an experimental material manufactured by the Olin Mathieson Chemical Corporation. It is not available for grower use at this time.