

Wilt Control of Carnations

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Wilt control of carnations involves several steps. Steaming and healthy cuttings alone will not control all problems.

In a series of papers the different steps will be outlined in this bulletin over the coming months.

Step 1—Mapping of wilted areas

We are now getting closer to the time when the old carnation crops have to be removed. Was the steaming effective last year or did you buy infected cuttings? Did patches of wilt start in the same places in this crop as in the previous crop?

This can only be determined through accurate mapping of all wilted areas in the benches. Take graph paper and draw all your benches on a scale of 1:200. Plot the wilted patches on the map. Next year you can easily see if your steaming was effective or not.

Figure 1 shows a mapped diagram of a 2-year old carnation crop on the left, showing almost 50% loss. The dark areas represent the presence and extent of wilt. Wilting has also started in the 7-8 months old crop to the right. This map was made up in Sweden in 1965. The benches are about 70 yards long and 4 feet wide. This represents a common loss of plants to *Phialophora* wilt before it was found that the steaming was insufficient. In this greenhouse wilt was almost 100% eliminated simply by increasing the steaming time.

In Colorado there is not a lot of wilt, but there are indications that growers have the wilt coming back in the same benches in two or more succeeding years. *Phialophora* wilt is quite common and could become a greater problem, if not controlled in time. This wilt is favoured by the cooling of the greenhouses. *Fusarium oxysporum* wilt, however, is restricted by cooling, but still is important. The vascular system is brown in *Phialophora* wilt and whitish in *Fusarium* wilt.

Root rot and Stem rot, caused by *Fusarium roseum*, *Rhizoctonia solani*, and *Alternaria dianthi*, need not be mapped, but differences in varietal susceptibility should be recorded.

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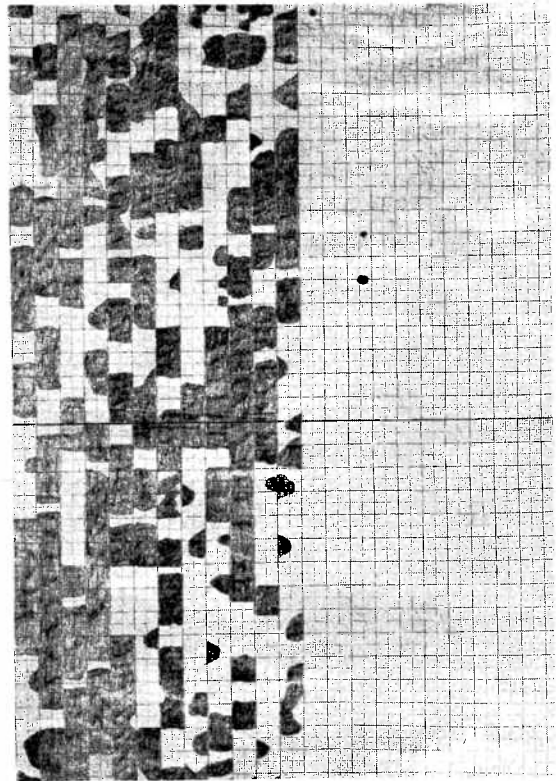


Fig. 1 Diagram of 23 benches of carnations. On the left is shown a high degree of *Phialophora* wilt infection in 12 benches of 2-year old plants. On the right is shown a low degree of infection in a 7-8 months old crop. One year later this crop on the right looked like the one on the left; cause: poor steaming of the soil.

Your editor,

W.D. Holley

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