

START TO CONTROL CARNATION WILT NOW

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"An ounce of prevention is worth a pound of cure" is a saying which can well be applied to the control of the carnation wilt diseases. For carnation growers who have a disease problem an ounce of prevention now will be worth a pound of cure next summer.

Although either Fusarium or Bacterial Wilt are caused by different organisms they are alike in one very important characteristic. In both cases the disease organisms are carried internally in the water-conducting or woody tissues of the plant stems so cannot be controlled with chemical sprays or dips. In fact dips will probably only aid in spreading both of these organisms. Either or both of these organisms may be carried in a cutting.

Selecting Cuttings

It is most important that the grower select his cuttings carefully. Care in selection of cuttings cannot be overemphasized. Cuttings should be taken in the greenhouse where plants from which cuttings are being taken can be carefully selected. This makes it possible to avoid taking cuttings from plants in or around areas where there has been or is now a disease problem. It is important to avoid taking cuttings from plants around infested areas since some of these plants may have been weakly infected late in the season and will not exhibit any obvious symptoms now. However, the disease organisms still may be carried in cuttings from these plants. Taking cuttings from flower stems in the headhouse does not enable one to carry out any of the steps mentioned above.

The use of a knife to take cuttings has no place in this program. The knife will not only help spread vascular organisms but its use may also help spread virus diseases of carnation. The knife should not be used at any time in taking or "making" cuttings. Cuttings should be taken by breaking them out with a sharp snap and broken leaves should be pulled off rather than cut off.

Stay away from liquid dips of any kind when preparing cuttings for rooting. Don't dip the bases of cuttings into water to wet them and then into hormone powder. This practice is just as dangerous as any other liquid dip. Apply the rooting hormones in the powdered form with a small hand duster.

Sterilize Propagating Bench

Root cuttings only in sterilized sand and volcanic ash rooting materials even if new. Don't root cuttings continuously in a medium which has only been steamed once. The rooting medium should be sterilized between each batch of cuttings. This will cut down losses from

Fusarium Foot and Stem Rot which attacks cuttings during propagation. During the rooting process this organism attacks the base of the cuttings and causes it to rot.

This fungus is widespread in local carnation ranges and usually only attacks cuttings in the propagation bed and young rooted cuttings right after they have been planted in the bench. This fungus requires a wound, such as the freshly broken end of a cutting or broken roots, before it can get into a plant. As soon as these wounds heal and callus is formed the plants should be safe from infection. The fungus can be carried on cuttings when they are taken from the mother plant and frequently spores lodge at the base of a leaf between the stem and the leaf.

In any case spores are transferred from the cuttings to the rooting medium and thus are able to infect the cuttings. If there are relatively few spores in the rooting medium damage to the cuttings will be slight or may not be noticed at all. However, during rooting, the spores multiply resulting in a much higher fungus population by the time the cuttings are rooted.

If another batch of cuttings are stuck without sterilizing this medium, the damage caused by this fungus will be much more severe. Brown to reddish-brown lesions and some rotting will be seen on the bases of many cuttings. These cuttings will root poorly or not at all and should be discarded at once. However, if the rooting medium is sterilized between each batch of cuttings much of this trouble can be averted.

Mother Blocks

If growers are planning to use the mother block system this is a good time to start working on it. Cuttings to be used for a mother block should be very carefully selected from the best plants available. It is better to have a relatively small number of very vigorous healthy cuttings as a start for a mother block, than to have a large number of mediocre, poorly selected cuttings. Keep your mother block isolated from your normal growing operation and use it only for cutting production. Follow a stringent roguing program in your mother block. Remove and discard any plants which show any signs of disease or appear to be unthrifty. The mother block system should enable the grower not only to produce relatively disease-free stock but also more vigorous stock.

The steps that have been outlined here are ones which every grower can follow without too much difficulty. DO THEM NOW! Don't wait until next summer to start trying to control the wilt diseases. By then it will be too late to apply any effective control measures.

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