

OUR METHODS OF CONTROLLING CARNATION
DISEASES

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Since Dr. Dimock has very ably explained the nature of many diseases and how they spread, the only thing that we now need do is find definite ways of preventing or controlling those diseases. Once success is achieved in finding those control methods, a disease problem would be non-existent. While we strive toward that goal, many problems still exist for us to overcome in our growing -- in spite of the progress that has been made in this field.

Let us go back to the early history of the carnation. The first of the carnations, as we know them, were called perpetual carnations, and they originated approximately one hundred years ago. The thought among many carnation growers is that present-day diseases were not prevalent years ago. This is not so. Many old publications stressed the various diseases that plagued growers during the past century. As early as 1850, it is recorded that a noted horticulturalist of that time had disease destroy his entire collection of choice seedlings, which caused him to abandon permanently all future carnation culture. Today, newer and fancier names are used, but the same old diseases remain. When one considers the advances that have been made since that 1850 date, we truly have accomplished much in the control of certain carnation diseases.

Today our problems have been eased greatly by the excellent work of the men at Cornell and other colleges and universities throughout the country. However, in the final analysis, each individual is faced with his own problems and his own cures for those ills, whatever they might be. Since each of us has a definite idea on the subject of disease control, I will endeavor to outline, as briefly as possible, some of our findings along these lines.

Naturally, insecticides, fungicides, fertilizers, heat, water, and light are our chief aids in growing disease-free stock. Improper use of any insecticide, fungicide, fertilizer, heat, water, or light is detrimental and only proper application will result in healthy stock.

To control disease, it is necessary to use a set plan from the time the cutting is selected. Many plants become infected because

of over-propagation or the selection of weak cuttings. Countless growers take cuttings from diseased stock and sell these cuttings. As a result, it is necessary to control diseases that we might very well have eliminated by our careful selection of cuttings.

To root a cutting is always a problem, if it is to be done on a disease-free basis. Much of a grower's disease trouble can be traced to the propagating bench. Our best results in propagation have been obtained by using a rooting agent, because we firmly believe the quicker rooting period is likely to lessen any possible chance of an infection of the cutting in the sand. For a rooting agent, one gram of indole butyric acid is mixed with two pounds of a very refined face powder. We prefer the highly refined powder because it does not permit too heavy an application when the cuttings are dusted. The manufactured products, which are of a coarser texture, have often caused damage due to the fact that they would stick too heavily on the bottom of the cutting. The selection of a proper sand, as we all know, is of utmost importance in rooting disease-free cuttings. We have experimented with Vermiculite but our findings are that sand is more desirable for numerous reasons. While we do not sterilize sand, we do believe in changing it for different batches of cuttings. As a protective measure, the sand is generously dusted with Fermate prior to the sticking in of the cuttings. Zerlate, Parzate, or any other similar fungicide should give the same results, but we prefer using Fermate.

Heat, light, and water now come into the picture since the cuttings are in sand. Unfortunately, there is not enough time available to discuss the rooting of the unrooted cutting, but if it is healthy and well rooted, many disease possibilities are eliminated.

Now that we have reached the point where we have a more or less healthy cutting, we should not neglect its future care. The greater portion of our rooted cuttings are benched in small houses where they remain until planting or benching time, which, for us, is the period from the 1st to the 15th of July. A small plant is less likely to get infected, if it is planted in a permanent, indoor place. Frequent transplanting, with improper care, often results in diseased plants. To illustrate that indoor planting of young carnations is nothing new, a Mr. Henderson, in 1890, while addressing the Society of American Florists at their annual meeting, firmly declared that plants of indoor or frame culture were free of disease and that he eventually planned to discontinue all field culture.

We use Fermate at the rate of two pounds to 100 gallons of water on all our young stock that is placed indoors. For spider control, we use 15% wetttable powder of Parathion and on occasion we combine this with the Fermate. We have also used technical Parathion at the rate of 5 ounces to 100 gallons of water. In all cases, we have

used 6 ounces of a spreader sticker to 100 gallons of water. Phygon-XL, a fungicide of the United States Rubber Company, has been used at the rate of 2 teaspoonfuls to a gallon water. This product has had a small scale trial, yet it has proven to be excellent in all instances. The composition of Phygon-XL is 50% - 2,3 dichloro-1,4 naphthoquinone and 50% inert ingredients.

Fulex soil treatments A and B have been used on a limited basis, but I would positively say that no results have been noticed. In one instance, it was used on Hercules and it was impossible to tell the treated plants from those not treated. To date, all the Hercules plants have a strong, vigorous growth. In a second test, we used Fulex treatment on a bench of Virginia Irwin, while three other benches of the same variety were not treated. Sadly, I report equal disease in the treated and untreated Virginia Irwin. Despite the fact that we have not obtained disease control with the Fulex treatment, many growers report favorable results.

Please do not feel that any of my solutions or suggestions are sure cures or the only methods that might produce healthy stock. We believe that we have had some measure of success due to our practices, but once again, it is the old story of try it and possibly it might be the answer to your problem.

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Your Editor,

