

## BULB DISEASES

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Bulb diseases have continued to receive considerable attention both at Ithaca and here at Farmingdale. Mersolite 8 at one pound to 800 gallons as a five minute dip has given good control of Narcissus Basal Rot in a series of experiments recently concluded. There seems to be considerable latitude in the

use of this material since increasing this concentration five fold does not injure the bulbs. Increasing the treatment time to as much as three hours gave progressively better control of Basal Rot but the longer treatment periods caused some delay in flowering. Treatment immediately after digging is preferable to waiting a few days and is not harmful to the bulbs. This treatment may be repeated at planting time without injury.

During an epidemic of Botrytis Fire of Tulips here last year, the most promising sprays for Botrytis control were found to be Silver Nitrate, DITHANE D-14, KARBAM, FERMATE, and ZERLATE but none of these materials gave complete control under the conditions of the experiment. Bulb treatment tests to eradicate Botrytis from infected bulbs are underway. The factors predisposing the plant to infection will be studied with a view to predicting epidemics and establishing a warning system.

We have been experimenting with corm dips for the control of Fusarium rots and Yellows disease of Gladiolus for several years. The best control of these diseases has consistently been obtained with N. I. CERESAN or Corrosive Sublimate. The latter and occasionally the former have caused a few days delay in reaching peak flower production with some varieties, but the delay is usually compensated by greater flower production than in the untreated. Other generally satisfactory fungicides have been LYSOL, DOW 9-B, and CERESAN M. We have been experimenting with dusts to replace the dip treatments for corm rot control. Results to date have been inconclusive but are being continued. ARASAN applied as a dust shows promise of giving consistently good control and does not cause a delay in flowering as the mercury fungicides usually do!

Experiments with Botrytis Leaf Spot and Corm Rot of Gladiolus have shown that there is no correlation between the amount of leaf spotting in the field and the amount of Botrytis Corm Rot that will develop in storage. A variety may be heavily spotted in the field but if the corms are properly cured and stored the Botrytis Corm Rot developing in storage may be negligible. Botrytis Corm Rot did not develop in corms that were dried properly after harvest and were stored under dry conditions, although corms of the same lot stored under moist conditions without proper drying developed serious amounts of Botrytis Corm Rot. It has been found that foliage can be protected from Botrytis by weekly spray applications of DITHANE D-14 or PARZATE. These same spray tests have shown that copper sprays may cause considerable burning of Gladiolus foliage.

Experiments underway this season on Gladiolus include a test of several soil fumigants for the eradication of Gladiolus Fusarium from the soil and a test of four fungicides used as side dressings at several different intervals during the growing season. We are continuing to cooperate with a number of other stations in all parts of the United States in an experiment designed to test the behavior of the

better corm dips under widely different environmental conditions and soil factors. In connection with this experiment, a search is being conducted for soil organisms antagonistic to Fusarium. Attention is also being given to this aspect of the Narcissus Basal Rot problem. Finally, an experiment to test the effectiveness of a number of fungicides applied as dust, both singly and in combination, in the control of Fusarium storage rots will be completed this season.

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