

## CONCLUSIONS

Outbreaks of downy mildew occur at Hastings when heavy dews or rains keep plants wet for long periods and nocturnal temperatures range between 50 and 60° F. for several nights in succession. Warm or cold dry periods retard development of the disease. Usually temperatures are most favorable for development of downy mildew at Hastings in November and December, when most of the plants are being produced for setting in the field, and also in March and April, when most of the crop is maturing, as shown in Table 8.

Downy mildew may kill most plants in the seed-leaf stage and severely damage the remainder in unprotected plant beds if the seedlings emerge from the soil when conditions are favorable for development of the disease. Larger plants with true leaves usually survive the disease but their growth is retarded. Thus, downy mildew is a constant threat to successful production of cabbage, cauliflower and broccoli plants in Florida from the date of its first appearance in the fall until the end of the plant-growing season the following February.

Data presented in this bulletin and in other publications (1, 2, 3, 4, 6) prove that serious damage from downy mildew in plant beds can be prevented by regular applications of several different fungicides. Of those tested at Hastings from 1940 to 1953, chloranil sprays and dusts and nabam and zineb sprays gave best control of downy mildew in plant beds.

Results of tests reported in Table 5 showed that 48 percent chloranil (4 lbs. - 100 gals. water) was more effective against downy mildew in plant beds when the disease was severe than sprays containing 2 pounds 48 or 50 percent chloranil per 100 gallons of water. Since results showed that 5 percent chloranil dust was as effective against the disease as 12 percent chloranil dust, cost of control may be reduced by using the former, as it contains about one-half as much of the active ingredient as the latter and should cost proportionately less.

When downy mildew damaged enough heads in test plots at Hastings to measure effectiveness of different fungicides for controlling the disease on heading cabbage, results showed that it could be controlled by applying chloranil, nabam and other fungicides every three to seven days during the last three to five weeks of the growing season.

It would be impractical to control downy mildew with paradichlorobenzene in low-lying, poorly-drained flatwoods soils at