

# Control of Downy Mildew of Cabbage with Fungicides

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## INTRODUCTION

Downy mildew of cabbage, cauliflower, collards, Chinese cabbage, Brussels sprouts, broccoli, kale and kohlrabi is caused by the fungus *Peronospora parasitica* (Pers.) ex Fr. It is the most destructive seedling disease of cabbage, cauliflower and broccoli in Florida. The disease makes it impossible to grow enough plants at Hastings to set the acreage unless they are protected with fungicides. Losses cannot be prevented by using plants grown in other parts of the country for transplanting stock, as they usually are affected with downy mildew and may carry other troublesome diseases. Furthermore, imported plants are not always true as to variety or strain and may be infested with aphids and other insects.

Downy mildew usually is present on cabbage plants in the field and may cause yellowing and shedding of the oldest leaves and retard the growth of plants. Downy mildew spots on head leaves of cabbage impair the appearance and market value of the heads. Furthermore, secondary organisms which enter openings made by the downy mildew fungus in head leaves may hasten decay of the heads in the field or while the cabbage is in transit to market.

Downy mildew may be initiated by resting spores of the fungus which live over the summer in the soil (8).<sup>2</sup> Outbreaks of the disease occur also in new plantings when spores are blown into them from downy mildew-affected plants in nearby plant beds and fields. The disease may be present on susceptible host plants in Florida from September to the following May. The fungus grows best and the disease develops rapidly when night temperatures range between 50 and 60° F. for four or more successive nights and the plants remain wet until midmorning or later (1, 5). Little growth of the fungus occurs when the temperature is below 40° F. or above 82° F. (1, 5). Young seedlings

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<sup>2</sup> Italic figures in parentheses refer to Literature Cited.