

A NEW BIOLOGICAL RACE OF POWDERY MILDEW OF CANTALOUPS

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Plant Dis. Repr. 62: 223.

Powdery mildew of cantaloup (*Cucumis melo*) caused by *Sphaerotheca fuliginea* (Schlecht. ex Fr.) Poll. is a production-limiting factor throughout all cantaloup-growing areas of the United States. Until now two races of powdery mildew have been described on cantaloup. The existence of a new race was first suspected in the fall of 1976 when plants of cantaloup, PI 321005 (Tainan #2), that had been reported (1) to possess a high level of resistance to both race 1 and 2 of powdery mildew were heavily infected with the pathogen in the greenhouse.

In the spring of 1977, replicated (4 replicates) and randomized field plots were observed for their reaction to the suspected new race of the pathogen. Hale's Best Jumbo and Edisto 47 obtained from Otis S. Twilley Seed Company (Salisbury, Maryland) and PMR 45, PMR 5, and PMR 6 obtained from Dr. G. W. Bohn (Brawley, California) were planted in the field plots.

Table 1. Reactions of cantaloup varieties to powdery mildew caused by *Sphaerotheca fuliginea*.

Variety	Reactions		
	Race 1	Race 2	Race 3
Hale's Best Jumbo	susceptible	susceptible	susceptible
PMR 45	resistant	susceptible	susceptible
PMR 5	resistant	resistant	susceptible
PMR 6	resistant	resistant	susceptible
Edisto 47	resistant	susceptible	resistant

Hale's Best Jumbo and PMR 45 were heavily infected with powdery mildew. At the same time, PMR 5 and PMR 6 were moderately but uniformly infected with powdery mildew. Of a population of 200 plants, only 2 leaves on a single plant of Edisto 47 showed light sporulation by the fungus. Table 1 summarizes these observations and partly delimits the host range of the new race.

Literature Cited

1. SOWELL, G., Jr., and W. L. CORLEY. 1974. PI 321005 (Tainan #2), a high-quality source of resistance to three cantaloup diseases. Plant Dis. Repr. 58: 899-902.