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Disease Notes

First Occurrence of Cucurbit Powdery Mildew Caused by Race 3-5 of *Podosphaera fusca* in Spain

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A new race of cucurbit powdery mildew was observed for the first time on melon (*Cucumis melo*) in three research greenhouses in the Axarquía area of southern Spain during the spring of 2008. Fungal growth appeared as white powdery colonies initially restricted to the upper leaf surfaces. Morphological characteristics of colonies, conidiophores, conidia, germ tubes, and appressoria indicated that the powdery mildew fungus was *Podosphaera fusca* (also known as *P. xanthii*) (3), a fungal pathogen extensively reported in the area (1). However, the fungus developed on plants of melon cv. PMR 6, which is resistant to races 1 and 2 of *P. fusca*, suggesting that the fungus could belong to race 3, a race of *P. fusca* not yet reported in Spain. Race determination was carried out by inoculating the third true leaf of a set of differential melon genotypes that were maintained in a greenhouse. Symptoms and colonization observed on cvs. Rochet, PMR 45, PMR 6, and Edisto 47 indicated that the isolates belonged to race 3-5 of *P. fusca*. Fungal strains of races 1, 2, and 5 of *P. fusca* (all present in Spain) were used as controls. Pathotype designation was determined by inoculating different cucurbit genera and species (2). In addition to melon, the isolates were pathogenic on zucchini (*Cucurbita pepo*) cv. Diamant F₁, but failed to infect cucumber (*C. sativus*) cv. Marketer and watermelon (*Citrullus lanatus*) cv. Sugar Baby; therefore, the isolates were pathotype BC (2). Races 1, 2, 4, and 5 of *P. fusca* have been previously reported in the area (1). The occurrence of race 3-5 represents another challenge in the management of cucurbit powdery mildew in Spain.

References: (1) D. del Pino et al. *Phytoparasitica* 30:459, 2002. (2) E. Křístková et al. *Sci. Hortic.* 99:257, 2004. (3) A. Pérez-García et al. *Mol. Plant Pathol.* 10:153, 2009.

