Disease Note

FIRST REPORT IN MEXICO OF *PENICILLIUM BREVICOMPACTUM* CAUSING CORM ROT OF *GLADIOLUS GRANDIFLORUS* IN STORAGE

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A disease causing corm rot of gladiolus in storage was studied in San Martin Texmelucan, Puebla (Mexico) in 2011. Stored corms with rot symptoms were collected and disinfected superficially with 1.5% sodium hypochlorite for 3 min, rinsed three times in sterile water and placed in potato carrot agar plates at 21°C for eight days under continuous black light (40W). The fungus commonly isolated from diseased gladiolus corms differed from those currently known to occur in this crop in Mexico (González-Pérez *et al*., 2009) and was identified as *Penicillium brevicompactum* Dierckx according to Frisvad and Samson (2004). Successful isolation was obtained from 25% of 640 analyzed corms. Experiments for fulfilling Koch's postulates were carried out under aseptic conditions using disinfested healthy corms. The corms (wounded or not) were inoculated with a conidial suspension of 11.6×10^8 conidia ml^{-1}. Controls were inoculated with only distilled sterile water. Corm rot symptoms were evaluated 30 days post inoculation. *P. brevicompactum* caused moderate rot in inoculated corms, whereas the controls remained healthy. *P. brevicompactum* was re-isolated from the margins of lesions developed on inoculated corms. The morphological identification was confirmed by DNA sequence data of the β-tubulin gene (GenBank accession No. KF776389). This finding represents the first record of this pathogenic species associated with corm rot of gladiolus in Mexico.

Frisvad J.C., Samson R.A., 2004. Polyphasic taxonomy of *Penicillium* subgenus *Penicillium*: A guide to identification of food and air-borne terverticillate Penicillia and their mycotoxins. In: Samson R.A., Frisvad J.C. (eds). *Penicillium* subgenus *Penicillium*: New Taxonomic Schemes and Mycotoxins and Other Extrolites. Studies in Mycology No. 49, pp. 1-174. Utrecht, The Netherlands.

González-Pérez E., Yáñez-Morales M.J., Ortega-Escobar H.M., Velázquez-Mendoza J., 2009. Comparative analysis among pathogenic fungal species that cause gladiolus (*Gladiolus grandiflorus* Hort.) corm rot in Mexico. *Revista Mexicana de Fitopatología* **27**: 45-52.

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Disease Note

OUTBREAK OF DOWNY MILDEW CAUSED BY *PERONOSPORA DIGITALIDIS* ON COMMON FOXGLOVE (*DIGITALIS PURPUREA*) IN ITALY

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Digitalis purpurea (family Scrophulariaceae), is a biennial species used in low maintenance gardens. In summer and autumn 2011 and 2012, in a private garden near Biella (northern Italy), a downy mildew was observed on the leaves of *D. purpurea* plants. Vein-delimited chlorotic areas 4-20 mm^2 in size coalesced and turned necrotic. Sporulation occurred primarily on the abaxial leaf surface. Conidiophores measuring 294-453 × 7-10 µm (average: 372 × 8 µm), branched dichotomously at the first branch and were followed by branches measuring 149-192 (average: 167) µm. Curved tips measured 10-18 µm (average: 14 µm). Conidia, ellipsoid to ovoid, measured 18-29 × 17-21 µm (average: 25 × 19 µm). The fungus was identified as *Peronospora digitalidis* (Hall, 1994). The DNA region encoding the large ribosomal subunit (LSU rDNA) was amplified using primers NL1/NL4 (Maier *et al*., 2003) and sequenced (GenBank accession No. KC461924). Symptoms were reproduced on five healthy *D. purpurea* plants inoculated with conidia from affected plants and maintained at high RH and temperatures from 18 to 25°C. *P. digitalidis* infections to *D. purpurea* have been recorded the USA (Tjosvold and Koike, 2002), New Zealand and many European countries (Hall, 1994). This is the first report in Italy.

Hall G., 1994. *Peronospora digitalidis*. *Mycopathologia* **126**: 47-48.

Maier W., Begerow D., Weiss M., Oberwinkler F., 2003. Phylogeny of the rust fungi: an approach using nuclear large subunit ribosomal DNA sequences. *Canadian Journal of Botany* **81**: 12-23.

Tjosvold S.A., Koike S.T., 2002. First occurrence of downy mildew on *Digitalis purpurea* (common foxglove), caused by *Peronospora digitalidis*, in California and the United States. *Plant Disease* **86**: 1176

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