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Disease Notes

First Report of Septoria Leaf Spot of Lavandin Caused by *Septoria lavandulae* in Croatia

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Abstract

Lavandula × intermedia Emeric ex Loiseleur, commonly known as lavandin, is an aromatic and medicinal perennial shrub widely and traditionally grown in Croatia. The lavandin essential oil is primarily used in perfumery and cosmetic industries, but also possesses anti-inflammatory, sedative, and antibacterial properties. In June 2012, severe foliar and stem symptoms were observed on approximately 40% of plants growing in a commercial lavandin crop in the locality of Banovo Brdo, Republic of Croatia. Initial symptoms on lower leaves included numerous, small, oval to irregular, grayish brown lesions with a slightly darker brown margin of necrotic tissue. Further development of the disease resulted in yellowing and necrosis of the

infected leaves followed by premature defoliation. Similar necrotic oval-shaped lesions were observed on stems as well. The lesions contained numerous, dark, sub-globose pycnidia that were immersed in the necrotic tissue or partly erumpent. Small pieces of infected internal tissues were superficially disinfected with 50% commercial bleach (4% NaOCl) and placed on potato dextrose agar (PDA). A total of 10 isolates from leaves and five from stems of lavandin formed a slow-growing, dark, circular colonies with raised center that produced pycnidia at 23°C, under 12 h of fluorescent light per day. All 15 recovered isolates formed uniform hyaline, elongate, straight or slightly curved conidia with 3 to 4 septa, with average dimensions of 17.5 to 35 × 1.5 to 2.5 µm. Based on the morphological characteristics, the pathogen was identified as *Septoria lavandulae* Desm., the causal agent of lavender leaf spot (1,2).

Pathogenicity of one selected isolate (428-12) was tested by spraying 10 lavandin seedlings (8 weeks old) with a conidial suspension (10⁶ conidia/ml) harvested from a 4-week-old monoconidial culture on PDA. Five lavandin seedlings, sprayed with sterile distilled water, were used as negative control. After 5 to 7 days, leaf spot symptoms identical to those observed on the source plants developed on all inoculated seedlings and the pathogen was successfully re-isolated. No symptoms were observed on any of the control plants. Morphological identification was confirmed by amplification and sequencing of the internal transcribed spacer (ITS) region of rDNA (3). Total DNA was extracted directly from fungal mycelium with a DNeasy Plant Mini Kit (Qiagen, Hilden, Germany) and PCR amplification performed with primers ITS1F/ITS4. Sequence analysis of ITS region revealed at least 99% identity between the isolate 428-12 (GenBank Accession No. KF373078) and isolates of many *Septoria* species; however, no information was available for *S. lavandulae*. To our knowledge, this is the first report of Septoria leaf spot of lavandin caused by *S. lavandulae* in Croatia. Since the cultivation area of lavandin plants has been increasing in many continental parts of Croatia, especially in Slavonia and Baranja counties, the presence of a new and potentially harmful disease may represent a serious constraint for lavandin production and further monitoring is needed.

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