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First report of Fruit rot in pear caused by *Botryosphaeria dothidea* (Moug. : Fr.) Ces. & De Not. in Italy.

This is a pre print version of the following article:

Original Citation:

Availability:

This version is available <http://hdl.handle.net/2318/130119> since 2016-11-10T18:57:06Z

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This is the author's final version of the contribution published as:

Garibaldi A.; Bertetti D.; Poli A.; Gullino M.L.. First report of Fruit rot in pear caused by *Botryosphaeria dothidea* (Moug. : Fr.) Ces. & De Not. in Italy.. PLANT DISEASE. 96 pp: 910-910.

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<http://hdl.handle.net/2318/130119>

1 **First Report of Postharvest Fruit Rot in Pear Caused by *Botryosphaeria dothidea* (moug. Ex**
2 **Fr.) Ces. & De Not in Italy.** A. Garibaldi, D. Bertetti, A. Poli, and M. L. Gullino, Centre of
3 Competence for the Innovation in the Agro-Environmental Sector (AGROINNOVA) Via
4 Leonardo da Vinci 44, 10095 Grugliasco, Italy.

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6 Pear (*Pyrus communis* L.) is widely grown in Italy, the leading producer in Europe. In summer
7 2011, a previously unknown rot was observed on fruit of an old variety “Spadoncina” in a garden
8 in Torino Province (northern Italy). The decayed area of fruit was soft, brown, slightly sunken,
9 surrounded by a margin irregular and circular. The internal decayed area appeared rotten and
10 brown. Rotted fruit eventually fell down. Fragments (approximately 2 mm) were taken from the
11 margin of the internal diseased tissues, cultured on potato dextrose agar (PDA) and incubated at
12 temperatures between 20-28°C, under alternating light and darkness. Colonies of the fungus
13 initially appeared whitish, then turning to dark gray and produced a dark pigment into the
14 medium. After 25 days of growth, unicellular fusiform to elliptical hyaline conidia were
15 produced. Conidia had a slightly obtuse apex and a truncated base and measured 16-24 x 5-7
16 (average 20.1 x 5.7) µm (length to width ratios were 2.8 to 4.6 with average of 3.5). The
17 morphological characteristics are similar to that of the fungus *Botryosphaeria dothidea* (4). The
18 Internal Transcribed Spacer (ITS) region of rDNA was amplified using the primers ITS1/ITS4,
19 and sequenced. BLAST analysis (1) of the 473 bp segment showed a 100% similarity with the
20 sequence of *B. dothidea* (GeneBank accession FM955378). The nucleotide sequence has been
21 assigned the GenBank Accession JQ418493. Pathogenicity tests were performed by inoculating
22 six pear fruits of the same cultivar after surface-disinfesting in 1% sodium hypochlorite and
23 wounding. Mycelial disks (8 mm diameter), obtained from PDA cultures of one strain, were

1 placed on wounds. Six control fruits were inoculated with plain PDA. Fruits were incubated at
2 $25\pm 1^{\circ}\text{C}$. The first symptoms developed 2 days after the artificial inoculation. After 5 days, the
3 rot was very evident and *B. dothidea* was consistently reisolated. Non-inoculated fruit remained
4 healthy. The pathogenicity test was performed twice. *B. dothidea* was identified on *P. communis*
5 in the US (2), South Africa, New Zealand and Japan (3). To our knowledge, this is the first report
6 of the presence of *B. dothidea* on pear in Italy, as well as in Europe. In Italy, the economic
7 importance of the disease on pear fruit is at present limited, although the pathogen could
8 represent a risk for this crop.

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