

Main postharvest fungal diseases of pomegranate fruit in southern Italy

ANNAMARIA MINCUZZI

Via Amendola 165A, Bari, Italy

SIMONA MARIANNA SANZANI

Via Ceglie 9, Bari, Italy

MARIKA CAPUTO

Via Amendola 165A, Bari, Italy

LLUÍS PALOU

Ctra. CV-315, Km 10.7, Montcada, Valencia, Italy

MARCO RAGNI

Via Amendola 165A, Bari, Italy

ANTONIO IPPOLITO

Dept soil plant and food science, University of Bari, Via Amendola 165/A, 70126 Bari, Italy

Due to an advantageous climate, Apulia and Basilicata regions are the main producers of pomegranate fruit (*Punica granatum* L.) in Italy. Fruit belonging to widespread cultivars, such as 'Akko' and 'Wonderful', foster the agroindustrial chains. In this high-profile trade, yield losses caused by pathogenic fungi are remarkable. Infections chiefly happen in the field and remain latent until favourable environmental conditions and physiological stage of fruit allow their break out; secondary causes of losses are wound fungal pathogens, overripening, dehydration, pests, and damages during harvest, transport and postharvest handling. Being a minor crop, fungicides use is not regulated by the Italian legislation, making the control of fungal pathogens difficult; neither conventional nor alternative fungicides are allowed except for local temporary waivers. Description of mould symptoms and pathogens characterization represent the first step for controlling disease incidence. Fungal isolates recovered from local symptomatic pomegranates were analyzed for both morphological and molecular features in view of fungal disease incidence evaluation. Gray mould, blue mould, black heart, black spot, anthracnose, and dry rot were the main fungal diseases of the pomegranate fruit. Results confirmed literature in displaying that latent pathogens were the main etiological agents of postharvest rots, *Alternaria alternata*, *Coniella granati*, and *Botrytis cinerea* being the most abundant. In addition, different species belonging to *Penicillium* and *Talaromyces* genera were recorded as wound pathogens. The research also disclosed the presence of genera involved in minor postharvest diseases, such as *Aspergillus* sect. *Nigri*, *Colletotrichum* sp., and *Cytospora* sp. Knowledge of pomegranate fungal pathogens may help implement decision systems to develop effective control programs in the field and along the postharvest chain.