Title Assessment of fungal pathogens causing postharvest decay of pomegranate in southeast Spain

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Abstract

Spain is the first European Union producer and exporter of pomegranates (*Punica granatum* L.). More than 90% of Spanish commercial plantings are located in the Southeast area of the country (Alicante and Murcia provinces). The importance of the crop is rising due to worldwide increasing consumer demand for high nutritional and therapeutic quality foods. Currently, there is a clear interest in prolonging the fruit storage period to reach off-season markets. Chilling injury, weight loss and decay are the most important problems limiting storability of pomegranate. Work is in progress in our laboratory to determine the incidence and etiology of postharvest diseases in our local environmental conditions. Commercially-grown pomegranates cv. 'Mollar de Elche' from two different orchards were used in a first-season study to assess both wound pathogens (postharvest infections) and latent pathogens (field infections). We plan to continue the study during the next season. Healthy pomegranates were either artificially wounded in the rind or surface disinfected with 0.5% sodium hypochlorite and placed in humid chambers at 20°C for up to 2 months. Additionally, decay was periodically assessed on intact pomegranates stored at 5°C for up to 7 months. Isolates of pathogens causing fruit decay were plated in potato dextrose agar (PDA) petri dishes and incubated at 25°C for further macroscopic and/or microscopic identification. Although identification of few pathogens causing minor decay is pending, preliminary results indicated that the main causal agents of wound and latent infections were *Penicillium* spp. and *Botrytis cinerea* Pers.: Fr., respectively. The same pathogens were also the most frequently isolated from cold-stored fruit. Another relatively frequent pathogen on fruit incubated at 20°C was *Aspergillus niger* van Tiegh.