Title A novel postharvest rot of okra pods caused by *Rhizoctonia solani* in Brazil

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Abstract

Okra pods with unusual brown lesions and rot were collected in a local supermarket in Brasília DF. The objective of this paper was to characterize the causal agent, to fulfill Koch's postulates and to determine some conditions conducive to disease. The pathogen was identified as *Rhizoctonia solani* based on morphological characteristics which fitted the fungus description, such as pale to brown hyphae, with nearly right-angled side branches constricted at the base, hyphal cells 6-10 µm wide with a septum near the base. Five isolates were obtained from infected pods and identified as AG 1-IB anastomosis group. Wounded or unwounded okra pods cv. Santa Cruz 47 were inoculated with mycelium disks of *R. solani* and kept in humid chambers at 12 ºC or 25 ºC. After seven days at 25 ºC, both wounded and unwounded pods were completely rotted and brown, while those kept at 12 ºC showed small lesions ranging from 0.6 to 1.0 mm only in wounded pods. The pathogen was able to grow in different materials used for assembling crates and packs of horticultural products, such as pinewood, corrugated carton, plastic, Styrofoam and newspaper sheets when kept in humid chambers (24 ºC, 96 % RH). The disease occurrence can be related to careless handling practices and to the transmission of *R. solani* propagules by infected plant debris or soil particles. This is the first report of *Rhizoctonia solani* causing postharvest rot in okra pods in Brazil.