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Hot water double dip method as an effective postharvest treatment for the control of anthracnose disease of papaya

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Papaya fruits (variety solo) from plants previously sprayed with 0.1% prochloraz and 0.1% tricyclazole and from non sprayed plants, harvested at colour break stage were used to study the effect of different postharvest treatments in controlling anthracnose disease. Fruits were subjected to different hot water treatments such as control (without any treatment), dipping in 48 ^{0}C for 15, 20 and 30 minutes, 50 ^{0}C for 15, 20 and 30 minutes and the double dip method (42 ^{0}C for 30 minutes followed by 20 minutes at 49 ^{0}C). Fruits were stored in plastic crates at room temperature (28 ± 1 ^{0}C) after the treatments until symptom development and observations were recorded to examine the disease development. The disease incidence was significantly less (*P*= 0.001) when fruits treated with hot water double dip method compared to other treatments. Both hot water double dip and 50 ^{0}C for 30 minutes treatments reduced the number of anthracnose spots significantly. When the harvested fruits kept at 50 ^{0}C for 30 minutes and treated with hot water double dip method, the size of anthracnose spots was reduced significantly compared to untreated fruits. Hot water double dip treatment in combination with either pre-harvest spray of prochloraz or tricyclazole found to be effective in controlling the anthracnose disease of papaya. The temperature used in hot water double dip treatment did not show any heat injury to the fruit.

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