

Yam tuber sprouting in response to postharvest heat treatment combined with preharvest maleic hydrazide spray

F.S. Doroy, A.L. Acedo Jr

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Abstract

The effects of postharvest hot water dip (HWD) alone or in combination with preharvest maleic hydrazide (MH) spray on tuber sprouting in purple yam cultivar 'Kinampay' were investigated. Freshly harvested tubers were obtained from plants sprayed or unsprayed with MH (3.3 kg active ingredient/hectare) one month before harvest and then subjected to dipping in either 50-55°C water or potable water for 20 min before storage or after one month storage at ambient (23-31°C, 65-92% RH). Both HWD treatments promoted tuber sprouting during 5-month storage. However, when combined with MH treatment, they enhanced the inhibitory effect of MH on tuber sprouting. Weight loss correlated with sprouting of tubers. Respiration and ethylene production rates also compared well with sprouting incidence except that the rates were higher in tubers HWD treated before storage than that treated after one month storage. HWD-treated tubers had markedly increased α -amylase activity.