Title Modified atmosphere storage may reduce efficacy of irradiation phytosanitary treatments

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Citation ISHS Acta Horticulturae 857:159-162. 2010.

Keyword quarantine; disinfestations; insects; pests; ionizing irradiation

Abstract

Ionizing irradiation is a phytosanitary treatment that is increasing in application. The effect of low-oxygen, modified atmosphere storage on irradiation efficacy has not been addressed until recently. Hypoxia for 18 hours before irradiation until a couple of hours after irradiation reduced efficacy to varying degrees as measured by adult development or reproduction for four insects studied. It is recommended that irradiation phytosanitary treatments not be approved for commodities stored under hypoxic conditions until adequate research determines the effect of the specific modified atmosphere on efficacy and provides proper solutions on a case by case basis.