

Title Preharvest solar heat treatment for summer basil (*Ocimum basilicum*) affects decay during shipment and shelf life

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Citation ISHS Acta Horticulturae 880:161-166. 2010.

Keyword black spots; *Alternaria* sp.; polyoxin; greenhouse; shade net

Abstract

Basil (*Ocimum basilicum*) is the major fresh herb crop exported from Israel. In the past several years, there have been reports of black spots developing during shipment of summer basil. This phenomenon was more severe as the plants got older. Symptoms did not appear in the greenhouse, but appeared and increased after harvest. Three years of study indicated that the black spots contained pathogens, mainly *Alternaria* sp. The pathogen penetrated the leaf during growth and remained latent in the plant tissue until harvest. We found that heat treatment, given to the basil in the greenhouse two to three days before harvest, eliminated the problem almost completely. The treatment involved closing the greenhouse and allowing temperature to rise above 42°C for several hours. The treatment was more efficient when basil was harvested in the afternoon compared to morning harvest. This physical treatment was more effective than a chemical treatment with polyoxin.