

Title Postharvest acibenzolar-S-methyl treatment suppresses decay and induces resistance in Hami melons
Authors Y. Bi, Y.H. Ge, Y.C. Li, J.J. Wang, X.Y. Miao and X.W. Li
Citation ISHS Acta Horticulturae 712: 393-400. 2006
Keywords systemic acquired resistance; postharvest disease; peroxidase; chitinase; phenylalanine ammonia lyase

Abstract

Acibenzolar-S-methyl (ASM) is a chemical activator of systematic resistance in many plants. The effect of postharvest dipping with different concentrations of ASM was studied in Hami melons (cvs. New Queen and 8601). A concentration at 200 mg/L was the most effective treatment for reducing decay severity caused by *Alternaria alternata*, *Fusarium semitectum* and *Trichothecium roseum*. Higher concentration (300 mg/L) failed to promote better resistance against decay-causing agent and to cause phytotoxicity. ASM did not demonstrate any fungicide effect in vitro and suppressed lesion diameter in treated melons, indicating that disease resistance was induced. Efficacy of suppression against *T. roseum* lasted 7 and 10 days for 'New Queen' and '8601' cultivars in ASM treated fruit. The protection of ASM was associated with the activation of peroxidase (POD), chitinase (CHT) and phenylalanine ammonia lyase (PAL) in treated melons.