Poboljšanje kakvoće plodova jabuke i suzbijanje *Penicillium expansum* nefungicidnim tretmanima poslije berbe

Mislav KAUČIĆ[1], Goran FRUK[2], Zdravka SEVER[2], Tihomir MILIČEVIĆ[2], Tomislav JEMRIĆ[2]

[1]Agencija za plaćanja u poljoprivredi, ribarstvu i ruralnom razvoju, Ulica grada Vukovara 269 d, 10000 Zagreb, Hrvatska, (e-mail: mislavkaucic@hotmail.com)
[2]Sveučilište u Zagrebu, Agronomski fakultet, Svetošimunska cesta 25, 10000 Zagreb, Hrvatska

Sažetak

Jabuka je danas najzastupljenija voćna vrsta u voćarskoj proizvodnji kako u Hrvatskoj tako i u svijetu. Kako je primjena fungicida na plodovima nakon berbe zabranjena, istraživana je mogućnost suzbijanja *Penicilium expansum* na jabuci sorte Braeburn toplinskim tretmanom (potapanje u vodu na temperaturi 48 ° C u trajanju 12 min) poslije berbe. Plodovi su inficirani izolatom ID- P3 odmah nakon tretmana i 24 sata nakon tretmana *Penicilium expansum* i stavljeni u hladnjaču s normalnom atmosferom na 0° C. Prvi vidljivi znakovi infekcije su se pojavili nakon 4 tjedna. Mjerenja su obavljana nakon 0, 7, 14 i 28 dana od prvih znakova infekcije. Rezultati pokazuju da postoji signifikantna razlika između kontrolnog uzorka i toplinskih tretmana sa infekcijom nakon 24 sata. Na plodovima nije bilo vidljivih oštećenja od toplinskog tretmana. Dobiveni rezultati pokazuju da toplinski tretman potiče obrambeni mehanizam ploda. U cilju unapređenja ovog istraživanja potrebno je ispitati i druge ekološki prihvatljive tretmane.

Ključne riječi: *Malus domestica* Borkh., *Penicillium expansum*, toplinski tretman

sa2011_a0909

Improvement of apple postharvest fruit quality and control of *Penicillium expansum* using non-fungicide treatments

Mislav KAUČIĆ[1], Goran FRUK[2], Zdravka SEVER[2], Tihomir MILIČEVIĆ[2], Tomislav JEMRIĆ[2]

[1]Paying Agency for Agriculture, Fisheries and Rural Development, Ulica grada Vukovara 269 d, 10000 Zagreb, Hrvatska, (e-mail: mislavkaucic@hotmail.com)
[2]University of Zagreb, Faculty of Agriculture, Svetošimunska cesta 25, 10000 Zagreb, Croatia

Abstract

Apple is the most common species in fruit production in Croatia and in the world. Application of fungicides on fruits after harvest is prohibited. The possibility of control of *Penicillium expansum* in apple cultivar 'Braeburn' by postahrvest heat treatment (hot water dipping at 48 °C for 12 min) was investigated. Fruit were infected with isolate ID-P3 of *Penicillium expansum* immediately after treatment and 24 hours after the treatment and placed in cold storage with a normal atmosphere at 0 °C. The first visible symptoms of infection appeared after 4 weeks. Measurements were performed at 0, 7, 14 and 28 days of the first symptoms of infection. The results show that there is a significant difference between control sample and thermal treatment of infection after 24 hours. For fruit there were no visible damage from the heat treatment. The results show that heat treatment stimulates the defense mechanism of the fruit. In order to promote this research is necessary to examine other environmentally-friendly treatments.

Key words: *Malus domestica* Borkh., *Penicillium expansum*, heat treatment

sa2011_a0909