Title Shell mold and kernel decay of fresh chestnuts in Michigan

Author I.R. Donis González, D.W. Fulbright, E.T. Ryser and D. Guyer

Citation ISHS Acta Horticulturae 866:353-362. 2010.

Keyword *Castanea*; Colossal; quality; postharvest; disease; rot; *Penicillium*; *Acrosperia*; *Sclerotinia*; *Fusarium*

Abstract

Chestnut (*Castanea* spp.) is a relatively new crop for Michigan and post-harvest loss due to decay has been problematic as production has increased each year. In 2007, more than 25% of the nuts were lost to postharvest decay. To determine the organisms responsible for decay, a microbiological survey was performed on seven different farms, in 2006 and 2007 to identify microorganisms involved in postharvest shell mold and internal kernel decay of chestnuts. Filamentous fungi including *Penicillium expansum, P. griseofulvum, P. chysogenum, Coniophora puteana, Acrosperia mirabilis, Botryosphaeria ribis, Sclerotinia sclerotiorum, Botryotinia fuckeliana* (Anamorph *Botrytis cinerea*) and *Gibberella* sp. (Anamorph Fusarium sp.) were the predominant microorganisms that negatively impacted fresh chestnuts. Populations of microorganisms, including these fungi, varied between the farms, harvesting method and chestnut tissue. Overall, chestnuts harvested from the orchard floor were significantly ($p<0.05$) more contaminated than chestnuts harvested directly from the tree by more than 2-log CFU/g.