CATTS QUARANTINE TREATMENTS FOR SWEET CHERRIES: A DREAM OR REALITY?

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Introduction

Methyl Bromide is currently used as a fumigant to provide quarantine security for sweet cherries. With the impending loss of this fumigant, under both the U. S. Clean Air Act and the Montreal Protocol, alternative quarantine treatments must be developed. A combination hot forced air with a controlled atmosphere treatment using a technology called CATTS for Controlled Atmosphere/Temperature Treatment System, provides control of both codling moth and western cherry fruit fly while preserving fruit quality. Although heating is contrary to traditional handling procedures for sweet cherries, the shortened duration of the heat treatment due to the addition of a controlled atmosphere provides for an effective quarantine treatment with marketable fruit quality. The treatment, over past years, showed both extensive pitting and shortened storagability of only 14 days. Pitting was later determined to be caused by the formation of carbonic acid when water condensed on the surface of the fruit during the treatment. This was alleviated by regulating the dew point such that the air was moist but no water condensed on the fruit. The storage of the fruit was extended to 21 days by packaging it in modified atmosphere packaging (MAP). The impact of the CATTS treatment on sweet cherry quality and its potential as a replacement to methyl bromide fumigation will be discussed.