Economic Alternatives to the Use of Methyl Bromide in the Postharvest Treatment of Selected Fruits

Abstract

Anthoni F. Aegerter and Raymond J. Folwell *
Department of Agricultural Economics
Washington State University
Pullman, WA 99164

Methyl Bromide is the most commonly used postharvest treatment of temperate fruit worldwide. Low costs, short fumigation times, and consistent quarantine security are the main reasons for methyl bromide's dominance. The need for alternative treatments has arisen with the eventual loss of methyl bromide. The objective of this study was to analyze currently available alternatives with capabilities similar to those achieved by methyl bromide for postharvest and quarantine treatments of apples, cherries, peaches, plums, and nectarines. Costs of available alternatives were estimated, and different scenarios were developed to evaluate the cost increase associated with the alternatives. The methyl bromide scenario was used as a benchmark for cost comparison. Irradiation was the only feasible alternative identified available for all the fruits in this study. Cherries and stone fruits are highly perishable commodities and have a very short window of marketing opportunities. Regular cold storage and controlled atmosphere storage treatment times are too long to meet these marketing conditions. Cost increases for all fruit treated with irradiation ranged from 200 percent to 380 percent over methyl bromide costs. Controlled atmosphere storage for apples had cost increases of 140 percent over methyl bromide. Regular cold storage for apples had minimal cost increases over the benchmark's costs. The systems approach is being analyzed as an additional alternative, and the study is being broadened to include alternative treatments for almonds and walnuts.