

Abstract

The objective of this study was to determine the effectiveness of preharvest intervals (PHI), postharvest wash treatments, and processing on pesticide residues in raw and processed apple fruits.

Field studies conducted over a three year period, sprayed Golden Delicious apples with label rates of the pesticides captan and azinphosmethyl. Spray treatments were altered to study the effects of PHI on residue levels. Treated apples were subjected to six different postharvest wash treatments: (1) 21°C and pH 7; (2) 21°C and pH 11; (3) 43°C and pH 7; (4) 43°C and pH 11; (5) 21°C and pH 7, 500 ug/g Chlorine; (6) 21°C and pH 7, 2% Sodium Dodecyl Sulfate (SDS). This was followed by processing into four different products (peeled and unpeeled applesauce, juice, and slices).

The following postharvest wash variables were found most effective in the removal of the two pesticides: pH 11, 43°C, chlorine, SDS, and a longer wash time. The combination of postharvest wash treatments and processing resulted in high reductions of both pesticides for all products.