ETHEPHON AND 1-MCP TO LOOSEN SWEET CHERRIES FOR MECHANICAL HARVEST WHILE PRESERVING FRUIT QUALITY

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Harvest labor shortages are prompting renewed interest in mechanical harvest of sweet cherries for the fresh market. Successful mechanical harvest depends on loosening the fruit so they can be easily removed with shake-and-catch machines. Ethephon is the only bioregulator product that is both effective for loosening cherries and registered for that use. However, ethephon-loosened cherries soften more rapidly and have a shorter postharvest life. Preharvest spray applications of the C2H4-action inhibitor 1-MCP to sweet cherry trees in conjunction with ethephon applications 2- to 3-weeks before harvest were tested for effects on fruit loosening and reduction of postharvest fruit quality loss. In one season, MCP application resulted in no effect on ethephon-induced fruit loosening but did reduce postharvest fruit firmness loss. In two additional years of trials, MCP did not affect ethephon-induced loosening but did not improve flesh firmness retention. Spray application method may play a key role in the efficacy of preharvest applications of MCP when used in conjunction with ethephon for preservation of fruit quality in mechanically harvested sweet cherries.