

Title Conditioning 'Anjou' pears to meet consumer quality demands
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Abstract

Research on methods of conditioning 'Anjou' pears has been undertaken in several laboratories. However, merging these results into a commercially viable program has been difficult. To convince packers that conditioning would be profitable, additional research was conducted to determine what premium (if any) consumers would pay to have fruit that has been adequately conditioned. Consumers ($n=360$) preferred 'Anjou' pears that were between 1.0 and 1.8 kg (9.7 and 17.3 N resp.) firmness at time of consumption. They defined an excellent quality pear as being sweet and juicy that will ripen within 4 days of purchase. Lack of flavor was the principle reason stated for disliking a pear. They were willing to pay an additional 65 US cents/pound for ethylene (100 ppm) conditioned pears in October as compared to non-conditioned pears. When the chilling requirement had been met in December this premium dropped to 20 US cents, and 29 US cents in March. This research also compared different conditioning treatments at three time periods. Following conditioning, pears were ripened for 3-4 days then served to consumers (120 consumers/date) for their evaluation. In October, when fruit had not received sufficient postharvest chilling, they did not reach edible firmness without ethylene even after 10 days in warm air. Ethylene conditioning for 6 days allowed fruit to reach target firmness. However this duration was not commercially acceptable as it tied up conditioning rooms for an unacceptably long time. Mid-season (December) 'Anjou' fruit were easier to condition. Pears conditioned with ethylene for 4 days scored highest in all categories and after ripening were 1.1 kg (11.1 N). Pears conditioned with ethylene for 1 or 2 days scored lower than those conditioned for 4 days prior to ripening. Long term stored (March) pears were much easier to condition. There was no difference in overall liking or firmness liking for any conditioning treatment, but fruit conditioned for 2 days were rated higher in sweetness and pear flavor than pears conditioned for 1 day. Current research seeks to determine how to shorten the time needed to condition 'Anjou' pears using ethylene release capsules and warmer temperatures. Demonstration projects are being implemented to show packers the role of fruit pulp temperature on conditioning and to retailers to show the profitability of providing conditioned fruit.