

Title ReTain™ affects maturity and ripening of 'Bartlett' pear.
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Citation HortScience Vol: 35 (2000); 1294-1299

Abstract

ReTain(R), a commercial derivative of aminoethoxyvinylglycine, was applied as a single application at 124 g ha⁻¹ a.i. to 'Bartlett' pear (*Pyrus communis*) trees 28, 21, 14, or 7 days prior to initial commercial harvest and at 62 g ha⁻¹ a.i. in combination with naphthaleneacetic acid (NAA) at 92 g ha⁻¹ a.i. 14 days prior to initial commercial harvest. Maturity and quality of treated fruits at harvest and following storage were compared with those of nontreated pears in 1996 and 1997. Ethylene production by mature green pears at harvest was not significantly affected by ReTain(R) treatments, although softening, loss of chlorophyll, and starch clearance were usually inhibited by 14- or 7-day treatment. ReTain(R) suppressed ethylene production, softening and loss of chlorophyll in ripening pears and mature green pears cold-stored for 4 months, although loss of chlorophyll did not differ in the cold-stored fruit in 1997. ReTain(R) had little effect on softening during a ripening period of 6 days after 4 months of cold storage. Application at 14 or 7 days prior to initial harvest appeared most effective, often with little difference between the two timings, and the 28- or 21-day treatment or combined ReTain(R) and NAA treatment were seldom more effective. ReTain(R) applied 14 or 7 days before initial harvest delayed fruit maturation by 4-10 days depending on the maturity index. The maturity or ripeness of pears from the combined ReTain(R) and NAA, NAA only, and control treatments was often similar or differed only slightly. Premature ripening, prevalent in 1997, was dramatically suppressed in fruit treated with ReTain(R). Ripening of both ReTain(R)- and non-ReTain(R)-treated fruit with ethylene reduced premature ripening by approx equal to 50%.