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Differences among Rootstock Cultivars in Late Wood and Freezing Tolerance in Apple Trees Grafted onto Rootstocks

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Differences of the late wood discoloration were investigated for apple (*Malus domestica* Borkh.) grafted onto dwarfing rootstocks. In dissection of 'Jonagold' grafted onto JM1 and JM7, the late wood discoloration was observed in JM7 rootstocks. One year old trees of 'Mishima-Fuji' grafted onto three JM7, M.9, and M.26, were frozen to observe browning in the cambium.

surroundings and to measure the rate of damaged cells in the bark. ' increased as the treatment temperature decreased. The rate of damage that order M.9, JM7, M.26, especially in the rootstock part. These there were differences among rootstock cultivars for the late wood rate of damaged cells, which affected the degree of freezing injury u

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