

Sweet cherry rootstocks

for the Pacific Northwest

Lynn E. Long and Clive Kaiser

All commercial sweet cherry trees are either budded or grafted. The part of the tree above the graft/bud union is known as the *scion* and the part below the graft/bud union is known as the *rootstock*. Sweet cherry scion cultivars have been selected over millennia for many reasons, but over the past century, breeding programs have concentrated mainly on achieving improved characteristics such as yield, taste, fruit size, fruit firmness, fruit color, precocity, and resistance to fruit cracking and disease. In contrast, rootstock cultivars have only recently received attention.

Indeed, it is believed that ‘Mazzard’ seedlings were first used as sweet cherry rootstocks more than 2,400 years ago by early Greek and Roman horticulturists. The fact that ‘Mazzard’ continues to be used widely throughout the Pacific Northwest (PNW) is testimony to the success of this seedling variety as a rootstock. Over the past few decades, however, several new rootstocks have gained prominence, offering important attributes lacking in ‘Mazzard’. Many of these new semi-dwarfing rootstocks, although reducing tree vigor, may impart some disease resistance, induce precocity, and enable growers to harvest premium-quality fruit from high-density orchards. Furthermore, full production may now be achieved on these semi-dwarfing rootstocks within five or six years, compared to similar trees on ‘Mazzard’, which may take up to twelve years to reach full production.

This publication presents the current level of understanding of the major cherry rootstocks and links it to their performance in the PNW.

Graft Compatibility

For millennia, it has been known that ‘Mazzard’ rootstocks are compatible with all sweet cherry scion



Photo by Lynn E. Long, © Oregon State University

Sweet cherry trees on dwarf and standard rootstocks.

cultivars, and even in modern times, no evidence exists to contradict this statement. Since the end of the eighteenth century in France, ‘Mahaleb’ was also used as a cherry rootstock. This was due in part to the partial dwarfing effect that it imparts on cherry scions when compared to ‘Mazzard’. In the mid-nineteenth century ‘Mahaleb’ became popular in the United States, and by the early 1900s it was the most popular cherry rootstock, due mainly to its ease of propagation from seed and its resistance to some diseases when compared to ‘Mazzard’. However, by the mid-1920s ‘Mahaleb’ was found to be incompatible with several scion cultivars, resulting in premature tree death, and ‘Mazzard’ again became the rootstock of choice.

Some modern-day rootstocks have been shown to be incompatible with some scion cultivars—for example, ‘Weiroot 13’ in combination with several scion cultivars, and ‘Colt’ in combination with either

Lynn E. Long, Extension horticulturist, Wasco County Extension, Oregon State University. Clive Kaiser, Extension horticulturist, Umatilla County Extension, Oregon State University.

