Almond growing has significantly changed during the last decades in the Mediterranean basin. Production has decreased in some countries, such as in Italy, whereas in others, such as Spain, an important change has taken place. The possibilities for choosing a rootstock have also significantly increased. The use of almond seedlings has been always linked to rainfed conditions and of peach seedlings to irrigated conditions. The peach x almond hybrid ‘GF-677’ has been the mostly utilized rootstock in the past years, either for rainfed or irrigated conditions. Nowadays, however, with the high demand of this crops and the new area planted in substitution of other fruit crops, there is an increasing utilization of new rootstock releases, mainly of the newly bred Spanish rootstocks. The rootstock choice must respond to better management, adaptability to different soil types, and resistance to nematodes. The studies of compatibility with plum species and specially the selection and use of some clonal almond x peach hybrid rootstock have notably increased the possibilities of election. In this situation, the red-leaved and root-knot nematode-resistant almond x peach hybrids (GxN), well adapted to the Mediterranean conditions due to their ‘Garfi’ parentage, both in irrigated and non-irrigated conditions, mainly ‘Garnem’, have become the predominant rootstocks. Particularly noteworthy among the recent releases has been the incorporation of root-knot nematode (RKN) resistance. Special emphasis has also been placed in developing dwarfing rootstocks for high-density orchard systems. New hybrid rootstocks of complex origin are now under experimentation and the initial results indicate that they could improve almond production if they fulfil the requirements of modern fruit growing, as discussed in this revision.

**Keywords:** Nematosides, rootstocks, vigour control, *Prunus dulcis*, drought, intensive.