

Cactus pear (*O. ficus-indica* (L.) Mill.) Fruit production: ecophysiology, orchard and fresh-cut fruit management

G. Liguori , P. Inglese

Acta Horticulturae 1067: 247-252. 2015.

Abstract

Cactus pear (*Opuntia ficus-indica* L. Mill.) is cultivated in wide range of environments with the consequence of large differences in crop potential, orchard systems and management. These differences may be related to temperature and rainfall range (water availability) but also to the day/night length and, of course, to soil characteristics. This leads to considerable variability in the field and in fruit quality. Crop value much depends in crop variability in terms of fruit size, which is the major factor for fruit price in Europe. The increase of crop value very much depends on regular cultural practices such as irrigation and fruit thinning, but it is also dependent on plant crop yield and architecture. Despite this relative large diffusion, cactus pear marketing is seasonal and, due to the poor postharvest performances of the fruit, covers no more than two months, in each ripening season of each cultivar. The most powerful tool to get a longer fruit marketing season is related to cropping strategies and, eventually to the ability of *O. ficus-indica* to reflower and to get different crops in the same year; some studies conducted in Sicily demonstrated that double removal induced a third flush of flowers and cladodes during late August with a fruit production that ripened the following winter (January-March); out-of-season fruits obtained, were regular in size and percent flesh with only a slight reduction of total soluble solid content. Some studies also demonstrated that cactus pear fruit plantations are efficient in terms of carbon sequestration. Research achievements and goal are revised in order to address new research efforts towards orchard efficiency.