

# Techniques for melon grafting<sup>©</sup>

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## ***Abstract***

Grafting as a cultural practice for controlling soilborne diseases and improving abiotic stress tolerance has been widely used in the production of solanaceous and cucurbits crops in many areas of Asia and Europe. Interest in vegetable grafting has been growing in the United States in recent years. By physically conjoining a plant with desirable fruit characteristics (called a scion) onto another plant with specific disease resistance or stress tolerance (called a rootstock), grafted plants combine the beneficial characteristics of both the rootstock and scion cultivars. The major obstacle of wide adoption of this technique in the United States is the high cost of grafted transplants. The production cost can be partially reduced by increasing efficiency of grafting techniques. Three methods are commonly used in melon grafting, i.e., hole-insertion, splice grafting, and tongue-approach grafting methods. The advantage of hole-insertion method is that it does not need grafting clips, but it has a narrow window regarding relative plant sizes of rootstock and scion. Splice grafting is easier to conduct compared with hole-insertion and tongue-approach methods, and it has less stringent requirement for the growth stage of rootstock and scion. Tongue-approach method may require more greenhouse space, while it often helps achieve a good graft survival rate. Plants grafted with hole-insertion and splice grafting methods require high relative humidity conditions for post-graft healing. Rootstock regrowth (sucker) can be completely eliminated by using tongue-approach method. To facilitate mechanical grafting, as well as long-distance shipping of grafted transplants, root excision at different grafting stages has been practiced. The diverse procedures of melon grafting techniques are presented in the project.

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