

Australis Plants

Factors affecting pollination and fruit set in olives by Greg O'Sullivan

Cross-pollination

Although most olive varieties are self-fertile to some extent, research has shown that cross-pollination generally improves the fruit set of most varieties especially when the environment conditions are not optimal. Generally having two or three different varieties growing in close proximity (30m) will facilitate adequate cross-pollination. Pendolino, Frantoio, Coratina, Picual and Manzanillo are some of the main varieties used for cross-pollination. If a tree flowers well in the spring and does not set any fruit it may be a good indication that cross-pollination is required.

Irrigation

Ensure that the trees are not water stressed during the period of flower induction and development which starts in late autumn early winter. In winter drought conditions, leaf development is favored at the expense of flower development.

Water stress during late winter / spring is also a problem, resulting in malfunctioning flowers that do not develop correctly and prematurely drop without setting fruit.

Nutrition

Adequate levels of nutrients especially nitrogen and boron are required for optimal flowering and fruit set. A leaf analysis taken in mid summer will give a good indication of the trees nutritional status and fertilizer requirements. Generally olives require either manure or other fertilizer on an annual basis for good fruit set.

Excessive nitrogen fertilizer may also be a problem with some varieties, especially in warm winter climates because it tends to encourage excessive vegetative growth through the winter at the expense of floral development.

Environment

Hot dry winds during flowering are detrimental to pollination/ fertilization.

Rain during flowering can also disrupt the pollination process.

Winter chilling is required for flower initiation. Chilling requirements vary between varieties. In tropical areas where winter chilling is insufficient olive trees grow well but fruit production is low or non-existent.

Pest and Disease

Pest and disease problems can severely affect floral initiation and flowering eg Peacock Spot, Scale, Olive Lace Bug. The general tree stress caused by these problems is detrimental to the flowering process.

Alternate bearing (*trees bearing large crops one year and none the next*)

To manage alternate bearing you need to prune heavily in a heavy bearing year and remove clumps of fruit with relatively few leaves- fruit thinning is the only real way to limit alternate bearing.

Pruning

If fruit yield has been poor in previous seasons it is recommended to wait until the trees are flowering in spring before pruning. Then if pruning is required only prune the branches that are unproductive so that you leave as many flowering branches as possible.

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