Growing Deciduous Fruit Trees
Cultivar Choice and Site Selection

The establishment of one hectare of deciduous fruit trees with only the basic necessities is a very expensive exercise. It is therefore of utmost importance that your financial investment is secured by having proper knowledge of the crop you are planning to plant.

Prepare properly prior to the establishment of a new deciduous fruit orchard:

- Pay special attention to the slopes, different types of soils and the climatic variations throughout the year before planning to plant fruit trees.
- Proper site selection and selecting suitable cultivars are two of the most important factors in successful fruit growing.
- Proper soil preparation, the availability of sufficient and clean water as well as water drainage is essential for the production and growth of fruit trees.
- Avoid low laying areas (cold pockets) and areas characterised by late spring frost.

CLIMATE
Plum trees require sufficient cold temperatures during the winter (called winter chilling) to enter into their rest period (or winter dormancy) as well as to overcome the rest period at the end of winter. Dormancy is a developmental phase of the tree which occurs annually. This phase is necessary as it allows the trees to survive unfavourable winter temperatures. The trees enter into the dormant state as soon as cooler temperatures are experienced during autumn. The minimum air temperatures during this dormancy period should be from 2.5 to 12.5 degrees Celsius for a period of approximately 850 to 1000 hours during the months of April to August. The trees will remain in this state of dormancy until they have been exposed to a specific amount of winter chilling and will only bloom once they experience warmer temperatures during spring. Flowering and vegetative growth will therefore start as soon as the trees experience more favourable environmental conditions. A cold spell or late frost during spring will injure the flowers as well as the fruit.

Dormancy will only be partially achieved during mild winters as the trees would not receive sufficient chilling. The tree will consequently flower and sprout irregularly during the spring. This phenomenon is called 'delayed foliation'. The more winter chilling a fruit tree requires in overcoming its resting period, the more susceptible it becomes to delayed foliation.

Plum cultivars differ in their chilling requirements. It is therefore important to take the chilling requirements into consideration when selecting a specific cultivar. It is advisable to seek expert advice in selecting cultivars.

Apple and pear trees require the most winter chilling and should therefore be planted only in the traditional cooler areas where more chilling units are available.

Vast differences also exist between cultivars within each fruit kind. It is thus important that the choice of fruit kind to be grown in a particular area be determined by the amount winter chilling available in the area.

DISEASE SUSCEPTIBILITY
In some areas such as Franschhoek and Grabouw in the Western Cape Province, bacterial spot on plums is much more prevalent than in many other plum areas. Apricots on the other hand, are best adapted to the drier Klein Karoo areas where it is less prone to bacterial and fungal diseases in the comparison to apricots grown in wet areas.

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Early blossoming cultivars should be avoided in areas where frost is a problem and preference must therefore be given to cultivars that bloom later. Frost damage is usually not clearly visible on the outside of the blossoms or the small immature fruits. Damage only becomes visible when the blossoms or the fruit starts dropping from the trees.

Some fruit trees bear only female flowers and would need pollen from a tree with male flowers. This kind of pollination is called cross-pollination. It is important to know whether a certain fruit kind or specific cultivar is self-pollinated or needs cross-pollination. Most fruit kinds need to be cross-pollinated in order to have sufficient fruit.

Some kinds bear flowers which have both male and female parts. When the pollen (male) is exposed to the female parts (stigma) of an open flower, pollination takes place. The pollen then starts to grow down into the stigma and eventually fertilize the egg-cells. These kind of fruit trees are self-pollinating.

Fruit should be harvested close to maturity, but still firm enough to be transported. Fruit to be marketed locally can be picked more matured than those to be shipped long distances. Fruit must be picked and handled very carefully to prevent bruising which will result in poor quality.

The physical and the chemical properties of the identified site to plant the fruit trees must be considered very carefully during the planning phase. The soil is the only reservoir for available water and the primary source of nutrients for the trees planted. Soils vary in nutrient content and water holding capacity.

This should be taken into consideration BEFORE trees are planted.

Depending on the amount of land available and the number and kind of fruit trees to be planted, the particular rootstock / scion combination for obtaining optimum growth and good fruit quality. Most of our fruit trees consist of a rootstock, the graft union and the cultivar (scion) on top.

To ensure that a good crop is produced it is important to purchase only grafted trees from a known or registered nursery. Depending on your soil type, one has to decide on which rootstock to buy with the cultivar.

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