

chemical, chemical and biological. Weeds within the work row must be kept short but a strip of not more than 1,0 meter on both sides of the tree should be kept clear of weeds. No types of herbicides can be used, i.e. Roundup or Gramaxone. Roundup should not be sprayed in orchards where the trees are younger than 3 years. This herbicide is a hormonal herbicide and should not come into contact with any green parts of the trees. Gramoxone on the other hand is a contact herbicide which has a scorching effect on the trees. However, the application instructions should be followed very carefully. Weeds that interfere with the water distribution pattern of the emitters should be removed. High growing weeds can obstruct the operation of especially rotating emitters of the irrigation system as it prevents the rotation of the swivel, causing the water to spray on only one spot.

Pest and disease control

There are a number of pests that can occur on persimmon, viz. fruitfly, fruit-piercing moth, vinegar fly, codling moth, false codling moth, American bollworm, fruit nibbler, Antestia bug, leafroller, snout beetles, CMR beetles, garden locusts, fruit beetles, thrips, aphids, Bryobia mite, grey scale, mealybug, nematodes, pernicious scale, red scale, red spider mite, European red mite, slug caterpillar and weevil. However, of all the pests listed above, the ones most often encountered are the banded fruit weevil, scale (red and pernicious), thrips, American bollworm, fruit fly and the codling moth. All the other above-mentioned pests occur sporadically but do cause damage on persimmon.

Southern blight: Creamy white to yellow rhizomorphs are formed on the outside of the roots. Control by deep burial of organic material prior to planting.

Quince rust: Tissue below the lesion dies and becomes spongy. Apply fungicide.

Apple Blotch: Foliage symptoms are characterised by light grey spots with a dark dot in the centre. Use fungicide as a control.

Further information can be obtained from:

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Persimmon

Scientific name: *Diospyros kaki* Linn

Common name: Sharonfruit



**agriculture,
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Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Background

Persimmon is originally from China, and from there it spread to Korea and Japan. Its cultivation has recent traditions in western countries where it is present only since the second half of the 19th century. In recent years, the cultivation of persimmon has found renewed interest in various countries of the Mediterranean basin as well as in some American fruit growing zones and the Australian hemisphere and to a small extent in South Africa.

Climatic and soil requirements

Persimmon is an easy fruit to grow in the Mediterranean area, it is ideal for winter region of the Western Cape and at present there are no limiting factors, it can be planted more widely in South Africa including subtropical areas because of its low chilling requirement (200–400 cold units). Persimmon grows best in areas with moderate winters and low spring temperatures. The trees grow well in traditional citrus area. Persimmon trees need soil analysis. The soil should have good drainage as persimmons are susceptible to wet feet. The roots are also susceptible to fungal root and fungal root disease. Tree requires a sandy loam soil with a pH between 5,5 and 6,5, and even beyond 7 is still an ideal for persimmon.

Uses

Persimmon are used both as a fresh and dried fruit snack e.g. fried crisp, chutney and fruit rolls.

Cultural practices

Planting

Trees are planted from autumn to spring and each plant is provided with a supporting pole. Planting distances should be 2 m along the row and 4 m between rows this will be in relation to tree vigour, soil, fertility and training system (from Bellini, 1991). A clay loam, deep ploughed to about 2m will better growth.

Fertilisation

There are certain factors which would influence the fertilisation programme of persimmon, such as, soil type, soil and plant reserves, the age, size, vigour and yield of the trees and the fertilisation programme used in the past. Nutrients such as nitrogen and potassium tend to leach easily from sandy soils. The correct amounts and application rates of fertilisers should therefore be applied annually according to soil and leaf analyses. The analyses of the soil as well as the leaves of the tree will give an indication of the nutrient status of both the soil and the plant. These results should be taken into account in planning the fertilisation program. Soil and leaf analyses should be done not later than January of each year.

Vegetal growth of young trees should be stimulated for the first 3 years and, depending on the growth rate, should not be allowed to bear any fruit during this period. The fertiliser requirements of young trees differ considerably from those of mature, full-bearing trees. The fertilisation of mature, full-bearing trees should therefore be adapted to ensure good optimum yields and quality fruit. Larger trees require more fertiliser than smaller trees. Fertiliser programmes should therefore be managed according to expected production. Records of the quantities and application rates of applied fertilisers as well as the results of the soil and leaf analyses should be kept for future reference.

Irrigation

Most mature persimmon trees receive no watering, but irrigation in dry season will increase productivity. Apple trees require between 600 to 1000 mm of water a year. Certain important factors should be taken into consideration in deciding on the quantities and frequency of irrigation of persimmon trees. Such factors include soil type, water quality, climate, season, type of fruit, the age and size of trees, growth phase of the tree, the type of irrigation system used as well as mulching with organic material such as straw. Sandy soils consist of coarse particles, resulting in

low water holding capacities. It is therefore essential to apply small volumes of water at relatively short intervals. Clayey soils consist of finer particles, resulting in higher waterholding capacities. Larger volumes of water should therefore be applied with longer intervals between irrigations. Soil containing large quantities of organic material can hold the water more effectively and require longer intervals between irrigations. Persimmon trees can be cultivated in a variety of soil types on condition that the soil is well drained. It is therefore important to examine the soil for any limiting layers before planting. Excessive irrigation can result in the leaching of nutrients from the soil while waterlogging and root disease can occur. Signs of over-irrigation on persimmon will be visible as patches of gum (gummosis) oozing from the lower parts of the tree trunks.

Insufficient water would inevitably inhibit tree and fruit growth as well as fruit quality. It is therefore important to have the soil analysed for water holding capacity as well as particle size distribution. By doing this, the correct volume of water can be applied and excessive or insufficient irrigation can be prevented. Irrigation is also affected by seasons. Less irrigation will be necessary during spring and autumn when the temperatures are lower than during the warmer and drier summer months. Young trees should be irrigated more frequently than older trees, as their root systems are still relatively shallow and not well-adapted at this point in time. However, smaller volumes of water should be applied during irrigation. Care should be taken to avoid shallow irrigation, as this will not stimulate root development in the deeper soil levels. The root systems of larger and older trees are generally much deeper. Larger volumes of water, less frequently applied, are essential in order to wet the total root zone.

Weed control

Competition from weeds can be a major problem for young trees. Weeding depends on the weed pressure and can be controlled using three methods, i.e. me-