

## Growing Tomatoes in the Top End

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### GROWING SEASON

Tomatoes do better in the Dry, because high night temperatures of the Wet cause poor fruit set. Also the wet humid conditions encourage fungal diseases and lower the quality of the fruit. The first planting can take place in late April and continue until July.

### PLANTING

Plant two or three seeds 5-8 mm deep into containers (e.g. milk cartons or peat pellets). Thin out when about 2 cm high by pinching off or cutting so as not to disturb the roots of remaining plants. The pots should be in a sunny position as too much shade produces thin spindly seedlings. Over-watering has the same effect. A weekly application of one of the soluble fertilisers on the market is necessary for good seedling growth.



After four weeks the seedlings should be about 10 cm high and ready for planting out. The spacing should be 60 cm between plants with 90 cm between rows. Transplant on a dull cloudy day, or in the late afternoon. The seedlings should be well watered about an hour beforehand, as this makes it easier to remove them from the containers. Plant seedlings 25-20 mm deeper than they were in the pots, as unlike most plants the tomato will develop roots from the covered stem. This also gives the seedling better support in initial stages of growth. If mulching, keep the mulch at least 75 mm from the stem of the plant.

## TYPES OF TOMATOES

There are two types of tomatoes:

Determinate - are bushy plants, as their stems stop growing after they reach about 0.75-1.0 m in length. This type is suitable for trellising with arc-mesh wire netting, or three to four strands of wire pulled tight between two poles. As the plant grows the individual stems are tied to the trellis in a fan shape. The advantage of trellising is to support the plants, as the weight of the crop can break the stems, or force them to lie on the ground resulting in damage from fruit rot and insects. Roma, cherry, grape and pear tomatoes and round field types belong to this category.

Indeterminate - are tall growing varieties which can reach 3 m in height. They should be pruned to two stems and trained to stakes about 2 m long. The stakes are put in the ground (about 30 cm deep and 8 cm from the plant) at transplanting, or soon after, to avoid damaging the roots of the plant. Pruning is an on-going process; it helps to improve fruit size and keeps the plant fairly open which makes spraying easier. In pruning, the lateral shoots, which grow from the junctions of leaves, should be removed by nipping them off when they are about 5 cm long. Care must be taken not to damage the leaves or flower trusses. The lateral just below the first flower truss is the only one allowed to develop. The stems should be tied to the stake at 30 cm intervals. When the plant reaches the top of the stake the growing tips should be pinched out. Grosse Lisse, hydroponic and glasshouse varieties are usually indeterminate types.

## FERTILISER

It is beneficial to dig well rotted compost or animal manure into the bed, at 2 kg/m<sup>2</sup> or more, well in advance of planting. A complete fertiliser mix containing calcium and medium amounts of nitrogen and potassium, but which is high in phosphorus (i.e. 14N : 14P : 10K) should be used as the basic fertiliser at the rate of 15-20 g/m<sup>2</sup> of row. This should be dug into the row seven to 10 days before planting. It may be beneficial to drench the seedlings after transplanting with one of the water soluble trace element mixes on the market. Tomatoes are grown with a two phase fertiliser program. The first to encourage strong early growth consists of 25 kg N, 5 kg P, 18 kg K per ha per week. The second phase is for fruit development and consists of 12 kg N, 5 kg P, 18 kg K, plus 10 kg Ca per ha per week. as either micro fine gypsum or calcium nitrate, from fruit set onwards

## IRRIGATION

When flowering commences it is best to irrigate under the plants, using drip or micro-irrigation methods, rather than by overhead sprinkler. This is because there are several leaf disorders that are better controlled if the foliage is kept dry. Watering from above (sprinkler) washes fungicides and insecticides from the foliage and tends to promote cracking of the skin of the fruit.

Frequency of watering is governed by climatic and soil conditions. It is important to maintain a constant moisture content in the soil, as the greater the variation the more chance there is of "blossom-end rot" developing. This is characterised by a sunken leathery spot which appears on the flower-end of the fruit, eventually developing into a sunken black lesion. Mature plants would require daily watering. Soil moisture content in the field should be monitored using tensiometers or capacitance meters such as enviroscan or gophers.

## HARVESTING

Determinate varieties may be ready for harvest in eight to 12 weeks and can continue for a further six weeks. Indeterminate types take a little longer, 12-14 weeks, but yield for a longer period.

## PEST CONTROL

Sucking insects such as aphids, white flies, mites and thrips can be a problem and soap sprays can be used to control these pests in low numbers. Commercial growers will also need a caterpillar control program.

For information on insect control, please refer to the DPIFM Entomology website at <http://pestinfo.nt.gov.au/>

Root knot nematodes can be a problem in tomatoes, especially if they are grown in the same patch year after year. These minute worms invade the roots of the plant, causing galls and distortions. Plants infected by nematodes remain constantly stunted and wilted. In the home garden, infected areas should be mulched with organic matter.

Bacterial wilt is a serious problem in the tropics. It is caused by a soil-borne bacterium - *Pseudomonas solanacearum*. Infection takes place through the roots, especially if they are damaged during transplanting. Symptoms include the sudden wilting and collapse of plants, usually overnight. In some cases it may be over a period of two to three days. The woody tissue in the stem surrounding the pith is brown; if the stem is cut just above ground level a slimy ooze may sometimes be found. There is no treatment for this disease. The easiest solution for home gardeners is to graft onto a wilt resistant root stock (See Agnote B40 "Tomato Grafting"), or grow in pots with new potting mix every year. Cherry tomatoes are more tolerant to bacterial wilt.

Leaf roll virus is a common disease early in the Dry and is spread by white flies. There is no treatment available, therefore infected plants need to be removed and destroyed.

For further information on pest and disease problems or control methods please contact the Department of Primary Industry, Fisheries and Mines.

Please visit us at our website:

**[www.nt.gov.au/dpifm](http://www.nt.gov.au/dpifm)**

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