



Tomatoes

© Annette McFarlane

Fresh, home grown, sun-ripened tomatoes picked at the peak of perfection and consumed within hours of harvest. This mouth-watering, taste sensation is enough to entice even the most reluctant gardener to try their hand at growing their own tomatoes. Annette McFarlane guides us through the essentials of producing a great crop and outlines pre-emptive pest control strategies for novice growers.



Top Tips For Terrific Tomatoes

Nutritional Know How

Growing great tomatoes generally requires good soil nutrition. Cherry tomatoes (*Lycopersicon pimpinellifolium*) are less demanding, but if you want to grow large fruited Roma, Grosse Lisse or Beefsteak types (*Lycopersicon esculentum*), your crop harvest will be proportional to your soil enrichment efforts.

Everyone has a favourite ratio of decomposed animal manure and rich compost. With its layered system of nitrogen-rich, green materials, the no-dig system can also produce great tomatoes. Calcium is an important element in fruit development, so be sure to add lime, gypsum, bird manure, shell grit or some other calcium source before planting.

Variety is the Spice of Life

There are hundreds of varieties of tomatoes to choose from. Their performance varies widely from season to season across different climatic zones. Ask local seed savers and organic growers to recommend the seasonal best varieties for your region. From these you can select the variety that best suits your culinary needs.

Indeterminate or Climbing Tomatoes

The following tomatoes are referred to as indeterminate varieties as the height they grow to is determined by the amount of nutrition they receive. Some grow to over 2 metres tall, so be prepared to erect supporting trellises or stake plants well.

Variety & Weeks from Germination to Harvest	Fruit Characteristics	Vigour & Climatic Tolerance
Amish Paste 11-12 weeks	Large, red fruit with meaty flesh.	Hardy, extremely vigorous climber, suitable for most climates.
Black Russian 11-14 weeks	Brown/black shading on small fruit and dark flesh.	Superb flavour, but appearance can be off-putting. Better in cooler areas.
Daydream 10 – 12 weeks	Quick to bear with large round red fruit.	Former commercial variety. Does well in hot dry areas.
Golden Gourmet Filler 11-14 weeks	Large yellow fruit with thick outer flesh and hollow centre	Best suited to stuffing and cooking. Less vigorous than other varieties.
Golden Jubilee 12-14 weeks	Good sized, yellow, low acid fruit with thick walls.	Strong growing, yellow fruited variety. Less disease resistant in hot, humid areas.
Grosse Lisse 11-14 weeks	Plenty of large fruit with deep red colouring.	Popular due to high yield, wide climatic adaptability & long bearing period. Grows well in the tropics.
Green Zebra 14 weeks	Small striped green/yellow fruit.	Great production, but sacrifices somewhat on taste. Novel look.
Money Maker 11-12 weeks	Thin skinned, solid flesh, fruit uniform in size. A good choice for families.	Copes well with high humidity.



Mortgage Lifter	Prolific producer of large, pink/red fruit with few seeds.	Notable for its disease resistance and amazing productivity.
Oxheart 11-12 weeks	Giant, heart shaped fruits with thick flesh and few seeds. Pale red, mild flavoured fruit.	Popular old-fashioned variety in cooler areas.
Polish Giant 12-14 weeks	Enormous red, elongated fruit with meaty flesh	Great for cooking. Better in cooler regions.
San Marzano 10-12 weeks	Deep red, elongated Roma type fruit with plenty of flesh and few seeds	Ideal for cooking and drying. Climatically adaptable. Wilt resistant.
Stupice 9-10 weeks	Quick growing, early fruiting with great flavoured, medium sized fruit	Best suited to cooler areas.
Tropic 11-12 weeks	Good sized, well-flavoured, sweet, red fruit.	Popular with gardeners in warm climate due to its disease resistance.

Determinate or Bush Tomatoes

These tomatoes are naturally bushy and grow to a more or less predictable height of less than one metre. Staking is not necessarily required, but fruit should be kept from coming in direct contact with the soil or fruit rots may develop. Placing dry mulch material beneath developing fruit can overcome this problem. Bush tomatoes are well suited to pot culture.

Prosperity 10-12 weeks	Small to medium red fruit form in large clusters.	Long bearing period is popular with home gardeners.
Burnley Gem 10-12 weeks	Medium sized round red fruit with good flavour	Developed from a Gross Lisse cross, it has similar climatic adaptability.
Burwood Prize 10-12 weeks	Medium sized round red fruit with plenty of flesh.	Early commercial variety grown in NSW.
Rouge de Marmande 8-10 weeks	Large red ribbed fruit with few seeds and sweet flavour.	Notable for its pest and disease resistance. Good across a range of climates.

Cherry Tomatoes

The following varieties have a sprawling growth habit, but can be trained on trellises structures to occupy vertical space. They produce small round to pear shaped fruit over a long period. Regarded as some the easiest to grow, they are suitable for a range of climates and are ideal for fruit fly prone regions. Your cherry tomatoes will be ready to eat in 8-10 weeks.

Varietal selection and approximate weeks to harvest	Fruit characteristics and flavour	Vigour and Climatic Tolerance
Broad Ripple Yellow Current	Bunches of sweet yellow fruit	Fruit fly resistant, very decorative
Tommy Toe	Available as red or yellow selections of round, flavoursome fruit that are larger than typical cherry types.	Great vigour across all climates. Good disease resistance.
Yellow Pear	Decorative pear shaped, yellow fruit with a mild flavour	Particularly hardy across a wide range of climates including hot and humid regions.
Tiny Tim	Dwarf bush with small round fruit.	Good for growing in pots



Graft and Production

Grafting combines the root growth characteristics of one species or variety with the flowering and fruiting characteristics of another. Because of this production from grafted varieties can be superior to that of non-grafted forms.

Nurseries sell named varieties that are grafted on to vigorous seedling grown rootstocks. In contrast, European gardeners commonly graft their tomatoes on to rootstocks of closely related plants including eggplant, devil's fig and wild tobacco.

The technique is not difficult. Get hold of any basic grafting text book and you will soon grasp the principles. Confidence and speed in joining the rootstock and cultivated variety together and preventing the union from drying out are the keys to success.



Feeling the Heat

Tomato seeds germinate best at temperatures above 15 degrees Celsius. Warm conditions promote rapid growth and fruit production, although excessive temperatures (above 30 degrees Celsius) can result in poor fruit set, particularly of some heirloom varieties. Glasshouse conditions provide the required warmth to get plants off to a great start where it is cool and may be used to grow crops to maturity if required.

Up to Their Necks

Tomatoes are one of a number of plants that can be planted up to their first set of leaves to encourage better root development. The stem section planted below ground develops roots, increasing water and nutrient uptake and improving anchorage. Ensure that seedlings are well established and sun hardened before planting them up to their neck. Where necessary, remove any old remnant lower leaves before planting.

Moisture Meter

Lack of moisture is almost as critical as lack of nutrients when it comes to growing great tomatoes. Blossom end rot, a condition that sees the base of fruit develop brown sunken areas, occurs as a result of a calcium deficiency and irregular watering. Drought stressed plants tend to have tougher skins, smaller fruit and a sharp flavour. Water the soil deeply rather than wetting the foliage. This will help to minimise fruit scarring and foliage disease. Mulch plants well.

Staking Your Claim

Most serious tomato growers are passionate about staking. In truth, there is probably no discernable difference in harvest between staked and unstaked tomatoes if you are growing cherry or bush (determinate) varieties. Climbing tomatoes (indeterminate) require staking and lateral pruning to guide the growth of the plant. With some climbing types reaching two metres or more in height, it also makes good sense to make use of vertical space.

Staking tomatoes provides greater options for thinning dense foliage to aid air circulation, controlling pests and achieving clean, blemish free fruit.

Container Grown Tomatoes

Growing tomatoes in pots is a convenient option for many gardeners. Apartment dwellers or those short on garden space may be limited to pots. The upside is a harvest within arms reach.

In cooler regions pots can be moved to track sunlight in order to benefit from much needed warmth. Warm north facing walls may provide radiated heat and frost protection. Elsewhere plants can be moved in shaded corners in extreme heat and protected from torrential downpours. Pots can also provide plants with guaranteed drainage. If you have a history of problems with nematodes and soil borne wilt disease, growing your tomatoes in pots could be the answer.

To successfully grow tomatoes in pots following these guidelines:



- Start plants off in small containers. Gradually repot into larger containers that provide adequate growing space for roots as your plants develop.
- Protect the roots from alternate heating and cooling. This can be achieved by shading the side of the pot most exposed to sunlight, growing plants in polystyrene containers or placing individual pots inside larger planter boxes.
- Use fresh media in pots every time you replant. Experiment with different ratios of compost, decomposed animal manure, potting mix or washed river sand. Try adding some blood and bone, a little sulphate of potash and some lime or gypsum.
- Mulch the surface of pots to reduce evaporation. Plant based mulch like lucerne can provide additional nutrients, but stone mulch adds weight to pots. This can help balance the weight of top growth as plant mature and prevent pots toppling over.
- Use liquid fertiliser made from compost, seaweed, comfrey and/or animal manure each week to boost growth and enhance disease resistance.
- Remember that warmth and humidity are the primary factors that influence ripening of tomatoes as opposed to direct sunlight.

Commercial growers use a range of testing apparatus to determine whether a potting mix meets the optimum standards for plant growth. Some standard measurements to determine potting mix suitability include:

Air filled porosity - what is the size and number of air spaces in the mix

Wetability - how quickly does the mix absorb water

Water holding capacity - how well does the mix retain water

Bulk density - how light or heavy is the mix

Particle size - what is the ratio of coarse and fine particles in the mix

pH - to what extent is the mix acid or alkaline

Nutrient levels - what nutrients does the mix contain and in what ratios

Electrical conductivity - what is the salinity or total dissolved salts of the mix

Home gardeners generally do not have the equipment or inclination to scientifically test their own mix. Fortunately, a much less scientific approach works well for most people. If it looks dark and rich, smells earthy, feels friable, but is not too light and has been made from a range of composted ingredients, it is probably almost perfect!

Pre-Emptive Pest Control

Knowing the conditions that predispose tomatoes to pest problems, the symptoms associated with outbreaks and control measures to implement should outbreaks occur are essential to growing a great crop. Knowing your enemy and being prepared is your best defence.

Be Prepared

Watch out for these common pest and disease problems that affect tomatoes. Early intervention can mean the difference between a bountiful tomato harvest and complete failure.

Fruit Fly

If you live in a region where fruit fly occur you are probably familiar with the wriggly white larvae that infest fruit. Tomatoes are often stung at such a young age that fruit rot and fall prematurely before they come close to maturity. Use baited traps to monitor peak fruit fly periods. Enclose fruit in bags or completely cover plants with fly proof netting.

White Fly

Disturb plants infested with white fly and clouds of small flying insects take flight all around you. White fly hide beneath the foliage, using their sucking mouthparts to dehydrate foliage, transferring disease and causing fruit to ripen unevenly. Use soap based sprays on a regular basis or cover plants with shade cloth or similar material to exclude these pests.



Tomato Russet Mite

Drying and death of lower foliage with associated bronzing and loss of hairs on the stems on plants indicate presence of tomato russet mite. Left unchecked, deterioration will continue upward until the entire plant is lost. Fortunately, wettable or dusting sulphur will control outbreaks.

Nematodes

These microscopic soil organisms, also known as eelworms, attack the roots of tomatoes and other solanaceous crops reducing the uptake of water and dissolved nutrients. This stunts plant growth and reduces fruit production. Plants also wilt in warm weather despite available soil moisture. Rotate crops, grow and incorporate green manures, add copious quantities of organic matter or grow tomatoes in pots.



Caterpillars

Several species of moths and butterflies love to lay their eggs within the flowers and young fruit of tomatoes. The damage may go undetected until the fruit becomes quite large. Inspect fruit regularly and remove damaged fruit. Treat plants with molasses (1tblspn per litre water), rotenone, BT (*Bacillus thuringiensis*) or Success Naturalyte Insect Control. Is Rotenone Safe?

Wilt

Wilt is a term that is used to describe the symptoms that occur when tomatoes fall victim to one or more viral, fungal or bacterial diseases. These diseases share common symptoms in that plants wilt even though they do not lack water. Only save seed from healthy disease free stock. Practice crop rotation and ensure your soil is well drained. Look for wilt resistant varieties or graft plants on to wilt resistant rootstocks. If all else fails, grow your tomatoes in pots to escape residual soil infestations.