



**PAKARAKA
PERMACULTURE**

GROWING ORGANIC STRAWBERRIES AT HOME

Written by Yotam Kay

Fresh organic strawberries...

...are a treat like no other, and when you take a bite of the truly ripe there is no going back. Strawberries are one of the most heavily sprayed fruits, which is why it really is worth the effort to grow them at home.

Strawberries are wonderful plants to grow and they require a small amount of maintenance after preparing your patch and planting. They can really help you connect with your garden, as you come and harvest from them every day for a few months in the year.

In this manual we will cover all the basic information (and a bit more) on how to grow them successfully at home.



Introduction

Camarosa (Fragaria X Ananassa) is the variety of our choice, and it has large, firm, regnant, red fleshed fruit with excellent flavour. Because it has high resistance to wet weather, it is a good one to grow in the north part of the north island in NZ. If you live in cooler places, try out a few varieties and see which one works better for you.

Camarosa has a vigorous growth habit, so it needs relatively wide spacings between each plant. The plants are self-fertile, and are of short day type, which means that flowers are initiated by short day lengths. Fruit ripen 20–35 days from flowering depending on climate, with light crops in October and November and a heavy crop in December. In a good year, you could harvest up to 500g of the most delicious strawberries from a single plant!

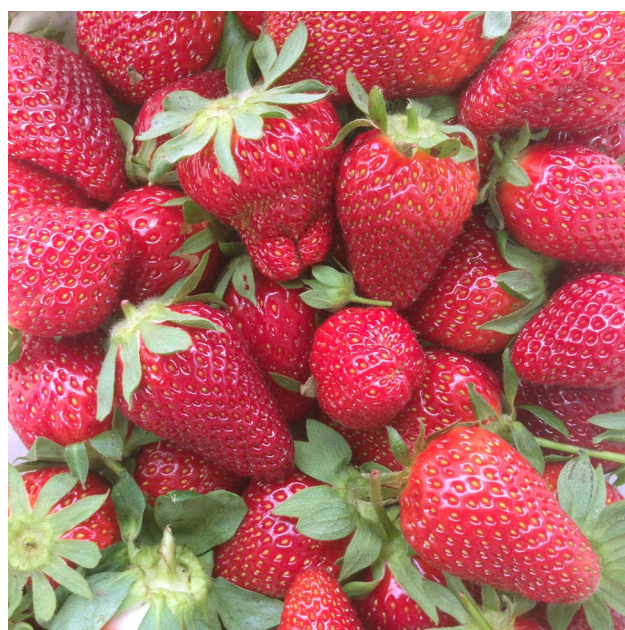
While Camarosa is a summer producing strawberry type, there are others that fruit in waves throughout the year.



Where to plant

Choose a sunny and wind sheltered spot for your patch, where you can frequently harvest and water the plants. Minor (2–3 hours of indirect light) shading is ok, but more than that yield will be affected. They prefer well draining soil, but they can also handle less than ideal conditions (though add more compost to help soil drainage).

As birds are your main competitors for the delicious fruit, it is recommended you place your patch in clear sight, in an area you visit frequently. By doing so, you make your presence known to the birds and they will shy away, rather than having the impression that you planted it for them.



Bed preparation

1. You will need to create a bed that is free from perennial weeds (such as grass and dock). There are many ways of doing this:
 - a. **Double digging.**
 - b. Building a raised bed and covering the ground with sheet mulch.
 - c. Forking the soil and removing plant roots by hand (possible but slooow).
 - d. Mowing, and then covering the soil with weedmat or tarp until the ground cover dies – 8 to 14 weeks depending on time of year and type of vegetation, and then forking (our preferred method).
2. You will need at least 20cm of top soil though 30cm is preferable. Gently loosen the soil, as much as possible without turning the soil layers, with the a fork to aerate the soil. If your gardening situation allows it, you can shovel the soil from the path onto the bed to gain that extra top soil.
3. If soil fertility is low, add 20 litres or more of compost per meter. Otherwise 10 litres or so will be ok. You can add solid fertilisers such as Nature Organic Fertiliser (**Environmental Fertilisers**) at 500g/meter. Mix these into the top 5–10cm of soil. Most likely these plants will stay in their bed for 2 or 3 years, and in order to fruit well they need substance, so don't cut them short.
4. Mulch the bed. There's various organic materials you can use, such as straw, wood-chips, compost or you can use weedmat (landscaping fabric) ground cover. If you use organic materials, it is important that they are mature, or that you let them mature on the bed for a month or so before planting into it, as they 'steal' available nitrogen from your strawberry plants. Notice that straw, hay or wood-chips made with a shredder, can be a slug haven.

We covered our beds with black weedmat, which helps conserve water, protects soil from temperature fluctuations, increases soil temperature, increases fruit quality and quantity, and reduces insect damage on fruit. Weedmat allows the soil to breathe and lets water pass through to the soil. You can buy UV stabilised woven weedmat at short lengths from hardware stores or order a high quality (~100gsm/m2 or higher) roll online. It is important to seal the ends of the weedmat with a torch or candle, and anchor it down at the edges with staples or by burying the edges.

Before installing weedmat, we lay drip irrigation on the bed. This works better than overhead watering when using weedmat, but is not a must.

We mulch the paths next to our strawberry beds with wood-chips to help the moisture stay in the bed. If the paths become very dry they will suck water by osmosis from the bed.

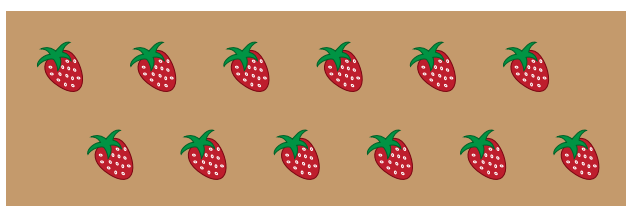
Sourcing plants and planting

You can get your plants bare rooted (with no soil) or in little pots from:

- ❁ Off shoots (called runners) from friends or family that have plants you like.
- ❁ Market stand selling seedlings.
- ❁ Plant nursery.
- ❁ For large amounts you can order from **licensed propagators**.

When you get your plants, place them in a cool place and make sure they are well hydrated. You can temporary plant them in a bucket of sand, potting mix, sawdust or another bed until you have your final bed ready for planting.

Plants should be planted 30 to 40cm apart. We planted ours by burning 7-8cm holes every 30cm in the weedmat. If we would have made them again, we would plant at 35cm, to give them that extra space. When planting in without weedmat, space the plants on the bed before planting to make sure you are happy with the spacing. Planting them diagonally on an 80cm bed looks like this:



On a wider bed you can plant 3 rows, but I wouldn't recommend more, as it will stretch your back when harvesting.

Before planting, soak the roots in water for a few hours, and mix in some diluted seaweed or fish fertiliser if you have some handy.

When planting, use a trowel to make a hole and spread the roots a bit, but most importantly – plant the roots straight facing down and don't bend them upwards (J rooted). Make sure they have solid contact with the soil and firm them if needed.

If the roots are too long you can use scissors and cut them short, as well as trimming leaves that look like they past their prime. It is easier for plants to recover from transplanting and to develop better roots if they have less leaves to support. However they do need some, so leave at least a couple for the plant's ability to photosynthesise.

The crown, the middle part between the leaves and the roots, should be planted just above soil level:

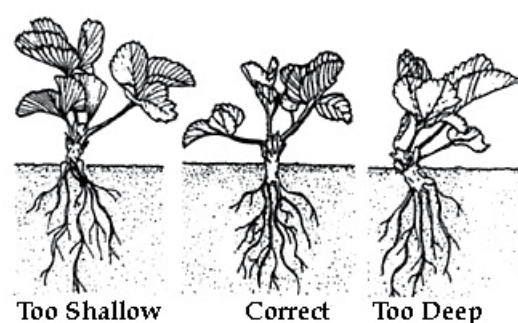


Figure 1. Set plants deep enough so all of the roots are covered, but making sure the crown is above the soil line. The plant on the left is too shallow and the one on the right is set too deep. The roots should extend straight downward

Source: fruit.cfans.umn.edu

Planting for summer varieties can be done from May to September, with a preference to earlier rather than later. We planted our first patch in July and they preformed great, and they were even better then the ones we planted in May the following year as the plant were stronger.

Care after planting

It is important to keep the soil moist as plants establish themselves, as that is their most vulnerable time. If the soil dries out the plants can suffer unnecessary shock, and this will reduce their productivity over their life.

Sometime the runners push themselves out of the soil. If this happens, just replant them and firm the soil a bit more.

We prefer to pick the first flowers over the first month or two so the plants can get focus on establishing themselves. This helps the plants become bigger and stronger, and they will reward you with a better yield over the season.

Watering

Keep the soil watered as you would water other vegetable plants in your garden. There is no definite guide on this, as it depends a lot about your specific soil conditions and gardening site. When it is not raining, at least one good soaking a week, and aim for the soil to stay constantly moist from 5cm below the surface and under.

Strawberries are very fussy about their water, and most of the times our plants stopped producing was because we didn't give them enough water.

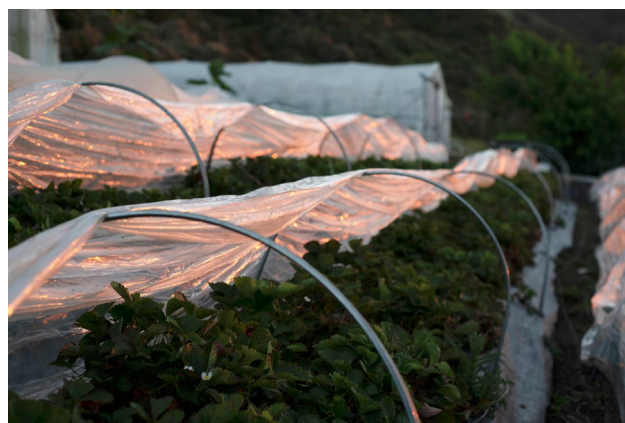
You can water with drip irrigation, using a soaker hose, sprinkler or with a hose. Whatever you do, it is recommended that you don't leave the leaves wet overnight: so if you water in the afternoons, water them enough time before the sun sets, so the sun would have enough zest to dry the leaves.

We don't spray any fungicides on our plants, so this precaution is very important to help keep the plants dry healthy, and reduce mould infestation.

Covering

In the past few years, we have been experimenting with covering our strawberry beds with plastic cover (which we reuse every year). This has helped the plants establish themselves and grow much bigger than without them, and this has also kept the fruit dry and reduced the mould damage significantly.

When the weather started heating up, we left the cloches on to protect from the rain, but we left them 1/3 open so they don't overheat the plants.



Harvest

To enjoy their full flavour pick them when they are fully ripe. If you find that someone beats you to it (and it is not your kids), you should probably put a net over the bed to protect from birds.

If a fruit is very deformed or seems to have signs of disease, we pull it out, to let the plants focus on producing the best fruit. In the case of mould growing on the fruit, it is important to take it out of the garden, so as to slow it spreading.

Most strawberry varieties produce larger fruit in the first season, and smaller fruits in the following years.

Bird protection

Birds are your main competitors for the yummy strawberries and you can either just let them have their fair share (5-10% is what we expect), or you can use some hoops (bending number 8 wire or pipe, or purchasing hoops from [Redpath](#) or [Polynet](#)) or wooden cages and cover the beds with bird netting. Some gardeners find that old cds hanging nearby and flashy ribbons help keep the birds away. In the photo below we used anti bird windmill from [Polynet](#).

Care during the growing season

You can strengthen the plants and increase their productivity with regular beneficial sprays during the season. It can be done weekly or monthly, and we mostly use diluted seaweed and compost tea sprays. You can also put these great growth enhancers and soil inoculants with your drip irrigation through fertigation system like this one.

If you haven't put any mulches on, but have mulched with compost, you can add more compost as the plants start to produce fruit to give them that extra boost.



End of season care Youtube

As the plants stop producing we let them be until winter kicks in. Then it is best to:

- ✿ Cut all the vegetation a few centimetres above the crown as the first frosts start to kick in. This helps take away any fungal disease that might be present, and increase air circulation, which is really important for the plant's health.
- ✿ Remove runners from the bed so as to keep to your original plant spacing – plant a new patch, give them away or throw them to the compost.
- ✿ The plants have expanded in size, and it can be helpful to break parts off the crown to avoid over crowding.
- ✿ If you haven't used weedmat, you can use a fork and aerate the bed and mix compost into the top 5cm of the soil.

The same plants will produce fruit for up to 5 years, but since the yield decreases from the 3rd year onwards, many gardeners prefer to plant new runners every 2–3 years in a new patch. We found that runners are most prolific at the end of the plants first year, so don't expect many runners at the end of year two.

Curtis Stone interviewed me about how we grow strawberries and you can have a look at it [here](#).

Since the time of the interview, any updates in our experiences and approach have been reflected in this booklet.

