

sabrina's

juicy little book of

citrus

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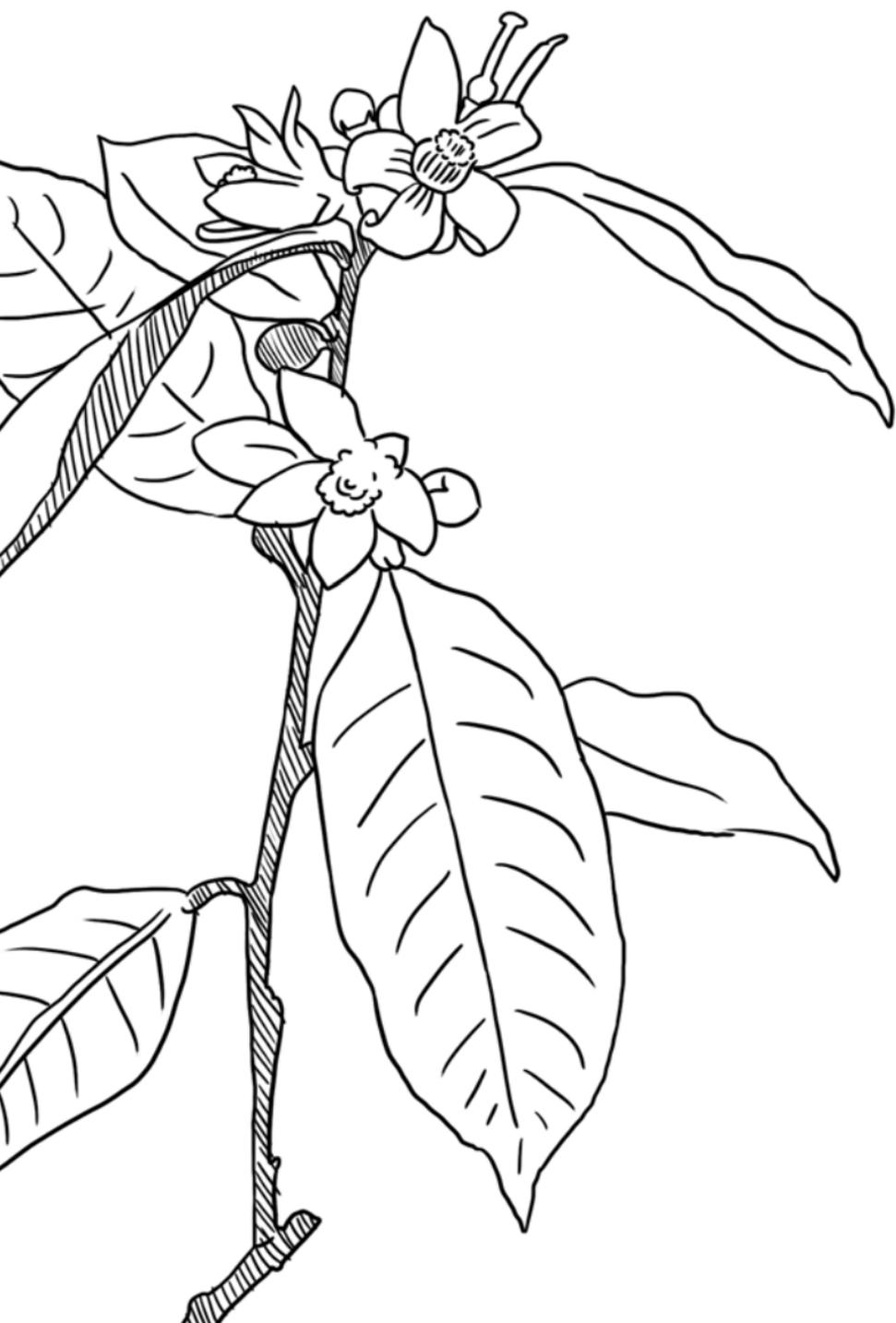
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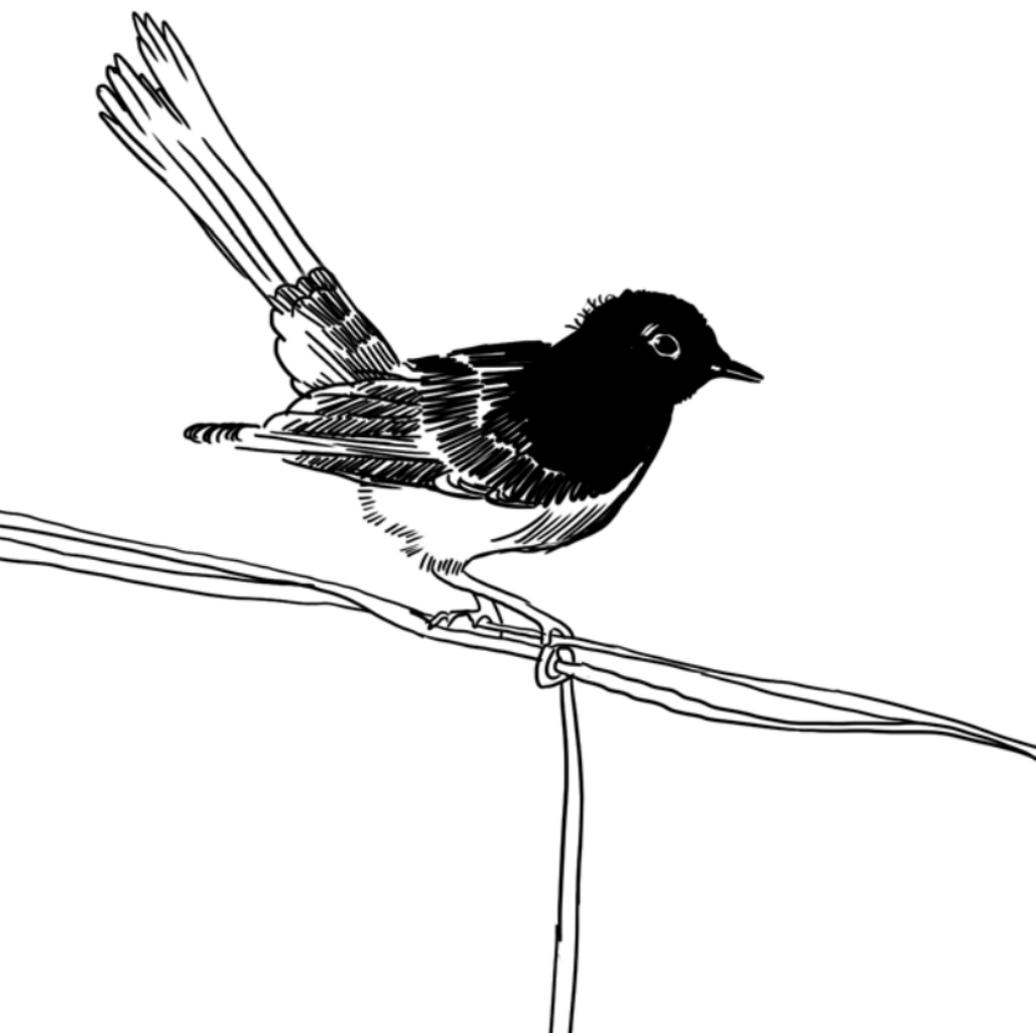
Sabrina Hahn

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Introduction

There is a trend for gardening books on fruit growing to be heavy on photos and light on information. Welcome to this little book which is solid information and no photos. Coming from a long line of gardeners, I know that good information makes the difference between persevering and giving up. It also arms you with the confidence to try something you may have had no experience with.

This book is for both experienced and novice gardeners. It aims to enable you to get the most out of your citrus trees and to circumvent the ongoing barrage of lemon tree questions on my gardening talkback radio programs. It covers just about everything you need to know to have success – the good, the bad and the ugly. The content of this little book is 90 per cent optimistic with just a tinge of ‘What the hell is that?’ to keep the experienced gardeners honest.

If there were no citrus in the world, I believe there would be no gardening talkback programs going to air. In the twenty years I have been doing talkback radio, there has never been a program where citrus tree questions didn't pop up. So frequently in fact that producers screen the calls and cap them at three per program.

The reason citrus questions are so prominent is because just about every home has some sort of citrus. Lemon trees would be the most popular by far. They produce as much offspring as a fertile rabbit and are easy to grow *once* established. In their younger years, however,

all citrus need to be treated with love and attention – the spoiled children of the garden.

Citrus are long-lived trees and compared to other fruit trees are relatively trouble-free. Adding to their princess status, the blossom is overwhelmingly seductive and the bright green foliage is delicious. Citrus will grow in an enormous variety of climates and soil types and nearly all Australians can have a decent crack at growing these rewarding trees in their gardens.

I haven't even mentioned the health benefits of eating citrus straight from the tree. There's more vitamin C in red capsicums and brussels sprouts than in oranges and lemons, but I know which I prefer to pig out on. Having a citrus tree in your garden will bring a few months of frustration in the early years and then years of joy and an avalanche of delicious fruit that have more uses than a Swiss Army Knife.

The citrus family is an enormous one and its members include sweet oranges, grapefruits, pomelos, bitter oranges, kumquats, calamondins, mandarins, tangelos, lemons, limes and citrons. The list of citrus varieties I selected for this book may seem long, but it's much longer for those I left out. Whatever your citrus, the general care is about the same for all.

How citrus travelled the earth

Citrus has a very long and interesting history. Chinese writings from 500 BC mention the fruit and flower of the citron, the oldest known citrus species. It is thought that modern citrus originated in southern China. The spread of citrus is definitely connected with the trade routes of ancient China. The ability to propagate citrus from seeds and buds ensured its travel ticket to new worlds.

The Chinese were great travellers and sailed the southern seas long before the English, Dutch and French. Their ships carried potted citrus for the prevention of scurvy, and seeds were planted in areas where colonies were established.

The writings of the Persians, ancient Greeks, Egyptians and Hebrews all make mention of the citron species. When Alexander the Great conquered parts of Asia his armies brought back the citron, which then entered the Roman Empire. The Romans' interest in horticulture and food plants enabled them to grow and import lemons and oranges into Italy. By the height of the Roman Empire I should imagine many cultivars had been developed.

Every empire eventually falls, and the weakened Roman state succumbed to the rise of Islamic power. The Arabs were great traders and seafarers and took the cultivation of citrus into Spain and Africa. It wasn't until the era of the Crusades that oranges, lemons, citrons and limes entered the European world, around the eleventh century. It must be remembered most of the citrus was bitter – the modern sweet orange was a long way off yet.

In Europe of course lemons and oranges had a very illustrious and glamorous status. The grand houses and palaces in Italy, France, Spain and Portugal had hothouses specifically designed to overwinter the trees safely. They were called orangeries or limonaia. Henry IV of France had an elaborate orangery that started the trend which reached epic proportions during the seventeenth and eighteenth centuries. Once Louis XIV included an orangery in Versailles it became a must-have addition to the snootiest and wealthiest families in France.

The early orangeries were really just warmed rooms with very little light. Once glazed windows were available, that revolutionised the design. Elaborate greenhouses started appearing as exotic plants from the new worlds became desired in Europe. The greenhouses were heated with coal stoves and huge pots were wheeled in and out to suit the seasons.

Having seen the size of some of the pots in the privately owned gardens in Italy, Spain and France, I really feel for the gardeners who performed the task of moving them. I have no doubt the odd terracotta pot was dropped as pulleys and levers and gardeners all grunted their way around the pathways and stairs. Citrus trees were highly prized and fed on a diet of milk and honey for the first few weeks of spring to encourage new root development. Special potters were commissioned and you will still find their insignia on some of the oldest pots in the historic gardens of Europe.

Citrus arrived in Australia with the First Fleet in 1788 and has been a popular homegrown fruit ever since.

Captain Phillip wisely picked up a few trees in Rio de Janeiro on his long journey to Australia. The first fruiting trees to arrive must have made an interesting study for those early botanists and nurserymen. With little knowledge of our seasons and the many insects we have here, it was probably a frustrating learning experience.

Kangaroos, parrots, possums, plagues of locusts, grasshoppers, droughts and frosts would have had a huge toll on initial plantings. Added to that would be the pests and diseases that were brought over with the first plants. Amazingly, against all odds, by 1910 there were 270,000 citrus trees recorded in Australia.

The first place to grow citrus on a commercial scale was Parramatta in New South Wales. The climate and soil type were ideal for oranges and I still remember my grandmother asking for Parramatta oranges 'because they were the sweetest'.

Now the citrus industry in Australia is one of the largest horticultural industries, worth around \$540 million domestically, plus fresh exports worth \$190 million. We have around 2,000 commercial growers across Australia, in every state. We have come a long way.

There has been a lot of research to develop rootstocks that enable gardeners to grow citrus in just about every region in Australia. Rootstocks are very important to the success of your tree and there are now many different species available for lemons, oranges and limes.

The majority of citrus we buy is grafted on particular rootstock that nurseries choose to suit local climate and soil type. Nearly all citrus types are self-pollinated, which

can be detrimental if you plant different varieties together that do cross. Your seedless mandarin may end up seeded if planted too close to a seeded tree.

More Facts

Citrus plants will flower on and off all year round if it is warm and moist. They will produce so many flowers that only 9 per cent will actually develop into fruit. The fruit will hang on for months before ripening. It is normal to see flowers developing when a crop is still on the tree.

All citrus flowers have both the male and female parts necessary to be self-fertile. For this reason you only need to plant one tree to get fruit. Insects still play an important role in citrus reproduction: they transfer the pollen from the male part of the flowers to the female part.



Propagation and care

Propagation

Citrus can be propagated by seed, cuttings, aerial layering, or budding and grafting onto selected rootstocks. Most of our citrus today is grown by grafting budstock onto a rootstock seedling. Few people grow citrus from seed because of its high genetic variability, but basically that's how citrus conquered the world. You couldn't get a better container to carry seeds on long journeys than the fruit they're in.

Growing from seed

The most important factor is to use a fresh seed. Once you have picked the fruit from a tree, wash the seeds and plant them in a seed raising mix in a warm spot out of the sun. Choose fat seeds; you can float them in water – the seeds that float will not have an embryo and should be discarded. Each seed should be planted at a depth equal to twice its height.

Use a fine mist to water the seed trays. Germination will occur within 3 weeks. Young seedlings may be pricked out 2 weeks after germination. Interestingly, a citrus seed can produce more than one plant per seed – sometimes up to four – and they will be identical to the parent plant. These are called nucellar embryos. Some seeds may be the result of cross-pollination and will have

Pricking out seedlings



the diversity of the two parents. Citron and pomelo are monoembryonic, meaning each individual seed has only one embryo.

If it's all too much to think about the polyembryonic and monoembryonic state of a seed, these are fabulous words to use in a sentence at boring parties. You will find most people will either leave you alone or stop talking.

There are risks to growing your citrus from seed and one of them has to do with age: it can take anything from six to thirty years before you see any fruit. If you are young enough that this doesn't bother you, give it a go – you could discover a new variety. The downside is that many seedling trees are full of thorns and susceptible to diseases.

Growing from cuttings

Citrus can be grown from leaf bud, semi-hardwood and softwood cuttings. Depending on the type of citrus, you can wait from 4 months to a year before the cutting has good root development.

Let's go for the easiest one first for the keen novice gardener:

Leaf bud cuttings

These are easy to play with. It's best to have everything ready and prepared before you take the cuttings so they don't dry out. You will need:

- Seed trays
- Hormone gel for softwood cuttings
- Seed raising mix
- Clean sterilised secateurs (wipe the blades with methylated spirits)
- A spray bottle filled with water

Take several cuttings along a branch. Each cutting should have a bud (it's where the leaf junction comes from, but remove the leaf) and a piece of stem that is about

6–10 mm long. The stem will need to have a piece above the bud and a piece below the bud. It will look like this (before you've removed the leaf):



Dip the bottom bit of the stem into the hormone gel (you will know what the bottom bit is because the bud should be facing up) and put upright into the seed raising mix.

Using a spray bottle wet the whole area and cover the seed tray with a lid to prevent loss of moisture. Keep in a warm place out of the sun; allow air in during the day and close it up again at night.

The cuttings should form roots and shoot away in 4 weeks. They will then need to be transplanted into individual pots in a good quality potting mix until they are large enough to pot up again into a larger container.