Government of South Australia
Adelaide and Mount Lofty Ranges
Natural Resources Management Board

NRM Education

climate change biodiversity water food air waste transport purchasing

Fruit Trees Fact Sheet

Inspiration

A ready source of food has traditionally been a critical element for the survival of mankind. To pass on this knowledge not only equips the recipients with important survival information it also connects us to our heritage. To be directly involved in growing, harvesting and eating fresh food enhances our lives. Through this process we become aware of the sight, feel, smell, taste and even the nutritional value of quality, fresh food.

Growing fruit trees provides access to all of these benefits as well as a multitude of educational opportunities in the school curriculum including:

- food issues - nutrition, freshness, seasonality, variety, food miles
- environmental sciences - biology of plants and animals, geography of plants, geology and soil science, basic chemistry and meteorology and weather patterns, interdependence between flora and fauna
- food cultures from indigenous to the multitude of cultures in our society
- social interaction of staff, students, parents and the wider community, food opens up conversations!

Success stories

Bridgewater Primary has embraced an orchard offering a diverse selection of fruit trees

At Black Forest Primary a cyclone fence has been used

Here at Black Forest Primary deciduous trees are combined with garden beds allowing sunlight to reach winter crops

Getting Started

Luckily we live in a state with few fruit fly or disease problems and Adelaide's climate is suited to plants from cool temperate to subtropical zones, so there is a wide variety of species to select from. The following points broadly outline aspects to consider for the novice fruit grower that will influence the timing, quality and quantity of fruit produced from your trees:

- often fruit trees take several years before they start to bear fruit and the early fruit producing years may have small yields
- timing of fruit production can also vary not only with different species but also with different varieties within the same species
- physical resources such as space, water, soil, shelter / shade, micro climate and aspect are also important factors that may impact on the final selection and success of any particular tree
- depending on resources it may be important to select a species that requires less attention than others
- planting fruit which matures during school term.

Table 1 in this fact sheet will help to make selection easier in order to have a healthy fruit producing tree well suited to your particular unique site.

Site Selection

For greater success and to avoid costly removal of poorly located mature trees make sure you have taken into account the flowing:

- fruit trees generally do best with an open aspect which has 8-12 hours of sunlight daily and protected from strong winds and harsh western summer sun
- summer irrigation is generally necessary and you may wish to consider having a timer with drip irrigation
- trees will cast shade and create a visual barrier which may be an issue with existing built structures
- tree roots can travel up to 3 to 5 times the height of the tree and may penetrate drains or lift up paving and footings
- teaching space requirements and final tree size needs to be considered when selecting site
- run off from paving or rooves may provide very useful supply of water
- 3 – 4 metres between trees is generally an adequate spacing
- avoid underground services such as electricity, gas, water and drainage.

Large containers can offer a solution if some of the factors listed above prove to be problematic. In this situation vines and other fruiting plants can be used to great effect.

Benefits for Students

Gardening activities foster vital skills for students' future.

- observing emergence and growth of a young plant and grasping the whole cycle of plants offers insight into food security, food preparation, eating healthily and creates an appreciation for food and encourages food waste minimisation
- engaging with nature and gaining insight into basic survival
- pride in sharing with parents and the school canteen the food grown at school, or at home
- volunteering for watering and garden care during short holidays and long weekends
- taking responsibility

- numeracy and literacy can be incorporated through calculating the cost of production and producing literature promoting the benefits of healthy eating and growing your own
- increasing respect and understanding for the food chain.

Integrating the fruit trees with the other school activities

Food is an integral part of life and is easily incorporated in many school activities, for example:

- the canteen can use the garden produce
- fund raising from the sale of food creates a logical extension of the garden
- inclusion of worm farms to produce worm juice which can be used to fertilise the garden and many maths activities can be built in to this process
- indigenous fruiting trees are an excellent springboard to learn about other cultures
- gardens offer outdoor inspiration for craft
- home economics is clearly connected to produce gardening
- migrant heritage, both recent and established, can be connected to produce gardening
- school culture and sustainability can be reinforced with a produce garden
- local food production can help to minimise transport and carbon footprints
- healthy eating can be embraced through the growing of food and
- compost bins and Bokashi can become an integral part of the food garden.

Site Preparation

Factors such as drainage, soil texture and the pH (is the soil acidic or alkaline) all have a part to play in determining the success of your school's fruit orchard. A brief summary of these soil characteristics will be discussed later. Regardless of your particular site's soil characteristics the soil will benefit from the generous addition of organic matter in the form of compost and mulch. Both will improve the soil's drainage capacity, water holding capacity, its ability to release both nutrients and water to the fruit trees, to allow oxygen into the soil, keep the soil cooler and prevent loss of water during summer through evaporation.

The addition of compost to sandy soils improves its water holding ability and reduces leaching through otherwise rapid drainage. Compost improves the friability of clay soil creating pockets of air by clumping of very fine particles of clay together to form small granules, however avoid using mushroom compost as it is too alkaline. Growing of green crops through winter which can be dug in to the soil before they set seed is another great way to introduce organic matter into the soil. Worm castings or Bokashi are also excellent additions to improve soil quality. All of these steps will encourage earth worms which will in turn further help to improve the soil's characteristics.

Soil analysis

To determine soil drainage:

15cm deep hole.....with water added

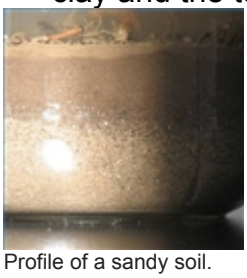
- dig two holes one 50cm deep and one 15cm deep. Fill both holes with a fast running hose 4-5 times
- with good drainage each fill should drain away in 2-3 hours
- poor drainage will take 8-10 hours. If this is the case the sub surface soil will need to be addressed as described overleaf

Solution:

- for each plant dig down to a depth of a metre using a crow bar
- for the broader area mechanical ripping such as rotary hoeing can be used
- in both cases the addition of gypsum and compost material will help to maintain the drainage of the soil.

To determine soil texture:

- fill a screw tip jar half with soil sample and half with water, secure lid and shake hard
- leave to settle for 12 hours
- if the water is still cloudy it has colloidal clays and this soil is termed 'sodic'
- after 24 hours distinct layers will be visible. The bottom layer will be sand, middle layer will be clay and the top will be organic matter.



Profile of a sandy soil.

Solution:

1. If your soil is greater than 50% sand add organic matter and or clay.
   Note if your drainage test drained rapidly in the 15cm hole only add organic matter/clay to this layer only. If the 50cm hole drained quickly as well then this layer will also need the addition of organic matter/clay.
2. Greater than 50% clay will need the addition of sand and organic matter.
3. Sodic soil will need the addition of gypsum up to 500gms per square metre.

   Note it is difficult to overuse gypsum, simply sprinkle on the surface, lightly dig in and water.

For more details on this soil testing including details for the ribbon test go to the useful links below. Note the ribbon test is another useful method for determining whether your soil has more clay or sand content.
www.finegardening.com/how-to/articles/hows-your-soil-texture.aspx
http://www.abc.net.au/gardening/stories/s1676965.htm
http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0005/164615/soil-texture.pdf
http://www.environment.nsw.gov.au/resources/alpineresorts/20070596App13.pdf

To determine pH of the soil

This soil testing kit by Manutec is produced locally

- use a testing kit such as the kit illustrated here by 'Manutec.' The instructions and coloured charts make it easy to use
- easily sourced from garden centres or hardware stores
- ideal pH for evergreen trees is between 5.5 and 7 and for deciduous trees it is between 7 and 8
- pH of say 8 is considered alkaline and a ph of 5 is considered acidic.

Typically if your site is in the hills it is likely to be acidic and the pH may need to be raised. This can be easily achieved by digging in agricultural lime at 200-400g per square metre to raise the pH by one unit. Note this may take 6 months to take effect
Lowering pH is a little harder. For a short term change agricultural or dusting sulphur can be dug in at the surface at 50-100g per square metre to drop pH by one unit. For a longer term change use organic matter such as compost applied with the addition of chicken manure at the soil surface and cover with 30-50mm of mulch.

All soils can be improved by the following:

Composting bays can produce excellent compost

3-5 cm layer of good quality compost,
worm castings or “Bokashi” mix with the addition of rock dust covered with 5cm of mulch is ideal

Aged animal manure such as chicken manure improves soil greatly.

Manures can be excellent as long as they have been aged for 6 to 8 weeks or added to the start of the composting process.

Earth worms thrive in compost and mulch

Encourage earth worms through the addition of compost and mulch.

Green manure is another way of promoting soil health

Sow green manure crops in autumn and slash or dig in to the soil just as the crop begins to flower:

- legumes such as peas and beans
- cereals such as ryes, oats, wheat and barley and
- brassicas such as mustard can be used.

Note mushroom compost is not recommended as it is too alkaline particularly for Adelaide plains soil.

Making the most of your garden's aspect

The sun, wind and the micro climate of your site can have major effects on plant health.

The angle of summer sun is overhead and in winter the sun is much lower in the northern sky allowing winter warmth to reach areas that may other wise be shaded. Typical application of this would be removing mulch on the Northern side of trees to allow the sun to warm the soil or planting of winter crops on the northern side of fruiting trees where the sun reaches the earth.

Most deciduous plants like a cool winter and many require winter chill to flower. Apples, pears, kiwifruit and cherries have high chill requirements and may benefit from being on the southern side of a building or wall or in a low point in the landscape where cold air pools at night.

Deciduous vines such as grape vines can be utilised particularly on the northern or western side of a building to provide shade in summer and allow the sun to penetrate in winter. This can reduce heating and cooling costs.

In summer the late afternoon western sun can be damaging to plants and fruit. While most stone fruit and grape vines can tolerate this western exposure it is wise to try and minimise it for any trees by using shade structures or by placing the hardier plants to the west.

In most areas the prevailing winds are from the southwest and sub tropical trees may perform better if protected from these cold winter winds. Similarly protection from hot northerly winds in summer may be required though in urban areas or built up areas the need protection from these hot winds is less compared to exposed sites exposed sites.

Planting

Trees may be purchased bare rooted when dormant or growing in potting mix. The best time to plant trees is during a dormant phase of growth.

For deciduous trees the planting time is in winter June/July/August. For evergreen trees plant in spring as the weather warms up. For Example night time temperatures start to rise over 15 degrees Celsius. The hole should be the size of the roots. Remove the soil and put to one side to refill the hole. Fertiliser should not be added to the hole or to the soil used to fill the hole as young roots may be injured by direct contact with fertiliser. Refill the hole with the native soil and apply a 5-10 cm layer of compost to the surface to which fertiliser can be added. Cover the compost with 5 cm of coarse mulch.

Consult "Citrus for Everyone" by Morphett and Tolley for growing trees in large containers. Of note for this growing method is the removal of the potting mix from the root ball, and spreading out of the roots prior to planting in the new container. This prevents the roots form just growing around the inside surface of the new container.

Watering

Initially use a dripper either side of the tree or a ring around, close enough to wet the root system. Young trees can be overwatered though stress from under watering is just as common. Depending on soil type and conditions watering may need to be weekly. With sufficient rain this may be reduced as in 2010/2011 when an orchard was established with three waterings over the entire summer. The important thing is to check soil moisture to a depth of 20-30 cm where possible. You can dig down to

this depth using a small spade and then feel for moisture with you fingers or you can use a moisture metre. These are readily available form garden or hardware centres.
As trees mature further drippers can be added further out from the trunk. Remember that the roots will only thrive in moist soil.

Fertilisers

To feed trees feed the soil from above to allow the soil organisms to produce soluble fertiliser for the roots. Note compost and mulch should be spread around the trees before fertilising. Use quality composts from suppliers such as SA Composters, Jefferies or Peats, and always cover compost with 5-10 cm of coarse mulch. Trees require more nutrients during the active growth phases in spring and summer. If you use compost as a repository for the addition of organic fertilisers such as pelletised chicken products (Neutrog) then one or two applications of a cup per metres growth should suffice for the first season. The addition of a mineral fertiliser or rock dust (Fishers Creek - Alroc) and biological activators such as worm castings, BD 500 or aerated compost teas will complete the job.
Young trees are frequently over watered and fertilised resulting in strong growth that if not checked by pruning can result in a poor tree structure

Pruning

Prune at planting time. Reduce a deciduous tree back to a stick! This sounds rough but growth of the tree will be determined by its roots rather than it's canopy. Evergreen trees can be reduced to the size of the root ball. The shape and potential size of a tree should be determined at this stage. Consult any of the many books on pruning paying particular attention to the first chapters on good clean cuts as well as the shaping.

Root competition

All large and many 4-8 metre trees including natives, pines and figs have extensive and competitive root systems. These may extend out 3-5 times the height of the tree and thus influence the water requirements and growth of other plants.

Conversely fruit trees may shade or compete with other plants for water and nutrients. Well watered and fed vegetable gardens in particular are attractive to tree roots. Digging these garden beds will damage tree roots, slowing growth, and possibly introduce infection.

Therefore any plants within the drip line of a tree should be shallow rooted. Citrus and most evergreens perform better if the soil is mulched with no plants at all. Deciduous trees can have a cover crop of grasses that are mown or slashed. Shallow rooted plants such as nasturtiums that trail over the ground also suit.

Fruit TreeTips

1. Espalier trees can enable you to plant trees in a limited space offering a greater selection of species or a greater selection of the same species with different varieties. This can extend the harvesting period. Espaliered tree can be kept more compact and offers easy access for harvesting and netting to protect against birds.

2. Students can enjoy the pleasures of eating the harvest direct from the tree or fruit can be supplied to the canteen.

3. Preserving the fruit using a microwave can make this traditional process quick and easy, see book below.

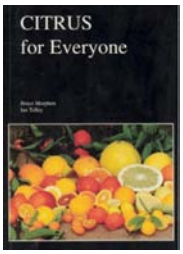
4. Invest in a dehydrator for an alternative way of storing fruit for later consumption.

5. The above methods of fruit preserving and storage can be linked to the curriculum by exploring other cultures and food, or the history of food. Maths can be employed in calculating ingredients required or the money generated through sales.

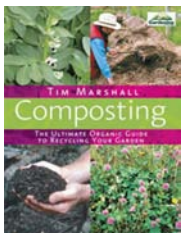
6. Keeping trees well pruned and compact will make it easier for students to reach fruit when picking and will make it easier to cover the trees with nets should birds be an issue.

7. Creating an orchard rather than individual trees scattered throughout the school offers many benefits:
    a. trees with similar water requirements can be grouped together
    b. irrigation resources can be used more effectively reducing cost, maintenance and water
    c. similarly mulching and composting is more effective
    d. trees that require cross pollination can be grouped together
    e. bird control and security can be managed more effectively.

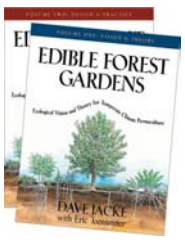
Books



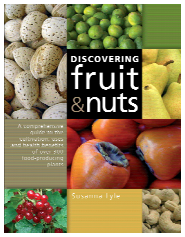
Citrus for Everyone
Author: Bruce Morphett and Ian Tolley
An easy-to read answer to the many enquiries, which have been directed to the Adelaide Botanic Gardens, on growing citrus. The handbook deals with varieties and rootstocks, preparation and growing of citrus, general care, pruning, pests and diseases, container citrus for patio or courtyard areas and how to espalier lemons.



Composting – The Ultimate Organic Guide to Recycling Your Garden
Author: Tim Marshall
This book tells you what you need to know about recycling in your own backyard. In explaining how composting works, Tim Marshall covers many other subjects: how to build a foolproof heap and maintain it well; how to source a wide range of suitable materials apart from kitchen and green waste; and how compost will improve your soil. Other features include sections on biodynamic composting methods, compost methods for different climates and how to maintain a thriving worm colony. There are also many suggestions about ways of using the rich, crumbly organic matter your compost will produce.



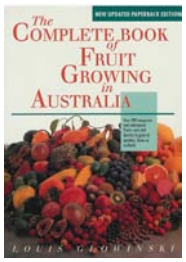
Edible Forest Gardens
Author: Dave Jacke and Eric Toensmeier
This comprehensive two-volume book constitutes an in-depth course in ecological garden design. Written in a passionate, clear, and engaging style, it integrates the vision and ecology of forest gardening with practical design, establishment, and management strategies. While these authors wrote Edible Forest Gardens as an integrated whole, each volume can stand alone as a valuable learning tool and reference.



Discovering fruit and nuts

Author: Susanna Lyle

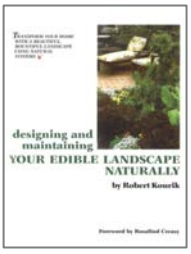
An easy-to-read, comprehensive guide to fruit and nut plants that explores old favourites as well as many little-known yet exciting food-producing plants. As well as the A to Z guide to over 220 species, and lists of the most popular cultivars, a general introduction gives a basic background to various aspects of horticulture and plant nutrition. A table of plants for different garden situations at the back of the book is a useful ready-reference. This incredibly thorough and extensively researched book is a vital reference, with everything a gardener needs to know and much that a commercial producer would find valuable in terms of choice of varieties and marketing of the harvest. In preparation: “Discovering vegetables and seeds” - a companion volume that will make these two books the ultimate reference work on gardening with edible plants.



The Complete Book of Fruit Growing in Australia

Author: Louis Glowinski

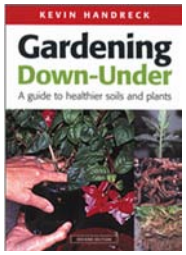
Containing over 200 temperate and sub tropical fruits, nuts and berries, this book is considered to be the best fruit reference book for Australian gardens. The book is filled with coloured pictures and comprehensive, easy to read advice. 382 pages.



Your Edible Landscape Naturally

Author: Robert Kourik

This book first appeared in 1986, and was a self-publishing success from the very beginning. After eight printings, sales topped 50,000 copies, with national distribution in England and Australia. This classic and lavishly illustrated text provides a comprehensive look at the tools, techniques and observations that go into making an edible landscape with natural, non chemical methods. Not surprisingly, it’s as relevant in this millennium as it was in the last.

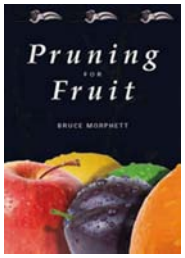


Gardening Down Under

Author: Kevin Handreck

This fully revised edition of Kevin Handreck’s classic best-seller contains a wealth of information for practical gardeners. It will enable you to improve the worst of soils, choose the best fertiliser for particular plants and minimise water use. It also contains a comprehensive guide to managing potted plants.

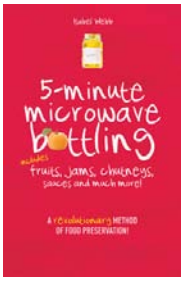
Here also are the basics of soil, composting, fertilisers and potting mixes, as well as simple tests and colour guides to nutrient deficiencies. Gardening Down-Under covers much practical information left out by other gardening books.



Pruning for Fruit

Author: Bruce Morphett

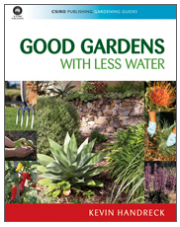
This book was first published 1993 and revised edition published 2008. A concise guide to the care and pruning of common fruits and vines.



5- minute microwave bottling

Author: Isabel Webb

Bottling fruit has never been so quick and easy! Rediscover the pleasure of making your own preserves, jams, jellies, chutneys, pickles and more with this simple, quick and mess-free method!



Good Gardens with Less Water

Author: Kevin Handreck's

A companion to Kevin Handreck's best-selling Gardening Down-Under, this new book is a practical guide to gardening with limited water.

It has an excellent section on soils including the ribbon soil test which is used for determining percentages of clay and sand in the soil..

What is the best tree for you

Deciduous Trees

The "stone fruit" are ideal for our climate. Prune trees to an open vase shape. Espalier readily except apricot. Ripen on the tree so pick when fully ripe:

- almonds
- apricots
- nectarines
- peaches and
- plums.

Fruit with out stones are also well suited to our climate:

- apples
- pears
- quinces
- persimmons
- Jujubes
- mulberries and
- figs

You can prune all deciduous trees listed above with a "central leader" (pyramid shape). Alternatively you can readily espalier all these trees except apricot.

Pears ripen after picking. The others are best picked fully ripe. Cherries are for colder areas though ripen mid to late December.

Deciduous trees are generally from a winter rainfall climate and typically require less additional water than evergreen. They fruit in summer and planted when dormant in the winter months, August at the latest. They provide shade in summer and allow sunlight in during winter.

Evergreen Trees

Evergreen trees are considered “subtropical”, so we can grow citrus just as well as avocadoes! Evergreen trees require summer watering as they have shallow surface feeding roots which require moisture. These trees fruit throughout the year, particularly in winter. Plant your trees in spring when soil has warmed up. They espalier readily except banana and paw paw. Prune late winter to early spring. Trees include:

- loquats
- cherry guavas
- feijoas and
- olives.

These are very hardy and tolerant of wind and harsh sun.

The other evergreens benefit from a north to north eastern aspect and wind protection and are all relatively easy to grow. These include:

- citrus
- avocado
- bananas
- white sapote and
- custard apples

The following need a warm sheltered spot:

- mangoes
- longans
- black sapote and
- paw paw.

Where to purchase your trees

Purchasing fruit trees from bigger chain stores can be a fraught process. Often the trees are sourced from interstate where soil conditions are quite different. This often results in these trees having root stock that are for more acidic soils. Much of Adelaide has alkaline soils although the soils in the Hills district are acidic.

Nurseries local to your site should have root stock to suit your site. However it pays to discuss this with your local nursery as they will have local knowledge and if need be can order trees with the correct root stock. If they are not able to offer you with this information then consider purchasing your fruit trees from another nursery. A good nursery should also have root stock types clearly identified on the trees.

NRM Education delivers the Australian Sustainable Schools Initiative, Waterwatch and the Weed Warriors programs. The Adelaide and Mount Lofty Ranges Natural Resources Management Board acknowledges the support of the following Councils and KESAB in the delivery of NRM Education.

Appendix – Table 1

Stone Fruits				
	Culture			
	Prune newly planted tree to open vase. Always prune in still, dry conditions. Establish framework by winter pruning in first three years. Then tip prune in summer just after fruiting. Any vigorous upright shoots can be removed as they appear. Prune to allow air movement up and through the tree and sunlight in. Uncommon humid conditions in Adelaide may lead to soft rot affecting the flowers or fruit. A safe spray for this is the fungicide Lime Sulphur. Use also for leaf curl in peaches and nectarines. Spray after leaf drop and again at bud swell, before the buds on the dormant tree burst open in spring. Should bear fruit by the third season.			
Apricot	**Variety**	**Fruiting time**	**Unique notes**	**General Notes**
	Moor park	Late December.	The favourite.	Low maintenance with few disease or pest problems, minimal water and fertiliser needs, and little pruning if grown as an open vase shaped tree. Self fertile.
	Early Moor Park	Early December		
	Others		May disappoint for flavour.	
Nectarines	**Variety**	**Fruiting time**	**Unique notes**	**General Notes**
	Gold mine	Late Jan to early Feb	Delicious white fruit.	Self fertile. The most “delicate” stone fruit needs rich, moist soil and shelter from winds.
	Queen Giant			
	Fairlane	Late Feb	Yellow fleshed.	

Peaches	Variety	Fruiting time	Unique notes	General Notes
	Springcrest	Late November	Good flavour.	Hardy and self fertile except Million Dollar peach. If you have heavy soil, order plants on plum rootstocks. For sandy soil, order plants on peach rootstock. Early varieties may lack flavour.
	ANZAC	Mid December	White fleshed.	
	Fragar Millecent Peregrine	Late Jan to mid Feb	White fleshed.	
	Coronet Cresthaven Elberta O'Henry Suncrest Summerset	Late Jan to mid Feb	Yellow fleshed. Our picks: • Elberta for rich flavour, a free stone and good for drying. • O'Henry a luscious cling stone.	
	Salway Golden Queen	Late Feb	G/Queen is the canning peach with furry skin. Both have yellow flesh.	
	Late Italian Cling	Ripening mid-March makes this a good choice.	Has pink red tinge to its flesh.	

Plums	Variety	Fruiting time	Unique notes	General Notes
	Donsworth	Late Nov	Red flesh and dark red skin.	Japanese (J) European (E) Varieties with yellow through to pink. Includes prunes which are wonderful fresh. Require pollinators so plant at least two varieties of either Japanese or European. Best results for pollination use four or more varieties.
	Wilson		Yellow flesh and dark red skin.	
	Santa Rosa (J)	Mid Dec	Yellow flesh and dark red skin.	
	Satsuma (J) Mariposa (J)	Mid Feb	Red flesh and dark red skin. Pollinate each other.	
	Jefferson (E) Angerlina Burdett (E)	Mid Feb	Pollinate each other.	
	Radiance (J) Narrabeen (J)	A week later to Jefferson and Angerlina	Yellow fleshed. Pollinate each other.	
	Coes Golden Drop (E) Green Gage (E)	Mid Feb	For cooler conditions.	
	President (E) Grand Duke (E)	Late Feb	Dark Purple skin. Sweet yellow flesh.	
	Ruby Blood (J) Hunter Late (J)	March	Blood plums. Pollinated by other Japanese plums.	
Prunes	Robe De Sargent (E) D'Agen (E)		Firm sweet yellow flesh	Prunes are European plums and are excellent eaten fresh and have a longer harvest period compared with most plums.

Pome Fruit

	Culture			
	Prune newly planted trees to a 1 metre stick! In second winter, prune out most side branches leaving the top and three to four lower branches to grow. This will create a pyramid shape with a "central leader". Then tip prune in summer after fruit is harvested. Prone to Codling moth, especially apples. The moths are active on warm summer nights. Birds naturally clean up pupae so keeping chickens or allowing small natives such as finches and wrens will help control. Pheromone traps are available (see Malcolm Campbell's website - www.greenfingers.com.au) and the finer bird netting that also excludes bees will prevent moths flying in. Spinosad (Yates "Success") is also safe to spray.			
Apples	**Variety**	**Fruiting time**	**Unique notes**	**General Notes**
	Granny Smith	April	Great one to start with. Left to ripen on tree, they sweeten dramatically as they turn green-yellow. Will pollinate with most other varieties.	Ripen Feb onwards. Require cross pollination with a second plant and "chill" hours. Low chill varieties suit Adelaide. Dwarfing rootstock "M9" suits pots. MM 102, MM 106, M 26 or Northern Spy rootstock for open ground. Fruit in three to six years.
	Jonathon Bonza Golden Red Delicious	Late February to early March		
	Democrat Fuji Granny	Late March		
	Pink Lady April Sundowner Lady William	May		

Pears	Variety	Fruiting time	Unique notes	General Notes
	Packham Beurre Bosc	Mid February	The russet pear with elongated neck.	Are picked when the fruit is hard and ripen off the tree. Require cross pollination and “chill” hours. Generally productive in Adelaide. Well suited to espalier. Fruit in three to five years.
	Williams Duchess Sensation Red Duchess	Late Jan to early Feb	Are self fertile.	
	Lemon Bergamot Corella Josephine.	Early March		
	Nashi Pear 20th Century	Mid February	They can be left to ripen on the tree.	
	Ya Li early	March		
Quinces	**Variety**	**Fruiting time**	**Unique notes**	**General Notes**
	Pineapple	March		Barely edible fresh their flavour is sensational when cooked. Self fertile, hardy and productive. Produce fruit in two to three years. Best on dwarfing rootstock.
	Smyrna	April		

Other Fruits

Persimmons	Variety	Fruiting time	General Notes
	Fuyu Vanilla	April	These are recommended for schools. May be fiddly to establish. Roots are brittle so take care when planting. Establish pyramid or open vase framework then light prune annually. May espalier. Persimmon fruit on current growth so only prune back half the tips, leaving the rest to bear fruit. In autumn they make a spectacular display as the large leaves change colour from green through yellow to orange and then drop. The orange fruit may hang on the bare tree making it an easy target for birds so netting may be useful.
Jujubes	**Variety**	**Fruiting time**	**General Notes**
	Li	March	Also known as 'Chinese Date', the fruit has high sugar content when dried yet is crisp and tasty fresh. The fruit is esteemed for its health benefits by Asian cultures. This is an extremely hardy tree with low water requirements. Will fruit in first year or two even in a pot. A bushier tree which can be trained to any shape and pruned back hard. It does however have thorns and rootstocks may sucker, so not a plant for high traffic areas. The variety Li is the pick of those currently available.

Mulberries	Variety	Fruiting time	Unique notes	General Notes
	'Shahtoot'	October onwards	The white mulberry is ideal for children.	A vigorous tree that will fruit from the second year onwards. Long lived and hardy, delicious but messy. The red and black varieties stain so keep away from paths. The very sweet tasting fruit is non-staining and ripens in spring producing two to three crops over summer. Train to shape in first two years then light tip prune late summer or winter. Adapts well to pot culture.

Figs	Variety	Fruiting time	Unique notes	General Notes
	Celeste	January to March.	Yellow skin and flesh.	For children try these varieties Easily grown, though requires a good water source for a heavy crop. Many figs have two crops, an early or “breba” crop in Nov-Dec, then a main crop Jan to March. Main crop may be picked fresh over a period of weeks. Train to an open vase then cut back yearly. Heavy winter pruning will reduce breba crop and enhance main crop. Do well in pots. Fresh figs come in many flavours from the very sweet sugary to more complex.
	White Adriatic		Light green and pink flesh.	
	Brown Turkey		Coppery skin and pink flesh.	
Cherries	**Variety**	**Fruiting time**	**Unique notes**	**General Notes**
	Stellar	December	Is self fertile.	Must have rich, well-drained soil and best for colder areas. As the crops are prone to weather conditions they are not high on the list of preferred fruit. Train to an open vase then prune late summer. Very prone to fungal rots, which may be controlled with Lime Sulphur. Major pest is cherry slug which skeletonises leaves (also pears). This is readily controlled with Spinosad (Yates “Success”).
	Van		Tolerates warmer conditions.	
Pomegranates	**Variety**	**Fruiting time**	**Unique notes**	**General Notes**
		April	A tough Mediterranean. Withstands intense heat and frost. The beautiful red skinned fruit contains hundreds of small fleshy sacs full of juice. When crushed this is the source of the drink grenadine. Prune to a pyramid shape. Few pests, low maintenance and self fertile.	

Evergreen Trees

Loquats	Variety	Fruiting time	General Notes
	Enormity Chatsworth Victory are good selections	Mid November	A popular children's fruit ripening early to mid Nov. Seedling trees will grow to 15 metres. Can be pruned down to size or purchase a variety grafted onto quince rootstock which produces a neat 4-5 metre tree. A self fertile, "low maintenance" tree well suited to our climate, particularly the heat, though damaged by heavy frosts. Initial prune to open vase shape then yearly trim. Fruit ripens best if exposed to sun.
Cherry Guavas	**Variety**	**Fruiting time**	**General Notes**
		October onwards in flushes through summer.	Smaller, easily grown, tough, adaptable tree from South America. Will fruit readily in a pot. An attractive tree with glossy leaves it can be pruned to a hedge or topiary shape. Red or "strawberry" has a more complex flavour than the sweeter yellow. Produces fruit in first few years.
Feijoas	**Variety**	**Fruiting time**	**General Notes**
		March	Smaller tree closely related to guavas, it is also known as the "pineapple guava". Very hardy with green skin. Slow growing in heavy or alkaline soils. Requires two trees for cross pollination by birds. Tip bearing, so initial prune to shape then light prune yearly in winter.

Olives	Variety	Fruiting time	General Notes
		The seeds are spread by birds so fruiting trees should be harvested before fruit fall in May-June	The hardiest fruiting tree for our climate and thus a weed in our native bush. Prune to an open vase then yearly to keep centre of tree open. Not a fresh fruit so must be processed either by crushing for oil or pickling for the table. Many schools utilize local trees on either private or public land to harvest olives for oil. Being labour intensive (knocking olives onto tarpaulins) this is an ideal exercise for schools. Olives can be processed at a number of presses around Adelaide. The Maroudas olive press at Thebarton is fully certified organic. The local wild olives whilst small are very tasty pickled and produce excellent oil.
	Kalamata Giant Kalamata		Are recommended for pickling although, as with most olives, they can be crushed for oil.
	Manzanillo Mission Verdale UC 13A6		Are all dual purpose.

Citrus

	Culture			
	An ideal family for schools as the fruiting periods generally suit the school year. Require good drainage and soil preparation. Planting into a mound simplifies this. Plant in spring when the soil warms up. Soil type and pH influences rootstock selection although, unfortunately, many trees are sold without the rootstock being identified. Mulch well keeping the mulch away from direct contact with the trunk. Deep water weekly, every three days in a heat wave. Fertilise with "citrus" fertiliser in small regular amounts Aug to March. Prune in August - this can be quite rough as this stimulates flowering! Note, citrus should be left to ripen fully on the tree, many are picked too early as they develop colour and appear ripe weeks before they are fully ripe. Being a subtropical you should not let the soil dry out in summer. Citrus may be slow to develop a good root structure for the first few years. Soil preparation, timing and planting technique are very important. Roots of potted plants should be teased out to prevent a root ball forming where the roots circle around without ever growing out into the soil. Consult the book "Citrus For Everyone" by Ian Tolley and Bruce Morphett before planting.			
Lemon	**Variety**	**Fruiting time**	**Unique Notes**	**General notes**
	Trifoliata	For most of the year.	Suits acid soils and pots.	No street (or school) should be without a lemon. Productive and bearing for most of the year they can be situated in most spaces including pots and espalier.
	Citrange Cleopatra		Suit most metropolitan soils / Adelaide soils.	
	Lisbon s		For colder areas. Has thorn.	
	Eureka		Thicker skinned and is thornless.	
	Meyer		Whilst not a true lemon, is thin skinned, sweeter and thornless.	

Oranges	Variety	Fruiting time	Unique Notes	General notes
	Navels		Seedless Sweet	
	Valencias	June to November	Seedy Sweet	
	Washington	June to November		
	Blood oranges		Develop a red flesh in cold conditions.	
Mandarins	**Variety**	**Fruiting time**	**Unique Notes**	**General notes**
	Emperor	July to August		Mandarins may grow to a larger tree or be pruned to suit.
	Imperial	April to June		
	Murcott Kara	Aug to October	Murcott sweet but seedy.	
Cumquats	**Variety**	**Fruiting time**	**Unique Notes**	**General notes**
	Marumi		Round variety has sweet skin and flesh and holds its fruit through spring, making a great feature plant.	Cumquats are a wonderful small plant for a pot. Fruit can be eaten fresh, dried or glace.
Tangelos	**Variety**	**Fruiting time**	**Unique Notes**	**General notes**
	Orlando	June		Tangelos are a cross between a grapefruit and a mandarin. They are wonderfully sweet when fully ripe (unlike many available in the shops).
	Minneola	July to September		

Avocado	Variety	Fruiting time	Unique Notes	General notes
	Hass	March to April	Most common variety grown in Adelaide. Fruit changes from green to purple when ripening. Generally fruits without a pollinator although Bacon or Fuerte will help if this is a problem.	If you can grow citrus you can grow avocadoes. For this reason Avocado have been included in the citrus section. They have very similar requirements; soil, climate, watering and fertilising. Planting technique is important as for citrus. A north eastern aspect suits, especially for the hills. Plant in early summer and protect from sun with shade cloth for the first two years, particularly on the western side. Extra protection may be necessary for young trees during a summer heat wave. Regular weekly deep watering will also help. Avocadoes will not ripen fully on the tree so can be picked gradually as they mature giving a long harvest season. The trees may grow to 15 to 20 metres in height so start training to shape and size when planting if a much smaller size is desired. Prune yearly in August or tip prune throughout the year.
	Bacon		Smaller and more cold tolerant allowing fruit to ripen.	
	Fuerte			
	Reed	May to June	Large green skinned creamy fruit.	