

Food Plant Solutions Brief Guide to Food Plant Gardens in the Goulburn, NSW

Our bodies need nutrients to be healthy and strong - nutritious food provides these:

- Starch:** Starch provides sustained energy for the body.
- Protein:** Protein helps the body repair cells and make new ones. Protein is also important for growth and development in children, teens, and pregnant women. Symptoms of protein deficiency include wasting and shrinkage of muscle tissue, and slow growth (in children).
- Vitamin A:** Vitamin A is very important for eyesight and fighting disease, particularly in infants, young children and pregnant women. People who are short of Vitamin A have trouble seeing at night.
- Vitamin C:** Vitamin C helps us avoid sickness, heal wounds, prevent infections and absorb iron from food. Severe vitamin C deficiency increases the risk of scurvy with symptoms such as inflammation of the gums, scaly skin, nosebleed and painful joints.
- Iron:** Iron is important because it helps red blood cells carry oxygen from the lungs to the rest of the body. Low levels of iron cause anaemia, which makes us feel fatigued. Iron is also important to maintain healthy cells, skin, hair and nails. Iron is more available when Vitamin C is also present.
- Zinc:** Zinc is particularly important for the health of young children and teenagers, and to help recovery from illness. It is needed for the body's immune system to work properly. It plays a role in cell division, cell growth, wound healing, and the breakdown of carbohydrates. Zinc is also needed for the senses of smell and taste. Zinc deficiency is characterized by stunted growth, loss of appetite, and impaired immune function.



Starting a garden

PLAN:

Identify a suitable location for the garden. Factors to consider include:

A site that receives 6-8 hours a day of sunlight and is not shaded by buildings or trees.

Easy access – a garden that is difficult to get to will not be maintained.

Protection from predators like native animals. If this is an issue, consider what can be used as a barrier and install it before planting.

Adequate and easily accessed water, whether it be a garden hose or a watering can.

TOOLS AND EQUIPMENT:

What do you need to turn over the soil, to plant seeds and seedlings (e.g. shovel, hand trowel, hoe) and how will soil be moved to cover seeds (e.g. rake). Can you borrow tools to reduce your start-up costs?

SIZE:

Gardens can be all different sizes. Plan the size of your garden – what space is available and how much time do you have? Start small and increase the size as you become more confident. If space is limited, remember plants can be successfully grown in containers or pots.

BUILD: Clear the area, removing any existing plants and large weeds (turn the soil – dig, lift and turn it over onto itself). Once the soil has been loosened,

spread compost and work it into the soil. Avoid stepping on freshly turned soil, as this will compact the soil and undo your hard work. Once the digging is complete, smooth the surface with a rake and water thoroughly. Allow the bed to rest for several days before planting. Use a good quality potting medium if using pots and containers.

PLANT:

Seeds and seedlings can be purchased from nurseries, garden centres and most hardware stores. A packet of seeds will grow a lot of seedlings, but take longer to mature than seedlings directly transplanted. Plant seeds and seedlings in accordance with their specific directions and apply sufficient water to ensure the soil around the seeds and/or seedling roots is moist. Consider how tall and wide each plant will grow when planning the space between plants. Information on seed packets or seedling labels will indicate the appropriate distance between neighbouring plants. Add a thick layer of mulch around seedlings to help keep the soil moist. Make small signs to stick in the ground to show what you have planted.

MAINTAIN:

Plants need regular watering, which ideally should occur either early in the morning, or late in the day. Weeds will compete with the plants for nutrients and water, so it is important to keep them to a minimum. Hand weeding and adding mulch around seedlings will help keep weeds under control.

Starchy Staples provide energy and dietary fibre

Common Name	Scientific Name	Cultivation:	Use:	Nutrients:
Oca	<i>Oxalis tuberosa</i>	Plants are grown from tubers or cut pieces of tubers which contain 1-3 eyes. Planting is normally done at the beginning of the rainy season and plants are weeded and soil mounded around them. A spacing of 20-40 cm x 20-36 cm is recommended.	The tubers are acid when fresh but are dried slightly then cooked and eaten. The bitter kinds are freeze dried and stored for later use. They can be used in soups and stews. The young leaves and shoots can be eaten. CAUTION: Fresh tubers contain calcium oxalate.	Energy, Protein
Potato	<i>Solanum tuberosum</i>	Plants are grown from tubers. Large tubers can be cut to include a bud or "eye". It is best to inter-crop as this stops bacterial wilt spreading. The plant is surrounded by dirt when 20-25 cm tall. Later the tubers need to be kept covered with soil.	The tubers are cooked and eaten. They are also fried, canned, and made into starch. The tubers are boiled, baked, roasted, mashed, and used in soups, stews, dumplings, pancakes, and potato salads.	Energy, Iron, Zinc

Sweet corn	<i>Zea mays</i>	It is grown from seeds. It is normal to plant one seed per hole at 1-2 cm depth. A spacing of about 30 cm between plants is suitable.	The cobs are eaten cooked. The dried grains can be crushed and used. The meal can be used for breads, cake, soups, stews etc. Pancake like Tortillas from corn have been a staple food in Central America. Maize is cooked and prepared in many ways. They are boiled, roasted, dried, steamed, and other ways. Corn oil is used in salads and cooking. Young tassels are cooked and eaten. The pollen is used in soups.	Energy, Protein, ProvitA, VitC, Iron
------------	-----------------	---	--	--------------------------------------

Legumes provide protein for growth

Common Name	Scientific Name	Cultivation:	Use:	Nutrients:
Australian pea	<i>Dipogon lignosis</i>	Plants can be grown by seeds or cuttings. It needs a protected, sunny position. It is resistant to drought and frost.	The young seeds are eaten fried or cooked and salted. The green pods are eaten. The dried seeds are also cooked and eaten.	Energy, Protein, Iron

Soybean	<i>Glycine max</i>	It is grown from seed direct planted or in a nursery and then plants transplanted to the garden. Plants need to be about 20cm apart. <i>Plant in garden in spring once all frosts have finished.</i>	The young pods and ripe seeds are eaten. The dried seeds are boiled or baked and used in soups, stews, and casseroles. Toasted seeds are eaten like a snack. Sometimes the young leaves are eaten.	Energy, Protein, ProvitA, Iron
Common bean	<i>Phaseolus vulgaris</i>	Plants are grown from seed, either direct sown or in the nursery and transplanted once all frosts finished. Climbing types need stakes. Plants are self fertilised. Seeds remain viable for 2 years. Germination is normally good if seed have been well stored. In many places these beans are inter-cropped with other plants. If they are grown on their own, bush types can be spaced at 25 cm by 25 cm.	The young pods, leaves and mature seeds are edible. The pods are eaten raw in salads and boiled, steamed, marinated, and pickled. The young seeds are boiled and served as a vegetable. The dry seeds are soaked in water and boiled until soft. They are also baked and used in soups, dips, casseroles, and salads.	

Leafy greens are a source of iron

Common Name	Scientific Name	Cultivation:	Use:	Nutrients:
Leek	Allium ampeloprasum var. porrum	They can be grown from seed. Seedlings can be transplanted. It is difficult to save seed in the wet tropics. If plants are planted in a hole 10-15 cm deep they develop long white edible stalks. The soil should be mounded up around the base of the plant. A spacing of 15-20 cm between plants and in rows 30-36 cm apart is suitable.	The whole plant is boiled except for the tops of the leaves. They can also be eaten raw. Sprouted seeds are eaten.	Energy, Protein, ProvitA, VitC, Iron
Sorrel	<i>Rumex species</i>	It can be grown from cuttings or division. It is also grown by seeds.	The leaves can be eaten raw but are often steamed or lightly boiled then eaten. They are eaten in salads or as a potherb. They are used in soups and omelettes and sauces. They are used in chutneys.	VitC, Iron

New Zealand Spinach	<i>Tetragonia tetragonoides</i>	It is grown from seeds or cuttings. It is easy to save seed. Seed can be bought in stores. Seeds often grow better if soaked in water overnight. Seedlings are not easy to transplant so it is better to sow direct. Often 3-4 seeds are planted in a mound with the mounds 70 cm apart. Cuttings form roots quickly.	The fleshy leaves and tops are eaten. They can be eaten raw, steamed, boiled, stir-fried, creamed, served with mushrooms, or made into quiche. CAUTION: They can contain oxalates and nitrates which can be poisonous.	ProvitA, VitC, Iron, Zinc
---------------------	---------------------------------	---	--	---------------------------

Fruit are an important source of vitamins and dietary fibre

Common Name	Scientific Name	Cultivation:	Use:	Nutrients:
Persimmon	<i>Diospyros virginiana</i>	Best to buy a grafted plant. Plants can be grown by seed. It can be grown by cuttings or from suckers and by grafting.	The fruit are eaten raw once ripe. They are also used in cakes, breads, pies, puddings and for jam and pancakes. They can also be dried for later use. Roasted seeds have been used as a coffee substitute.	VitC, Iron

Cape Gooseberry	<i>Physalis peruviana</i>	Frost tender. Plants should be spaced 45cm apart. They regrow from seed each year. <i>Do not plant seedlings or sow seed until all frosts are finished.</i>	The ripe fruit are eaten fresh or cooked. They are used for jam or can be dried, preserved, stewed, pureed, or used in pies, cakes, jellies, and sauces.	ProvitA, VitC
Rhubarb	<i>Rheum rhabarbarum</i>	It is grown by division of the rootstock. The flower stems are removed to give a better yield of leaf stalks next season. Rhubarb likes a rich soil, so add compost and natural fertilisers.	The leaf stalks are cooked and eaten. They need sweetening. They are used to flavour ice cream, jams, jellies, sauces, cakes, tarts, puddings, and are also stewed. CAUTION: Do not eat the leaves, they are poisonous.	VitC



Vegetables are an important source of vitamins and dietary fibre

Common Name	Scientific Name	Cultivation:	Use:	Nutrients:
Cabbage	<i>Brassica oleracea var. capitata</i>	Plants are normally grown from seeds and can be transplanted as seedlings. They can also be re-grown from cuttings or sprouts that develop on the cut stalk.	The leaves can be eaten raw or cooked. Stems can be eaten boiled or pickled. The seeds can be sprouted and eaten.	VitA, VitC
Beetroot	<i>Beta vulgaris</i>	Plants are grown from seed. Normally the plants are planted in the final site because transplanting is difficult. Plants may get a soft heart due to boron deficiency. This is treated with borax.	The red tubers are eaten after cooking. The root can be dried and powdered and mixed with barley or wheat flour. They can be pickled or fermented as beetroot juice. They are often boiled, sliced and served with vinegar. The leaves are edible. They are cooked in soups and stews.	Leaves: VitA, VitC



Pumpkin	<i>Cucurbita maxima</i>	They are grown from seed. Usually 2 or 3 seeds are planted together in a mound. The distance apart depends on the cultivar. Some kinds are better for leaf tips. It is good to save seed of adapted kinds.	The young leaf tips are eaten cooked. They can also be dried and stored. The fruit can be eaten cooked. They are baked, boiled, fried, steamed or mashed. They are used in pies and cakes. The seeds are edible, raw or roasted. They are also ground into a meal. The male flowers are eaten after removing the stamen and calyx.	Seeds: Energy, Protein, Iron, Zinc Leaf: ProvitA, VitC Flower: ProvitA
---------	-------------------------	--	--	---



Acknowledgements:

This guide is based on information from the Food Plants International (FPI) database, "Edible Plants of the World", developed by Tasmanian agricultural scientist Bruce French AO.

"Food Plant Solutions Brief Guide to Food Plant Gardens in "Goulburn, NSW" is a limited selection of food plants, which is intended as a **Draft Guide only**, to identify some local food plants that have high levels of nutrients that are important to human nutrition. This guide has been developed with the best intention to create interest and improve understanding of the important local food plants in Goulburn, NSW. It is not a comprehensive guide of food plants for Goulburn, NSW. Other important nutritious plants may be equally useful. Please contact Food Plant Solutions if you would like further information about these, or more detailed information about the ones selected.

Food Plant Solutions Rotary Action Group was initiated by the Rotary Club of Devonport North to assist in creating awareness of the edible plant database developed by Food Plants International, and its potential in addressing malnutrition and food security in any country of the world. In June 2007, Food Plant Solutions was established as a project of Rotary District 9830, the Rotary Club of Devonport North and Food Plants International. The primary objective of the project is to increase awareness and understanding of the vast food resource that exists in the form of local plants, which are well adapted to the prevailing conditions where they naturally occur, and how this resource may be used to address hunger, malnutrition and food security. For more information, visit the website www.foodplantsolutions.org or email info@foodplantsolutions.org

Disclaimer: This Guide has been produced using information from the "Edible Plants of the World" database compiled by Bruce French of Food Plants International. Although great care has been taken by Food Plants International and Food Plant Solutions, neither organisation, or the people involved in the compilation of the database or this Field Guide:

- makes any expressed or implied representation as to the accuracy of the information contained in the database or the Field Guide, and cannot be held legally responsible or accept liability for any errors or omissions
- can be held responsible for claims arising from the mistaken identity of plants or their inappropriate use
- assume responsibility for sickness, death or other harmful effects resulting from eating or using any plant described in the database or this Field Guide

Always be sure you have the correct plant, and undertake proper preparation methods.

Compost - if it has lived once, it can
live again.

