

# Food Plant Solutions Brief Guide to Food Plant Gardens in District 6900

## 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:
Sweet potato	<i>Ipomoea batatas</i>	Vine cuttings are used for planting. Cuttings are planted on mounds. It needs a sunny position. Tubers will not form if the ground is waterlogged when tubers start to develop. Sweet potato is not tolerant to shading.	Tubers are boiled or baked. They can be steamed, fried, mashed, or dried. The young leaves are edible.	Good energy and ProvitA.
Potatoes	<i>Solanum tuberosum</i>	Plants are grown from tubers. Large tubers can be cut to include a bud or "eye". The tuber is placed in a "trench" approximately 25cm deep, then covered. As the foliage appears, soil is mounded around the foliage as it grows. The plant is surrounded by dirt when 20-25cm tall. Later the tubers need to be kept covered with dirt.	The tubers are cooked and eaten. The tubers are boiled, baked, roasted, mashed and used in soups, stews, dumplings, pancakes and potato salads.	Good source of energy with some iron and zinc.

Corn	<i>Zea mays</i>	It is grown from seeds. Plant one seed per hole at 1-2cm depth. A spacing of about 30cm between plants is suitable.	The cobs are eaten cooked.	Energy, protein, ProvitA and iron.
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### Legumes provide protein for growth

Common Name	Scientific Name	Cultivation:	Use:	Nutrients:
Pigeon pea	<i>Cajanus cajan</i>	They are grown from seeds. It is best to sow seeds where the plants are to grow. Before sowing seed, it helps to soak them in cold water for one day. Seeds store well if kept cool and dry. A spacing of 1.5m x 1.5m is suitable. Plants can be cut back and allowed to re-grow. Plants can also be grown from cuttings.	Young leaves, shoots and pods are eaten. The pods can be used in curries. The leaves and shoots as potherbs. Young seeds are cooked and eaten like peas. Ripe seeds are also cooked and eaten in soups and curries. Bean sprouts can be grown and eaten.	Energy, protein, ProvitA and iron.



Common bean	<i>Phaseolus vulgaris</i>	Plants are grown from seed. Climbing types need stakes. Bush types can be spaced at 25cm by 25cm. Or they can be put closer together in rows wider apart to make weeding and harvesting easier.	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.	Energy, protein, ProvitA, VitC, iron and zinc.
Winged bean	<i>Psophocarpus tetragonolobus</i>	Seeds germinate and grow slowly for the first 3 or 5 weeks. Plants are intolerant of waterlogging.	The young pods are edible. The ripe seeds are edible. The young leaves are edible. The flowers are edible. The root tubers are edible.	Seed: Energy, protein, iron, and zinc. Leaf: ProvitA, VitC, Iron Tubers: Energy.



## Leafy greens are a source of iron

Common Name	Scientific Name	Cultivation:	Use:	Nutrients:
Indian spinach	<i>Basella alba</i>	<p>It can be sown from seeds or cuttings. Seeds germinate in a few days.</p> <p>Normally sticks are provided for support or it can grow over fences and stumps. If seeds are used a spacing of 1m is suitable. Plants grown from seed are more productive than from cuttings.</p> <p>When cuttings are used, 20-25cm long cuttings are suitable. Where the plant grows over light soil it can root at the nodes and continue growing continually.</p> <p>Partial shade, rich fertile soil, and adequate moisture favour abundant leaf production. It is responsive to nitrogen fertiliser. Light shade gives bigger leaves.</p>	<p>The young shoots and leaves are eaten cooked. In soups and stews the mucilage can be used as thickening. The leaves can be eaten raw in salads or cooked like a vegetable.</p> <p>They are also dried and stored. When fresh they can be stored for 4-5 days.</p>	<p>Energy, protein, ProvitA, VitC and iron.</p>

Silver beet	<i>Beta vulgaris subsp. cicla</i>	A spacing of 30cm between plants is suitable. Seed are sown 2.5cm deep.	The leaves and stalks are cooked and eaten. They can be eaten raw in salads. The leaf stalks can be cut from the leaf and cooked separately as an asparagus substitute.	Vit A, Vit C, Iron and Zinc
Kale	<i>Brassica oleracea var. acephala</i>	It is grown from seeds. A spacing of 30cm between plants is suitable. Seeds are sown 2.5cm deep.	The leaves are eaten boiled. They can also be steamed and used in soups and stews. The young leaves are eaten raw in salads.	Raw: Protein, VitC and iron. Cooked: ProvitA and zinc.

### **Fruit** are an important source of vitamins and dietary fibre

<b>Common Name</b>	<b>Scientific Name</b>	<b>Cultivation:</b>	<b>Use:</b>	<b>Nutrients:</b>
Pineapple	<i>Ananas comosus</i>	The suckers and slips can be used for planting as well as the top of the fruit. It is best to use suckers that grow from the stem near the ground, for earliest yield, or the leafy top of a fruit. The suckers are quickest to yield fruit.	The fruit is eaten fresh or used for juice. The fruit can also be sliced and cooked with ham. Unripe fruit are also cooked and eaten. The flower spikes are peeled and sliced and steamed as a vegetable or added to stews. The rind of the fruit is used for drinks.	Energy, ProvitA and VitC.

<p>Pawpaw, Papaya,</p>	<p><i>Carica papaya</i></p>	<p>Pawpaw seeds grow easily, and plants grow quickly. Fresh seeds can be used, or if dry seeds are used, they should be soaked before planting. Seeds should be planted with a temperature of 24-30°C. To produce well they need a reasonably fertile soil. Seeds in a nursery should be about 1-2cm deep. Plants should be about 3m apart. Continuous fruit production depends on fertility, temperature and moisture being adequate to maintain active growth. The fruit is produced year-round, but the growth and development rate decrease with temperature. Also, the size and quality of fruit declines at lower temperatures.</p>	<p>Fruit can be eaten ripe and raw. Green fruit can be cooked as a vegetable. The young leaves can be eaten cooked but are bitter. The flowers and the middle of the stem can be eaten. Papayas contain papain which is a meat tenderiser.</p>	<p>Fruit: ProvitA and zinc.</p>
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Melon, Honeydew, Canteloupe	<i>Cucumis melo</i>	They are grown from seed. The seeds are planted about 1-4cm deep. Plants need to be 1-2m apart. Seedlings can be transplanted when about 10-15cm high.	The ripe fruit are eaten raw. The seeds are sometimes eaten. They are roasted. The young leaves are eaten as a potherb.	Fruit: ProvitA and Vit C. Seed: Energy and protein.
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### **Vegetables** are an important source of vitamins and dietary fibre

<b>Common Name</b>	<b>Scientific Name</b>	<b>Cultivation:</b>	<b>Use:</b>	<b>Nutrients:</b>
Tomato	<i>Lycopersicon esculentum</i>	Plants are sown from seeds. These are normally sown in a nursery and transplanted. They are transplanted when 40-45 days old or 15cm high. They are spaced about 60-90cm apart. To give fewer and larger fruit the side branches of upright types are removed. Upright plant types need to be tied to stakes.	The fruit are eaten raw or added to salads. They can be cooked, stewed, pureed, stuffed, made into sauces, juice, and used in soups and stews. Unripe fruit are pickled, roasted, fried, and dried.	VitC and iron.

Okra	<i>Abelmoschus esculentus</i>	<p>They are grown from seeds. Seeds are easy to collect. They need high temperatures for germination (over 20°C) and a sunny position. Often seeds are soaked for 24 hours before sowing to give quick germination. Seeds are sown 1.5-2.5cm deep with 2-3 seeds per hole. Later these are thinned out to one plant. Seeds can be sown in nurseries and plants transplanted. Pinching out the tops of plants when 30cm high encourages branching. A spacing of about 90 x 45cm is suitable.</p>	<p>Pods are eaten cooked. They are also less sticky if a little lemon is added. Dried powdered seeds can be used in soups. It thickens the soup. They can also be pickled. Young leaves can be eaten cooked. They can be dried and stored. Flowers can also be eaten. Okra is frozen and canned.</p>	Energy, protein, ProvitA, VitC, iron and Zinc.
Cauliflower	<i>Brassica oleracea</i> var. <i>botrytis</i>	They are normally grown from seeds and transplanted.	<p>The thick white flower is cooked and eaten. The leaves are edible. The flower stalk and midveins of larger leaves are used in cauliflower soup. The seed sprouts are eaten.</p>	<p>Flower - raw: Energy, VitC, iron and zinc. Flower - cooked: Energy, protein and VitC.</p>

## 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 "District 6900" 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 District 6900. It is not a comprehensive guide of food plants for District 6900. 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](http://www.foodplantsolutions.org) or email [info@foodplantsolutions.org](mailto:info@foodplantsolutions.org)

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

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



