

Food Plant Solutions Brief Guide to Food Plant Gardens in the Lower Hunter

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. spade, 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 area 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 transplanted seedlings. 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 in the morning, never in the heat of 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: Jerusalem artichoke

Scientific name: *Helianthus tuberosus*

Cultivation: Plants are grown from vegetative setts. These can be dormant for 7 months before they will grow. The flowers on the plants are removed to increase the yield. Tubers are often sweetest after a frost.

Use: The tubers are eaten boiled or baked. They can be steamed, fried, pickled, pureed, or used in soups and casseroles. They can be eaten raw in salads. Roasted tubers are used as a coffee substitute

Nutrients: energy, protein, iron

Common name: Sweet potato

Scientific name: *Ipomoea batatas*

Cultivation: Vine cuttings are used for planting. In grassland soils it is grown in mounds, ridges, or other raised beds. In bush fallow, it is mostly planted in undug loose soils. It needs a sunny position. Tubers will not form if the ground is waterlogged when tubers start to develop. Sweet potato are not tolerant to shading.

Use: Tubers are boiled or baked. They can be steamed, fried, mashed, or dried. They can be used in noodles. The chopped and dried tubers can be boiled with rice or ground into flour and mixed with wheat flour to make cakes or bread. The young leaves are edible.

Nutrients: energy, vit A

Common name: Parsnip

Scientific name: *Pastinaca sativa*

Cultivation: Plants are grown from seeds. Sow direct into final growing position. Keep soil moist after planting seeds, seeds must not dry out or poor germination results. Often a board placed on top of the row after planting and lifting off as soon as seedlings emerge aids germination.

Use: The root is cooked and eaten. It can be boiled, baked, fried or used in stews. The roots are also made into marmalade, syrup, beer and wine. The young shoots and leaves are added to soups or cooked and eaten as a vegetable. The seeds can be used as a spice.

Nutrients: energy



Legumes provide protein for growth

Common name: Scarlet runner bean

Scientific name: *Phaseolus coccineus*

Cultivation: It is grown from seeds. Seed are planted 2.5 cm deep. Plants are spaced 20 cm apart. It needs sticks to climb up. It can be allowed to re-grow from the tubers or the tubers re-planted.

Use: The very young pods can be eaten. They are boiled, steamed, baked etc. The seeds are edible. They are dried then soaked. The flowers have a bean like flavour and are used in salads. Young leaves can be used as a potherb.

Nutrients: energy, protein, iron

Common name: Common bean

Scientific name: *Phaseolus vulgaris*

Cultivation: Plants are grown from seed, preferably sown in raised beds. Seeds remain viable for 2 years. Germination is normally good if seed has been well stored. Climbing types need stakes. Plants are self-fertilised. Beans can be intercropped with other plants. If grown on their own, bush types can be spaced at 25 cm x 25 cm. They can be sown closer together in rows wider apart to make weeding and harvesting easier. For dried beans, once the pods are mature and turning yellow, the whole plants are pulled, then dried and threshed. Flowering in most French bean varieties is not affected by day length.

Use: The young pods, leaves and mature seeds are edible. Dry seeds are soaked in water and boiled until soft.

Nutrients: protein, vit A

Common name: Broad bean

Scientific name: *Vicia faba*

Cultivation: The crop is grown from seed. Seeds are sown at 15-40 cm spacing. If the seed pod formation is poor, it can be improved by pinching out the tops of the plants when in flower. Hand pollination also helps. Plants are self-pollinated but also cross pollinated by insects.

Use: It is mostly the young beans that are eaten. The ripe beans and leaves are also edible. The dried beans can be boiled, ground into flour and added to soups or used for making tofu. Sprouted seeds are cooked and eaten.

Nutrients: seeds (dried): energy, protein, vit A, iron; seeds (fresh, raw): vit C, zinc



Leafy greens are a source of iron

Common name: Indian spinach

Scientific name: *Basella alba*

Cultivation: It can be sown from seeds or cuttings. A spacing of 1 m is suitable. Plants grown from seed are more productive than from cuttings. When cuttings are used, 20-25 cm long cuttings are suitable. Partial shade, rich fertile soil, and adequate moisture favour abundant leaf production. It is responsive to nitrogen fertiliser. Light shade gives bigger leaves. It requires a trellis to climb over. Frequently picking off the bud encourages branching.

Use: The leaves can be eaten raw in salads or cooked like a vegetable. They are also dried and stored. When fresh they can be stored for 4-5 days. The young shoots and leaves are eaten cooked. They are somewhat slimy. In soups and stews the mucilage can be used as thickening. The purple colour of fruit is harmless and is used to colour vegetables and agar-agar. Some lemon juice added to the dye enhances the colour.

Nutrients: energy, protein, vit A, vit C, iron, zinc

Common name: Silver beet

Scientific name: *Beta vulgaris subsp. cicla*

Cultivation: A spacing of 30cm between plants is suitable. Seed are sown 2.5 cm deep.

Use: 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.

Nutrients: vit A, vit C, iron, zinc

Common name: Kale

Scientific name: *Brassica oleracea var. acephala*

Cultivation: Plants are grown from seed. Seedlings can be transplanted 30 cm apart.

Use: The leaves are eaten boiled, steamed and used in soups and stews. The unopened flower buds are used like broccoli.

Nutrients: vit C, iron



Fruit are an important source of vitamins and dietary fibre

Common name: Strawberry

Scientific name: *Fragaria x ananassa*

Cultivation: Plants are grown from runners. These runners form roots and then new plants. Plants are spaced about 45 cm apart in rows 75 cm apart.

Use: The ripe fruit are eaten raw. They are also used in desserts, jams, preserves and for flavouring.

Nutrients: vit C

Common name: Cape Gooseberry

Scientific name: *Physalis peruviana*

Cultivation: Plants should be spaced 45 cm apart. They regrow from seed each year. Do not plant seedlings or sow seed until all frosts are finished as they are frost tender.

Use: 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.

Nutrients: vit A, vit C

Common name: Rhubarb

Scientific name: *Rheum rhabarbarum*

Cultivation: 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.

Use: 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.*

Nutrients: vit C



Vegetables are an important source of vitamins and dietary fibre

Common name: Broccoli

Scientific name: *Brassica oleracea var. italica*

Cultivation: The seeds are planted in a nursery then transplanted after 4-6 weeks. A spacing of 60 cm x 60 cm is suitable.

Use: The central flower is cooked and eaten. The leaves are edible. The sprouted seeds are eaten.

Nutrients: vit A, vit C, iron, zinc

Common name: Marrow, Zucchini

Scientific name: *Cucurbita pepo*

Cultivation: They are grown from seeds. The seeds germinate after one week. They can be grown from cuttings. They are best planted on mounds. A spacing of 2-3 m between plants is needed. Hand pollination assists fruit setting. Plants can also be grown from cuttings as plants root at the nodes.

Use: The young fruit are cooked and eaten. They can be steamed, boiled, or fried. They are used in pies, soups, stews, and cakes. The young leaves and the ripe seeds can also be eaten cooked. The seeds are dried, salted and toasted and eaten as a snack food. The sprouted seeds are used in salads.

Nutrients: fruit: vit A, iron; leaf: vit A, vit C; seeds: energy, protein, iron

Common name: Carrot

Scientific name: *Daucus carota subsp. sativus*

Cultivation: They are grown from direct sown seed. The seed are small, mix with sand before sowing to allow a more even distribution of plants. A spacing 5 cm apart in rows 15-20 cm apart is suitable. Often this spacing is achieved by thinning out plants.

Use: The roots and leaves are edible. The young leaves are used in soups. The roots can be eaten raw or cooked, steamed, fried, pickled, made into jam, or used in stews. Carrot seed oil is used as a flavouring. The juice is used raw and fermented.

Nutrients: vit A, vit C, iron, zinc



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 "the

Lower Hunter, 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 the Lower Hunter, NSW. It is not a comprehensive guide of food plants for the Lower Hunter, 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 in which they are to be grown, 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:

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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.

