

Food Plant Solutions Brief Guide to Food Plants in the Santa Clarita Valley region

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 to move the soil to cover seed (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 mix 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: Oca

Scientific name: *Oxalis tuberosa*

Cultivation: 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 or Spring as soil temperatures increase. Plants are weeded and soil mounded around them. A spacing of 20-40 cm x 20-36 cm is recommended.

Use: 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 oxalates, which affects calcium absorption.

Nutrients: tuber (cooked): energy



Legumes provide protein for growth

Common name: Peanut

Scientific name: *Arachis hypogea*

Cultivation: Peanuts require soil with good levels of calcium. If boron is short then flowers won't flower and fruit properly. Because peanuts are legumes, they can fix their own nitrogen and this means they can still give good yields in grassland soils where nitrogen is at a lower level. The seeds or nuts are normally removed from the shell before planting and are sown 2 to 3 cm deep. The alternately branched or Virginia-type of peanuts have a dormancy period so that they must be stored before replanting. A suitable spacing is 10 cm between plants and 60 to 80 cm between rows. The soil needs to be weeded and loose by the time the flowers are produced to allow the peg for the seed pods to penetrate the soil. Normally when the whole plant dies they are ready to pull. They are left to dry in the sun for 3 or 4 days.

Use: The seeds can be eaten raw, or boiled, steamed, roasted, salted or made into peanut butter or flour for bread. The young leaves are edible, cooked. The unripe pods are cooked and eaten. Sprouted seeds are eaten. Oil is extracted from the seeds and is edible. It is often used for stir-frying. The remaining meal is also eaten.

Nutrients: energy, protein, iron

Common name: Soybean

Scientific name: *Glycine max*

Cultivation: It is grown from seed direct planted or in a nursery and then plants transplanted to the garden. Plants need to be about 20 cm apart. Plant in garden in spring once all frosts have finished.

Use: 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. The young leaves can be eaten.

Nutrients: energy, vit A, 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 and 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.

Use: Young pods, leaves and mature seeds are edible. Dry seeds are soaked and boiled until soft.

Nutrients: protein, vit A

Leafy greens are a source of iron

Common name: Grain amaranth

Scientific name: *Amaranthus caudatus*

Cultivation: Plants can be grown from seed if the soil is warm. Seeds are small and grow easily. Cuttings of growing plants root easily.

Use: The leaves and young plant are eaten cooked. They are also used in stir fries and added to soups. The seeds are ground into flour and used to make bread. **Caution:** This plant can accumulate nitrates if grown with high nitrogen inorganic fertilisers and these are poisonous.

Nutrients: iron

Common name: Silver beet

Scientific name: *Beta vulgaris subsp. cicla*

Cultivation: A spacing of 30 cm 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: Canteloupe

Scientific name: *Cucumis melo*

Cultivation: They are grown from seed. The seeds are planted about 1-4 cm deep. Plants need to be 1-2 m apart. Seedlings can be transplanted when about 10-15 cm tall.

Use: The ripe fruit are eaten raw. They are also dried, candied and made into jams, jellies and preserves. The seeds are sometimes eaten roasted. The seeds are blended with fruit juice to form a drink. Sometimes the immature fruit are cooked as a vegetable. The seeds contain an edible light oil. The young leaves are eaten as a potheb.

Nutrients: seed: energy, protein; fruit: vit A, 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: Highbush blueberry

Scientific name: *Vaccinium corymbosum*

Cultivation: Plants are grown from cuttings. It is best to buy established bushes from a plant nursery.

Use: The fruit are eaten as a dessert fruit and also in fruit salads, juices, syrups and other foods and drinks. They are used in jams, tarts and muffins. They can be frozen.

Nutrients: energy, vit C



Vegetables are an important source of vitamins and dietary fibre

Common name: Okra

Scientific name: *Abelmoschus esculentus*

Cultivation: 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 1.5-2.5 cm 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 30 cm high encourages branching. A spacing of about 90 x 45 cm is suitable.

Use: Pods are eaten cooked. They are slimy, but less so if fried. 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 can be frozen and canned.

Nutrients: seed: energy, protein; pod: vit A, vit C; leaf: vit A, vit C

Common name: Brussels sprouts

Scientific name: *Brassica oleracea* var. *gemmifera*

Cultivation: Seedlings are transplanted after 5 or 6 weeks. The spacing needs to be about 60 cm x 60 cm

Use: The sprouts are cooked and eaten. The leafy tops can also be eaten.

Nutrients: energy, iron

Common name: Pumpkin

Scientific name: *Cucurbita maxima*

Cultivation: They are grown from seed. Usually 2 or 3 seeds are planted together in a mound.

Use: 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. 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.

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



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 Plants in the Santa Clarita

Valley region" is a limited selection of food plants 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 Santa Clarita Valley region. It is not a comprehensive guide of food plants for Santa Clarita Valley. 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:

- makes any expressed or implied representation as to the accuracy of the information contained in the database or the Brief Garden 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 Brief Guide.

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

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

