

Food Plant Solutions Brief Guide to Food Plants in the Las Vegas 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 should not occur in the heat of the day, and should preferably occur early in the morning, although sometimes late in the day may be more convenient. 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: Sweet potato

Scientific name: *Ipomoea batatas*

Cultivation: Vine cuttings are used for planting. It is grown in mounds, ridges, or other raised beds or in undug loose soils. It needs a sunny position. Tubers will not form if the ground is waterlogged when tubers start to develop.

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: tuber: energy, vit A

Common name: Potato

Scientific name: *Solanum tuberosum*

Cultivation: Plants are grown from tubers. Large tubers can be cut to include a bud or "eye". A seed piece of 40-50 g is suitable. 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 dirt.

Use: 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.

Nutrients: energy, iron, zinc

Common name: Sweetcorn

Scientific name: *Zea mays*

Cultivation: 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.

Use: The cobs are eaten cooked. The dried grains can be crushed and used. The meal can be used for breads, cake, soups, stews etc. Maize is cooked and prepared in many ways such as boiled, roasted, dried and steamed.

Nutrients: energy, protein, vit A, iron



Legumes provide protein for growth

Common name: Pigeon pea

Scientific name: *Cajanus cajan*

Cultivation: They are grown from seeds. It is best to sow seeds where the plants are to grow. Seeds normally germinate easily and well. Before sowing seed, it helps to soak them in cold water. A spacing of 1.5 m x 1.5 m is suitable. Plants can be cut back and allowed to re-grow. Plants can also be grown from cuttings.

Use: Young leaves, shoots and pods are eaten. The pods can be used in curries. The leaves and shoots are used 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 produced and eaten.

Nutrients: seed: energy, protein, vit A, iron

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

Leafy greens are a source of iron

Common name: Indian spinach

Scientific name: *Basella alba*

Cultivation: It can be grown from seeds or cuttings 20-25 cm long at a spacing of 1 m. Plants grown from seed are more productive than from cuttings. 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. Frequent picking of the buds encourages branching.

Use: Leaves are eaten raw in salads or cooked, and also dried and stored. They can be stored fresh for 4-5 days. The young shoots and leaves are eaten cooked. They are somewhat slimy. The mucilage can be used to thicken soups and stews. The purple colour of fruit is harmless.

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

Common name: Amaranth greens

Scientific name: *Amaranthus hybridus*

Cultivation: Plants are grown from seeds. Do not grow in soil enriched with lots of compost.

Use: The leaves and young shoots are cooked and eaten. They are also dried. The leaves and stems are chopped and added to salads or fried with eggs.

Nutrients: leaf: protein, vit C, 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



Fruit are an important source of vitamins and dietary fibre

Common name: Watermelon

Scientific name: *Citrullus lanatus*

Cultivation: Plants are grown from seed. They are suitable mainly for the dry season. A spacing of 1.5-2 m is suitable. They grow easily from seed. They do best when fully exposed to the sun. Seed can be dried and stored. If too much vegetative growth occurs pick out the tip to produce side branches with more fruit.

Use: The fruit is eaten raw when ripe. Small unripe fruit can be cooked as a vegetable. Seeds are also eaten. They are dried, soaked in salt water then roasted.

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

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: 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 potherb.

Nutrients: seed: energy, protein; fruit: vit A, 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: 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 Plants in the Las Vegas

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 Las Vegas region. It is not a comprehensive guide of food plants for Las Vegas. 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: Unless otherwise indicated, the information and images in this Brief Guide have been obtained from the Food Plants International “Edible Plants of the World” database under the provisions of the Creative Commons Attribution 3.0 Licence ([Creative Commons — Attribution-NonCommercial-NoDerivs 3.0 Unported — CC BY-NC-ND 3.0](https://creativecommons.org/licenses/by-nc-nd/3.0/)). Entries have been edited to meet the requirements of page formatting and the intent of this publication being a brief introduction to the plants. 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.

