



Reference Guide
Reference Guide
To
Local Plants And Trees

Environment Division
Ministry Of Tourism and Environment
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The information contained in this plant database is intended for education, entertainment and information purposes only. This information is not intended to be used to diagnose, prescribe or replace proper medical care. Consult your own physician regarding the applicability of any opinions or recommendations with respect to your symptoms or medical condition.

Preface

The following compendium is a direct result of the Arbor Month activities organized by the Environment Division during 2002. Throughout the month of November, members of staff of the Division were engaged in a public awareness campaign to sensitize the public to the importance of trees to the environment of Antigua and Barbuda. A great portion of the awareness campaign was dedicated to the dissemination of information through a daily call in program aired on ZDK radio station. Through the information collected by literature research and input from callers, the basic structure for the enclosed booklet was envisioned.

The Environment Division would like to acknowledge the contributions of all sources of information, for without such support this booklet would have not been possible.

Here's to a very fruitful Arbor Month 2003.

The Almond Tree (*Prunus amygdalus*)

The almond tree is native to Western Asia and North Africa but presently it is extensively distributed throughout the warm temperate regions of the world. The tree is mentioned in scriptures as one of the best fruit trees of the land of Canaan and interestingly the rod of Aaron was an Almond twig. The Almond belongs to the same family of plants as the plum, cherry and peach. The difference with the Almond is that instead of succulent pulpy exterior, there is a leathery dingy green coat in the almond which is hard and juiceless. When fully ripe, the green covering dries and splits, and the Almond, enclosed in its rough shell drops out. In Antigua, the fruit rarely makes it to full maturity as the local bat population enjoys the fruit as a delicacy.

It is the seed itself which is recognized and enjoyed by schoolchildren around the island. It is common practice for children to gather pocketfuls of the fruit from under Almond trees or other trees that bats frequent then break the protective shell to get at the delicious nut. There are two principal forms of the Almond the one with entirely pink flowers, *Amygdalus communis*, var. *dulcis*, producing Sweet Almonds; the other, *A. communis*, var. *amara*, with flowers slightly larger, and the petals almost white towards the tips, deepening into rose at the base, producing Bitter Almonds. The Sweet Almond is the earliest to flower, and is cultivated more largely than the Bitter Almond. It is valuable as a food and for confectionery purposes, as well as in medicine, being rich in bland oil, and sustaining as a nutriment: the staying power conferred by a meal of Almonds and raisins is well known. It is only the Bitter Almond in the use of which caution is necessary, especially with regard to children, as it possesses dangerous poisonous properties.

Medicinally, the oil obtained from pressing the Almond kernel is used for allaying acrid juices, softening and relaxing solids, and in bronchial diseases, in tickling coughs and alleviating hoarseness. The astringent properties of Almond oil relate to its use as a face scrub and cleanser able to remove excess oil and dirt from the skin. Recent studies (at the Health Research and Studies Center in Los Altos, California) suggest that Almond oil may also help prevent heart disease by reducing cholesterol levels. According to this study, Almond oil was a more potent cholesterol-reducing agent than olive oil. Almond kernels are also considered to be good for the nerves and the fruit is reported to improve brain functions. It should be noted however that to fully extract the nutritive value of the Almond, it must be well chewed to aid digestion.

The Aloe Plant (*Aloe Vera*)

The Aloe Vera plant (locally known as ‘Aloes’, or Single Bible’) is actually one of 250 species of Aloe and is thought to have originated from the warm dry climate of East or South Africa. It is believed that the Spaniards brought the Aloe to the Caribbean at the beginning of the 16th century.

The virtues of Aloe Vera have been recorded for thousands of years by many ancient civilizations, including Egypt, Persia, Greece, India and Africa. The use of Aloe in medicinal and cosmetic applications has been well established throughout the ages. The Aloe is of the Lily family- being related to the Garlic and Onions, which in their own right are of medicinal significance. As early as 1500B.C., recorded evidence shows that Egyptians used the plant in treating burns, infections and parasites. Cleopatra’s beauty was partially attributed to her use of aloe to keep her skin soft and young. In the New Testament (John 19:39) reference is made to Nicodemus coming by night and bringing a mixture of Myrrh and Aloe to embalm the body of Jesus. The Spanish missionaries who settled the West Indies, planted the Aloe around the churches from where they were used by people as a universal medicine.

The aloe leaves contain two important substances: **Aloin**- the yellow milky liquid under the rind of the leaf and **Aloe Gel**- the gelatinous substance within the leaf. The **Aloin** is specifically a laxative while the **Aloe Gel** has many therapeutic properties. Within Antigua, the use of aloe revolves around its properties as a laxative, purgative, detoxifier, tonic and moisturizer. Aloe Gel has traditionally been drunk on an empty stomach to cleanse and purify the body. To mask the taste, some people mix the gel with fruit juice or sweeten with honey or dilute with water before drinking.

Local use of aloe includes application as a shampoo, moisturizer, treatment of burns, chapped skin, dandruff, swelling, stings, insect bites, warts, wrinkles and varicose veins. The leaves are also slit open and the Aloe Gel applied to the head to ease headaches. The leaves are also heated over a flame and applied to wounds and is said to “draw out” the infection.

Aloe can directly assist the body’s immune system by killing or preventing the replication of several bacterial, viral and fungal organisms which can invade wounded tissue and prevent healing. Aloe aids the healing process by helping in the production of the scar tissue of a wound, and provides the nutrients a cell needs to grow and divide. Aloe also breaks down dead tissue, allowing the body to clean wounds. It also opens the blood vessels in the tissue to increase the blood flow - aiding the elimination of the waste and increasing oxygenation of the healing tissue.

Fresh Aloe contains:

Vitamins A, B1, B2, B3, B5, B6, B12, Folic Acid, C, and E.

Minerals include Calcium, Chromium, Copper, Iodine, Iron, Magnesium, Sulphur, Potassium, Phosphorus, Zinc.

Amino Acids

Fatty Acids

Sugars (which are used by the immune system, help detoxify the body, line the gut, aid absorption from the digestive system, lubricate joints, protect cells and aid gaseous exchange in the lungs)

Enzymes (used by the body as a catalyst for chemical reactions)

Saponins (form foam in water solution, have natural cleansing and antiseptic qualities)

It should be noted that the therapeutic effects of fresh aloe would deteriorate after a couple of hours if left open to the air (through oxidation and bacterial activity). To enjoy the benefits of aloe it should be taken as fresh as possible.

The Avocado Tree

(Persea edulis, Persea americana)

The Avocado tree is said to have originated from Central America and Mexico later spreading to Peru and the West Indies, where new varieties developed. There are three existing strains of Avocado (namely Mexican, West Indian and Guatemalan) but hundreds of varieties. Individual varieties may be different shapes (round to pear-shaped), different skin colours (green, purple, maroon, and black) and different skin textures (smooth to pebbly).

The rich, pale yellow-green flesh of the pear-shaped fruit has a texture likened to a firm ripe banana, smooth and buttery, with a faintly nutty flavour. The Avocado fruit has a high fat content, however the fats present are mono-saturated fats, which are known to break down cholesterol in the blood. Avocados are also a good source of Vitamin E, which is not only essential for the normal functioning of the body but is also a potent anti-oxidant, which can serve to protect the body from cancer and heart disease. Avocados also contain goodly amounts of Vitamin C (necessary for the production of collagen needed for the growth of new cells and tissues, prevents viruses from penetrating cell membranes, and also a powerful anti-oxidant), thiamine (converts carbohydrates to glucose to fuel the brain and nervous system), and riboflavin (helps the body to release energy from proteins, carbohydrates and fat).

Locally, Avocados are used in salads, sliced in bread, spread on crackers, eaten as dessert, or as a side dish. The Taiwanese eat avocados with milk and sugar, Indonesians mix them with milk, coffee and rum for a cold drink, and the Filipinos puree them with sugar and milk to make a dessert treat. In Jamaica, slices of ripe Avocado are sprinkled with salt and eaten. Even the avocado tree leaves are used in some parts of Mexico. Both green and dried leaves can be used for as seasoning for barbecues and stews

Avocado is also an excellent remedy for dry skin and is used in non-culinary creams for facials and body massages. For a facemask, mix 1/4 cup each of avocado puree and sour cream. Gently rub on face and neck, avoiding the sensitive areas around the eyes, and let it soak in about 15 minutes. Rinse face with lukewarm water then gently massage the invisible oil into the skin with an upward and outward motion.

The Banana and Plantain Trees

(Musa spp.)

The Banana plant is not classified as a tree in the strictest sense of the word but more so a type of herb which dies after each fruiting and produces new growth for the next generation of fruit. The edible banana as we know it and its close relative the plantain are both derived from one species of wild banana which is thought to have originated from southeastern Asia but spread throughout the Caribbean with settlement of the area in the 16th-17th centuries. Whereas bananas develop to soft, succulent creamy yet firm fruit, the plantains have lower water content making them drier and starchier.

To date, there are over a thousand varieties and hybrids of the banana and plantain plants. An example of one such hybrid of the banana is the locally known Finger Rose also called the Finger banana or Apple banana (for its apple-like flavour). It should be noted that the Finger rose takes longer to ripen than most other bananas, and should not be eaten until fully ripe, when the skin is spotted and splitting to enjoy the unique flavour.

Historically, bananas and plantains have been providing man with food, clothing, tools and shelter. Banana trees and plantain trees all contain long and thin fibers, which can be used as for weaving banana cloth, coarse fibers, which can be made into ropes and fibers which can be used to make paper. Banana and plantain fruits have very high nutritious values as bananas are rich in vitamin C and vitamin B6 contents along with potassium; while plantain contains a lot of vitamin A. Medicinally, the juice from the junction of a "branch" with the stem is used for toothache relief in Panama and South Africa. The practitioners of Chinese medicine recommend the banana for lowering blood pressure and relieving constipation and hemorrhoids.

Other than eating the fresh fruit, bananas & plantains are used for:

- Banana puree - baby food, cake, pie, ice cream, doughnuts, etc.
- Banana/plantain flour - from sun-dried fruits, used for pastries; sometimes mixed with cassava flour.
- Cooking - plantains are often fried in fat, and eaten like french fries.
- Dried fruit - is sliced thin and sold as chips.
- Fermented bananas -made into beer and wine in Africa.
- New shoots are collected and eaten as greens.

The Bay Tree
(*Pimenta racemosa*)

The West Indian Bay Tree, also known as the Bay Rum Tree or Bay Berry, is native to the West Indies, Venezuela and the Guianas. The Bay Tree as we know it is typified as a sturdy evergreen tree growing to about 10metres (30ft) with a shiny grayish-brown trunk, glossy green aromatic leaves and small yellow-white flowers and black berries.

The local Bay Tree is a member of the Myrtle (Myrtaceae) family and is similar to the aromatic trees also called Bay Trees of the Laurel (Lauraceae) family. As such, the West Indian Bay tree is also referred to as the West Indian Laurel. Laurel trees were very popular with the Romans and Greeks, who thought of the trees as symbols of wisdom, peace and protection. The Latin 'Laudis' means 'to praise', which is why the victors at the Olympic Games were presented with a Laurel (Bay) Wreath. The Laurels have always symbolized merit and as such, a baccalaureate (*baca lauri*, Latin for "laurel berry") is a symbol of accomplishment.

When most people think of the Bay tree, they think of the well-known Bay Rum, which is made by distilling the Bay leaves (or the oil produced from the leaves) in rum. Bay Rum is said to be a famous hair tonic and is also frequently used as a body rub for colds, muscle pain, and arthritis. Bay Rum is also inhaled for soothing upset stomachs, headaches and easing spells of dizziness. The fragrant Bay Rum is also used as an aftershave or applied on the body after a bath or shower. The aromatic properties of Bay oil make it suitable for use as an additive in soaps, cosmetics, candles and colognes. It should be noted that the Bay Rum and Bay Oil are toxic and should not be ingested.

The Bay leaf (also referred to as the Christmas leaf) is a popular culinary seasoning used to flavor soups, stews, sauces, marinades, and poultry and fish dishes. The leaves are also known to be insect repellent, keeping fleas out of mattresses and weevils out of cupboards. A light infusion of the leaves (colloquially- drawing the leaves in hot water) is reputedly able to soothe the stomach and relieve flatulence (gas or wind). A specimen of the Bay Tree can be found in grounds of the Ebenezar Methodist church on St Mary's Street.

The Breadfruit Tree

(Artocarpus altilis)

The breadfruit tree is thought to have originated in the South Pacific Region and brought to the Caribbean where it was thought to be an ideal staple food for black slaves. The tree is sometimes referred to as the “poor man’s tree” as it requires very little care but can produce fruit for more than 50 years.

Breadfruit is described as an energy food as it is rich in starch and sugars, which the body needs for warmth, work and play. Breadfruit is also a fair source of Vitamin C which keeps the body tissues strong, helps the body to use iron, and aids in chemical actions in the body.

Breadfruit is rich in fibre, which is needed to make the intestines and bowels work properly. People who eat foods rich in fibre are less likely to be too fat or obese. Obesity can lead to diabetes and heart disease.

The breadfruit is a very versatile food source as it can be baked, broiled, roasted, or added to soups and is available all year round. Like the banana and plantain, the breadfruit may be eaten ripe as a fruit or under-ripe as a vegetable. Roasted breadfruit can almost be described as a national dish due to its extensive use. Some people remove the stem and core and use a variety of stuffings to add unique flavors to their meal. For a different flavor, stuff the breadfruit with butter and sugar before roasting. Breadfruit chips are made by drying out thin slices with a paper towel and frying them in some oil for a crispy treat. The young breadfruit leaves are good sources of Vitamin C, iron, and calcium. Iron helps keep blood healthy and Calcium helps to make strong bones and teeth. The young leaves are prepared by removing the stalks, washing the leaves, and cooking in a small amount of salted water for about 20 minutes.

The dried fruit has been made into flour and improved methods have been explored in Barbados and Brazil with a view to substituting breadfruit in part for wheat flour in bread making. The combination has been found more nutritious than wheat flour alone. Breadfruit flour is much richer than wheat flour in lysine and other essential amino acids. In Jamaica, the flour is boiled, sweetened, and eaten as porridge for breakfast.

The Cocoa Tree (*Theobroma cacao*)

Many people would know the pleasures of eating chocolate bars and enjoying the delicacies of chocolate flavored products but not many individuals know about the material that is used to make them. Chocolates are made with the powders of cocoa beans, which are the fruits of a tropical plant - the cocoa tree.

Cocoa tree is a kind of small arbor tree and it has the following outstanding features. Its flowers burst open directly on the tree trunks and then the flowers will produce fruits on the tree trunks too. The cocoa flowers are small, but the fruits are big. The fruits are oval and have many ridges and lines on the outer skins. The color of the fruits is yellow, and each fruit can grow as heavy as one kilogram. Each cocoa plant can grow 60 to 70 fruits, and there are about 30 to 50 seeds in each fruit. The raw materials of chocolate come from these seeds.

When ripe, the cocoa fruit (called pods) are hacked open and the pulp-covered cocoa seeds are removed. the seeds are put to ferment for three to nine days. During the fermentation process, the pulp around the seeds will heat up, activating enzymes and creating compounds that give the seeds their chocolate flavor. Afterwards the seeds are dried (for about a week) then through various process can be made into chocolate.

Locally, after the seeds are dried they are grounded and rolled into what we call the coco stick which is used to make the famous coco tea, which a great many people enjoy with their Sunday breakfast.

The cocoa bean today is still in high demand for its sweet chocolate uses, as well as cocoa butter, cocoa powder and cocoa paste. The wastes of the chocolate making process are also being looked at for their potential uses; these include cocoa pulp and pod husks. Such things being experimented with include the pod husks being used for cattle feed the gum from the pod husks are currently being explored for uses such as binders for products like as pet food, emulsifiers, and fixatives. In earlier times the cocoa pulp was also used as a beverage by South American natives.

Parts of the tree are used to treat kidney problems, as a heart tonic, and as an asthma treatment.

The Latin name for the Cocoa tree (*Theobroma*) translates to mean food of the gods'

The Cashew Tree (*Anacardium occidentale*)

The cashew tree is a multi-purpose tree that originated in Brazil but it was indirectly introduced into the Caribbean through the travels of Spanish and Portuguese traders and merchants. The cashew tree is characterized by a thick winding trunk, twisting branches, oblong leathery leaves, yellowish-pink flowers and kidney shaped nuts at the end of what is usually called the cashew fruit or cashew apple.

The cashew fruit as we know it is very peculiar as it really isn't a fruit at all. It is actually a swollen portion of the stem (receptacle or peduncle) that grows behind the real fruit, which yields the cashew nut.

The nut is surrounded by two shells between which there is a thick caustic toxic oil called "cardol" which will raise blisters on the skin. Cashew nuts must be cleaned and then roasted to remove the toxins before they can be eaten.

When ripe, the cashew apple and nut will fall from the tree where they can be collected for use. The nut is usually twisted off of the fruit and saved for roasting while the fruit itself is chewed for refreshment, the juice swallowed, and the fibrous residue discarded. Cashews nuts contain protein, fats, carbohydrates & vitamins. It is a source of minerals like Calcium, Magnesium, Phosphorous, Potassium, Sodium, Iron and other minerals, which helps prevent anaemic and nervous ailments.

Cashew fruits can be made into jam or chutney or the juice used for carbonated beverages, syrup or wine. With a high amount of vitamin C (up to five times more than oranges) and mineral salts, cashew fruit is used in the treatment of premature aging of the skin and to re-mineralize the skin. It is also a good scalp conditioner and tonic, often used in shampoos, lotions and scalp creams.

Tribes of the South American rainforest consider the fruit juice to be medicinal against influenza and brew a tea of leaves and bark for diarrhoea and/or colic remedy for infants. In Brazil, a bark tea is used as an astringent to stop bleeding after a tooth extraction. Cough expectorants are made from the tender cashew shoots, and the seeds are used for skin infections. In Brazilian herbal medicine the fruit is taken as a stimulant, and aphrodisiac, a leaf tea for a mouthwash and gargle for mouth ulcers, tonsillitis and throat problems, and for washing wounds, an infusion of the bark is used to treat diabetes, urinary disorders, and asthma. North American practitioners use the cashew fruit for diabetes, cough and bronchitis, tonsillitis, intestinal colic, diarrhea, and as a general tonic.

Several clinical studies have shown that chemicals in the Cashew nut shells are toxic to certain cancer cells and effective in treatment against ulcers.

Even though cashew nuts have what is called as the "good" fat (unsaturated fat), we do admit cashews will add to your weight but moderate consumption will be beneficial.

****It is said that the smoke from roasting cashews is fatal to poultry (chickens) but this has not been verified****

The Cassava Plant (*Manihot esculenta*)

The Cassava plant is thought to have originated in South America but specifically Brazil and Paraguay.

The cassava plant as we know it is also known as Yuca, Tapioca, Mandioca or Manioc.

Historically, the cassava plant was of utmost importance to the tribes of tropical America hence it was transported through the region as they expanded their range. As such, the Caribbean regions with strong Amerindian links still embrace the cassava plant as an essential commodity. Cassava can be grouped as either the sweet edible variety or the “bitter” (poisonous) variety. Whereas the sweet variety was (and is) used as a food source, the “bitter” variety was used by the Amerindians to catch fish by poisoning the water.

Cassava is grown for its enlarged starch-filled roots, which contain nearly the maximum theoretical concentration of starch on a dry weight basis among food crops.

Roots are prepared in a similar manner to the potato. They can be peeled and boiled, roasted, baked, or fried. It is not recommended to eat uncooked cassava as there is a potential risk of poisoning from cyanide-like chemicals in the plant. The process of cooking destroys the poisons making the root edible. Fresh roots contain about 30% starch and very little protein.

In Antigua, the famous “Bambula” is made from the cassava. “Bambula” is prepared by first washing and slicing the cassava root, grating then soaking in water, followed by pressing the juice from the contents to leave the cassava paste. The paste is then spread on a hotplate in circular portions and cooked to produce “Bambula”.

Cassava juice is preserved, boiled and sweetened to make “Casareep” which is used in Guyana as a flavoring for their Peppercot. The antiseptic properties of the “Casareep” make it useful in preserving foods.

The leaves of the cassava plant can be used as a vegetable and cooked similar to spinach. A type of flour can also be derived from the cassava root and used as a substitute for wheat flour when making bread.

Although the traditional medicinal uses of cassava are not well documented, the extensive history of the plant has led to many alternate uses by peoples of the region. In folk medicine, the cassava plant is promoted for the treatment of abscesses, snakebites, boils, diarrhea, dysentery, flu, hernia, inflammation, conjunctivitis and sores but it should be noted that no scientific evidence support such claims.

The most promising research potential for the cassava plant revolves around the treatment of certain cancer cells. It is proposed that certain genes of the cassava plant, which are responsible for cyanide production, can be used through gene therapy to target tumor cells and eliminate them. Although the studies are promising it should be noted that this type of therapy is quite different from the use of the cassava plant as an herbal remedy.

The Castor Plant
(Ricinus communis)

The older Antiguans will be able to tell you about their childhood experiences of their parents chasing them around the yard to give them their “once a week” spoonful of castor oil, but few individuals today will be able to recognize castor Oil much less the castor plant.

The castor plant is thought to be native to either the Ethiopian region of tropical east Africa or India where it’s medicinal and industrial properties have been exploited for thousands of years. Samples of castor beans (seeds) have been found in ancient Egyptian tombs dating back to 4000BC.

The main value of the castor plant lies in its oil which is extracted from the seeds by a technique called cold pressing. Castor oil is an excellent purgative agent generally ingested to treat constipation or just to cleanse the body. The castor oil also has many economic uses as it can and has been used in the production of paints, varnishes (arguably superior to linseed oil), soaps, cosmetics, crayons, candles, carbon paper, leather preservatives, the production of nylons and other synthetic fibers, castor bean motor oil (ingredient in some Castrol[®] engine oils) and synthetic flavors for foods and beverages. Hot castor oil massaged into the hair and scalp is said to eliminate dandruff and lice.

The Leaves of the Castor Plant are said to be effective in repelling pests from agricultural areas. The solution obtained by soaking the leaves in water is said to be useful in killing worms present in the soil. In Borneo, the leaves and the stem are used as a remedy against insect stings. In Indonesia, sap from the young branches is used as ear drops. In the Philippines pounded leaves are applied to the breast to stimulate milk secretion of nursing mothers. The leaves are also generally thought to be active against many forms of skin related diseases.

Care should be taken when dealing with the castor plant as the seeds are extremely poisonous and are particularly lethal to humans and animals.

The Corn Plant *(Zea Mays)*

The Corn Plant is described as a subtropical annual plant, specifically classified as a grass, which is thought to have originated in Mexico. The corn was a source of nourishment for the Central and South American tribes of the Aztecs, Mayans and the Incas. From South America, corn was brought to the Caribbean by migrating Indians exploring the region.

In 1492 on his first voyage, Christopher Columbus discovered the versatile corn plant in Cuba from where he introduced it to Spain and eventually Europe. At first, corn was only a garden curiosity in Europe, but it soon began to be recognized as a valuable food crop. Within a few years, it spread throughout France, Italy, and all of south-eastern Europe and northern Africa. By 1575, it was making its way into western China, and had become important in the Philippines and the East Indies.

Within the Caribbean, Corn has always played an important role in the diet and culture of the people of the region. Corn can be used as vegetable, as corn-on-the-cob, fresh, canned or frozen. Kernels may be cut from the cob and used in many ways, in custards, fritters, soups and chowders. The corn kernels are also used to prepare Corn meal, which as we know is important to Antiguan culture as our national dish, the famous Fungee is made from Corn Meal. We also know of the old-time treat "Ashum" which is ground roasted corn mixed with some sugar. Roasted Corn is also enjoyed as a tasty treat and can usually be found being prepared over coal-pots by vendors at the side of roads.

Corn can also be converted into various substances which have a wide range of usages, as starch, syrup, cornstarch, dextrin, corn oil, and in the making of whiskey and other alcoholic products. Substances derived from the corn plant include filler for plastics, packing materials, insulating materials, adhesives, chemicals, explosives, paint, paste, abrasives, dyes, insecticides, pharmaceuticals, organic acids, solvents, rayon, antifreeze, soaps, and many more.

A tea made from the corn silk is said to be a stimulant and a reputed folk remedy for such diverse ailments as diabetes, dropsy, dysentery, gingivitis, gout, hepatitis, hypertension, inflammation, influenza, rheumatism, stones, tumours, urinary ailments, and warts.

The Date Tree
(Phoenix dactylifera)

The Date Tree (also known as Date Palm) is thought to be native to North Africa or the Middle East specifically the regions around the Persian Gulf. Over time, Arabic nomads distributed the palm from the desert regions of Arabia through North Africa and eventually to Spain. The Spanish priests (of Columbian times) are thought to be the ones responsible for bringing dates to the Caribbean for their mission gardens.

The Date tree is often called “the tree of life” as it is reported to have as many uses as they are days in the year. Primary use of the tree revolves around the fruits which are eaten fresh or dried, being a high energy food of high sugar content. Dates are great sources of iron, potassium, calcium, magnesium, sulphur, copper and phosphorous. They are also rich in natural fibers and contain many vitamins such as thiamine, riboflavin, biotin, folic and ascorbic acid. A date diet is low in fats and proteins and individuals who enjoy such a diet are less prone to cancers.

Products from the date tree can include date honey, date sugar -- made from juice of fresh fruit, a fermented beverage --made from the date sap; date palm flour--made from pith of tree; the palm heart can be eaten as a salad; oil can be produced from the seeds; the kernels can be ground up or soaked in water for a few days and used for animal food. Locally, the midribs of the date leaves are used to make kites of extraordinary size and strength.

Medicinally, fresh date juice is cooling and laxative. The gum (sap) from the tree is thought to be useful in treatment of diarrhoea and diseases of urinary system. In some countries the fruit is prescribed for asthma, chest complaints, cough and fever.

From since biblical times, the significance of the date tree was renowned. When Jesus was returning to Jerusalem, it was the leaves of the date palm which were spread before him giving rise to the event of “Palm Sunday”.

The Eucalyptus Tree *(Eucalyptus spp.)*

The Eucalyptus tree is a tall, attractive, fast growing tree thought to be native to Australia and Tasmania. The trunk of the tree is smooth and cream colored with a covering of greyish-blue bark that peels off in narrow strips. The leaves of the tree are described as being greenish-blue, fragrant, leathery and sword shaped (or sickle shaped) with pronounced oil glands.

The tree has several commercial and medicinal uses but locally the main use involves the preparation of an herbal tea. The tea is prepared by seeping a few leaves in warm water for a few minutes. The tea is said to be a good treatment for coughs, colds, flu, pneumonia and asthma. It must be noted that eucalyptus tea should not be taken frequently as the oils in the leaves are not easily removed from the kidneys and the liver and over time can build up in the body.

Vapour made by boiling the leaves, bark, or roots, or distilling them in water has been used as an inhalant for blocked nasal passages, coughs and other respiratory ailments. The leaves can also be distilled to produce eucalyptol, which is used internally to treat bronchitis, tuberculosis, and nose and throat inflammations. In some parts of the world, the leaves are prepared for internal use to treat intestinal worms and other parasites.

The oil extracted from the leaves is a strong antiseptic and disinfectant used in lozenges (mints) for sore throats or as a aromatic additive to household disinfectants and cleaners acting as a germ killer and air freshener. Eucalyptus oil can also be mixed with petroleum jelly to make an ointment which can be applied directly on the chest or back to relieve congestion in the lungs. The oil can also be rubbed over aching muscles or trauma sites to stimulate circulation and relieve pain and blood congestion.

The wood of the eucalyptus tree is heavy, durable and fire resistant and can be used in the construction of wharves and bridges, since they are durable in both water and land. It can also be used as fuel wood and in the production of paper pulp. The flowers are also rich in nectar meaning that they can be used in the production of honey.

The Garlic Plant (*Allium sativum*)

The Garlic plant has found uses over the years as a food additive and as a medicine such that due to its antiquated cultivation it is difficult to trace the country of its origins. Even so, studies suggest that garlic is more than likely native to Central Asia.

The name is of Anglo-Saxon origin, derived from gar (a spear) and lac (a plant), referring to the shape of its leaves. Garlic is a member of the same group of plants as Onions, Leeks and common Chives.

While garlic is primarily used as an herb to enhance many food dishes in various cultures, many compounds can be found in its bulbs. It contains vitamins A and C, potassium, phosphorous, selenium, and a number of amino acids.

Most important are the over 75 sulfur containing compounds which are not only responsible for garlic's distinctive odour, but these compounds also provide potent antibacterial properties. The principal compound is called and Allicin, which is the antibacterial substance of garlic with the typical odor of fresh garlic. The garlic odour is so diffusive that when the bulb is applied to the soles of the feet, its odour is exhaled by the lungs.

Medicinally, many marvelous effects and healing powers have been ascribed to Garlic. In the 1970's many experimental studies provided evidence that garlic influences risk factors associated with heart disease, Feeding garlic to patients with coronary heart disease decreased serum cholesterol and triglycerides while increasing HDL (High density lipids) levels. One such study showed garlic can lower serum cholesterol by as much as 9 percent by stimulating the release of bile by the gallbladder and by decreasing the production of cholesterol in the liver. Garlic may also aid in the lowering of blood pressure by slowing the production of the body's pressure raising hormones. Another benefit of garlic is its ability to relax vascular smooth muscle, which prevents the acute increase in pulmonary pressure.

Garlic is also able to stimulate the immune system's white blood cells that destroy foreign organisms. It can be used to treat upper respiratory viral infections because of its ability to clear mucous from lungs, and as an aid for asthma patients. Researchers have found that garlic blocks the action of certain enzymes that help infectious microbes survive in host tissue. Potent antioxidants are found in garlic that protects cell membranes and DNA from damage. It also stimulates the production of the liver's detoxifying enzymes that neutralize carcinogens. This is evidence that higher intake of garlic may reduce some cancer type risks

A reported remedy for asthma is Garlic Syrup, made by boiling the bulbs till soft and adding an equal quantity of vinegar to the water in which they have been boiled The mixture is then sugared and boiled down to a syrup. The syrup is then poured over the boiled bulbs, which have been allowed to dry meanwhile, and kept in a jar. Each morning a bulb or two is to be taken, with a spoonful of the syrup.

The Guava Plant

Guava is a small tree with a spreading, broad top that develops from a short trunk. It is native to the American tropics, ranging from Mexico to Peru, but has become naturalized in practically all tropical and subtropical climates of the world.

Guava fruit shape ranges from round or ovoid to pear-shaped. Size varies from little more than an ounce to nearly a pound or 4 to 10 centimetres. The skin is usually pale yellow at maturity and may range from thin to thick. Seediness varies from few to many. Flavor may be sweet to highly acid, with a very distinctive aroma, which ranges from strong and penetrating to mild and pleasant. While some fruit may be borne almost year-round, especially following very warm winters, most fruit matures in the summer.

Known as the poor man's fruit, or the apple of the tropics, guava is one of the most popular fruits of the tropical and subtropical climates of the world. Consumption of this fruit is very high, providing consumers with the highest concentration of vitamin C of any fruit (even higher than citrus). Guavas also contain iron, calcium, phosphorus, thiamine, niacin and vitamin A as well. Guava fruits are also a good source of pectin, an enzyme used in making jam as well as promoting digestion. Pectin is also a natural compound proven to prevent certain cancers in humans. Reportedly, consumption of guava fruit reduces serum cholesterol levels, and hypertension while increasing the level of good cholesterol.

The guava is still enjoyed as a sweet treat by Indigenous peoples. In the rainforests of Central and South America the leaves and bark of the guava tree have a long history of use for medicinal purposes and are still employed today. A tea made from the leaves and/or bark have been used by many tribes for diarrhea and dysentery and other tribes employ it for stomach upsets, vertigo and to regulate menstrual periods. In traditional medicine today, guava is still employed as a natural medicine. Guava leaves still remain in the Dutch pharmacopoeia and the leaves are still used as a diarrhea treatment in Latin America, Central and West Africa, and Southeast Asia. This long history of use has led modern-day researchers to study guava leaf extracts and its uses as an effective treatment for gastrointestinal disorders has been validated in over eight clinical studies. Guava fruit has also been studied and has demonstrated hypoglycemic properties.

The Ginger Plant *(Zingiber officinale)*

The Ginger Plant is thought to have originated in Asia but is also native to Africa and the West Indies. The name ginger is said to be derived from the Gingi district in India, where ginger was used extensively to treat a variety of ailments. Some say that Ginger was introduced to the Caribbean by Spanish traders in the 16th century.

Ginger is one of the oldest known spices in the world and has been in cultivation for some 3,500 years in Asia and the Far East, and was used extensively in biblical times, both as a herbal medicine and a spice.

Although people refer to ginger as “ginger root”, it is actually the underground stem (rhizome) of the plant that is referred to by that name.

The use of ginger for its medicinal properties have been recorded in ancient Indian and Chinese texts and mentioned in ancient Greek, Roman and Arabic literature.

Traditionally, the medicinal uses of ginger revolve around the properties of ginger to ease stomach ailments and as an anti-inflammatory agent. Ginger tea is used for flatulence (gas) and dried ginger used for stomach problems such as stomach-ache, diarrhea, and nausea. The Chinese also use it to boost the heart and to help with mucus and phlegm.

Noted for its nutritional value, ginger contains lipids, proteins, carbohydrates, many minerals and vitamins, and trace nutrients. Potassium, phosphorous, vitamin C and riboflavin are all present in ginger. Ginger is also an antioxidant and aids the body in warding off certain types of cancers.

One of the chemicals present in Ginger (Gingerol) is said to enhance the medicinal effects of other herbs. Laboratory testing of gingerol have found significant effects on reducing blood pressure, blood glucose, and cholesterol while increasing the body's level of HDL-cholesterol (the good cholesterol).

The use of ginger as a spice is mainly due to its pleasant, aromatic odour and warm pungent taste. It is used in all types of cooking to make stews, curry, bread, pies, puddings, cookies, pastries, biscuits, jams, marmalades, candies and in many other recipes.

The Mango Tree (*Mangifera indica*)

The Mango Tree is an evergreen tree which is thought to have originated in South East Asia specifically India and Malaysia. It is reported that mangoes were introduced into the West Indies around the 1700's by the explorers of that era. The tree is described as a large tree with a broad rounded canopy, long narrow green leaves and numerous red and yellow small flowers. It is reported that a mango tree can live for as much as several hundred years.

There are over a thousand varieties of mangoes found throughout the world today. Locally, some popular mango types include: kidney shaped Kidney mangoes, fragrant "public" mangoes, grafted Julie mangoes, the large "Bellyful" mangoes, and "Hackett" mangoes. The mango fruit is one of the most popular fruits and has been referred to as the "king of tropical fruits". The immature fruit has green skin that gradually turns yellow, orange, purple, red, or combinations of these colors as the fruit matures. Mature fruit has a characteristic fragrance and a smooth, thin, tough skin. The flesh of ripe mangos is pale yellow to orange. The flesh is juicy, sweet, and sometimes fibrous. A 100 g (3.5 oz) serving of raw mango has 65 calories and about half the vitamin C found in oranges. Mango contains more vitamin A than most fruits.

Mango can be eaten raw as a dessert fruit or processed to various products. Ripe fruits can be sliced and canned or processed to juice, jams, jellies, nectars and preserves. Eating mango is said to benefit the stomach, satisfy the thirst, and aid urination. The green mangoes are used for pickles, chutney and relishes. The mango seeds can also be made into a type of flour. In some countries, the seeds are also eaten during periods of food shortages. The timber is used for boats, flooring, furniture and other applications.

It should be noted that the mango tree is a member of the family of trees that include cashews and poison ivy. As such, some people are violently allergic to the milky sap of the leaves, twigs, and skin of the mango fruit itself.

The Neem Tree (*Azadirachta indica*)

Neem trees are attractive evergreens of the mahogany family. From almost the very beginning of recorded human history, people have taken advantage of the remarkable neem tree. Through the multiple uses of the neem, it has earned several nicknames including “the village pharmacy”, “the wonder tree”, “the herbal gold mine” and “the tree of 1001 uses”. The fruit, seeds, oil, bark and leaves of the neem tree contain compounds with proven antiseptic, antiviral, anti-inflammatory, anti-ulcer and antifungal uses. It should be noted that although the Neem tree is reported to be an effective treatment of diseases and ailments ranging from diabetes, A.I.D.S, cancer and heart disease, not many independent studies have been completed to verify all such claims.

The best-established and most widely recognized uses of the Neem tree are based on its merits as a general antiseptic, insecticide and insect repellent. The Neem seed oil and extracts from the leaves are said to be effective in treating skin conditions such as ring worm, acne, warts and scalp related problems such as dandruff and hair loss. It is said that neem reduces blood pressure, blood clots, heart irregularities, cholesterol, insulin dependency in diabetes, intestinal worms and peptic ulcers. The insecticide properties of neem were first noted in India, where in times of locust infestations, the only green trees left standing were the Neem Trees. It is said that neem extracts used on food crops are non toxic to animals and man but protects against 200 of the most costly pests.

In parts of Africa and India, many people use twigs of the neem tree as toothbrushes finding it effective against dental diseases. Extracts of the bark are also used in toothpastes and mouthwashes to prevent and heal gum diseases.

Over thousands of years, neem has been used by hundreds of millions of people and no hazards have been documented for normal dosages. Only at very high levels may neem be toxic, something each of us understands can be true of anything taken internally.

Instructions for natural Neem Insect repellent (used against Aphids)

- Collect the fallen fruits from underneath the trees where they grow.
- The flesh is removed from the seeds and any remaining shreds washed away.
- The seed is carefully dried in airy conditions (in sacks or baskets), to avoid formation of mould.
- When needed, the seeds are shelled, finely grated or pounded, then soaked overnight in a cloth suspended in a barrel of water.
- There should be 2 to 50g of powder per litre of water.
- This solution is then sprayed on infested plants.

The Noni Plant *(Morinda citrifolia)*

The Noni plant is an evergreen tree usually between 5 to 9 metres tall with large shiny dark green leaves, small white flowers, a light brown to light gray bark and oblong fruit with circular scars and a lumpy texture. The edible fruit of the Noni tree is about the size of a potato but said to resemble a breadfruit. Upon ripening, the Noni fruit turns from green to yellow to a whitish color. The ripe fruit has a very pungent aroma and as such the Noni fruit is also called the dog dumpling (in Barbados) because it is said to smell like a dead dog.

Even so, Noni has traditionally been utilized as a great medicinal plant by peoples throughout the world. The plant is said to be native to Southeast Asia where every part of the plant was said to be of use to man. In places such as Fiji, Polynesia, Burma and Australia, the fruit was either traditionally eaten as a famine food or fed to livestock. Some cultures mash the ripe fruit into a puree and extract the juice through a cloth for use as a digestive aid or as a tonic. Noni juice was further used to treat internal ailments such as intestinal worms and parasites, fatigue, and respiratory disorders. Some new studies have also proven that Noni has properties of inhibiting the growth of certain pre-cancerous cells.

You might also hear some people referring to the Noni tree as the painkiller tree or the headache tree because of certain other properties of the plant. The Noni leaves have been crushed with oil and used for the treatment of rheumatic pain, inflammation, ulcers, gout, cough and cold, boils and ringworm. Some individuals grind the green Noni fruit with salt and the paste applied to sooth headaches and broken bones.

The roots and bark of the Noni plant also have medicinal attributes as they can be steeped in warm water and applied to skin wounds and abscesses. The heated leaves are applied to the chest to relieve coughs, asthma and nausea in Malaysia. In the Pacific Islands and Hawaii, the leaves, flowers, fruit and bark are used to treat eye problems, gum and throat problems, constipation and fever. Some people are of the opinion that the Noni juice is also effective in stabilizing blood sugar in diabetes but no scientific evidence supports such claims.

The Papaya Tree (*Carica papaya*)

The papaya tree is arguably one of the most versatile trees known to man. It is said that every part of the tree can be used to nourish the human body. The fruit when ripened, turns from green to orange and can be eaten as is or as part of a meal. The green fruit is also eaten but is first prepared by slicing then steaming in a manner similar to the preparation of steamed squash. In Antigua, the papaya fruit is mistakenly referred to as papaw even though the true papaw fruit is a North American fruit related to the custard apple.

The leaves of the tree contain the enzyme papain which allows the leaves to be used as a meat tenderiser. Tougher cuts of meat can be rolled in a few leaves, left in the refrigerator overnight and will be ready to prepare for lunch. The green leaves can also be chopped and added to soups and stews for added flavour. The leaves may also be simmered in water and served as tea. The leaves can be used as a soap substitute and are reportedly able to remove stains.

The natural properties of the papaya make it one of the best foods for aiding digestion. The natural enzymes balance the stomach's acid levels and reduce the likelihood of stomach ulcers and other such ailments. Extracts from the fruits and seeds possess bactericidal (bacteria killing) properties and are used against *E. coli*, and species of *Staphylococcus* and *Shigella*. The latex collected from green fruits can be used as an antiseptic, a treatment for ringworm and other external fungal infections, and is prescribed for the removal of cancerous growths in Cuba. The skin of the papaya can be refrigerated and used to wash your face. It is reported that the juice can be used to remove freckles and other facial blemishes. In folk medicine, the papaya root is said to be a cure for piles and infusions of the root (seeping the root in hot water) are said to remove urine concretions (kidney stones). The silvery-black, crunchy papaya seeds are edible but rarely used. They do lend a fabulous peppery flavour to salad dressings and can be used as a substitute for capers.

The inner bark is used in some regions for the treatment of sore teeth while the outer bark may be used for making rope as was done by the Amerindians of yesteryear.

The Passion Fruit (*Passiflora edulis*)

The Passion fruit is thought to have originated from the South American mainland, specifically Paraguay, Brazil, and Argentina. The passion fruit is a vigorous, climbing vine that clings to almost any support. It can grow 15 to 20 ft. per year once established and must have strong support. It is generally short-lived – 5 to 7 years but reports of 10 year old plants have been recorded. There are three main types of passion fruit, namely the Purple, the Yellow and the Giant varieties. The yellow passion fruit being a tropical plant is well suited to the climate of the West Indies, explaining its extensive growth locally.

The name of the passion fruit comes from its beautiful flowers, thought to represent the crucifixion of Christ – 5 stamens for the 5 wounds, 3 styles for the 3 nails, 12 petals representing the apostles and white and purple-blue colors for purity and heaven.

The passion fruit itself is usually used in the mixing of beverages or as an additive to other mixed drinks. To harvest the edible portions of the plant, the ripe fruits (having turned from green to yellow) are cut and the pulp removed from the shell. The pulp consists of many small seeds surrounded by a yellowish, gelatinous, aromatic pulp and juice, which is used for flavoring sherbets and for making jams and jellies. The pulp is eaten also directly from the shell with a spoon after a little sugar has been added. Passion fruit juice is a good source of ascorbic acid (vitamin C) and vitamin A. It is rich-flavored and strongly, but pleasantly aromatic. The juice makes an excellent jelly, pie filling or cake frosting.

The passion flower is the part of the plant that is most widely used for medicinal purposes. The Passion flower is said to have valuable sedative and tranquilizing properties and was used by Amerindian peoples for calming effects. Indians throughout the Amazon use the leaf tea as a sedative. Its long documented history in herbal medicine has included its uses for colic, diarrhea, epilepsy, insomnia, Parkinson's Disease, muscle cramps, hysteria, high blood pressure, tetanus, shingles, menstrual cramps and as a pain reliever in various conditions

The leaves are an ingredient in many pharmaceutical products to treat nervous disorders such as irregular heartbeat, anxiety, convulsions and sometimes high blood pressure. They are also used to prevent spasms from whooping cough, asthma and other diseases. The African slaves used the crushed leaves for headaches and sunstroke.

The Peanut Plant
(*Arachis hypogaea*)

The Peanut Plant has been around for approximately 3500 years. It is thought to be originated from the slopes of the Andes in Brazil and in Peru. Portuguese traders, explorers and priests transported the peanut to Africa and Spain. From Africa they traveled by ship to Caribbean. Peanuts were considered an excellent food source for African slaves aboard ships because they were inexpensive and nutritious.

The peanut is a member of the legume family being related to the soybean and black eyed peas. The peanut plant is described as an annual low branching herb with showy yellow flowers. The peanut plant is very interesting in that it flowers above ground but the fruit develops underground. After flowering, a stem like structure called a peg, grows from the flower into the ground, then the peanut pod forms underground.

The roots of the peanut plant contain nodules of nitrogen fixing bacteria which return remarkable amounts of nitrogen to the soil. This makes the peanut a perfect crop to rotate in with soil depleting plants.

The peanut is one of the most nutritious foods on the market today. The seeds consist of 50% oil and 25% protein. Although the protein in peanuts is deficient in sulphur containing amino acids, the percentage of protein in peanuts is higher than in most meats. The remainder of the peanut is carbohydrate, water, fiber, and ash. Peanuts are rich in B-complex vitamins, especially thiamin, riboflavin, and niacin. With all this, and oil which is 80% unsaturated fat, the peanut is an ideal energy source for everyone, especially people on a low cholesterol diet.

In 1903 George Washington Carver, a black inventor, researched the uses of peanuts leading to the development of over 300 uses of the Peanut. These include soap, shampoo, cheese, mayonnaise, ice cream, medicine, ink, bleach, axle grease, and of course a wonderful snack.

The Sorrel Plant (*Rumex acetosa*)

The Sorrel plant is presumed to have originated in South East Asia in the region from India to Malaysia but brought by slaves to the Caribbean. Sorrel is widely cultivated in tropical and subtropical countries and depending on the location, may be known as “Florida Cranberry” for its tart flavour, Roselle or Rosella for its rose-like appearance, Sour-Sour, Queensland jelly plant, Jelly okra or Lemon bush.

The Sorrel is an erect annual plant variously colored dark green to red with alternate lobed leaves and a deep penetrating taproot. The main parts of the Sorrel that are generally used in the Caribbean are the fleshy lobes from the bases of the former flowers. The correct name for this portion of the plant is the Calyx (plural Calyces). There are many varieties of sorrel ranging from the typical Red Sorrel to varieties with pale yellow Calyces.

Sorrel Drink (enjoyed around Christmas) is made by first washing and peeling red lobes of the fruit and then either soaking overnight then boiling or just boiling and let stand till cool. It also may be flavored with ginger and sweetened with sugar or served with ice and the addition of some rum, bitters or essence to taste. The fleshy calyces are also used fresh for making sorrel wine, jelly, syrup, pudding, and cakes, and dried sorrel is used for tea, jelly, marmalade, ice-cream, pies, sauces, tarts, and other desserts. Tender leaves and stalks are eaten as salad and are used for seasoning curries. Seeds can be grounded to be used as an aphrodisiac coffee substitute.

The uses of Sorrel in folk medicine are wide and varied. Sorrel is reported to be antiseptic, aphrodisiac, astringent, aid to digestion, sedative, refrigerant (for reducing fevers) and tonic. Sorrel is a folk remedy for abscesses, bile conditions, cancer, cough, hangover, heart ailments and hypertension. It is also said to decrease the viscosity of the blood, reducing blood pressure and stimulating intestinal movements. Philippines use the bitter root as a tonic Angolans use the leaves as a soothing cough remedy. It is even reported that ingestion of plant extracts can decrease the rate of absorption of alcohol, lessening the intensity of alcohol effects.

The Fleshy lobes of the sorrel are good sources of calcium and iron and the vitamins niacin, and riboflavin. Fresh leaves contain 2-3% protein and contain traces of calcium, phosphorus, and iron.

Fibers derived from the stems of the plant are used in certain industrial situations as material for cords and ropes.

The Soursop Tree *(Annona muricata)*

The soursop tree is a small low-branching evergreen tree, usually around 5 metres (15ft) in height, with smooth glossy green alternate leaves. The soursop is thought to have originated either in the West Indies or South America from where it was transferred to other tropical regions of the world.

Although the leaves, seeds, bark and root of the soursop tree are useful, the fruit is probably the most famous portion of the tree. The fruit is more or less oval or heart-shaped but may become irregular or curved through improper development or insect injury. The soursop is defined as a compound fruit and is covered with a leathery looking but tender, inedible, bitter skin from which protrude few or many stubby soft "spines". The inner surface of the fruit is cream-colored and granular and separates easily from the mass of snow-white, fibrous, juicy segments surrounding the firm core.

To make the delicious soursop drink, the seeded pulp may be pressed in a sieve to extract the rich, creamy juice, which is then beaten with milk or water and sweetened. The seeded pulp can also be blended with an equal amount of boiling water and then strained and sweetened. If an electric blender is to be used, one must first be careful to remove all the seeds, since they are somewhat toxic and none should be accidentally ground up in the juice.

Generally, the fruit and fruit juice are taken for worms and parasites, to cool fevers, to increase mother's milk after childbirth and as an astringent for diarrhea and dysentery. The leaves are traditionally made into a medicinal tea that is used as a fever reducer and as an aid to provide sleep to the restless.

In Peru, uses of the tree include, a leaf tea used for inflammation of mucous membranes, crushed seeds are used to kill parasites, the bark, roots, and leaves are used for diabetes and as a sedative and to prevent spasms. Amerindian tribes in Guyana use a leaf and/or bark tea as a sedative and heart tonic and for liver problems while the oil of the leaves and unripe fruit is mixed with olive oil and used externally for rheumatism, and arthritis pain. In Jamaica and Haiti, the bark or leaf is used as a sedative, and nerve tonic for heart conditions, coughs, grippe, difficult childbirth, asthma, hypertension, and parasites. Local folklore states that the core or heart of the soursop can be eaten to prevent bed-wetting.

Preliminary studies of the anti-cancer properties of the soursop tree have been very interesting as chemicals derived from the tree have shown promising effects on different cancer cell lines, including cancer of the breast, prostate, and colon.

One laboratory study has demonstrated that a specific chemical from the Soursop tree had 10,000 times the effectiveness of a known chemotherapy drug against a type of colon cancer cell.

Soya Plant
(*Glycine maxima*)

Although the opinions differ as to the origins of the Soya Plant, the two main trains of thought suggest its genesis in either Asia or Africa. The soya plant (also known as the Soy Plant), just like beans or peas, is a leguminous plant. The soy plant is an erect, hairy plant from 0.6 to 1.5m (2 to 5 ft) in height, with large trifoliate leaves, small white or purple flowers, and short pods with one to four seeds. On maturity, which is reached from 100 to 150 days after planting, depending on variety, location, and weather, the leaves turn yellow and drop, and the pods rapidly become brown and dry.

The seeds of the soy plant, which are almost spherical in shape, are usually light yellow, but some rare varieties are black, brown or green. They have a black, brown or yellow hilum (seed scar) and are an excellent source of good quality protein and compares well with other protein foods. The soybean contains about 38% protein, 18% oil, 15% soluble carbohydrates, 15% insoluble carbohydrates and 14% other components (a.o. moisture and ash). Soybean oil is rich in polyunsaturated fatty acid and contains no cholesterol. Soybeans are also a good source of calcium, iron, zinc, phosphate, magnesium, B vitamins and folate and because of their abundance bioavailability is not a problem. Eight essential amino acids are found in soybeans which are necessary for human nutrition and are not produced naturally in the body.

Soy milk and its related food products are getting popularised throughout the world due to their nutritional and medicinal qualities. Soy milk is high in protein and low in fat and carbohydrate and contains no cholesterol. It is an excellent food for babies, children and the elderly people including pregnant and lactating women as it contains vegetable protein that is very easy to digest.

Unique and useful products made from soybeans include candles, crayons and lotions, to healthy and flavorful soyfoods.

The Sugar Apple Tree (*Annona squamosa*)

The Sugar Apple is native to the Caribbean, Central America and northern South America, but is also very popular in other tropical or near tropical areas of the world. It is also called the sweetsop (in Jamaica and Bahamas) and it is a relative of the Soursop and the Custard Apple.

The sugar apple tree ranges from 10 to 20 ft (3-6 m) in height with open crown of irregular branches, and some-what zigzag twigs. The sugar apple is defined as a compound fruit, which is nearly round or conical with a thick rind composed of pale-green, gray-green knobbly segments. The ripe fruit when opened reveals the mass of conically segmented, creamy-white, fragrant delicious flesh. There may be a total of 20 to 38, or perhaps more, seeds in the average fruit. Some varieties of the trees have been bred to bear seedless fruits (through Grafting etc.).

The ripe sugar apple is usually broken open and the flesh segments enjoyed while the hard seeds are separated in the mouth and spat out. The flesh of the sugar apple can be pressed through a sieve (strainer) to eliminate the seeds and then added to ice cream or blended with milk to make a cool beverage.

The seeds are acrid and considered poisonous to humans. The powdered seeds (also pounded dried fruits) serve as fish poison and insecticides in India. A paste of the seed powder has been applied to the head to kill lice but must be kept away from the eyes as it is highly irritant and can cause blindness. Heat-extracted oil from the seeds has been employed as an agricultural pesticide.

In Antigua, taking a bath with leaves of the sugar apple tree is said to alleviate the pains of rheumatism. The sugar apple leaves can be used in conjunction with other leaves (such as soursop) and is said to break fevers (colloquially "Barking your skin").

In India, the crushed leaves are sniffed to overcome hysteria and fainting spells; they are also applied on ulcers and wounds. Throughout tropical America, a decoction of the leaves alone or with those of other plants is drunk either as a tonic, cold remedy, digestive aid, or to clarify the urine.

The green fruit is employed against diarrhea in El Salvador. In India, the crushed ripe fruit, mixed with salt, is applied on tumors. In other parts of the world, the bark is given as a tonic and to halt diarrhea. The root is said to possess a strong purgative action and is sometimes used to treat gastric and digestive ailments.

The Sugar Cane
(*Saccharum officinarum*)

Sugar cane is actually classified as a type of grass composed of six species of which four species are cultivated for agricultural uses. Sugar cane was originally grown for the sole purpose of chewing in southeastern Asia and the Pacific. The rind was removed and the internal tissues sucked or chewed. The species of cane most commonly found in the region, is the so-called Noble cane, which is characterized by high sugar and juice contents. Production of sugar by boiling the cane juice was first discovered in India, most likely during the first millennium BC. It is said that in 1493 (on his second voyage) Christopher Columbus transported sugar cane from the Canary Islands to Hispaniola (now the Dominican Republic) where the first New World sugar cane mill began grinding in about 1516.

Although the production of sugar is the most popular use of the sugar cane, there are a few other uses that deserve mention. Sugarcane stalks may be used for making paper, plastics, fuel and cattle food. Molasses is a by-product of the manufacturing of cane sugar and was historically used as a fertilizer of cane soils. Molasses is also used to feed animal stocks due to its high carbohydrate content. Molasses, along with cane juice and other by-products can be fermented to produce the alcoholic distillate, otherwise known as rum. Ethanol is another alcohol produced from molasses, which in itself has many uses. The main uses are in vinegar, cosmetics and pharmaceuticals, cleaning preparations and solvents, and coatings. One of the future uses of ethanol, which is currently being studied, is as a gasoline extender. Still other products produced from molasses are butanol (a solvent), lactic acid (a solvent), citric acid (mostly for foods and beverages) and glycerol. Another useful by-product of sugar production is bagasse, the fibrous residue left after the juices are extracted from the cane. It is the main source of fuel in sugar factories. It can also be used in making paper, cardboard, fiber board, and wall board. Cane wax can be derived from the residues of the sugar production process and can be used in the production of polishes and insulation.

The Tamarind Tree
(*Tamarindus indica L.*)

The Tamarind Tree is native to tropical Africa but because of its widespread distribution, some say it originated in India while others say tropical America. Regardless of its origins, the tamarind tree has many properties enabling it useful for household, industrial and medicinal applications. Here in Antigua, it is the fruit that is most commonly used and enjoyed in various forms. The green fruit (colloquially called “Chickie” or “Flour-y”) is usually eaten fresh and savoured for its tart and tangy taste. Locally, the ripe tamarind is boiled, the pulp strained and the juice sweetened to make the refreshing tamarind drink. The fruit is also rolled in sugar and spices to make tamarind balls or boiled with sugar and cinnamon to make tamarind stew.

In other parts of the world, the tender leaves and very young seedlings and flowers are cooked and eaten as greens and as curry ingredients. In Africa, the leaves are added to soups and the flowers are used as salad ingredients. In South America, the sour, immature pods are cooked with rice, fish and meats as a seasoning. The tamarind pulp is used in a variety of products, such as chutney, curry and sauces.

The pulps of tamarind fruits contain sugar, acetic acid, tartaric acid, formic acid, citric acid, iron, phosphorous and high calcium content. The acids in the tamarind make it useful for reducing fevers and the fruit is said to be effective in treating bile disorders. The pulp can be applied on inflammations and may be used as a gargle for sore throat. Mixed with salt, it is useful as an ointment for rheumatism. Some older people believe that eating tamarind can prevent alcoholic intoxication. The tamarind fruit is said to clean the blood and the flowers are said to reduce blood pressure. The leaves are some times used in infusions, which is said to destroy worms in children, and is also useful for jaundice, and externally as a wash for sore eyes and ulcers.

Industrially, fine silk fibres are derived from the leaves and used in delicate embroidery. The leaves, flowers and bark are used in the dyeing industry. The bark is also said to be useful in treating asthma. The wood from the tamarind tree is very hard, heavy, strong and insect-resistant. It is used for furniture, panelling, boat planking and wooden hand tools. The wood is an excellent fuel giving off an intense heat. Even the seeds can be used as they produce a type of oil, which can be used as varnish.

The Wild Tamarind
(Leucaena leucocephala)

Local knowledge of the wild tamarind is generally limited to the belief that the plants are weed-like shrubs with minimal use and value that occupy unused or disturbed land. However, the wild tamarind tree is a multipurpose tree with extremely wide range of uses, exploited throughout tropical and subtropical countries.

During the 1970s and early 1980s the wild tamarind was known as the 'miracle tree' because of its worldwide success as a long-lived and highly nutritious source of food for animals. As animal fodder (feed), the wild tamarind is low in sodium and iodine but high in protein, vitamin A and Beta-carotene. In the old days, Antiguan farmers would use the wild tamarind plant in times of drought as food for their animals. The leaves and pods would be mixed with molasses (from the rum factory) and fed to the animals, providing an alternative and economical food source.

The wild tamarind is also a useful source of poles, timber (from larger trees), firewood, charcoal and material for making fish pots. In some areas of the world, the pods are cooked and eaten and the seeds roasted and grounded to make coffee. The gum (sap) of the wild tamarind can be used as a substitute for gum arabic, which is used in confections (sweets), pharmaceuticals, ceramics and the manufacture of soft drinks and diet drinks.

Research is currently underway investigating the chemical properties of the wild tamarind as an insecticide and fungicide.

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