Learning more about the food we eat & how it affects the way we live

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Disclaimer: It is important to note that the information presented in the Nutraceutical Garden Guide concerning nutraceuticals has been collected from current research as well as tradition and theory.

Use of any plants for medicinal benefits should always be used with caution and consultation from a doctor or qualified health professional.
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How much do you really know about the food you eat? Plants offer us a myriad of benefits. Most people are familiar with the nutritional benefits of fruits and vegetables but there are a host of other plants that offer not only nutritional benefits as well as medicinal benefits. This notion was the inspiration behind the ISU Horticulture Center's Nutraceutical Garden.

**Nutraceutical Defined**

The word nutraceutical was first contrived by Stephen DeFelice, M.D., founder and chairman of the Foundation for Innovation in Medicine in the 1980s. The term, which combines the word nutrition and pharmaceutical, is defined as a food that contains a medical health benefit beyond that of basic nutrition. Many nutraceuticals are desired for their preventative characteristics and possible treatment of disease. One of the more common examples is lycopene, which is found in tomatoes and may aid in the maintenance of prostate health in men. Nutraceuticals are among the fastest growing components in the food industry.

The original idea for the garden came from the grain guy himself, Kent Seymour. Many plants offer nutritional and medicinal benefits but the flora kingdom is huge – where does one start? After much discussion, a group of HC volunteers, horticulture students and the HC Coordinator decided that the garden should focus on six different types of plants. Therefore, The Nutraceutical Garden is divided into six components each one focusing on these different plant types. These are Vegetables, Herbs, Herbaceous Plants, Grains & Legumes, Fruit and Common Weeds.

The vegetable and the fruit components were an obvious choice for the garden. The grains and legumes component was added because of their vital role in a healthy diet. The herb component was officially separated from herbaceous plants (e.g. Echinacea) because of its nutritional and culinary usage. The common weed component was added as an alternative view point as many weeds have both nutritional and medicinal qualities.

**Installation**

The enthusiasm for the project lead to a partnership in research, design, and installation with students and volunteers working together. The research was in-depth and included origin, history, description, nutrition and medicinal qualities, uses, and sources. A landscape design was created for each component by the students. Five of the components were established as the featured garden of the Center in 2008. The weed component was grown in containers. Each garden continues to offer its own unique presentation, while at the same time being interpretative in nature.
WEED COMPONENT
BURDOCK
(Arctium lappa, Arctium minus)

Origin – It is native to Europe, particularly the Mediterranean.

Health Benefits – It is used as an appetite stimulant, as a tonic in treatment of gallstones, to treat sinus problems, and heal cuts and bruises.

Description – It looks similar to dandelion with toothed, green leaves. Grows in sunny locations with poor soil. Violet blue flowers open in the morning and close in the afternoon.

CHICORY
(Cichorium intybus)

Origin – It is native to the old world.

History - It is one of the foremost detoxifying herbs in both Chinese and Western herbal medicine.

Nutrients – It contains dietary fiber, calcium, potassium, amino acids and polyphenols.

Health Benefits – It is used to treat conditions caused by an ‘overload’ of toxins, such as throat and other infections, boils, rashes and other skin problems. It may be most effective for psoriasis if used over a long period of time. The root is thought to be particularly good at helping to eliminate heavy metals from the body. The plant is also part of a North American formula called essiac, which is a popular treatment for cancer. Its effectiveness has never been reliably proven or disproven since controlled studies have not been carried out. The plant has antibacterial, anti-fungal, carminative properties. It has soothing, mucilaginous properties and is said to be one of the most certain cures for many types of skin diseases, burns, bruises, etc. It is used in the treatment of herpes, eczema, acne, impetigo, ringworm, boils, bites, etc.

Description – It has coarse, wavy-edged leaves with white woolly undersides grow as large as 2 feet long and 1 foot wide. Burdock has a two-year life cycle; in mid-spring of the second year it sends up a central stalk from 2 to 9 feet tall with purple thistle-like flowers that will bloom in midsummer. Burdock can be recognized by the brown burs that stick to clothing. The root is dark brown with a creamy white interior and can grow several feet long and 3 inches in diameter.

HORSEWEED
(Conyza canadensis)

Origin – It is native to north and Central America.

Health Benefits – It has diuretic properties and used to treat diarrhea, kidney stones, diabetes, and nosebleeds. It produces an allergic reaction in some people.

Description – It grows upright in a basal rosette, growing 4-5 feet tall. The inflorescence is a panicle of heads with white to pink flowers and is commonly spread by seed.

Where to Get - Sand Mountain Herbs
GROUND IVY, CREEPING CHARLIE (Glechoma microcarpa)

**Origin** – It is native to Europe and southwestern Asia.

**History** – Its medicinal qualities have been known since the days of ancient Greece and Rome. It was imported to America by early European settlers. It was also widely used by the Saxons in brewing beer as flavoring, clarification, and preservative, before the introduction of hops for these purposes.

**Nutrients** – It contains Vitamin C.

**Health Benefits** – The juice contains diuretic properties and can be applied topically as an astringent. The fresh herb can be rinsed and steeped in hot water to create an herbal tea, which is rich in vitamin C. The essential oil of the plant has many potent medicinal properties. The plant has been used for centuries as a general tonic for colds and coughs and to relieve congestion of the mucous membranes. It has been demonstrated to have anti-inflammatory properties and be useful in the prevention and treatment of scurvy.

**Description** – Both species grow in a circular cluster, with leaves that are joined at the stem and have distinct parallel veins. *P. major* has broad, oval leaves that are close to the ground. It sends up a slender central stalk in mid-spring that is densely covered with tiny white flowers. *P. lanceolata* has long, narrow lance-shaped leaves that stand upright, with a slender flower stalk and a short, cylindrical flower head.

**Where to Get** - Sand Mountain Herbs

PURSLANE (Portulaca oleracea)

**Origin** – It is native to India and the Middle East.

**History** – It is known as “Sanhti or Punarva” in North India it is known to act as a liver tonic and is used in diseases of the liver.

**Nutrients** – It is a source of Vitamin A, C and E, plus contains an omega-3 fatty acid.

**Health Benefits** - In Greek popular medicine, purslane is used as a remedy for constipation and inflammation of the urinary system.

**Description** – It has smooth, reddish, mostly prostrate stems and alternate leaves clustered at stem joints and ends. The yellow flowers have five regular parts and are up to 6 mm wide. The flowers first appear in late spring and continue into mid fall. The flowers open singly at the center of the leaf cluster for only a few hours on sunny mornings. Seeds are formed in a tiny pod, which opens when the seeds are ready. Purslane has a taproot with fibrous secondary roots and is able to tolerate poor, compacted soils and drought.

**Description** – It is a creeping perennial with round or kidney shaped leaves, usually found in moist, shaded areas, but also does well in full sun. It has funnel-shaped flowers that are light blue to lavender and form in clusters. It commonly spread by stolons, but also spreads by seed.
The Nutraceutical Garden: The Weed Component
by Jenna Rozum

Where to Get: Bakers Creek

SHEEP’S SORREL
(Rumex acetosella)

Origin – It is native to Europe and Asia.

Nutrients – It contains beta carotene, tartaric acid, and oxalates.

Health Benefits – It is best known as an ingredient of Essiac, a Native American anti-cancer remedy. It also is used in folk remedies to treat inflammation, diarrhea, scurvy and fever. The leaves can be made into a tea for use as a diuretic and they also contain astringent properties.

Description – Its leaves are produced in a basal rosette and have smooth margins. It has a shallow yellow taproot; male flowers are yellow-green and female flowers are reddish-brown and produced all summer long.

Where to Get - Bakers Creek

DANDELION
(Taraxacum officinale)

Origin – It is native to temperate areas of the Northern hemisphere of the old world

History - The first mention of the medicinal qualities of dandelion date back to Arabian physicians of the tenth and eleventh century. The genus name, Taraxacum, is derived from the Greek taraxos (disorder) and akos (remedy) due to the plant’s recognized healing actions. The species name, officinale, means, “used in the office or the workshop.” Both the roots and leaves are used medicinally. The English name dandelion is a corruption of the French dent de lion, meaning lion’s tooth, referring to the coarsely-toothed leaves. In modern French the plant is called pissenlit, which means “urinate in bed”, apparently referring to its diuretic properties. Likewise, “pissabeds” is an English folkname for this plant.

Nutrients - The leaves are high in vitamin A, vitamin C and iron (carrying more iron and calcium than spinach), luteolin, potassium, and an antioxidant.

Health Benefits – It is used as a high cholesterol treatment, potassium-rich diuretic, liver stimulant. It is considered a tonic (tones the body), helps reduce water weight gain, used as a mild laxative, helps to eliminate toxins from the blood, promotes healthy digestion and will soothe an irritated stomach, acts as an anti-rheumatic, helps support the liver and kidneys, keeps the bowels in a healthy condition, stabilizes blood sugar, reduces blood pressure, has shown anti-tumor properties and clears the skin of impurities. The milky juice from the stems and leaves acts as a fungicide and has antibacterial properties. The juice has been shown to be effective in the treatment of warts (helping get rid of them without damaging

Where to Get - Sand Mountain Herbs

CHICKWEED
(Stellaria media)

Origin – It is native to all temperate and north Arctic regions

History- It has naturalized itself wherever the white man has settled, becoming one of the commonest weeds.

Nutrients – It contains Vitamin C and flavonoids. Health Benefits – It treats kidney ailments, coughs, and obesity; Chickweed was reportedly used at times for food. It enjoys a reputation in folk medicine for treating a wide spectrum of conditions, ranging from asthma and indigestion to skin diseases such as eczema and psoriasis. It is sometimes used to alleviate itching secondary to insect bites.
the surrounding skin), corns, stings and blisters. The milky latex has been used as a mosquito repellent.

**Description** - The leaves are 5-25 cm long, simple and basal, entire or lobed, forming a rosette above the central taproot. As the leaves grow outward they push down the surrounding vegetation, such as grass in a lawn, which kills other plants by cutting off their access to sunlight. A bright yellow flower head (which is open in the daytime but closes at night) is borne singly on a hollow stem (scape), which rises 4-30 cm above the leaves and exudes a milky sap (latex) when broken. A rosette may produce several flowering stems at a time. The flower head is 2-5 cm in diameter and consists entirely of ray florets.

**Where to Get** - Sand Mountain Herbs

### RED CLOVER  
*(Trifolium pratense)*

**Origin** – It is native to Europe, western Asia, and northwest Africa.

**History** - Pratense is Latin for ‘found in meadows.’

**Nutrients** – It contains an abundance of nutrients, including antioxidant vitamins and minerals.

**Health Benefits** – It has tonic properties. It also helps to relieve coughs and chest congestion because of its anti-spasmodic and mucus-loosening properties, and helps relieve allergies.

**Description** – It has oval leaves that grow in groups of three with distinctive white “V” markings in the center. Thimble-size pink to purplish-red flower heads appear in early spring. Plant can grow up to 18 inches tall.

**Where to Get** - Sand Mountain Herbs

### MULLEIN  
*(Verbascum thapsus)*

**Origin** – It is native to Europe, northern Africa, and Asia

**Health Benefits** - A tea made from dried mullein leaf relieves congestion, soothes irritated respiratory passages, and helps treat respiratory infections such as bronchitis. It has emollient and astringent properties and is used topically for a variety of skin problems.

**Description** – It has large, broad gray-green velvety leaves that grow in a circular pattern and are joined at the base of the stem. Like burdock, mullein (pronounced mull- in) has a two-year life span. A yellow flower spike 8 feet tall appears during the second year.

**Where to Get** - Baker Creek

### NETTLE  
*(Urtica dioica)*

**Origin** – It is native to Europe, Asia, northern Africa, and North America.

**Nutrients** – It is rich in nutrients, including calcium, magnesium, iron, potassium, vitamin C, carotenes, and amino acids.

**Health Benefits** – It has tonic properties, strengthens the body, used for alleviation of allergies, and has anti-itch properties.

**Description** – It has toothed, pointed dark-green leaves with a heart-shaped base that grows in opposite pairs on a ribbed, hollow stem that grows 1 to 5 feet tall. Clusters of inconspicuous green flowers appear at the base of the leaves in late spring.

**Note:** This plant is also known as stinging nettles because it is entirely covered with tiny hairs that cause intense stinging upon contact.

**Where to Get** - Sand Mountain Herbs

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**Where to Get** - Baker Creek
VEGETABLE COMPONENT
LEEK
(Allium ampeloprasum porrum)

Origin & History - Leeks were prized by the ancient Greeks and Romans and were especially revered for their beneficial effect upon the throat. The Greek philosopher Aristotle credited the clear voice of the partridge to a diet of leeks, while the Roman emperor Nero supposedly ate leeks everyday to make his voice stronger. The Romans are thought to have introduced leeks to the United Kingdom, where they were able to flourish because they could withstand cold weather. Leeks have attained an esteemed status in Wales, where they serve as this country’s national emblem. The Welsh regard for leeks can be traced back to a battle that they successfully won against the Saxons in 1620, during which the Welsh soldiers placed leeks in their caps to differentiate themselves from their opponents. Today, leeks are an important vegetable in many northern European cuisines and are grown in many European countries.

Nutrients - Leeks are a very good source of manganese and a good source of vitamin C, iron, folate and vitamin B6.

Health Benefits - Leeks help to lower LDL (bad) cholesterol while raising HDL (good) cholesterol. They may also reduce the risk of prostate and colon cancers and possibly protect against ovarian cancer. The combination vitamin B6, vitamin C, folate, and iron make leeks particularly helpful in stabilizing blood sugar, since they not only slow the absorption of sugars from the intestinal tract, but help ensure that they are properly metabolized in the body.

ONION
(Allium cepa)

Origin & History - Onions are native to Asia and the Middle East and have been cultivated for over five thousand years. Onions were highly regarded by the Egyptians who used them as currency to pay the workers who built the pyramids and placed them in the tombs of kings, such as Tutankhamen, so that they could carry these gifts bestowed with spiritual significance with them to the afterlife. Onions have been revered throughout time not only for their culinary use, but also for their therapeutic properties. As early as the 6th century, onions were used as a medicine in India. While they were popular with the ancient Greeks and Romans, they were often dressed with extra seasonings since many people did not find them spicy enough. It was their pungency that made onions popular among poor people throughout the world which could freely use this inexpensive vegetable to spark up their meals. Onions were an indispensable vegetable in the cuisines of many European countries during the Middle Ages and later even served as a classic healthy breakfast food. Christopher Columbus brought onions to the West Indies where their cultivation spread throughout the Western Hemisphere.

Nutrients - Onions are a very good source of vitamin C, chromium and dietary fiber. They are also a good source of manganese, molybdenum, vitamin B6, folate, potassium, phosphorus and copper.

Health Benefits - All members of the onion family offer some protection against heart disease. Research suggests that oils in onions (as well as other members of the onion family) help to lower LDL in the blood stream while increasing HDL levels.
Onions are also a good source of chromium, a mineral that helps cells respond appropriately to insulin. Onions contain flavonoids which have been shown to halt the growth of tumors in animals and protect colon cells from the damaging effects of certain cancer-causing substances. Cooking meats with onions may help reduce the amount of carcinogens produced when meat is cooked using high heat methods. Certain flavonoids found in onions have been linked to a reduction in the risk of ovarian cancer, as well. Anti-inflammatory agents in onions make them helpful in reducing severity of osteo- and rheumatoid arthritis symptoms. Mature, dry onions are also a good source of fiber. Only scallions and green onions contain vitamin A.

SHALLOT
*(Allium esculentum)*

**Origin & History** - Shallots are thought to have originated from Ascalon, an ancient Palestinian city. They were first introduced to Europeans during the 12th Century by the Crusaders who brought them home as “valuable treasure” from Ascalon.

**Nutrients & Health Benefits** - Shallots are high in vitamin C, potassium, fiber, folic acid, calcium, iron and a good source of protein. Shallots contain two types of sulphur compounds Allypropyldisulphine (APDS) and flavonoids such as quercetin. People who consume a lot of flavonoids have been shown to have a reduced chance of developing cancer, heart disease and diabetes, due to the wonderful antibacterial properties they process. As an added benefit they are also anti-inflammatory, antiviral, and anti-allergenic. Shallots are especially good at helping the liver to eliminate toxins from the body, which is essential in the chemically processed foods that the masses enjoy, as well as helping to process alcohol. Shallots also contain saponins which have been shown to inhibit and kill cancerous cells in the body.

COMMON GARLIC
*(Allium sativum)*

**Origin & History** - Native to central Asia, garlic is one of the oldest cultivated plants in the world and has been grown for over 5000 years. Ancient Egyptians seem to have been the first to cultivate this plant that played an important role in their culture. It was given to the slaves who built the pyramids to enhance their strength and endurance. Greek and Roman athletes ate garlic prior to sporting events and soldiers consumed it before going to war. In the past few years, garlic has gained popularity as research has confirmed its health benefits.

**Nutrients** - Garlic is an excellent source of manganese as well as a very good source of vitamin B6 and vitamin C. In addition, garlic is a good source of protein and thiamin (vitamin B1), the minerals phosphorous, selenium, calcium, potassium, iron and copper.

**Health Benefits** - Garlic’s cardiovascular benefits have been documented, and it is known to prevent atherosclerosis and diabetic heart disease, as well as reducing the risk of heart attack or stroke. Garlic’s numerous beneficial cardiovascular effects are due to not only its sulfur compounds, but also to its vitamin C, vitamin B6, selenium and manganese. Garlic is a very good source of vitamin C and vitamin B6, compounds that inhibit or reduce inflammation of osteoarthritis and may protect against many forms of cancer. It may also protect against drug-resistant strains of bacteria and may promote weight control.

CELERY
*(Apium graveolens Dulce)*

**Origin & History** - The celery that we know today was derived from wild celery, thought to have its origins in the Mediterranean regions of northern Africa and southern Europe. The initial mention of the me-
The Nutraceutical Garden: The Vegetable Component

by Shirley Murphy & Cathy Trowbridge

dicinal properties of celery leaves dates back to the 9th century B.C. The Ancient Greeks used the leaves as laurels to decorate their renowned athletes, while the ancient Romans used it as a seasoning. Celery’s use expanded beyond medicine in the Middle Ages and it become popular during the 18th century in Europe. Celery was introduced in the United States early in the 19th century.

**Nutrients** - Celery is an excellent source of vitamin C and a very good source of dietary fiber, potassium, folate, molybdenum, manganese and vitamin B6. It is also a good source of calcium, vitamin B1, vitamin B2, magnesium, vitamin A, phosphorus and iron.

**Health Benefits** - Celery contains vitamin C and several other active compounds that promote health, including phthalides, which may help lower cholesterol, and coumarins, that may be useful in cancer prevention. Rich in potassium and sodium, celery can act as a diuretic and regulate fluid balance.

**PARCEL**
*(Apium graveolens Zwolsche Krul)*

Parcel is a culinary herb version of celery which closely resembles flat leaf parsley in appearance but has a celery aroma and taste and combines the nutritional values of parsley and celery.

**Origin & History** - Asparagus officinalis - Asparagus

**Nutrients** - Asparagus is an excellent source of vitamin K, the B vitamin folate, vitamin C, vitamin A. Asparagus is also a very good source of numerous B vitamins-including vitamins B1, B2, B3 and B6-as well as dietary fiber, manganese, copper, phosphorous, potassium and protein.

**Health Benefits** - Asparagus is a good source of folate, essential for a healthy cardiovascular system. It also contains a special kind of carbohydrate called inulin that we do not digest, but the health-promoting friendly bacteria in our large intestine, such as Bifidobacteria and Lactobacilli, do. Asparagus is a birth defect fighter: asparagus supplies folate, a B-vitamin essential for proper cellular division because it is necessary in DNA synthesis. Without folate, the fetus’ nervous system cells do not divide properly.

**BEET**
*(Beta vulgaris)*

**Origin & History** - The wild beet, the ancestor of the beet with which we are familiar today, is thought to have originated in prehistoric times in North Africa and grew wild along Asian and European seashores. In these earlier times, people exclusively ate the beet greens and not the roots. The ancient Romans were one of the first civilizations to cultivate beets to use their roots as food. The tribes that invaded Rome were responsible for spreading beets throughout northern Europe where they were first used for animal fodder and later for human consumption becoming more popular in the 16th century.

**Nutrients** - Beets are an excellent source of the B vitamin, folate, and a very good source of manganese and potassium. Beets are a good source of dietary fiber, vitamin C, magnesium, iron, copper and phosphorus. The greens are also incredibly rich in nutrients, concentrated in vitamins and minerals as well as carotenoids such as beta-carotene and lutein/zeaxanthin.
**Health Benefits** - Beets are excellent cancer fighters: betacyanin, the pigment that gives beets their rich, purple-crimson color, is also a powerful cancer-fighting agent. Beets’ potential effectiveness against colon cancer, in particular, has been demonstrated in several studies. Beets may also protect against heart disease due to their protective antioxidant activity: in studies, total cholesterol dropped 30%; triglycerides dropped 40% and HDL (beneficial cholesterol) level increased significantly. Beets may also protect against birth defects: they are particularly rich in the B vitamin folate, which is essential for normal tissue

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**SWISS CHARD**  
(*Beta vulgaris var. cicla*)

**Origin & History** - Swiss chard is not native to Switzerland, but the Swiss botanist Koch determined the scientific name of this plant in the 19th century and since then, its name has honored his homeland. The actual homeland of chard is in the Mediterranean region, and in fact, the Greek philosopher, Aristotle wrote about chard in the fourth century B.C. The ancient Greeks and Romans honored chard for its medicinal properties.

**Nutrients** - Swiss Chard is a good source of Vitamin K, vitamin A, vitamin C, magnesium, manganese, potassium, iron, vitamin E, and dietary fiber; copper, calcium, vitamin B2, vitamin B6, protein, phosphorous, vitamin B1, zinc, folate, biotin, niacin and pantothenic acid.

**Health Benefits** - Both the leaves and the roots of Swiss chard have been the subject of numerous health studies. The phytonutrients and fiber in this food appear to be particularly effective in preventing digestive tract cancers. Several research studies on chard focus specifically on colon cancer, where the incidence of precancerous lesions in animals has been found to be significantly reduced following dietary intake of Swiss chard extracts or fibers. Both vitamin A and beta-carotene are important vision nutrients and may help to protect against certain forms of cancer, particularly epithelial or skin cancers. Preliminary animal research also suggests that Swiss chard may have a protective effect on the kidneys of those with diabetes and the vitamin K provided is important for maintaining bone health. Swiss chard is also an excellent source of vitamin A due to its concentrated beta-carotene content. The vitamin C in chard is vital for the proper function of a healthy immune system and is good for preventing colds and may be helpful in preventing recurrent ear infections. Both vitamins C and E are also associated with reduced severity of inflammatory conditions, such as asthma, osteoarthritis, and rheumatoid arthritis. Chard is also a good source of potassium, which is essential for maintaining normal blood pressure and heart function, as well as iron, which enhances oxygen distribution throughout the body, keeps the immune system healthy and helps the body produce energy. Vitamin E has also been shown to reduce the risk of colon cancer, aid in the prevention of cardiovascular disease and help decrease the severity and frequency of hot flashes in women going through menopause, and help reduce the development of diabetic complications. Because of its ability to reduce blood glucose, chard is one of the medicinal herbs used by diabetics in Turkey.

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**MUSTARD GREEN**  
(*Brassica juncea*)

**Origin & History** - Mustard greens originated in the Himalayan region of India and have been grown and consumed for more than 5,000 years. Mustard greens are a notable vegetable in many different cuisines, ranging from Chinese to Southern American. Like turnip greens, they may have become an integral part of Southern cuisine during the times of slavery, serving as a substitute for the greens that were an essential part of Western African diets.

**Nutrients** - Mustard greens are an excellent source of many vitamins including vitamin A, vitamin C, fo-
late, and vitamin E. They are also an excellent source of the mineral manganese and dietary fiber.

**Health Benefits** - One of the unique features of mustard greens is that they are an excellent source of three notable antioxidants: vitamin E, vitamin C and vitamin A (through their concentration of beta-carotene). These three nutrients team up to combat free radicals, which not only cause damage to the molecules with which they interact, but have been linked to a host of different diseases and health conditions. Vitamin E helps to lower the risk of developing asthma and may lessen the severity in individuals who already have symptoms. Magnesium helps to smooth muscle cells, like those lining the bronchial tubes and lungs, which also aid those with asthma. Vitamins E and B6, combined with folic acid and magnesium, also contribute to healthy cardiovascular systems. Mustard greens’ calcium also support bone health and may be helpful in reducing symptoms of menopause. Like other members of the Brassica family (broccoli, Brussels sprouts, cabbage, etc.) mustard greens also contain the phytonutrients known as glucosinates, which are believed to contribute the cancer prevention. The vitamin E found in mustard greens also slows the loss of mental function.

**KALE**
*(Brassica oleracea acephala)*

**Origin & History** - Like broccoli, cauliflower and collards, kale is a descendent of the wild cabbage, a plant thought to have originated in Asia Minor and to have been brought to Europe around 600 B.C. by groups of Celtic wanderers. Curly kale played an important role in early Europe, having been a significant crop during ancient Roman times and a popular vegetable eaten by peasants in the Middle Ages. English settlers brought kale to the United States in the 17th century. Ornamental kale, originally a decorative garden plant, was first cultivated commercially in the 1980s in California. Ornamental kale is now better known by the name salad Savoy.

**Nutrients** - Considered to be one of the most highly nutritious vegetables, kale is an excellent source of vitamin A, vitamin C (one cup of kale provides nearly 90% of the daily requirement) and manganese. It is also a very good source of dietary fiber, copper, calcium, vitamin B6 and potassium.

**Health Benefits** - Although there are over 100 different glucosinolates in plants, the 10-15 present in kale and other Brassicas appear able to lessen the occurrence of a wide variety of cancers, including prostate, colorectal, breast and ovarian cancers. Exactly how kale’s phytonutrients prevent cancer is not yet fully understood, but several researchers point to its ability to activate detoxifying enzymes in the liver that help neutralize potentially carcino-
Origin & History - Cabbage has a long history of use both as a food and a medicine. It was developed from wild cabbage, a vegetable that was closer in appearance to collards and kale since it was composed of leaves that did not form a head. It is thought that wild cabbage was brought to Europe around 600 B.C. by groups of Celtic wanderers. It was grown in Ancient Greek and Roman civilizations that held it in high regard as a general panacea capable of treating a host of health conditions. While it is unclear when and where the headed cabbage that we know today was developed, cultivation of cabbage spread across northern Europe into Germany, Poland and Russia, where it became a very popular vegetable in local food cultures. The Italians are credited with developing the Savoy cabbage.

Nutrients - Cabbage is an excellent source of vitamin C. It is also a very good source of fiber, manganese, folate, vitamin B6, potassium, and omega-3 fatty acids. Cabbage is also a good source of thiamin (vitamin B1), riboflavin (vitamin B2), calcium, potassium, magnesium, vitamin A, and protein. Cabbage also contains phytochemicals called indoles and sulforaphane, the breakdown products of compounds called glucosinolates.

CAULIFLOWER
*(Brassica oleracea Botryti)*

Origin & History - Cauliflower traces its ancestry to the wild cabbage, a plant thought to have originated in ancient Asia Minor, which resembled kale or collards more than the vegetable that we now recognize. The cauliflower went through many transformations and reappeared in the Mediterranean region, where it has been an important vegetable in Turkey and Italy since at least 600 B.C. It gained popularity in France in the mid-16th century and was subsequently cultivated in Northern Europe and the British Isles. Cauliflower was first grown in North America in the late 1600s.

Cheddar cauliflower was first discovered in the Bradford Marsh in Canada in 1970. Cheddar was smaller and less tasty than white cauliflower, but the color was alluring. Over the years, using conventional breeding techniques, it was crossed with a white variety to create a delicious, high vitamin content cauliflower which contains 25 times more beta carotene than white cauliflower.

Purple cauliflower (Graffiti) resulted from the discovery of a purple colored spontaneous mutant plant in a cauliflower field in the late 1980s. The purple color is due to formation of anthocyanins also found in red cabbage and in red wine. Purple Cauliflower contains approximately 200 times more anthocyanin than a white cauliflower exhibiting “pinking”.

Nutrients & Health Benefits - Cauliflower contains compounds that may help prevent cancer by stopping enzymes from activating cancer-causing agents in the body and they increase the activity of enzymes that disable and eliminate carcinogens. Cruciferous vegetables contain both glucosinolates and thiocyanates, compounds that increase the liver’s ability to neutralize potentially toxic substances.
Health Benefits - For about 20 years, researchers have known that many phytonutrients work as antioxidants to disarm free radicals before they can damage DNA, cell membranes and fat-containing molecules such as cholesterol. Now, new research is revealing that phytonutrients in crucifers, such as cabbage, work at a much deeper level. These compounds actually signal our genes to increase production of enzymes involved in detoxification, the cleansing process through which our bodies eliminate harmful compounds. Research has shown that cultures eating the most cruciferous vegetables have a much lower risk of prostate, colorectal and lung cancer—even when compared to those who regularly eat other vegetables. Cabbage’s role as a staple vegetable in Polish cuisine may be why the breast cancer risk of Polish women triples after they immigrate to the U.S.

Red cabbages contain significantly more protective phytonutrients than white cabbages; in fact, the vitamin C equivalent of red cabbages is six to eight times higher than that of white cabbage. Crucifers’ well known cancer-fighting properties are thought to result from their high levels of active phytochemicals called glucosinolates, which our bodies metabolize into powerful anti-carcinogens called isothiocyanates. Isothiocyanates offer the bladder, in particular, significant protection, most likely because the majority of compounds produced by isothiocyanate metabolism travel through the bladder en route to excretion in the urine.

BRUSSEL SPROUTS
Brassica oleracea Gemmifer

Origin & History - Brussels sprouts are descended from wild sea kale, a weedy, loose-leaved herb that grows along the Mediterranean coast. While the origins of Brussels sprouts are unknown, the first mention of them can be traced to the late 16th century. They are thought to be native to Belgium, specifically to a region near its capital, Brussels, after which they are named. They remained a local crop in this area until their use spread across Europe during World War I. Brussels sprouts are now cultivated throughout Europe and the United States.

Nutrients & Health Benefits - Higher in vitamin C than orange juice, Brussels sprouts have three times the vitamin A of cabbage. They are also an excellent source of vitamin K; very good source of numerous nutrients including folate, manganese, dietary fiber, potassium, vitamin B6 and thiamin (vitamin B1); and a good source of omega-3 fatty acids, iron, phosphorous, protein, magnesium, riboflavin (vitamin B2), vitamin E, copper and calcium. This vegetable also contains numerous disease-fighting phytochemicals. Sulfur-containing phytonutrients reduce DNA damage, which may translate to a reduced risk of cancer since mutations in DNA allow cancer cells to develop. The folates present in Brussels sprouts are birth defect fighters, as well.

BROCCOLI
(Brassica oleracea Italaca)

Origin & History- Broccoli is a cultivar of wild cabbage which originated along the northern and western coasts of the Mediterranean, where it was domesticated thousands of years ago. It spread throughout the Near East where it was appreciated for its edible flower heads and was subsequently brought back to Italy where it was further cultivated. Broccoli was introduced to the United States in 1806 by Italian immigrants, but it did not become popular until the 1920s. Nutrients- Broccoli is rich in vitamins A and C and is a good source of potassium, phosphorus, magnesium, the vitamins B6 and E, as well as fiber. It possesses cancer-fighting qualities due to the production of phytochemicals such as sulforaphane, which stimulate the body to make enzymes that counteract carcinogens. Health Benefits- Like other cruciferous vegetables (kale, collards, cauliflower, cabbage, turnips, mustard seeds, canola, etc.), broccoli can help lower the risk of bladder, ovarian and certain prostate cancers. Early tests have indicated that broccoli and tomatoes—both recognized for their cancer-fighting
RUTABAGA
*Brassica rapa*

**Origin & History** - Rutabagas are a cross between cabbage and turnip. The earliest records of rutabaga’s existence are from the seventeenth century in Southern Europe where they were first eaten as well as used for animal fodder. It is curious that throughout history animals were often fed the healthiest foods, foods thought to be inappropriate for human consumption. Because rutabagas thrive best in colder climates, they became popular in Scandinavia, but especially in Sweden, the country that earned them the name “swedes.” In Europe, rutabagas are still called swedes. In America, rutabagas were first cultivated in the northern parts of the country in the early 1800s. Nutrients - Rutabaga has a good mineral content including calcium, magnesium, phosphorus, potassium and manganese. It is low in saturated fat and relatively high in sugars. It also provides some fiber and vitamins A, B1, B6 and C.

**Health Benefits** - Rutabagas contain phytochemicals (plant compounds that may have health benefits but are not considered essential nutrients) including flavonoids, which have been associated with a reduction in the risk of cardiovascular disease. In addition to its antioxidant benefits, the vitamin C in rutabagas aids in the production of collagen, a tissue needed for healthy bones, teeth, gums and blood vessels. Vitamin B6 is important to nervous system function, red blood cell formation and hormone production. B1 (thiamin) is required by the body to break down carbohydrates, fats and proteins, while folate is required for the synthesis of new cells and serves to protect against a congenital malformations including neural tube defects in developing fetuses. Manganese is essential for cartilage and bone development, while magnesium is important in the structure of bone and cell membranes.

TURNIP
*Brassica rapa*

**Origin & History** - Turnips grow wild in Siberia and have been eaten since prehistoric times. One of the oldest cultivated vegetables, the turnip is thought to have originated in northern Europe about 2000 B.C. from a variety of bird rape. Not officially a root, the turnip is rather a swollen base of the stem of the plant, and selection and breeding have produced many different larger varieties. Before the spread of potatoes, the highly nutritious turnip was among the most important staple foods for man and beast. Nutrients - Turnips are an excellent source of vitamin C, fiber, folic acid. Turnips are a “starch” vegetable, but they provide only one third of the amount of calories as an equal amount of potatoes. Turnip greens are an excellent source of many vitamins including vitamin A, vitamin C, vitamin E, vitamin B6 and folate. They are also an excellent source of the minerals calcium, copper and manganese. In addition, turnip greens are an excellent source of dietary fiber.

**Health Benefits** - Turnip greens are supercharged with so many different nutrients, their consumption can help prevent or heal a wide range of health conditions. Since turnip greens are an excellent source of vitamin A (through their concentration of carotenoids such as beta-carotene), vitamin C, vitamin E, vitamin B6, folate, copper, calcium, and dietary fiber, three examples of conditions for which they may be of special importance are rheumatoid arthritis, colorectal cancer and atherosclerosis.

Turnips have diuretic properties and their Vitamin C (11 mg for 100 g of turnip and 30 mg for 100 g of turnip greens) is a powerful antioxidant, meaning that this vitamin quenches free radicals and neutralizes destructive oxidation reactions. Vitamin C also promotes the absorption of iron. Turnip is therefore an interesting vegetable for vegetarian since they always strive to meet their need in this mineral.
Turnips are also a good source of calcium, phosphorus and magnesium. Turnip greens provide larger amounts of these vitamins and minerals and are especially rich in folic acid. This vitamin is essential for the normal growth and maintenance of all cells and vital for the reproduction of those cells within the fetus.

**BOK CHOY**
*(Brassica rapa chinensis)*

**Origin & History** - Also called pak-choi or pac choy as well as celery cabbage, Chinese white cabbage, and Chinese mustard cabbage, bok choy is one of the oldest and most adaptable greens. Bok choy was introduced to Europe in the 1800s, and is now readily available throughout North America, but other cuisines have been slow to embrace it. Bok choy is widely popular in the Philippines, where large numbers of Chinese immigrated following Spain’s conquest of the islands in the 1500s.

**Nutrients & Health Benefits** - As a member of the cabbage family, bok choy offers many of the same nutritional benefits as other cabbages. It is high in vitamins A and C and is a good source of folic acid. Its dark green leaves make it a good source of beta carotene as well. Bok Choy also contains glucosinolates, which may prevent cancer and folates, essential for a healthy cardiovascular system.

**WATERMELON**
*(Citrullus lanatus)*

**Origin & History** - Originating in Africa, watermelons were first cultivated in Egypt where they were recorded in hieroglyphics painted on building walls and placed in the tombs of many Egyptian kings. It is not surprising that watermelon played such an important role in this country, and subsequently in countries in the Mediterranean region, since water was often in short supply in these areas, and people could depend upon watermelon for its thirst-quenching properties. Watermelons were brought to China around the 10th century and then to the Western Hemisphere shortly after the discovery of the New World. In Russia, where much of the commercial supply of watermelons is grown, there is a popular wine made from watermelon.

**Nutrients** - Watermelon is an excellent source of antioxidants, vitamin C and vitamin A, in the form of disease fighting beta-carotene. Research suggests that the red pigmented foods provide this protection. Lycopene and beta-carotene work in conjunction with other plant chemicals not found in vitamin/mineral supplements. Potassium is also available, which is believed to help control blood pressure and possibly prevent strokes.

**Health Benefits** - Pink watermelon is an excellent source of lycopene, which can significantly reduce a man’s risk of developing prostate cancer, as well as lowering the inflammation that may cause hypertension and heart disease. It is also rich in the B vitamins necessary for energy production.

**MELON**
*(Cucumis melo)*

**Origin & History** - The exact origin of melons is unclear, although they are thought to have originated in India, Africa or ancient Persia and have been cultivated in these lands since ancient times. Historical texts from Greek and Roman times note that these ancient civilizations enjoyed cantaloupes. They were introduced to the United States during colonial times but were not grown commercially until the very late 19th century.

**Nutrients** - Melons such as cantaloupe are an excellent source of vitamin A and vitamin C as well as a very good source of potassium and a good source of dietary fiber, vitamin B3 (niacin), vitamin B6 and folate.

**Health Benefits** - Melons are an excellent source
of vitamin A due to their concentrated beta-carotene content. Both vitamin A and beta-carotene are important vision nutrients and melon can help to lower the risk of age-related macular degeneration (ARMD), the primary cause of vision loss in older adults. Their vitamin C is vital for good immune function and is associated with a reduced risk of death from all causes including heart disease, stroke and cancer.

**SQUASH**  
*Cucurbita pepo, C. maxima, C. moschata and C. mixta*

**Origin & History** - Modern day squash developed from the wild squash that originated in an area between Guatemala and Mexico. While squash has been consumed for over 10,000 years, they were first cultivated specifically for their seeds since earlier squashes did not contain much flesh and what they did contain was very bitter and unpalatable. As time progressed, squash cultivation spread throughout the Americas, and varieties with a greater quantity of sweeter-tasting flesh were developed. Christopher Columbus brought squash back to Europe from the New World, and like other Native American foods, their cultivation was introduced throughout the world by Portuguese and Spanish explorers.

The term “summer” and “winter” for squash are only based on current usage, not on actuality. “Summer” types are on the market all winter; and “winter” types are on the markets in the late summer and fall, as well as winter. Thus, the terms “summer” and “winter” are deceptive and confusing, but back to a time when the seasons were more crucial to man’s survival than they are now. “Good keepers” became known as winter vegetables if they would “keep” until December.

**SUMMER SQUASH**  
*Cucurbita pepo, C. maxima, C. moschata and C. mixta*

Because summer squash is immature, they are considerably lower in nutritional value than their winter counterparts. Generally, there is little variation in nutritional value between varieties. The peel is where many of the nutrients hide, so never peel summer squash.

**Nutrients & Health Benefits** - Summer squash is an excellent source of manganese and vitamin C. It is also a very good source of magnesium, vitamin A (notably through its concentration of carotenoids, including beta-carotene), dietary fiber, potassium, copper, folate, and phosphorus. In addition, summer squash is a good source of omega-3 fatty acids, vitamin B1, vitamin B2, vitamin B6, calcium, zinc, niacin, and protein.

Many of the nutrients in summer squash have been shown in studies to be helpful for the prevention of atherosclerosis and diabetic heart disease. Summer squash’s magnesium has been shown to be helpful for reducing the risk of heart attack and stroke. Together with the potassium in summer squash, magnesium is also helpful for reducing high blood pressure. The vitamin C and beta-carotene found in summer squash can help to prevent the oxidation of cholesterol. Since oxidized cholesterol is the type that builds up in blood vessel walls, these nutrients may help to reduce the progression of atherosclerosis. The vitamin folate found in summer squash are needed by the body to break down a dangerous metabolic byproduct called homocysteine, which can contribute to heart attack and stroke risk if levels get too high. Finally, summer squash’s fiber has been shown to lower high cholesterol levels, which can help to reduce the risk of atherosclerosis and diabetic heart disease.

The nutrients in summer squash are useful for the prevention of other conditions as well. High intakes of fiber-rich foods help to keep cancer-causing toxins away from cells in the colon, while the folate, vitamin C, and beta-carotene help to protect these cells from the chemicals that can lead to colon cancer. The antioxidants vitamin C and beta-carotene also have anti-inflammatory properties that make them helpful for conditions like asthma, osteoarthritis, and...
WINTER SQUASH
*Cucurbita pepo, C. maxima, C. moschata and C. mixta*

Winter squash differs from summer squash in that it is harvested and eaten in the mature fruit stage, when the seeds within have matured fully and the skin has hardened into a tough rind. When ripened to this stage, fruits of most varieties can be stored for use throughout the winter.

**Nutrients & Health Benefits** - Winter squash is an excellent source of vitamin A, a very good source of vitamin C, potassium, dietary fiber and manganese. In addition, winter squash is also a good source of folate, omega-3 fatty acids, vitamin B1, copper, vitamin B6, niacin, vitamin B3 and pantothenic acid.

The orange-fleshed squash is an excellent source of beta carotene. As a general rule, the deeper the orange color, the higher the beta carotene content. Beta carotene is converted to Vitamin A in the body. Vitamin A is essential for healthy skin, vision, bone development and maintenance as well as many other functions. Beta-carotene is able to prevent the oxidation of cholesterol in the body. Since oxidized cholesterol is the type that builds up in blood vessel walls and contributes to the risk of heart attack and stroke, getting extra beta-carotene in the diet may help to prevent the progression of atherosclerosis. Finally, beta-carotene’s anti-inflammatory effects may help to reduce the severity of conditions like asthma, osteoarthritis, and rheumatoid arthritis, which all involve inflammation.

Studies have also shown that diets high in fiber-rich foods have been associated with a reduced risk of colon cancer. The folate found in winter squash may help to prevent certain birth defects if taken by women before and during pregnancy. Folate is also needed by the body to break down a dangerous metabolite called homocysteine, which can directly damage blood vessel walls. Folate has also been shown to help protect colon cells from the effects of cancer-causing chemicals. In fact, diets high in folate-rich foods are associated with a significantly reduced risk of colon cancer, especially in people who have a history of alcohol use.

CUCUMBER
*Cucurbitaceae cucumis sativus*

**Origin & History** - Native to Africa and Asia, cucumbers were cultivated in India as long as 3,000 years ago. They were probably introduced to other parts of Europe by the Romans. Cucumber cultivation appeared in France in the 9th century, England in the 14th century, and in North America by the mid-16th century.

**Nutrients** - The flesh of cucumbers is primarily composed of water but also contains ascorbic acid (vitamin C) and caffeic acid, both of which help soothe skin irritations and reduce swelling. Cucumbers’ hard skin is rich in fiber and contains a variety of beneficial minerals including silica, potassium and magnesium. Cucumbers are also rich in vitamins K and A, vitamin B6, thiamin, folate, pantothenic acid, phosphorus, copper and manganese.

**Health Benefits** - The silica in cucumbers is an essential component of healthy connective tissue, which includes muscles, tendons, ligaments, cartilage, and bone. Cucumber juice is often recommended as a source of silica to improve the complexion and health of the skin, plus cucumber’s high water content makes it naturally hydrating. Cucumbers are also used topically for various types of skin problems, including swelling under the eyes and sunburn. Two compounds in cucumbers, ascorbic acid and caffeic acid, prevent water retention, which may explain why cucumbers...
applied topically are often helpful for swollen eyes, burns and dermatitis. They also contain sterols, which have been shown to lower cholesterol in animals and the potassium, magnesium and fiber may help lower blood pressure.

**CARROT**

*(Daucus carota sativas)*

**Origin & History** - The wild ancestors of the carrot are likely to have come from Afghanistan. In early use, carrots were grown for their aromatic leaves and seeds, not their roots. The first mention of the root in classical sources is the 1st century CE. The modern carrot appears to have been introduced to Europe in the 8-10th centuries. The carrot was introduced into the North American colonies where the carrot became the first vegetable to be canned in the early 1800s.

**Nutrients & Health Benefits** - Carrots are high in vitamins A, C and K, dietary fiber and potassium. They are an excellent source of beta-carotene (carotenoids), fat-soluble compounds that are associated with a reduction in a wide range of cancers, as well as reduced risk and severity of inflammatory conditions such as asthma and rheumatoid arthritis. Carrots’ antioxidant compounds help protect against cardiovascular disease and also promote good vision, especially night vision. Foods such as carrots that are rich in carotenoids may also be beneficial to blood sugar regulation. Although best known for their high content of beta carotene, carrots also contain a phytonutrient called falcarinol that may be responsible for the recognized association between frequently eating carrots and a reduced risk of cancers, particularly colon cancer.

**ENDIVE**

*(Escarole cichorium endivia)*

**Origin & History** - Genuine endive is deeply rooted in Belgian history, where it was accidentally discovered by a farmer in 1830. At the time, chicory roots were used as a coffee substitute. The farmer stored them in a cellar, forgot about them and, when he came back to pick up the roots, discovered that they had sprouted white leaves, which he found to be tender, moist and crunchy. A Belgian botanist developed the endive we know today, and it spread quickly after WW I.

**Nutrients** - Endive is a good source of potassium, calcium, vitamins B, C and E, magnesium, iron, zinc and selenium. It is also a source of beta-carotene, which the body converts into Vitamin A. Beta-carotene, is widely regarded as an effective antioxidant and immune system booster. Eating foods rich in beta-carotene has been associated with a lower risk of both cataracts and macular degeneration.

**Health Benefits** - Endive helps to maintain the digestive system’s metabolic balance and help prevent the absorption of cholesterol in the bloodstream, slow the metabolism and thus keep blood sugar in balance, detoxify the body, promote intestinal regularity, and strengthen the immune system. It is also a good diuretic, laxative and may even help to dissolve kidney stones.

**FENNEL**

*(Foeniculum vulgare)*

**Origin & History** - The ancient Greeks knew fennel by the name “marathon”; it grew in the field in which one of the great ancient battles was fought and which was subsequently named the Battle of Marathon after this revered plant. Fennel was also awarded to the runner who delivered the news of
the Persian invasion to Sparta. Greek myths also hold that knowledge was delivered to man by the gods at Olympus in a fennel stalk filled with coal. Fennel was revered by the Greeks and the Romans for its medicinal and culinary properties. Fennel has been grown throughout Europe, especially areas surrounding the Mediterranean Sea, and the Near East since ancient times.

**Nutrients** - Fennel is an excellent source of vitamin C. It is also a very good of dietary fiber, potassium, manganese, folate, and molybdenum. In addition, fennel is a good source of niacin as well as the minerals phosphorus, calcium, magnesium, iron, and copper.

**Health Benefits** - In addition to the anti-cancer and anti-inflammatory characteristics of its phytonutrients, fennel bulb is an excellent source of vitamin C, which is the body’s primary water-soluble antioxidant and is critical to proper function of the immune system. As a very good source of fiber, fennel may also aid in reducing elevated cholesterol levels. It is also a very good source of potassium, which can help to lower blood pressure.

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**SWEET POTATO**

*(Ipomoea batatas)*

**Origin & History** - Sweet potatoes are native to Central America and are one of the oldest vegetables known to man. They have been consumed since prehistoric times as evidenced by sweet potato relics dating back 10,000 years that have been discovered in Peruvian caves.

**Nutrients** - Sweet potatoes are an excellent source of vitamin A (in the form of beta-carotene), vitamin C and manganese, and a good source of copper, calcium, protein, vitamin B6, potassium and iron.

**Health Benefits** - Sweet potatoes have healing properties as an antioxidant food. Both beta-carotene and vitamin C are very powerful antioxidants that work in the body to eliminate free radicals. Free radicals are chemicals that damage cells and cell membranes and are associated with the development of conditions like atherosclerosis, diabetic heart disease, and colon cancer.

Sweet potatoes have as much beta-carotene as carrots, which help combat chronic diseases like cancer and heart disease, as well as diseases related to inflammation, such as asthma and rheumatoid arthritis. In addition, sweet potatoes contain carotenoids that appear to help stabilize blood sugar levels and lower insulin resistance, making cells more responsive to insulin, which can ultimately promote a healthy metabolism.

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**LETTUCE**

*(Lactuca sativa)*

**Origin & History** - Lettuce most likely originated on the Mediterranean rim on rocky wasteland or woodland clearings. This ancient wild relative of modern lettuce can still be seen all over Europe and the more temperate parts of Asia. Wild lettuce contained a narcotic similar to opium. The Romans took advantage of this property eating lettuce at the end of a meal to induce sleep. Other medicinal uses included using the sap of wild lettuce for its anodyne, antispasmodic, digestive, diuretic, hypnotic, narcotic and sedative properties.

**Nutrients & Health Benefits** - Lettuce is a fat free, low calorie food. It is a valuable source of vitamin A and folic acid and potassium. Among the various types of lettuce, romaine lettuce is very nutritious. It is an excellent source of vitamin A (notably through its concentration of the pro-vitamin A carotenoid, beta-carotene), vitamin K, folate, vitamin C, manganese, and chromium. Romaine lettuce is also a very good source of dietary fiber and 6 vitamins and minerals.
**TOMATO**
*(Lycopersicon lycopersicum)*

**Origin & History** - Native to South America, the Spanish conquistadors brought tomatoes back with them to Spain. Tomatoes arrived in Europe with much skepticism and were considered poisonous by many. The French sought tomatoes for their supposed aphrodisiac qualities. The Italians, however, were the first to incorporate tomatoes into their recipes.

**Nutrients & Health Benefits** - Tomatoes are rich in vitamins C, A and K, potassium, and fiber. They are a good source of calcium, iron, phosphorus, sulfur and potassium. The health benefits of tomatoes include prevention of cancer, heart disease and high cholesterol.

Tomatoes contain the vital anti-oxidant, lycopene, which helps in the fight against cancerous cell formation as well as other kinds of health complications and diseases. Cancers such as prostate cancer, cervical cancer, colon cancer, rectal cancer, and cancers of the stomach, mouth, pharynx, and esophagus have all been proven to be staved off by high levels of lycopene.

Lycopene is not a naturally produced element within the body and the human body requires sources of lycopene in order to make use of this powerful anti-oxidant. While other fruits and vegetables do contain this necessary health ingredient, no other fruit or vegetable has the high concentration of lycopene that the tomato takes pride in. The tomato variety, Health Kick, contains 50% more lycopene than other tomatoes.

**GREEN BEAN**
*(Phaseolus vulgaris humilis)*

**Origin & History** - Green beans and other beans, such as kidney beans, navy beans and black beans all derived from a common bean ancestor that probably originated in Peru. From there, they were spread throughout South and Central America by migrating Indian tribes. They were introduced into Europe around the 16th century by Spanish explorers returning from their voyages to the New World, and subsequently were spread through many other parts of the world.

**Nutrients** - Green beans are an excellent source of vitamin C, vitamin K and manganese. They are also a very good source of vitamin A (notably through their concentration of carotenoids including beta-carotene), dietary fiber, potassium, folate and iron. In addition, green beans are a good source of magnesium, thiamin, riboflavin, niacin, copper, calcium, phosphorus, protein, and omega-3 fatty acids.

**PARSNIP**
*(Pastinaca sativa)*

**Origin & History** - The parsnip was first cultivated in the Mediterranean region during Roman times. Tastier and fleshier varieties were developed during the Middle Ages, and although a variety of wild parsnip grew over much of Central and Southern Europe and has been introduced into the British Isles and Northern Europe, the cultivated varieties are sweeter and appear plumper.

**Nutrients** - Parsnips are high in fiber, folic acid, calcium and potassium, as well as vitamins B1, B2, B3, vitamin C, iron and zinc.

**Health Benefits** - Unlike their carrot cousins, parsnips lack beta-carotene, but are richer in vitamins and minerals. Because they are high in soluble fiber, parsnips help lower cholesterol and to regulate blood sugar. Folic acid helps reduce the risk of certain disabling birth defects and also plays a role in reducing heart disease and may help prevent dementia and osteoporosis bone fractures. Parsnips also have high levels of potassium, which helps to regulate blood pressure.
**Origin & History** - A well-established South of the border immigrant, the tomatillo was an important part of Aztec culture. It is even possible that the tomatillo, which means little tomato in Spanish, came from Central and South America and was cultivated in Mexico by the Aztecs before the tomato arrived. Some people call it a jamberry, while others refer to it as a husk tomato.

**Nutrients & Health Benefits** - Tomatillos contain more nutrients than regular red tomatoes. They are rich in vitamins C and A, and folic acid, as well as potassium. One medium raw tomatillo contains only 11 calories, but provides significant amounts of potassium, vitamin C, calcium, folic acid, and vitamin A.

**SCORZONERA**

*(Scorzonera hispanica)*

**Origin & History** - Originating in the Mediterranean area, scorzonera and salsify were foraged and used by the ancient Romans as well as the Greeks. People never thought to cultivate them until sometime around the 1500s. They were then used for ornamental, medicinal, and culinary purposes. In the Middle Ages, scorzonera was considered a powerful tonic and snakebite cure — hence the name viper’s grass. Salsify came to America in the 1700s and was at one time a popular root crop.

**Nutrients & Health Benefits** - Salsify is grown primarily for its edible root which has a flavor like that of oysters. It is usually peeled and can be used like carrots and parsnips. Salsify is similar to parsnips in nutritive value being a little higher in protein and only half the calories. One cup of cooked salsify supplies 40 calories, 3.5 grams of protein, 3.8 grams of fiber, 20.4 grams of carbohydrate, 60

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**TOMATILLOS**

*(Physalis philadelphica)*

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**RADISH**

*(Raphanus sativus)*

**Origin & History** - Radishes probably originated in China, and made their way across Asia, into the Middle East, then into Europe. Europeans introduced them into Central America around 1500; the British brought them to North America when they settled here. European radishes used to be much larger in general, more like the Asian ones. There is no written record of the small ones until the 1500s. In France, radishes were served at the beginning of a meal, to clean the palate and prepare it for the rest of the meal.

**Nutrients & Health Benefits** - Radishes are moderately high in Vitamin C and contain properties that appear to be beneficial for symptoms of colds, flu, fever, cough, respiratory problems, and digestive disorders. The roots stimulate the appetite and digestion, having a tonic and laxative effect upon the intestines and indirectly stimulating the flow of bile. The plant is used in the treatment of intestinal parasites. The radish plant contains raphanin, which is antibacterial and antifungal. It inhibits the growth of Staphylococcus aureus, E. coli, streptococci, Pneumococci and also shows anti-tumor activity.
mg calcium, 19 mg magnesium, 1.7 mg iron, and 251 mg of potassium. It has very little vitamin A, B, C, or E. Flower stalks which develop the second year can be cut and cooked like asparagus it they are harvested before they get woody.

**BELL PEPPER**  
*(Solanaceae capsicum annuum)*  

**Origin & History** - Like their relatives, the chili peppers, bell peppers originated in South America with seeds of a wild variety dating back to 5000 BC. Like many other foods native to this region, sweet peppers were carried throughout the world by the Spanish and Portuguese explorers who traveled through this continent. Due to the fact that bell peppers are very adaptable plants and versatile foods, their cultivation and adoption into varying cuisines spread rapidly throughout many parts of the world. They have become a staple in central Europe where they are dried for paprika, a necessity for the flavor of Louisiana Creole dishes, and an integral ingredient in both Mexican and Portuguese cuisines.

**Nutrients & Health Benefits** - Peppers are rich in vitamin C and vitamin A, B6 and folic acid and red peppers are rich in lycopene. Peppers provide colorful protection against free radicals, reduce the risk of cardiovascular disease and promote lung health. The red variety also supplies the phytonutrients lutein and zeaxanthin, which have been found to protect against macular degeneration.

**CHILI PEPPER**  
*(Solanaceae capsicum annuum)*  

**Origin & History** - Chili peppers can trace their history to Central and South America, regions whose cuisines are renowned for their hot and spicy flavors. Chili peppers have been cultivated in these regions for more than seven thousand years, first as a decorative item and later as a foodstuff and medicine. It was not until the 15th and 16th centuries that chili peppers were introduced to the rest of the world. Christopher Columbus encountered them on his explorations of the Caribbean Islands and brought them back to Europe where they were used as a substitute for black pepper, which was very expensive since it had to be imported from Asia. Explorer Ferdinand Magellan is credited with introducing chili peppers into Africa and Asia, continents that have since incorporated them into their cuisines and pharmacopeias. Chili peppers are now grown on all continents.

**Nutrients** - Red chili peppers are a very good source of vitamin A, vitamin C and dietary fiber. They are also a good source of iron and potassium. Chili peppers contain a substance called capsaicin, which gives peppers their characteristic pungency, producing mild to intense spice when eaten. Capsaicin is a potent inhibitor of substance P, a neuropeptide associated with inflammatory processes. The hotter the chili pepper, the more capsaicin it contains. Capsaicin is being studied as an effective treatment for sensory nerve fiber disorders, including pain associated with arthritis, psoriasis, and diabetic neuropathy. Topical capsaicin is now a recognized treatment option for osteoarthritis pain. Red chili peppers, such as cayenne, have been shown to reduce blood cholesterol, triglyceride levels, and platelet aggregation, while increasing the body’s ability to dissolve fibrin, a substance integral to the formation of blood clots. Cultures where hot pepper is used liberally have a much lower rate of heart attack, stroke and pulmonary embolism. Capsaicin not only reduces pain, but its pungent heat also stimulates secretions that help clear mucus from stuffed up noses or congested lungs. Chili peppers’ bright red color signals its high content of beta-carotene or pro-vitamin A. Often called the anti-infection vitamin, vitamin A is essential for healthy mucous membranes, which line the nasal passages, lungs, intestinal tract and urinary tract and serve as the body’s first line of defense against invading pathogens. Capsaicin has also been shown to be effective in stopping...
**Origin & History** - Chili peppers can trace their history to Central and South America, regions

**EGGPLANT**
*(Solanum melongena esculentum)*

**Origin & History** - The ancient ancestors of eggplant grew wild in India and were first cultivated in China in the 5th century B.C. Eggplant was introduced to Africa before the Middle Ages and then into Italy, the country with which it has long been associated, in the 14th century. It subsequently spread throughout Europe and the Middle East and, centuries later, was brought to the Western Hemisphere by European explorers. Once considered poisonous, the eggplant was used by some cultures strictly for its decorative qualities. It only became widely accepted after new, less bitter varieties were developed in the 18th century.

**Nutrients** - Eggplant is a very good source of dietary fiber, potassium, manganese, copper and thiamin (vitamin B1). It is also a good source of vitamin B6, folate, magnesium and niacin. Eggplant also contains phytonutrients such as nasunin and chlorogenic acid.

**Health Benefits** - In addition to featuring a host of vitamins and minerals, eggplant also contains important phytonutrients, many of which have antioxidant activity. Phytonutrients contained in eggplant include phenolic compounds, such as caffeic and chlorogenic acid. Benefits attributed to chlorogenic acid include antimitogenic (anti-cancer), antimicrobial, anti-LDL (bad cholesterol) and antiviral activities. The nasunin in eggplant helps to reduce cholesterol in blood, artery walls and the aorta. Nasunin also assists by preventing the build-up of unneeded and potentially harmful excess iron, which has been associated with an increased risk of heart disease and cancer.

**POTATO**
*(Solanum tuberosum)*

**Origin & History** - Potatoes originated in the Andean mountain region of South America. Researchers estimate that potatoes have been cultivated by the Indians living in these areas for between 4,000 and 7,000 years. Unlike many other foods, potatoes were able to be grown at the high altitudes typical of this area and therefore became a staple food for these hardy people. Potatoes were brought to Europe by Spanish explorers who “discovered” them in South America in the early 16th century. Since potatoes are good sources of vitamin C, they were subsequently used on Spanish ships to prevent scurvy. Although many felt that it was poisonous like some other members of the nightshade family, it was finally accepted and brought to the United States in the early 18th century by Irish immigrants.

**Nutrients** - Potatoes are a very good source of vitamin C. They are also a good source of vitamin B6, copper, potassium, manganese, and dietary fiber.

**Health Benefits** - Although the potato has a reputation as a high-carb food, potatoes also contain a variety of phytonutrients that have antioxidant activity. Among these important health-promoting compounds are carotenoids, flavonoids, and caffeic acid. Vitamin B6 has blood-pressure lowering potential and contributes to cardiovascular protection, and is also required for the production of the neurotransmitters serotonin (a lack of which can lead to depression), melatonin (needed for sleep), and epinephrine and norepinephrine, hormones that help us respond to stress. B6 is also a key to athletic performance and endurance.

**SPINACH**
*(Spinacia oleracea)*

**Origin & History** - Spinach was cultivated over 2,000 years ago in Iran. Cultivation of spinach began during the Greek and Roman civilizations. In 647 A.D., spinach was introduced into China and was then
transported to Spain in 1100. The prickly seeded form was known in Germany in the 13th century and the smooth seeded form was not described until 1552. It is the smooth seeded form that is used today in commercial production. By 1806, spinach had become a popular vegetable and was listed in American seed catalogs. In the 1920s the U.S. pushed spinach commercially, with Popeye the Sailorman cartoon being a great advocate in spinach consumption.

**Nutrients & Health Benefits** - Although ninety-one percent of spinach weight is water, spinach contains large amounts of minerals and vitamins, especially vitamin A, calcium, phosphorus, iron and potassium. Spinach also has high levels of protein. Spinach contains Vitamin A, and C, thiamin, riboflavin, and niacin, and studies show that people who eat foods high in vitamin C, beta-carotene, and/or folate are at a much lower risk of getting colon cancer than those who don’t. Studies have also shown an intake of spinach to be inversely related to incidence of breast cancer. Calcium, phosphorus, iron, sodium, and potassium are also found in spinach greens. Spinach is high in fiber and is a rich source of plant-based omega-3s and folate, which help reduce the risk of heart disease, stroke, and osteoporosis. It is packed with lutein, a compound that fights age-related macular degeneration. In addition, the magnesium and riboflavin in spinach, two nutrients of which it is an excellent source, may help to reduce the frequency of migraine attacks in people who suffer from them.
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3
HERB COMPONENT
An herb is any plant or plant part that is valued for its medicinal, savory or aromatic properties.

**ANISE HYSSOP**  
*(Agastache foeniculum)*

**Origin** - It is native to the United States.

**History** - It was used medicinally and for flavoring by the Native Americans.

**Description** - Height: to 3 ft, spread: 1 ft, flowers summer to fall, purple spikes, grows best in full sun, well-drained, moist soil.

**Health Benefits** - Anise hyssop tea aids in digestion and treat fevers, colds, coughs, to induce sweating and to strengthen a weak heart.

**Where to Get** - Richter’s

**Uses** - tea from leaves (has black licorice scent)

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**GARLIC**  
*(Allium sativum)*

**Origin** - It is unknown where garlic is native to.

**History** - Legends connect it to strength, speed and endurance and has been prescribed since pre-biblical times.

**Description** - Height: to 2 ft, Spread: 6”, compound bulb, grow best in: full sun, rich moist well-drained soil, flowers spring and summer, small white umbels, long linear leaves.

**Health Benefits** - It contains allicin, which destroys or inhibits various bacteria, fungi and yeast. It has been recommended for various respiratory diseases. The oils extracted from garlic inhibit blood clotting (study’s show), helps prevent heart disease by reducing blood pressure and blood lipids, help fight infections, can destroy some types of cancer cells, and aids in digestion.

**Where to Get** - Burpee

**Uses** - stews, soups, sauces, vinegars, breads, meats, pickles, etc.

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**CHIVE**  
*(Allium schoenoprasum)*

**Origin** - It is native to Greece, Sweden, and the Alps, and parts of northern Britain.

**History** - Colonists brought to American for medicinal uses.

**Description** - Height: to 18”/ Spread: 6”, grows in clumps, bulb, needs to be kept moist throughout the growing season, require well-drained humus rich soil, flowers mid-summer, pink round cluster

**Health Benefits & Nutrients** - It contains sulfur-rich oil, which is an antiseptic and helps lower blood pressure. Chives and chive flowers are high in vitamin C, folic acid and potassium and helps prevent anemia.

**Where to Get** - Baker’s Creek

**Uses** - potatoes, omelets, stir-fry, salad, vegetable & cheese dishes, poultry, seafood, infused vinegars (flowers), dips

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**DILL**  
*(Anethum graveolens)*

**Origin** - It is native to the Mediterranean region, and southern Russia.

**History** - It is mentioned in Egyptian medical texts from 3000 B.C.

**Description** - Height: 1 ½ to 5 ft/ Spread: 6-8”,
ANGELICA
(Angelica archangelica)

Origin - It is native to Europe and Asia.

History - From the 10th century on, angelica was cultivated as a vegetable and medicinal plant.

Description - Height: 5-8 ft (with flower), 3 ft foliage/Spread: 2 ft, flowers after 2 or 3 years, prefers partial shade but will grow in full sun if mulched, keep soil moist, plant dies after setting seed, flowers in June or July, green umbels

Health Benefits - It treats bronchial and digestive problems. A decoction (boiling) of the roots or seeds treat indigestion and an infusion (steep in water) of leaves aid digestion. The root has expectorant (decongestion) and diaphoretic (to increase perspiration) properties (effectiveness is NOT scientifically proven).

Where to Get - Richter’s Seeds

Uses - chopped leaves may be added to fruit salads, fish dishes, add leaves to sourfruit such as rhubarb to neutralize acidity, boil the stems with jams to improve the flavor. (remove the stems before canning or freezing), young stems can be used as a substitute for celery.

BORAGE
(Borago officinalis)

Origin - It is native to Europe, Asia, and Africa.

History - Dioscorides once prescribed for depression.

Description - Height: 3 ft/Spread: 2 ft, a messy, straggling habit, flowers midsummer to frost, drooping blue clusters, full sun, moist, fertile, well-drained soil, self-seeder, rounding habit

Health Benefits - Borage relieves depression, is a diuretic (increase the flow of urine), demulcent (soothing), and emollient (softens or soothes). Infusions (steep in liquid without boiling) and decoctions (extract the flavor of by boiling) of flowers relieves fevers, bronchitis and diarrhea.

Nutrients - Young fresh leaves are high in Vitamin C, rich in minerals, especially potassium, good source of gamma linoleic acid which is used to treat PMS symptoms.

Where to Get - Baker’s Creek

Uses - flowers and young leaves may be used to
garnish salads, dips, and soups, candied borage flowers make attractive cake decorations, chopped leaves can be added to soups and stews during the last few minutes of cooking, leaves can be cooked with cabbage leaves (two parts cabbage, one part borage.)

CARAWAY

*Carum carvi*

**Origin** - It is native to the Middle East, Asia, and central Europe.

**History** - It has been used for more than 5000 years and was mentioned in the Ebers Papyrus, a medicinal manuscript dating to 1500 B.C.

**Description** - Height: 2 ft/ Spread: 6-8”, biennial, two years to mature and flowers, slender and straggly plant, flowers later summer, flat white umbels, dissected foliage, full sun, prefers sandy, slightly dry soils, reseeds easily

**Health Benefits** - Seeds are crushed and steeped for digestive problems. The fruit contains an essential oil with carvone and limonene, reduces nausea, and a good expectorant for coughs and cold.

**Where to Get** - Richter’s Seeds

**Uses** - Caraway leaves make a delicious addition to salads and soups, the roots can be cooked as you would parsnips, the ‘seeds’ are used in cakes, cookies, breads, cheese, sauerkraut, pickles, condiments, meats, and kummel

FEVERFEW

*(Chrysanthemum parthenium)*

**Origin** - It is native to central and southern Europe.

**History** - It was used as an ingredient in making confectionaries and wines, as an aromatic to ward off disease, and an insect repellent.

**Description** - Height: 2 ft/ Spread: 1 ft, flowers mid-summer, small daisy-like, full sun, well-drained soil, reseeds easily, upright habit, vigorous plant.

**Health Benefits** - It relieves migraines, and arthritis pain (scientifically proven). Nutrients- It contains niacin, iron, vitamin A and vitamin C.

**Where to Get** - Baker’s Creek

**Uses** - infusions, mix a few leaves with other salad greens

CORIANDER/CILANTRO

*Coriandrum sativum*

**Origin** - It is native to the eastern Mediterranean region and southern Europe.

**History** - It was cultivated more than 3,000 years ago and Hippocrates used it in medicine.

**Description** - Height: 2-3 ft/ Spread: 8-10”, flowers mid-summer, flat white umbels, bright green foliage full sun, well-drained moist soil

**Health Benefits** - An infusion of seed soothes an upset stomach or aids digestion. A poultice from seeds relieves the pain of rheumatism. Modern medicine used it as a flavoring agent and to calm the irritating effects of the stomach from certain medicines.
**LEMON GRASS**  
* (Cymbopogon flexuosus)  
**Origin** - It is native to India.  
**Description** - Height: 3 ft/ Spread: 2-4 ft, rarely flowers, grass like clump, full sun, rich moist soil  
**Health Benefits** - Lemon grass tea is used to treat digestive problems and reduce a fever. It has anti-inflammatory and antiseptic properties, and a tonic for the kidney. Externally it is used to treat rheumatic pains.  
**Where to Get** - Johnny’s Seeds  
**Uses** - tea (stems), Thai, curries, soup.

**HYSSOP**  
* (Hyssopus officinalis)  
**Origin** - It is native to Europe and Asia.  
**History** - Hippocratic used for treating pleurisy. Dioscorides prescribed in tea for cough, wheezing and shortness of breath.  
**Description** - Height: 2-3 ft/ Spread: 1 ft, flowers midsummer to early fall, purple pikes, full sun, well-drained sandy soil, let dry out between watering, compact habit, very aromatic  
**Health Benefits** - Hyssop tea is recommended for bronchitis, cough, asthma and sore throats. A poultice of fresh green leaves heals wounds and bruises.  
**Where to Get** - Baker’s Creek  
**Uses** - salad (flowers, small amount of leaves), meat dishes, gravy, stuffing, stews, fruit pies, sugar syrup.

**FENNEL**  
* (Foeniculum vulgare)  
**Origin** - It is native to the Mediterranean region.  
**History** - In the 1600’s it was ate with fish and meat to aid digestion.  
**Description** - Height: 2- 4 ft/ Spread: 1 ft, flowers mid-summer, yellow umbels, finely-dissected blue-green foliage, will not tolerate over watering, full sun.  
**Health Benefits** - The fruit is a carminative (relieves colic), and mild stimulant. Fennel tea smoothes the stomach, relieves cramps and gas, good expectorant for coughs and cold, and relieves stiff painful joints.

**LAVENDER**  
* (Lavandula angustifolia)  
**Origin** - It is native to the Mediterranean region.  
**History** - In the Middle Ages it was thought to be an herb of love. Up until World War I it was used as a disinfectant for wounds.  
**Description** - Height: to 3 ft/ Spread: 1-3 ft, gray-green spikes of foliage and purple flowers provide color all year, stems are thick and woody, and become straggly if left unpruned, well drained alkaline.
Lovage
*(Levisticum officinale)*

**Origin** - It is native to southern Europe.

**History** - It came to America with the English colonists for both food and medicine.

**Description** - Height: 4-6 ft/ Spread: 2-3 ft, may not flower the 1st year, flowers mid to late summer, small yellow umbels, grown on thick hollow stalks, tolerates full sun, well-drained moist soil

**Health Benefits** - It aids in digestion, its root has diuretic (increase the flow of urine) and carminative (relieve colic) properties, cures a sore throat, and relieves kidney stones.

**Where to Get** - Baker’s Creek

**Uses** - soups, stews, potato dishes and salad dressings, seeds can be used on breads and biscuits.

German Chamomile
*(Matricaria recutita)*

**Origin** - It is native to Europe, Africa, and Asia.

**History** - Middle Ages it was used for nausea, nervous complaints, children’s sickness, and to treat skin diseases.

**Description** - Height: 2-3 ft/ Spread: 6-8”, flowers, daisy-like, upright, feathery foliage, prefer full sun, well drained, sandy soils

**Health Benefits** - The volatile oils from flowers have anti-inflammatory properties to treat various problems of the skin and mucous membranes, anti-spasmodic properties to treat disorders like indigestion and menstrual cramps, anti-infective properties for numerous minor illnesses. It treats rheumatoid arthritis, relieves back pain and has a relaxing effect on body. (Scientific studies have proven the effectiveness)

**Where to Get** - Baker’s Creek

**Uses** - liquors, teas, candies, cough drops

Horehound
*(Marrubium vulgare)*

**Origin** - It is native to southern Europe, central and western Asia, and North Africa.

**History** - The Greek physician, Dioscorides recommended for treating tuberculosis, asthma, and coughs.

**Description** - Height: 2-3 ft/ Spread: 1 ft, bushy habit, flowers summer, white whorls, full sun, well-drained sandy soils

**Health Benefits** - It is used as an expectorant and cough soother, decongestant, diaphoretic (increase perspiration), and a stimulant to rid body of excess body water weight.

**Where to Get** - Richter’s

**Uses** - add to sweet treats for unique flavor

Lavender

**Health Benefits** - Lavender relieves headaches, is spasmolytic (prevents or relieves spasms or convulsions), carminative (relieve colic), a mild sedative, relieves neuralgia pain or sore feet, relieves chest congestion, heals bruises and bites, prevents or relieve fainting spells, and promotes sleep.

**Where to Get** - Richter’s

**Uses** - add to sweet treats for unique flavor

**Origin** - It is native to southern Europe, central and western Asia, and North Africa.

**History** - The Greek physician, Dioscorides recommended for treating tuberculosis, asthma, and coughs.
LEMON BALM
(Melissa officinalis)

**Origin** - It is native to Southern Europe and North Africa.

**History** - Dioscordies treated bites with lemon balm.

**Description** - Height - 1-2 ft/ Spread: 1 1/2- 2 ft, very vigorous, flowers midsummer, white clusters, full sun, well-drained soil, loosely branched, lemon scented

**Health Benefits** - It has sedative effect, inhibits bacteria and viruses, uses as a mild form of Valium, and treats colds, flu, depression, headache and indigestion.

**Where to Get** - Baker’s Creek

**Uses** - salad dressings, fruit dishes, desert sauces, baked goods, tea (leaves)- the flavor is lost when heated

BASIL
(Ocimum basilicum)

**Origin** - It is native to India, Africa and Asia.

**Description** - Height: 1-2 ft/ Spread: 12-18”, flowers midsummer to fall, white, pink or purple spikes, prefers full sun, needs well-drained, moist, nutrient-rich soil, foliage form depends of cultivar

**Health Benefits** - Stem infusions promote digestion, and may also reduce fevers. It has stomachic (stimulant for the stomach), carminative (relieve colic), expectorant (decongestant), antispasmodic (prevents or relieves spasms or convulsions), mild sedative properties.

**Where to Get** - Baker’s Creek

**Uses** - soups, breads, casseroles, dips, pizza, chicken, Italian dishes

PEPPERMINT
(Mentha piperita)

**Origin** - It is native to Europe and Asia.

**History** - In the 18th century it became an important medicinal herb.

**Description** - Height: to 2 ft/ Spread: 18-24”, invasive and should be grown in pots, flowers mid to late summer, white or pink spikes, tolerate full sun, moist soil

**Health Benefits** - It treats indigestion, flatulence, and colic, relieves muscle spasms (antispasmodic) a carminative (relieve colic) and gastric stimulant, and relieves headaches, flu, cold, insomnia, fever in children, and toothaches.

**Where to Get** - Baker’s Creek

**Uses** - fresh fruit, tea, cold drinks

MARJORAM
(Origanum majorana)

**Origin** - It is native to North Africa and Southwest Asia.

**History** - The ancient Egyptians used it to disinfect, preserve and heal wounds.

**Description** - Height: 1 ft/ Spread: 6-8”, its bitterness is in direct proportion to the amount of sun it receives, flowers late summer to early fall, white spikes, full sun, well-drained sandy soils, allow to dry out between watering, dense bushy habit, dense shallow root system, bushy habit

**Health Benefits** - It relieves upset stomach, throat and mouth inflammations. It treats asthma, indiges-
tion, rheumatism, and toothaches. It has minor anti-
oxidant and antifungal properties and may relieve
sinus congestion.

**Where to Get** - Baker’s Creek

**Uses** - poultry, seafood, cocktail, breads, cheese
spreads, Italian foods, blends well with tomatoes in
pasta sauces, a light seasoning for meats, adds slight
favor to eggs and cheese

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**OREGANO**
*(Origanum spp.)*

**Origin** - It is native to the Mediterranean region to
Central Asia.

**History** - Dioscorides wrote of it uses in the 1st
century AD.

**Description** - Height: 1-2 ft / Spread: 1ft, flowers
mid summer, white spikes, full sun, well-drained
soil, allow to dry between watering, aromatic

**Health Benefits** - An infusion of leaves treats indi-
gestion, coughs, and headaches. It is a tonic, stimu-
lant, relieves toothaches, and prevents seasickness.

**Where to Get** - Baker’s Creek

**Uses** - pasta, rice, meat dishes, sauces & dressings,
vinegars, salsa, chili, cheese spreads

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**ANISE**
*(Pimpinella anisum)*

**Origin** - It is native to Egypt and the Mediterranean
region.

**History** - It was mentioned in the Ebers Papyrus;
the seeds were used as a diuretic, to treat digestive
problems, and to relieve toothaches.

**Description** - Height: 2 ft / Spread: 1-2 ft, flowers in
summer, white umbels, plant in full sun, well-drained
soil, do not fertilize, self-seeder

**Health Benefits** - The seeds aids in digestion. The
essential oil of seeds are said to work as a mild ex-
pectorant (decongestant), mild antimicrobial action,
used in cough drops and syrups (NOT scientifically
proven), relieve nausea and abdominal pain, and may
reduce menopausal symptoms.

**Where to Get** - Richter’s

**Uses** - tea (seeds), bread, desserts
ROSEMARY

*(Rosmarinus officinalis)*

**Origin** - It is native to the Mediterranean region and Spain.

**History** - It was used to cure nervous system diseases thousands of years ago.

**Description** - Height: 5-6 ft/ Spread: 1-3 ft, flowers late spring, purple clusters along stem, needle-like leaves, full sun, well-drained, allow to dry out between watering

**Health Benefits** - The leaves and young shoots have tonic, astringent, stomachic, expectorant, and antibacterial properties. It is used as a treatment for depression, headache, and muscle spasms. It may reduce the risk of breast cancer and help preserve memory.

**Where to Get** - Johnny’s Seeds

**Uses** - chicken, pork, lamb, salad (leaves), butters, cold drinks, grilled fish, meats, and vegetables

SAGE

*(Salvia officinalis)*

**Origin** - It is native to the northern Mediterranean coast.

**History** - It is associated with immortality and was credited with increasing mental capacity

**Description** - Height: 12-30”/ Spread: 2 ft, flowers late spring to early summer, purple spikes, full sun, well drained soil, very neat form,

**Health Benefits** - It helps prevent perspiration, has astringent properties in oil; and relieves sore throats, mouth irritations, cuts and bruises. It is also said to lower blood sugar in diabetics.

**Where to Get** - Richter’s

**Uses** - stuffing, soups, stews, tea (leaves), poultry, meats, grilled dishes,

CLARY

*(Salvia sclarea)*

**Origin** - It is native to southern Europe, and the Mediterranean region.

**History** - It was used as an eyewash (put seeds directly into eye and any foreign matter would adhere to it and improve vision), and was also an ingredient in beer and wine.

**Description** - Height - 1-1 ½ ft / Spread: 1 ft, flowers mid to late summer, white spikes, full sun, allow soil to dry between watering, reseeds easily, upright habit, strong balsam-like fragrance

**Health Benefits** - It is used as eyewash (boil seeds with water, strain, and flush eyes out). It has anti-spasmodic (prevents or relieves spasms or convul-
sions), astringent, carminative (relieve colic), and antidiaphoretic (reduce perspiration) properties. An infusion is used for digestive upsets and as a kidney tonic.

Where to Get - Richter’s

Uses - tea (leaves), soups

SAVORY
(Satureja hortensis)

Origin - It is native to the Mediterranean region.

History - Colonist brought it to America to treat indigestion.

Description - Height: 18”/ Spread: 5-10”, flowers midsummer to frost, white clusters along stem, full sun, well drained moist soil, aromatic, bushy habit, branching root system

Health Benefits - It aids digestion, has mild antiseptic and astringent properties, relieves diarrhea and a mild sore throat.

Where to Get - Baker’s Creek

Uses - all-purpose seasoning that can be used in anything you would season with onions and parsley, soups, pasta salads, vegetables, fish, meat, tea (leaves)

THYME
(Thymus vulgaris)

Origin - It is native to the Western Mediterranean region.

History - In the Middle Ages it was used as a cough remedy, digestive aid and as treatment for intestinal parasites.

Description - Height: 1 ft / Spread: 6 inches-1 ft, flowers midsummer, pink clusters, full sun, well-drained, makes good groundcover, aromatic

Health Benefit - It is used as flavoring in cough medicine. It has carminative (relieve colic), and antiseptic properties and helps with gastrointestinal problems. Thyme tea relieves shortness of breath and congestion.

Where to Get - Johnny’s Seeds

Uses - meats, vegetables and sauces, stews
FENUGREEK
*(Trigonella foenum-graceum)*

**Origin** - It is native to western Asia and the Mediterranean region.

**History** - It was used medicinally in ancient Egypt.

**Description** - Height 1-2 ft/Spread 1 ft, flowers mid-summer, white pea-like, foliage resembles clover, full sun, rich soil

**Health Benefits** - It is a laxative, expectorant for coughs and colds, has stomachic, demulcent (soothing), and restorative properties, helps treat asthma, fever, and cold symptoms, heartburn and lowers blood sugar. Externally it is used to soothe wounds.

**Where to Get** - Baker’s Creek

**Uses** - vegetables (leaves), pastries, marinades, chutney (seeds)

NASTURTMIUM
*(Tropaeolum majus)*

**Origin** - It is native to South America.

**Description** - height: up to 1 ft, spread: vining to 6 ft, flowers summer through fall, funnel-shaped red, orange, yellows, full sun, well-drained soil, flowers are edible

**Health Benefits** - It treats bronchitis, and urinary infections, and promotes red blood cell formation.

**Where to Get** - Johnny’s Seeds

**Uses** - leaves & flowers- salads, sandwiches for peppery bite (use sparingly)
COMMON YARROW
(Achillea millefolium)

Origin - It is native to Europe and Western Asia.

Health Benefits - It is used in treating wounds and fevers, helps stop bleeding. It contains over 100 biological compounds and several vitamins and minerals. Provides benefits to cardiovascular health and aids in the treatment of pneumonia. They improve digestion, circulation, and the functions of the liver, gall bladder, and kidneys. It also contains salicylic acid and chamazulene, which soothe breakouts and blemishes. The plant is also a proven mosquito repellent.

Description - Grows 12”-36” tall, tolerates full sun, and blooms mid to later summer.

SWEET FLAG
(Acorus calamus)

Origin - It is native to Asia and North America.

Health Benefits - It has antibiotic properties.

Description - spreads by creeping rhizomes, this plant has sword shaped leaves and grows 2’-3’tall, needs plenty of moisture as it is usually grown in bogs or shallow water.

Where to Get - Sandmountainherbs.com

LADY’S MANTLE
(Alchemilla mollis)

Origin - It is native to Europe.

Health Benefits - It relieves menopausal discomfort and menstrual disorders, lack of appetite, rheumatism, stomach ailments, disorders of the muscles.

Description - grows 18” tall with flower stems that can reach up to 24”, tolerates full sun as well as partial shade and blooms late spring to early summer, needs adequate moisture in periods of hot weather. Seeds can be slow to germinate.

BUTTERFLY WEED
(Asclepias tuberosa)

Origin - It is native to Missouri and eastern North America.

Health Benefits - The plants roots are used to treat lung inflammation, hence the name Pleurisy root.

Description - , growing 1’-3’ tall, and producing large clusters of bright orange flowers, full sun and drought tolerant, an important food source for the larvae of the Monarch butterfly.

BLACKBERRY LILY
(Belamcanda chinensis)

Origin - It is native to China and Japan.

Health Benefits - The Chinese used this medicinally to treat sore throats, cough, bronchitis, and the mumps.

Description - grows 2’-3’ tall and produces oranges spotted flowers in the summer, clusters of black seeds are produced, which look like blackberries, hence the name, tolerates full sun and a variety of soil types.

POT MARIGOLD
(Calendula officinalis)

Origin - It is native to the Mediterranean region.

Health Benefits - It promotes healing and helps heal ulcers.
Description- annual growing 12”-18” tall and blooms all summer long, tolerates full sun and needs adequate moisture to survive hot summer conditions; officinalis means medicinal, and the florets of the plant were used for healing wounds and as a country remedy for ulcers.

**Where to Get** - Parkseed.com

### BLACK COHOSH  
* (Cimicifuga racemosa)  
**Health Benefits** - It contains phytoestrogens, which help alleviate premenstrual and menopausal symptoms, as well as reduce the risk of breast cancer. Also, it is a good source of other antioxidants, which lessen the risk of all cancers. It also acts as an antiproliferative, which slows the spread of tumors.

**Where to Get** - Herbroots.com

### AUTUMN CROCUS  
* (Colchicum autumnale)  
**Origin** - It is native to England, Europe, and North Africa.

**Health Benefits** - It helps to treat gout.

**Description** - 4”-6” plant produces pink flowers in late summer, tolerates sun to part shade, corm produces as many as 6 flowers, which are then followed by the foliage

**Where to Get** - Sandmountainherbs.com

### PURPLE CONEFLOWER  
* (Echinacea purpurea)  
**Origin** - It is native to the eastern United States.

**Health Benefits** - It aids with respiratory and urinary infections. It also helps to shorten the duration and lessen the severity of the common cold. Highly regarded blood purifier used in the treatment of diseases caused by impurities. It is said to increase bodily resistance to infection by strengthening the immune system.

**Description** - grows 2’-4’ tall and 2’ wide, produces solitary purple blooms in the summer, and is tolerant of full sun and drought

### FOXGLOVE  
* (Digitalis purpurea)  
**Origin** - It is native to Europe and North Africa.

**Health Benefits** - Source of digitalis and it is used as a cardiac drug. It is important for regulating action of the heart, but too powerful for use without medical supervision.

**Description** - has large pendulous spotted flowers, which are arranged in spikes, and grows 2’-5’ tall, blooms late spring to early summer, part shade and moist conditions; The heart stimulant, Digitalis, is derived from this plant.

**Where to Get** - Sandmountainherbs.com.
**MEADOWSWEET**  
*Filipendula ulmaria*  

**Origin** - It is native to Europe and western Asia.

**Health Benefits** - It contains the chemical salicylate, which has aspirin like properties, but lack side effects such as stomach and intestinal irritation that occur with long term aspirin use. It also is said to treat the flu, rheumatism, arthritis, and fever. Once added to herbal beers and wine.

**Description** - grows up to 6’ tall and produces pale white flowers, which are almond scented, in the summer, tolerates full sun to partial shade, but need moist soil.

**Where to Get** - Sandmountainherbs.com

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**ST. JOHN’S WORT**  
*Hypericum perforatum*  

**Origin** - Even thought this plant is not native to the United States, it has since naturalized throughout much of the country.

**Health Benefits** - It is used to treat depression and as a sleep aid. Noted for its calming effect; valuable for nervous disorders such as insomnia, depression and bedwetting. The oil has remarkable soothing and healing action when rubbed into painful joints and strained muscles. Active constituent is hypericin. Hypericin has known antiviral properties and is under investigation as a possible treatment against HIV.

**Description** - produces starry yellow flowers in the summer and grows 12”-24” tall, drought tolerant once established and likes full sun to part shade.

**Where to Get** - Sandmountainherbs.

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**SWEET POTATO VINE**  
*Ipomoea batatas*  

**Origin** - It is native to South America.

**Health Benefits** - It has anti-diabetic effects.

**Description** - trailing, creeping plant with large cordately shaped like leaves, available in green (Marguerite), purple (Blackie), or tricolor.

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**ENGLISH LAVENDER**  
*Lavandula angustifolia*  

**Origin** - It is native to the Mediterranean region.

**Health Benefits** - It helps to treat anxiety and restlessness. For centuries the fragrant flowers have been used in dried sachets, scented soaps, perfumes and potpourris. Lavender oil is an important article of commerce. In the garden, lavenders make sweet-smelling border plants along pathways.

**Description** - grows 12”-24” tall, tolerates full sun, aromatic flowers bloom in the summer.

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**EVENING PRIMROSE**  
*Oenothera biennis*  

**Origin** - It is native to eastern North America.

**Health Benefits** - It contains fatty acids believed to be beneficial to health in modest quantities. Oil in seeds contains gammalinolenic acid (GLA), a precursor of prostaglandin E1. The latter is very active biologically regulating such functions as the vessel and immune systems. The young root can also be eaten like a vegetable and the shoots can be used in salads.
**Description** - upright, erect plant growing to 5’ tall, yellow flowers are borne in spikes, open at night and shrivel before noon, tolerate sun or shade.

**Where to Get** - Sandmountainherbs.com

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**PSYLLIUM INDIAN**  
(*Plantago ovata*)

**Health Benefits** - It is used as a laxative, to treat constipation and irritable bowel syndrome. The mucilaginous seed coats lubricate and cleanse the intestines, acting as a mild laxative. It also helps to lower cholesterol. Popular prepared laxatives such as Metamucil are made from the seeds.

**Description** - low growing annual, with soft grass like leaves.

**Where to Get** - Sandmountainherbs.com

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**SOLOMON’S SEAL**  
(*Polygonatum odoratum*)

**Origin** - It is native to North America.

**Health Benefits** - It helps heal wounds.

**Description** - grows 18”-24” tall and 2’ wide, 1” white flowers hang, usually in Pairs, from the underside of the leaf and bloom in the spring, will tolerate heavy shade and need moist conditions.

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**SELF HEAL**  
(*Prunella vulgaris*)

**Origin** - It is native to Europe.

**Health Benefits** - It treats sore throat and is a general healer. It was originally named from the German Brunella, which is a disease of the throat called quinsy, which this plant is supposed to heal.

**Description** - grows less than 1’ tall and produces purple flowers on spikes in the summertime, Tolerates full sun to partial shade

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**HENS AND CHICKS**  
(*Sempervivum tectorum*)

**Origin** - It is native to Europe.

**Health Benefits** - It is used as an astringent.

**Description** - grows 3”-4” tall, produces open rosettes of leaves, blooms midsummer with insignificant purple-red flowers, tolerates full sun and dry conditions; Sempervivum comes from semper, meaning forever, and vivo, to live, meaning live forever. It can be seen on tiled rooftops in the European country, as it is said to repel lightning and prevent fires.

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**COMFREY**  
(*Symphytum officinale*)

**Origin** - It is native to Europe.

**Health Benefits** - It contains allantoin, a substance that stimulates cell division, aiding in the healing of wounds, ulcers, and broken bones. The leaves and roots are used to promote healing and in the treatment inflammation, rashes, cuts, broken bones, etc. Comfreys are nutritional herbs, rich in calcium, potassium, phosphorus, vitamins and trace elements. It is not for internal use due to present alkaloids, and if used over long periods of time it may cause liver damage. Safe for external use as alkaloids cannot be absorbed through the skin.

**Description** - comes from the Latin ‘con firma’, which means strength, grows 3’- 4’ tall and 4’ wide,
produces purple-pink flowers in the spring, likes full sun.

Where to Get - Sandmountainherbs.com

**FEVERFEW**
*(Tanacetum parthenium)*

**Origin** - It is native to England.

**Health Benefits** - It is used to treat migraines. A medical survey in England indicates that 1 to 4 leaves of feverfew infused in a tea or eaten in a sandwich daily reduce the number and severity of migraine attacks in some sufferers. It even has pleasant side effects including a sense of well-being, lack of tension and relief from arthritis.

**Description** - bushy perennial growing 1’-3’ tall, produces daisy-like yellow flowers in summer, easily grown in most soils as long as it is placed in full sun to part shade.

Where to Get - Sandmountainherbs.com

**VALERIAN**
*(Valeriana officinalis)*

**Origin** - It is native to Europe and Asia, but it has since naturalized in Canada and the United States.

**Health Benefits** - It is used as a sleep aid and has excellent sedative action. Widely used to allay pain, nervous unrest, migraine, and insomnia.

**Description** - grow 3’-5’ tall, tolerate full sun, white, pink, and purple flowers are borne in the spring and are prized for their fragrance.

Where to Get - Sandmountainherbs.com
WHEAT GRASS
(*Triticum aestivum*)

**General Information** - Claims about wheatgrass’ health benefits range from providing supplemental nutrition to having unique curative properties. Some consumers grow and juice wheatgrass in their homes. Wheatgrass juice is one of the best sources of living chlorophyll available. Chlorophyll is the natural plant pigment that lends its color to grass, leaves, and many of the vegetables we eat, and may play an important role in prevention of certain cancers. It contains most of the vitamins and minerals needed for human maintenance, including the elusive vitamin B12.

**History** - Wheat grass can be traced back in history over 5000 years, to ancient Egypt and perhaps even early Mesopotamian civilizations. It is purported that ancient Egyptians found sacred the young leafy blades of wheat and prized them for their positive affect on their health and vitality.

More recently, the consumption of wheatgrass in the Western world began in the 1930s as a result of experiments by Charles F. Schnabel and his attempts to popularize the plant. Schnabel, an agricultural chemist, conducted his first experiments with young grasses in 1930, when he used fresh cut grass in an attempt to nurse dying chickens back to health. The hens not only recovered, but they produced eggs at a higher rate than healthy hens. Encouraged by his results, he began drying and powdering grass for his neighbors to supplement their diets. The following year, Schnabel reproduced his experiment and achieved the same results. Hens consuming rations supplemented with grass doubled their egg production. Schnabel started promoting his discovery to feed mills, chemist and the food industry. Two large corporations, Quaker Oats and American Diaries Inc., invested millions of dollars in further research, development and production of products for animals and humans. By 1940, cans of Schnabel’s powdered grass were on sale in major drug stores throughout the United States and Canada. Sometime during the 1940’s a lady by the name of Ann Wigmore healed herself of cancer from the weeds she found in vacant lots in Boston. She began a study of natural healing modalities—and with the help of a friend, Dr. Earp Thomas, she found that there are 4700 varieties of grass in the world and all are good for man. With the help of her pets, she arrived at the conclusion that wheatgrass was the best—or the medicinal grass.

**Health Benefits** - Wheat grass is believed to have many unexplained natural healing qualities. Many of the phytonutrients (plant nutrients) con-

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**Proponents of wheatgrass claim regular ingestion of the plant can:**
- improve the digestive system
- treats constipation
- believed to prevent some cancers, diabetes and heart disease
- detoxify heavy metals from the bloodstream
- cleanse the liver
- prevent hair loss
- promotes general well-being.
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The name amaranth comes from the Greek meaning of “never-fading flower.” The plant is an annual herb, not a “true” grain and is a relative of pigweed, a common wild plant also known as lamb’s-quarters, as well as the garden plant we know as Cockscomb. There are approximately 60 species of amaranth and there is no definite distinction between amaranth grown for the leaf (vegetable), and the seed (grain).

Nutritional Benefits - It provides a good source of dietary fiber and dietary minerals such as iron, potassium, magnesium, phosphorus, copper, and especially manganese. It has more iron, potassium, phosphorus and magnesium than any other grain. Combined with corn or wheat flour, it makes “almost” a perfect protein.

Medical Claims - Amaranth seed is high in protein and contains respectable amounts of lysine and methionine, two essential amino acids that are not frequently found in grains. In fact the lysine level contained in amaranth are twice the amount of lysine found in wheat and 3 times the amount as that found in corn. Several studies have shown that like oats, amaranth seed or oil may be of benefit for those with hypertension and cardiovascular disease; regular consumption reduces blood pressure and cholesterol levels, while improving antioxidant status and some immune parameters. Amaranth appears to lower cholesterol via its content of plant stanols and squalene.

General Information - Amaranth is a healthy, nutritious grain. It can be cooked as a cereal, ground into flour, popped like popcorn, sprouted, or toasted. The seeds can be cooked with other whole grains, added to stir-fry or to soups and stews as a nutrient dense thickening agent.

History - Amaranth was a staple in the diets of pre-Columbian Aztecs, who believed it had supernatural powers and incorporated it into their religious ceremonies. Before the Spanish conquest in 1519, amaranth was associated with human sacrifice and the Aztec women made a mixture of ground amaranth seed, honey or human blood then shaped this mixture into
for human consumption. Even though the outer hull of an oat kernel comes off easier than a barley kernel’s hull, it’s still not within reach of the average consumer to accomplish this. For this reason, if you want whole oats to eat, purchase them already hulled. Hulled oats, called oat groats, look very much like rye or Triticale.

Oats, known scientifically as *Avena sativa*, are a hardy cereal grain able to withstand poor soil conditions in which other crops are unable to thrive. Oats gain part of their distinctive flavor from the roasting process that they undergo after being harvested and cleaned. Although oats are then hulled, this process does not strip away their bran and germ allowing them to retain a concentrated source of their fiber and nutrients.

**Health Benefits** - It helps lower cholesterol levels, unique oat antioxidants reduce risk of cardiovascular disease, and substantially lower Type 2 Diabetes risk. Antioxidant Benefits- In addition to its fiber benefits, oats are also a very good source of selenium. A necessary cofactor of the important antioxidant, glutathione peroxidase, selenium works with vitamin E in numerous vital antioxidant systems throughout the body. These powerful antioxidant actions make selenium helpful in decreasing asthma symptoms and in the prevention of heart disease. In addition, selenium is involved in DNA repair and is associated with a reduced risk for cancer, especially colon cancer.

**Citations:**
http://www.eatright.org/cps/rde/xchg/ada/hs.xsl/home_4285_ENU_HTML.htm


**WHOLE GRAINS**

A whole grain consists of three parts – bran, germ, and endosperm. They are typically a good source of B-complex vitamins, Vitamin E, magnesium, iron, and fiber as well as other valuable antioxidants not found in some fruits and vegetables. Most of the antioxidants and vitamins are found in the germ and the bran of the wholegrain.

Whole grains have been shown to reduce the risk of heart disease, primarily by decreasing cholesterol levels, blood pressure and blood coagulation. They have also been shown to reduce the risks of many types of cancers. Additionally, it has been demonstrated that they help regulate blood glucose levels in diabetics. Studies have shown that people who consume more whole grains consistently weigh less than those who consumed less whole grain products.
QUINOA
(Chenopodium quinoa)

General Information - Pronounced “KEEN-wah,” this grainlike product is often found in health food stores. The grain, which must be simmered, has a delicious roasted flavor and can be added to vegetable dishes or rice. Quinoa flakes, a hot cereal similar to oatmeal, make a hearty breakfast.

History - A recently rediscovered ancient “grain” native to South America, quinoa was once called “the gold of the Incas,” who recognized its value in increasing the stamina of their warriors. Not only is quinoa high in protein, but the protein it supplies is complete protein, meaning that it includes all nine essential amino acids. Not only is quinoa’s amino acid profile well balanced, making it a good choice for vegans concerned about adequate protein intake, but quinoa is especially well-endowed with the amino acid lysine, which is essential for tissue growth and repair. In addition to protein, quinoa features a host of other health-building nutrients. Because quinoa is a very good source of manganese as well as a good source of magnesium, iron, copper and phosphorous, this “grain” may be especially valuable for persons with migraine headaches, diabetes and atherosclerosis.

Nutritional Benefits - Quinoa contains more protein than any other grain; an average of 16.2 percent, compared with 7.5 percent for rice, 9.9 percent for millet, and 14 percent for wheat. Some varieties of quinoa are more than 20 percent protein. Additionally, Quinoa’s protein is of an unusually high quality. It is a complete protein, with an essential amino acid balance close to the ideal ... similar to milk! Quinoa’s protein is high in lysine, methionine and cystine. This makes it an excellent food to combine with, and boost the protein value of other grains (which are low in lysine), or soy (which is low in methionine and cystine). The leaves make a good spinach like vegetable.

BARLEY
(Hordeum vulgare)

General Information - Barley is a multi-use cereal grain with a rich nutty flavor and an appealing chewy consistency. Barley resembles wheat berries, although it is slightly lighter in color. Barley can be found as whole barley, hulled barley, pearled barley and barley flakes. Barley is most commonly used in soups and stews. But when fermented, barley can be used as an ingredient in beer and other alcoholic beverages. Curiously, it had the reputation for being a ‘strong’ food; it was awarded to the champions at the Eleusian games, and gladiators were called ‘hordearii’, ‘barley men’, because that was the chief component of their training diet.

History - Barley originated in Ethiopia and Southeast Asia, where it has been cultivated for more than 10,000 years. Barley was used by ancient civilizations as a food for humans and animals, as well as to make alcoholic beverages; the first known recipe for barley wine dates back to 2800 BC in Babylonia. In addition, since ancient times, barley water has been used for various medicinal purposes. Barley played an important role in ancient Greek culture as a staple bread-making grain as well as an important food for athletes, who attributed much of their strength to their barley-containing training diets. Roman athletes continued this tradition of honoring barley for the strength that it gave them. Gladiators were known as hordearii, which means “eaters of barley.” Barley was also honored in ancient China as a symbol of male virility since the heads of barley are heavy and contain numerous seeds.

Since wheat was very expensive and not widely available in the Middle Ages, many Europeans at that time made bread from a combination of barley and rye. In the 16th century, the Spanish introduced barley to South America, while the English and Dutch settlers of the 17th century brought it with them to the United States.
Today, the largest commercial producers of barley are Canada, the United States, the Russian Federation, Germany, France and Spain.

**Nutritional Benefits** - The propionic acid produced from barley’s insoluble fiber may also be partly responsible for the cholesterol-lowering properties of fiber. In addition, barley’s dietary fiber is high in beta glucan, which helps to lower cholesterol by binding to bile acids and removing them from the body.

**Medical Benefits** - Yet another reason to increase your intake of barley is that, in addition to its fiber, barley is also a good source of niacin, a B vitamin that provides numerous protective actions against cardiovascular risk factors. Niacin can help reduce total cholesterol and lipoprotein (a) levels. (Lipoprotein (a) or Lp(a) is a molecule composed of protein and fat that is found in blood plasma and is very similar to LDL cholesterol, but is even more dangerous as it has an additional molecule of adhesive protein called apolipoprotein (a), which renders Lp(a) more capable of attaching to blood vessel walls.)

**Additional Information** - Barley and other whole grains are a rich source of magnesium, a mineral that acts as a co-factor for more than 300 enzymes, including enzymes involved in the body’s use of glucose and insulin secretion.

For people worried about colon cancer risk, barley packs a double punch by providing the fiber needed to minimize the amount of time cancer-causing substances spend in contact with colon cells, plus being a very good source of selenium, which has been shown to reduce the risk of colon cancer significantly.

One type of phytonutrient especially abundant in whole grains such as barley are plant lignans, which are converted by friendly flora in our intestines into mammalian lignans, including one called enterolactone that is thought to protect against breast and other hormone-dependent cancers as well as heart disease. In addition to whole grains, nuts, seeds and berries are rich sources of plant lignans, and vegetables, fruits, and beverages such as coffee, tea and wine also contain some. When blood levels of enterolactone were measured in over 800 postmenopausal women in a Danish study published in the Journal of Nutrition, women eating the most whole grains were found to have significantly higher blood levels of this protective lignan. Women who ate more cabbage and leafy vegetables also had higher enterolactone levels. Copper, another trace mineral supplied by barley, may also be helpful in reducing the symptoms of rheumatoid arthritis.

**Citations**


### LINN - HOPS

*(Humulus lupulus)*

**General Information** - Hop is a member of the Cannabacea family, traditionally used for relaxation, sedation, and to treat insomnia. A number of methodologically weak human trials have investigated hops in combination with valerian (Valeriana officinalis) for the treatment of sleep disturbances, and several animal studies have examined the sedative properties of hops monotherapy. However, the results of these studies are equivocal, and there is currently insufficient evidence to recommend hops alone or in combination for any medical condition.

**History** - Hops appear to have been used in the breweries of the Netherlands in the beginning of the fourteenth century. In England they were not used in the composition of beer till nearly two centuries afterwards. The liquor prepared from fermented malt formed the favorite drink of our Saxon and Danish forefathers. The beverage went by the name of Ale.
(the word derived from the Scandinavian öl - the Viking’s drink) and was brewed either from malt alone, or from a mixture of the latter with Honey and flavored with Heath tops, Ground Ivy, and various other bitter and aromatic herbs, such as Marjoram, Buckbean, Wormwood, Yarrow, Woodsage or Germander and Broom.

**Health benefits** - Hops contain phytoestrogens that may possess estrogen receptor agonist or antagonist properties, with unclear effects on hormone-sensitive conditions, such as breast, uterine, cervical, or prostate cancer, or endometriosis.

**Medical benefits** - The bitter principle in the Hop proves one of the most efficacious vegetable bit ters obtainable. An infusion of 1/2 oz. Hops to 1 pint of water will be found the proper quantity for ordinary use. It has proved of great service also in heart disease, fits, neuralgia and nervous disorders, besides being a useful tonic in indigestion, jaundice, and stomach and liver affections generally. It gives prompt ease to an irritable bladder, and is said to be an excellent drink in cases of delirium tremens. Sherry in which some Hops have been steeped makes a capital stomachic cordial.

**Citations**

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**FLAX SEED**  
*(Linum usitatissimum)*

**General Information** - Flax is truly an amazing grain which is proving itself over and over again as a nutritional wonder-grain. The scientific community is becoming more and more excited as it continues to learn about the healthful and healing effects of flax seed. Almost half the weight of this small, dark brown tear-shaped seed contains oil. But it’s not just the oil that’s making waves, as flax seed also contains several other remarkable nutritional elements that make it a great ingredient for breads and dishes of all kinds.

**History** - It was first domesticated in the Fertile Crescent, (Middle East incorporating the Levant, Ancient Mesopotamia, and Ancient Egypt).

**Medical Benefits** - It may benefit the heart, possess anti-cancer properties and studies performed on mice found reduced growth in specific types of tumors. Initial studies suggest that flaxseed taken in the diet may benefit individuals with certain types of breast and prostate cancers. Flax may also lessen the severity of diabetes by stabilizing blood-sugar levels. There is some support for the use of flax seed as a laxative due to its dietary fiber content though excessive consumption without liquid can result in intestinal blockage.

**Nutritional Benefits** - Flax seeds contain high levels of lignans and Omega-3 fatty acids.

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**SORGHUM**  
*(Sorghum bicolor)*

**History** - It originates in Africa, having been cultivated in Egypt in antiquity, and the largest producer of sorghum in the modern era is still Africa, although the crop has spread to southern Asia and the Americas as well. In traditional form, sorghum is a towering plant over six feet tall, although many varieties designed for cultivation are dwarf breeds, specially designed for easy harvest. In Africa, however, traditional tall sorghum is still grown, and the stalks are put to a variety of uses.

**Nutritional Benefits** - Sorghum is commonly
eaten with the hull, which retains the majority of the nutrients. The plant is very high in fiber and iron, with a fairly high protein level as well. This makes it well suited to its use as a staple starch in much of the developing world. Distantly related to corn, sorghum is gaining wide popularity as a wheat substitute in America.

Medical Claims - Sorghum is a rich source of various phytochemicals including tannins, phenolic acids, anthocyanins, phytosterols and policosanols. These phytochemicals have potential to significantly impact human health. Sorghum fractions possess high antioxidant activity in vitro relative to other cereals or fruits. These fractions may offer similar health benefits commonly associated with fruits. Available epidemiological evidence suggests that sorghum consumption reduces the risk of certain types of cancer in humans compared to other cereals. The high concentration of phytochemicals in sorghum may be partly responsible.

Citations

WHEAT
(Triticum spp.)

General Information - All the wheat grown in the world belongs to one of fourteen species, but only half are of any great commercial importance. About 95% of the wheat grown is common. Each species of wheat is subdivided into many varieties with over 30,000 different ones grown throughout the world, giving great variation in shape, size, and color of the ears and the grains themselves. Cakes and pastries are usually made from “soft” wheats, which contain more starch. Pasta is made from hard duram or macaroni wheat (Triticum durum). “Hard” wheats are generally richer in protein than “soft” wheat varieties and make better bread. The variety most often used for bread is Triticum aestivum.

History - Prepared by such ancient civilizations as the Babylonians, Hittites and Hebrews, bulghur has been a staple since at least 4,000 BC with some sources suggesting 6,000 BC. Romans, Arabs and Egyptians have recorded its use as early as 1,000 BC. Common in the more easternly Mediterranean regions, it is also has a long history in the Ukarainian and Central Asian cuisines where both bulghur and cracked wheat are used along with kasha, or braised buckwheat groats.

The wild species of wheat has been found in excavations of the upper Tigris-Euphrates basin known as the Fertile Crescent, which is the presumed birthplace of civilization. Wheat vies with barley as the oldest cultivated cereal grain. Einkorn (T. monococ cum) is the oldest known cultivated wheat and is now grown mainly in Spain. Hard wheats are thought to have evolved about 8000 BC from the wild species of Triticum, called einkorn (meaning “one seed”), and the related genus Aegilops in South West Asia and the eastern Mediterranean. Wild wheat ears have long spikes, which help the grains hold fast to the earth. They are very brittle and shatter when touched, which is a particularly undesirable feature that was selectively bred out of the wheat developed for commercial use.

Nutritional benefits - Wheat is an excellent source of fiber, minerals and vitamins. It is an excellent source of Iron, Magnesium, Zinc, and Niacin. It contains protein, B vitamins, minerals and fiber, as well as antioxidants.
**PEANUTS**
*(Arachis hypogaea)*

**General Information** - Contrary to popular belief, peanuts are not true nuts, but are a member of the family of legumes. A peanut start growing as a ground flower but due to its heavy weight, bends towards the ground and eventually burrows underground where the peanut actually matures. They are also known as earthnuts, goobers, goober peas, pindas, jack nuts, pinders, manila nuts and monkey balls. (The last of these is often used to mean the entire pod, not just the seeds).

**Origin & History** - Peanuts originated in South America and played an important role in the diet of the Aztecs and other Native Indians of South America and Mexico. In the 19th century, peanuts experienced a great gain in popularity in the US thanks to George Washington Carver and a St Louis physician, who still remains unknown today, ground up paste from peanuts and prescribed this high protein, low carbohydrate food to his patients who had poor teeth. His discovery quickly caught on and become a very popular food.

**Nutritional benefits** - Peanuts pack a serious nutritional punch in a variety of ways. They are a very good source of monounsaturated fats (the good fat), making it a good ally for a healthy heart. They are a good source of vitamin E, niacin, folate, protein and manganese.

**Medicinal claims** -
Peanuts provide resveratrol, the phenolic antioxidant also found in red grapes and red wine. They rival the antioxidant content of blackberries and strawberries. Resveratrol is a flavonoid which in animal studies has been determined to improve blood flow in the brain by as much as 30%, reducing the risk of stroke.

A number of studies have shown that nutrients found in peanuts, such as folic acid, phytosterols, phytic
acid and resveratrol may have anti-cancer effects.

Research has shown regular consumption of niacin-rich foods like peanuts provides protection against Alzheimer’s disease as well as other age related cognitive declines.

A prospective study published in the journal Obesity show people who ate nuts at least twice a week are much less likely to gain weight than those who almost never ate nuts.

SOYBEANS - EDAMAME
(Glycine max)

**General Information** - The word Edamame means “Beans on Branches,” and it grows in clusters on bushy branches. To retain the freshness and its natural flavor, it is parboiled and quick-frozen. In East Asia, the soybean has been used for over two thousand years as a major source of protein. Edamame is consumed as a snack, a vegetable dish, used in soups or processed into sweets. As a snack, the pods are lightly boiled in salted water, and then the seeds are squeezed directly from the pods into the mouth with the fingers.

**Origin & History** - Edamame is a specialty soybean. Records indicate its use in China more than 2200 years ago. From China, it was introduced into Japan, where it was consumed for centuries before it was documented in the 927 A.D. A seasonal crop, its peak harvest coincided with the full moons of September and October. Originally grown in the berms between rice paddies, edamame is now field-cultivated. David Fairchild, noted horticulturist and plant explorer with the Department of Agriculture, introduced edamame to the U.S. in 1902 after delighting in its flavor and texture while traveling in Japan. He grew it and served it to prominent guests in Washington D.C. Although edamame did not catch on as a snack food as quickly as he had hoped, research has been going on for 75 years, flourishing in the 1930s and 1940s due to a protein shortage. Interest spiked again in the 1970s concurrent with the growing interest in organic agriculture. The focus of the Rodale Research Center was on edamame quality and adaptability, while Cornell University conducted basic agronomic research.

**Nutritional benefits** - Edamame is a nutritional powerhouse. Like dried soybeans, it is high in phytoestrogens, a natural plant estrogen. A 100 gram serving of the beans only, (not the pods), has 125 hardworking calories packed with 12 grams of protein, 13 grams of carbohydrate, and only 3.5 grams of fat. It is rich in calcium and phosphorus and is a good source of vitamin A.

**Medicinal claims** - Compared to the traditional soybean, edamame contains a higher level of abscissic acid, a plant hormone that has inhibitory effects. Some of edamame’s other characteristics include higher levels of sucrose and protein, all of which result in a tastier, healthier soybean. The green soybeans are also a rich source of vitamins A and B and calcium.

Edamame has health benefits too. McNulty explained that edamame is a good food for diabetics because it helps to maintain blood sugar levels.

Other edamame health benefits include lower cholesterol levels and decreased risk of heart attacks. Research also suggests that the isoflavones in edamame may reduce or ward off breast cancer in pre-menopausal women.

McNulty was instrumental in the development of this specialty crop’s popularity in her area. Along with University of Kentucky Extension educators, McNulty secured one of Southern Region Sustainable Agriculture Research and Education’s first sustainable community innovation grants. According to a USDA article, the funds from this grant were applied to promoting edamame as a profitable crop with great health potential.
The already-identified health benefits of soy (low-fat, high-protein, low-cholesterol) accelerated the University of Kentucky’s effort to promote the nutritional benefits of edamame to heart patients and healthcare workers.

Citations

**LENTILS**
*(Lens ensculenta)*

**General Information** - Lentils are legumes. They grow in pods that contain either one or two lentil seeds. They are classified according to whether they are large or small in size with dozens of varieties of each being cultivated. While the most common types in the United States are either green or brown, lentils are also available in black, yellow, red and orange colors. These round, oval or heart-shaped disks are small in size, oftentimes smaller than the tip of a pencil eraser.

Lentils are a very popular legume used throughout much of the world. Brown lentils don’t hold their shape well after being cooked, however green lentils do. Lentils have a high nutritional value second only to soy beans in protein content. They make a great soup by themselves and can also be ground and made into meatless patties. Lentils sprout in two days, being crisp and sweet, they are a great addition to salads. Lentils have been a popular food in the Middle East for thousands of years. Lentils are mentioned 4 times in the bible, the first time being in that bowl of pottage Jacob gave Esau as he forsook his birthright about 4,160 years ago.

**Origin & History** - Lentils are believed to have originated in central Asia, having been consumed since prehistoric times. They are one of the first foods to have ever been cultivated. Lentil seeds dating back 8000 years have been found at archeological sites in the Middle East. For millennia, lentils have been traditionally been eaten with barley and wheat, three foodstuffs that originated in the same regions and spread throughout Africa and Europe during similar migrations and explorations of cultural tribes. Before the 1st century AD, they were introduced into India, a country whose traditional cuisine still bestows high regard for the spiced lentil dish known as dal.

**Nutritional benefits** - Lentils have a high nutritional value second only to soy beans in protein content. They are an excellent source of molybdenum and folate. They are a very good source of dietary fiber and manganese and a good source of iron, protein, phosphorous, copper, thiamin and potassium. Not only do lentils help lower cholesterol, they are of special benefit in managing blood-sugar disorders since their high fiber content prevents blood sugar levels from rising rapidly after a meal. But this is far from all lentils have to offer. Lentils also provide good to excellent amounts of six important minerals, two B-vitamins, and protein—all with virtually no fat.

**Medicinal claims** - A study published in the Archives of Internal Medicine confirms that eating high fiber foods, such as lentils, helps prevent heart disease. Lentils’ magnesium puts yet another plus in the column of its beneficial cardiovascular effects. Magnesium is Nature’s own calcium channel blocker. When enough magnesium is around, veins and arteries breathe a sigh of relief and relax which lessens resistance and improves the flow of blood, oxygen and nutrients throughout the body. Studies show that a deficiency of magnesium is not only associated with heart attack but that immediately following a heart attack, lack of sufficient magnesium promotes free radical injury to the heart. Check a chart of the fiber content in foods; you’ll see legumes leading the pack. Lentils, like other beans, are rich in dietary fiber, both the soluble and insoluble type. Soluble fiber forms a gel-like substance in the digestive tract that snares bile (which contains cholesterol) and ferries it out of the body. Research studies have shown that insoluble
fiber not only helps to increase stool bulk and prevent constipation, but also helps prevent digestive disorders like irritable bowel syndrome and diverticulosis.

Citations

HUNAN WINGED BEAN
(Psophocarpus tetragonolobus)

General Information - The winged bean is one of the newest Asian vegetables coming to market these days. Known for centuries in tropical Asia, this attractive climbing perennial is more or less your total meal: all parts of the plant are edible — the pods, the beans inside, the shoots, the flowers and even the tuber.

Origin & History - Winged beans are said to have originated in Mauritius or Madagascar. They are thought to have been disseminated by Arabs because some of the names used for the beans in places such as Malaysia (where the beans are called “kacang botol”) are derived from Arabic. This is one of the most important vegetables in south Indian and Thai cooking because the plants are perennial in the tropics and they supply a steady source of food year-round. Their nitrogen-fixing ability helped secure their role as a cover crop on banana plantations, both to enrich the soil and to provide an alternative source of income when bananas are not producing. They are adaptable to a wide variety of conditions, which caused them to spread quickly. Today there are hundreds of varieties, many of which were developed in China. Today the beans are sold as four-angled beans, Goa beans, princess beans, winged peas and winged beans.

Nutritional benefits - This bean has been called the “one species supermarket” because practically all of the plant is edible. The beans are used as a vegetable, but the other parts (leaves, flowers, and tuberous roots) are also edible. The tender pods, which are the most widely eaten part of the plant, can be harvested within two to three months of planting. The flowers are often used to color rice and pastries. The young leaves can be picked and prepared as a leaf vegetable, similar to spinach. The roots can be used as a root vegetable, similar to the potato. They are also much richer in protein than potatoes. The dried seeds can be useful as flour. Each of these parts of the winged bean provides a source of vitamin A and other vitamins.

Medicinal claims - Winged beans have the richest source of betulinic acid, which is one of the most promising phytochemicals for melanoma. Additionally, phytoestrogens daidzein and genistein content are being analyzed as these also show anticancer activities that could also be helpful in melanoma. The stems and young shoots, also reportedly edible, are much better sources of the antimelanomic compound than the seeds.

Citations

6

PERENNIAL FRUIT COMPONENT
Introduction

Perhaps there is no group of plants more beautiful and plainly functional than the perennial, edible fruits. In spring, blossoms and fragrances abound, and in the summer and fall, the fruits set on in all their array of colors and forms. These plants are just as useful for the home landscape as they are for the orchards that raise them and stock our grocery stores. Yet, most of us have had little (or no) opportunity to see these plants, and we would never know how attractive they really are. Therefore, it is with this impetus that the ISU Horticulture Center has recently designed and installed a garden completely dedicated to this fascinating and beautiful group of plants.

The following is a discussion of all the plants used in the fruit garden (see the design in the Appendix) and a few additional plants as well. Some of them will be very familiar, while others may be less common or completely brand-new. All of them, however, produce edible fruit, and are plants that could be considered for use in the home landscape.

Alpine Strawberry
(Fragaria vesca)

General: ROSE FAMILY. In name alone are the fruits of the alpine strawberry akin to the strawberries available at the grocery store. Smaller in size and more refined in flavor, these berries prove an irresistible treat for even the most stalwart gardener. And, unlike the short period of fruit set expected from regular strawberry plants, alpine strawberries produce berries throughout the summer, until winter’s ways set in with frost.

After a trial season at the Horticulture Center, we found these plants to be well suited for any kind of modern landscape use. The delicate clumps of light green foliage provide a subtle but graceful groundcover that could and should be used more often.

Origin: Alpine strawberries are native to every continent except Australia and Antarctica, and their natural haunt is along woodland borders. North American residents have long held this plant close to heart—from the Iroquois tribes who ritually celebrated the first fruit of the season to the poets and botanists who put their pen to the page and described these delightful berries. William Butler, a European physician of yore, waxed poetically about wild strawberries saying, “Doubtless God could have made, but doubtless God never did make, a better berry.”

Nutrition: Strawberries contain a high amount of vitamin C and a moderate amount of iron. Together, these nutrients are important for treating anemia and fatigue. Also, strawberries provide a type of fiber called pectin, which is important for lowering cholesterol and removing toxins.

Form/Size: Plants grow from a single crown, forming a mound of foliage that somewhat conceals the abundant berry producing stems. For a solid ground cover, space the plants six inches apart; spacing 12 or more inches will result in separate mounds. Our plants grew to about 10 inches in height.

 Suppliers:
1. Hartmann’s Plant Co. (www.hartmannsplantcompany.com) – called Fraises des Boise
Apple
(Malus sp.)

**General:** ROSE FAMILY. Ubiquitous to any kitchen counter fruit basket, the sheer abundance of its fruit makes the apple tree an incredibly significant plant that must be included in our self-respecting fruit garden.

There are a copious amount of apple varieties on the market, and distinguishing between them without the use of a plant tag or the taste buds of a keen connoisseur is nearly impossible. Variety selection is based on numerous factors. Of course there is fruit flavor, but many companies are also developing miniature plants that are useful for tucking into the small confines of an urban backyard. Some inventive companies have even grafted branches of different varieties onto the same plant so that a gardener can get all of their favorites off one tree.

**Origin:** The apple tree is native to Turkistan, a region covering northeastern Afghanistan, western China, and Kazakhstan. Its journey to the United States is largely credited to James Cook, the famous explorer and cartographer who strongly advocated apples as a means of scurvy-prevention for sailors (a disease caused by vitamin C deficiency). Per his recommendation, apples were packed in barrels with dry sawdust and sand, and brought to the New World in the name of sailor sustenance.5

As for the apple’s American history, we must not forget Johnny Appleseed, a.k.a. John Chapman. He truly was a real man, and he really did roam the New World planting apple seeds (although his endeavors are often colored in many tall, childhood tales). His travels can be easily traced throughout Pennsylvania and Ohio, but he may have covered an even larger area: as far west as Missouri, as far north as Wisconsin, and as far south as Virginia. Some of his beloved apple seeds might have even been planted right here in Illinois.6

**Nutrition:** As shown by Mr. Cook and his sailors, apples are indeed a good source of vitamin C. They are also rich in pectin, the same cholesterol lowering and toxin eliminating fiber found in strawberries,7 and interestingly, the pectin is also helpful in keeping your teeth clean.8

**Form/Size:** Due to the dizzying array of varieties and selections on the market, it is very difficult to predict the size or the form of this plant. Let it simply stand that—within reason—whatever size you want, there is probably a plant selection available.

**Suppliers:**
1. We used a local garden center, but many mail-order nurseries are available.

Blackberry
(Rubus sp.)

**General:** Blackberries need very little introduction. The black-stained mouth and fingers of adults and children alike, accompanied by a longing study of an empty fruit-bowl, is testament enough to the esteem at which these fruits are held.

As far as selecting a plant for your garden, there is an overwhelmingly large amount of blackberry varieties that are commercially available, generally differing due to the fruit size, fruit flavor, or the absence of thorns. Personally, I would prefer a plant with superior flavor over any of these other factors, but there is very little literature that bothers to provide such a taste assessment. Of course there are the companies selling these plants, but sometimes it’s hard to trust the salesman to provide an accurate evaluation. Yet, that’s about all there is. At the Horticulture Center, we decided to plant Apache, a thornless variety with supposedly great flavor—as soon as our plants begin producing, we’ll have to decide if this is true.

**Origin:** Many species of blackberries are native to the United States, where they are powerful magnets for walkers and bikers along any given nature trail.
In the winter, these plants are easily confused with wild roses in the woods, and in fact they are a member of the same plant family: aptly referred to as the rose family (Rosaceae). Like the rose, whose thorns are always forgiven on account of their flowers, it does not take more than a fresh blackberry, plucked fresh from the plant, to forget the scratches on the hand inflicted by its battery of thorns.

**Nutrition:** Blackberries are rich in vitamin C, which helps protect against infections and cancers. Also, they are an excellent source of vitamin E, which is beneficial for the heart and circulatory system. In addition they contain the soluble fiber pectin, which helps to eliminate cholesterol, and protects against environmental toxins. They are a good source of potassium.9

**Form/Size:** The size is moderately variable, and some selections may tend to spread beyond their intended confines. Apache is supposed to have an upright form that won’t spread like most others; it may grow up to four or five feet tall.

**Suppliers:**
1. Hartmann’s Plant Co. (www.hartmannsplantcompany.com)

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**Cranberry**

(*Vaccinium macrocarpon*)

**General:** HEATH FAMILY. As soon as a fledgling fruit aficionado begins to take flight, and they can just see beyond the most common fruits of the Midwestern landscape, cranberries will almost certainly become an object of passion. Perhaps it is the nutrition, or perhaps it is the allure of growing this plant that we erroneously believe is only grown in soppy northern bogs. Whatever it is, when the cranberry bug bites it almost always bites hard.

Nonetheless, the bog concept is not completely without base. While the plants do not need to be grown in water, attention to the soil is very crucial. The key factor is acidic soil (or low soil pH). Typical garden soil is not nearly acidic enough and will need to be amended with an acidifying organic material. The renowned cranberry expert Jennifer Trehane recommends removing about a foot of soil from the planting area and then building a raised bed that is about two feet high. The resulting space would be about three feet deep. This should be filled with acidic soil—accomplished by mixing the soil with sphagnum moss or another pH-lowering organic product.10 Specific details on this and similar methods can easily be found on the Internet or in books devoted to the subject. pH can then be measured with a pH testing kit.

**Origin:** Cranberries are native to the northern United States and Canada, typically finding their home in the swampy bog-like environments discussed earlier.11 Illinois hosts a scattered distribution of these bogs, mostly in the northern reaches of our state, and those bitten by the cranberry bug will ultimately feel the northward call to discover these plants in their native (and bizarre) habitat. Perhaps the most well known location is Volo Bog in the northwest suburbs of Chicago.

Historically, North American settlers quickly learned the gastronomic value of cranberries from the Native Americans. The first documentation of the fruit was in 1614, and by the 1680’s, settlers had already discovered the modern Thanksgiving combination of cranberry sauce and turkey. Such accolade was given this humble little fruit that in 1789, a New Jersey law was passed that forbade anyone pick cranberries before a designated date. Cranberries were a serious affair.12

**Nutrition:** Cranberries are a good source of polyphenols—compounds that act as antioxidants, cleaning up harmful toxins in our bodies. Polyphenols also have some antibacterial and antiviral properties, and help increase the effectiveness of vitamin C and vitamin E in our bodies. Direct results of these compounds include (but are not exclusive to) the prevention of age-related diseases, the slowing of aging effects, and the reduction of inflammation caused
by arthritis and other similar diseases. Current research also confirms that a glass of cranberry juice effectively prevents urinary infections.

**Form/Size:** Cranberries form a low, spreading mat of woody branches, about four inches tall. Pilgrim, the variety planted at the Horticulture Center, is supposed to spread about one foot per year. Plants should be spaced about two feet apart.

**Suppliers:**
1. Hartmann’s Plant Company (www.hartmanns-plantcompany.com)
2. Cranberry Creations (www.cranberrycreations.com)

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**Gooseberry**
*(Ribes uva-crispa or Ribes hirtellum)*

**General:** SAXIFRAGE FAMILY. Anyone who has had the opportunity to partake in a piece of gooseberry pie will be able to tell you—whether they enjoyed it or not—that there is nothing quite like a gooseberry. Proponents of the fruit will use it in just about anything: wine, desserts, meat sauces, and other culinary treats.

Although not the same species, I have fond childhood memories of collecting native gooseberries (Ribes missouriense) in the woods, and bringing them back for my mom to bake into a luscious pie. Yes, I am a proponent of gooseberries. Simply be wary of the numerous, small thorns borne on these plants.

**Origin:** Gooseberries became very popular in eighteenth century England where cottage gardeners competed to see who could raise the largest gooseberry. Annual competitions were held in which there was much “gaiety of singing and refreshments...offset by the solemn weighing of the fruits.” Gooseberry clubs still compete today—only the once pea-sized fruits have now reached the appearance of a small apple!

The northern gooseberry (Ribes hirtellum) is a North American native, and can be found scattered throughout northern Illinois.

**Nutrition:** Little nutritional information is readily available for gooseberries; however, they are known to be a good source of fiber and vitamins A and C.

**Form/Size:** Gooseberry plants form arching, densely-branched shrubs and should be spaced four to six feet apart to keep them from forming an impenetrable mass of thorny, interlaced twigs. Fruit and pruning expert, Lee Reich, recommends pruning the plants so that they have only one main trunk that branches about six inches off the ground. Based on my own observations, plants should not be expected to grow much taller than four feet.

**Suppliers:**
1. Hartmann’s Plant Co. (www.hartmannsplantcompany.com)
2. Stark Bro’s (www.starkbros.com)

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**Hardy Arctic Kiwi**
*(Actinidia kolomikta)*

**General:** KIWI FAMILY. Even if the hardy arctic kiwi did not produce fruit, you would still want to grow it as an ornamental vine. It is a fast grower that will quickly cover a trellis or arbor, and the flowers are fragrant, clematis-like blossoms. To simply add to the appeal, the fruit, albeit small, is quite edible and has the same tangy flavor as the large, grocery store kiwis (Actinidia deliciosa)—even the smooth, green skin is edible. Plus, as the name suggests, this plant is much hardier than its brown-skinned counterpart.

Plants may need a bit of shade, especially when young.

**Origin:** The hardy arctic kiwi is native to the humid forests of eastern Asia, where the fruits have been collected from the wild and consumed for hundreds of years. Even today, though widely eaten and enjoyed, the people in its indigenous habitat rarely
cultivate kiwis outside of the wild. 22

In the early 1900’s, when first imported to Europe and the United States, all the major kiwi species, including even the large-fruited grocery-store kiwi, were initially introduced as purely ornamental plants. Old estate gardens from this period have many fine displays of these species twining through their midst—while most visitors walk by without realizing the delicious treasures hidden beneath the foliage. 23 Everyone knows the benefits of stopping to smell the roses; perhaps there is a benefit to sticking our noses into some leaves as well.

**Nutrition:** For so long the term vitamin C has been nearly synonymous with oranges. Well, watch out old king, its time to abdicate the throne! Believe it or not, the hardy arctic kiwi is reported to have as much as 17 times the amount of vitamin C found in oranges. 24

**Form/Size:** This plant forms a robust, twining vine, six to ten feet high and four feet wide.

**Suppliers:**
1. Hartmann’s Plant Co. (www.hartmannsplantcompany.com)
2. Stark Bro’s (www.starkbros.com)

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**Lingonberry**  
*(Vaccinium vitis-idaea)*

**General:** HEATH FAMILY. Lingonberries are a petite beauty. Hidden and unnoticed in most gardens and gastronomic pallets alike, this is a plant that can capture both the heart and the taste buds. The small mounds of glossy green foliage, combined with the miniature, white bell-shaped flowers, and the cranberry-like fruit, create a charming, elfin plant that would be a valuable asset to any garden. The flavor of the berries is also frequently compared to cranberries, but connoisseurs generally regard lingonberries as richer and less biting. 25 Both plants are closely related and similarities are expectable. In fact (and unfortu-

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**Nutrition:** Lingonberry nutrition is quite similar to cranberries, and polyphenols are the most noteworthy attribute. See the Cranberry section for a complete discussion of the value obtained from these compounds. Vitamin C content is also quite respectable. 27

Native American tribes used lingonberries and lingonberry juices to treat coughs and colds. 28

**Form/Size:** This is a low groundcover that may spread 3 or more feet, getting no taller than 8 inches.

**Suppliers:**
1. Hartmann’s Plant Co. (www.hartmannsplantcompany.com)
2. St. Lawrence Nursery (www.sln.potsdam.ny.us)
3. One Green World (www.onegreenworld.com)
4. Raintree Nursery (raintreenursery.com)
Lowbush and Highbush Blueberry

*(Vaccinium angustifolium and Vaccinium corymbosum)*

**General:** HEATH FAMILY. Lowbush blueberries are the new vogue—or at least they should be. Some varieties and hybrids of this species are perfectly suited for a patio container, and others for the front of a shrub border. Perhaps they are just as functional as an ornamental plant as they are for a fruit plant.

For a patio plant, I would readily choose the selection named Tophat. Its flavor may not be the absolute best, but the form is perfect. It maintains a rather small mound that would look particularly striking in an equally sized pot. At the Horticulture Center, we even used this plant as a compact part of a shrub border, valuing the fact that it does not spread like some other selections do. We also utilized a superbly flavored hybrid called Northsky that is similar in height to Tophat, just not quite as mounded.

Highbush blueberries are the commercial powerhouses that fill grocery stores across the world. Due to this commercial use, there are a vast number of selections and hybrids of this species. We chose Rubel because it has an extremely high level of polyphenols. The berries are small and dark with an intense flavor—reputably good for baking. It also has good fall color.

Unfortunately (but not surprisingly), successful blueberry production requires the same kind of soil requirements as cranberries and lingonberries. See Cranberries for a greater discussion of this.

**Origin:** Lowbush blueberries grow wild in Maine, Nova Scotia, and much of Canada. These blueberries are quite tolerant of fire, and for decades people have burned the wild fields to kill the plant competitors. Highbush blueberries have a similar but larger range, covering the northeastern United States and Canada all the way west to northeastern Illinois and south to the Carolinas. In the early 1900’s the first selections of these wild plants were made, and the commercial blueberry industry was born. The names of these wild-collected plants were taken from the names of the men who discovered them. Rubel, the variety we have planted in the Horticulture Center fruit garden, was named after Rube Leek, one of these original blueberry hunters.

**Nutrition:** The nutritional value of blueberries is essentially the same as cranberries and lingonberries. See the Cranberry section for a complete discussion of these properties.

**Form/Size:** Tophat will grow to about two feet tall and two feet wide. Northsky is about the same height but spreads up to three feet. Rubel fulfills the highbush name by growing to eight feet in height and four feet in diameter.

**Suppliers:**
1. Hartmann’s Plant Co. (www.hartmannsplantcompany.com)

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Meyer Lemon

*(Citrus x meyeri)*

**General:** RUE FAMILY. To most Midwestern gardeners, the thought of growing a lemon tree will seem preposterous. Lemons cannot survive temperatures lower than 20°F, and anyone who has experienced even a mild Illinois winter would know, temperatures like that are regularly experienced. Yet, the impossible is possible. When planted in a large pot, Meyer lemons and other citrus plants create classy patio plants in the summer and Pottery Barn-esque interior plants in the winter. Survival is merely a matter of moving the plants inside for the colder months of the year. At the Horticulture Center, we bring our plants into a greenhouse for the winter.

The flowers of the Meyer lemon have a tantalizing fragrance, and the yellow fruits are quite...
attractive and conspicuous against the glossy, green foliage. Most of the fruit is produced in the spring, although sporadic flowering is typical throughout the year. The skin is edible, and the fruit is less acidic than a true lemon. Pastry chefs are often fond of this fruit.  

**Origin:** The Meyer lemon was introduced to the United States by Frank Meyer, a plant collector for the Department of Agriculture and the namesake of this plant. He discovered it in China, where it is now a common ornamental plant. It is thought to be a cross between the true lemon species and the mandarin orange.

**Nutrition:** Lemons have high vitamin C and potassium. The white part of the rind and the pulp contain calcium, magnesium, and phosphorous. It also helps in fat metabolism. Lemon peel tea can be drunk after a meal for a digestive aid, and diluted lemon juice works as a highly anti-bacterial mouthwash, reportedly relieving sore throats. Pure juice is similarly affective for cold sores.

**Form/Size:** When planted outdoors in a southern region, Meyer lemons may grow eight to ten feet high. Potted plants can be contained to a smaller size, but no literature indicates what kind of size range to expect. Presumably, the pot size would have a direct effect on plant size: larger pots equaling larger plants.

**Suppliers:**
1. Stark Bro’s (www.starkbros.com)

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**Nanking Cherry**  
*(Prunus tomentosa)*

**General:** ROSE FAMILY. Without doubt, the Nanking cherry is an uncommon inductee into most American gardens. Yet, uncommon does not mean unworthy. From the height of springtime flowering to winter’s cold foray, the Nanking cherry does not fail to prove itself. Flowers are abundantly produced prior to leafing out in the spring, and in early summer, the bright red fruits festoon the branches. The fruits taste nearly identical to sour cherries. To cap off the year, winter exposes the lustrous, orange bark on the stems of this plant, creating one last ornamental display.

**Origin:** The Nanking cherry is native to central Asia. In eastern Russia, it is one of the most common garden fruit plants, and in Manchuria, it is grown as much for hedges and windbreaks as it is for fruit. Therefore, in its native haunts, the Nanking cherry is clearly an adaptable and useful ornamental fruit plant.

In the United States, the Nanking cherry has never reached the same popularity achieved overseas. Frank Meyer, the same plant-collector who discovered the Meyer lemon, was one of the first men to bring this plant to the States. In fact, he was so fond of it that he sent his American colleagues an astounding forty-two thousand seeds. So far, however, it has remained in relative obscurity, gracing the gardens of only the privileged few.

**Nutrition:** See Sour Cherry for a complete discussion of nutritional benefits.

**Form/Size:** This forms an attractive, multi-branched shrub, growing up to eight feet tall.

**Suppliers:**
1. Hidden Springs Nursery (www.hiddenspringsnursery.com)

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**PawPaw**  
*(Asimina triloba)*

**General:** CUSTARD APPLE FAMILY. Creamy and exotic, the only mystery behind the pawpaw is why it’s yet a mystery. Everything about this plant is worthy of mainstream, Main Street, USA. The large fruit is shaped like a short, stout banana.
The interior flesh is juicy and sweet, tasting like a milky mango smoothie, and the exterior skin slacks off with ease. The plant itself is a small tree with enormous, tropical-looking leaves (up to 12 inches long!). Landscape use of this bold, exotic texture is quite foreseeable; the only stipulation being that shade must be provided for young plants. Older plants tolerate and actually fruit better in the sun, but some tender love and shade is a prerequisite.42

**Origin:** Upon tasting a pawpaw for the first time, one’s initial reaction will be to ask what country has been greedily hiding this fruit from everyone else. The answer, believe it or not, is found with us. Although largely unknown, the pawpaw is actually native to 26 different states—even Illinois—, and it is actually the largest edible fruit native to the United States.43 Funks Grove, a protected woodland just south of Bloomington, has an abundance of these plants growing in its rich, moist understory. Early settlers were incredibly fond of this fruit, commonly bestowing the name of the fruit upon towns, creeks, and islands.44 In fact, there is even a Paw Paw, IL.

**Nutrition:** When it comes to nutrition, pawpaws are about as good as it gets. They contain far more minerals than bananas, apples, or oranges—only beaten in one case: potassium. Bananas have a slightly higher concentration of this mineral, but it is still almost double the content of apples and oranges. Pawpaws also have more vitamin A and C than apples and bananas.45

**Form/Size:** Trees grow to about 15 or 25 feet in height, with a slightly wider spread.

**Suppliers:**
1. Stark Bro’s (www.starkbros.com)
2. Hidden Springs Nursery (www.hiddenspringsnursery.com)

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**Peach**

*(Prunus persica)*

**General:** ROSE FAMILY. To explain the peach to anyone in generalities is like trying to explain the basic principles of cubism to Picasso; these large, juice-filled fruits simply need no introduction. That said, however, for those wanting to raise these plants, the peach tree itself may need some explanation. These plants often suffer from a whole myriad of pests and diseases. For maximum longevity, locate in moist sites with full sun. Otherwise, the advice offered by some of the most knowledgeable tree experts in the country is to simply acknowledge that your tree will not live forever.46

**Origin:** Peaches originated in China and Persia. Its journey to the United States is largely credited first to the Romans, who did a good job spreading the peach throughout Europe, and secondly to the Spanish explorers that brought the peach to colonial settlements in Florida, in the mid 1500’s. After that, Native Americans and settlers planted peaches all across the country, and it is still grown in a majority of our states today.47

Nectarines are a variety of peach *(Prunus persica var. nucipersica)*.

**Nutrition:** Peaches (and nectarines) have a high level of vitamin A and C, and for minerals, they are a good source of potassium and phosphorus.48

**Form/Size:** I need to see if I can figure out the cultivar of this tree because the size can vary considerably.

**Suppliers:** We used a local garden center, but many mail-order nurseries are available.
Raspberry  
(Rubus idaeus)

**General:** ROSE FAMILY. As with blackberries, I found it terribly hard to find a good book discussing raspberries—and next to nothing comparing the taste of different selections. In the descriptions written by the plant-seller’s marketing department, nearly all of the offered selections sound wonderful. Nonetheless, we had to choose, and we chose Prelude. This is a new introduction from Cornell that is supposed to fruit earlier and longer than most other selections. Also, compared to the other early varieties, the fruit is reportedly larger.

I like books so much because they tend to weed out the plant breeder’s gimmicks—ploys such as early fruiting or big fruit. The authors tend to cut through all word-spun fog, and simply tell you what tastes good. Thus, I am somewhat ashamed that without Virgil’s wise guidance, I quickly succumbed to the salesman’s tricks.

**Origin:** Raspberries are native to Turkey. There, in the foothills of Mount Ida (hence the scientific name Rubus IDAEus), the ancient people of Troy are believed to have been the first domesticators of this fruit. From there, the berries spread to Greece and Rome, and the Romans are believed to have distributed the fruits to the rest of Europe. A subdivision of this species (Rubus idaeus var. strigosus) is native to Illinois.

**Nutrition:** Raspberries are very rich in vitamin C, with moderate amounts of calcium, iron, magnesium and potassium. They also contain pectin fiber, which helps eliminate cholesterol and protects against environmental toxins. Raspberries are excellent for the digestion.

**Form/Size:** Raspberries typically grow as an arching shrub, and sizes are quite variable. The creeping raspberry (Rubus x stellarcticus) will only grow about five inches tall and spreads prostrate along the ground.

**Suppliers:**
1. Hartmann’s Plant Co. (www.hartmannsplantcompany.com)

Red Currant  
(Ribes rubrum)

**General:** SAXIFRAGE FAMILY. If fruit were chosen for beauty alone, red currants would dominate the produce section of every grocery store. They are produced in long, pendulous chains, like extravagant ruby jewelry, and the plants that bear them look like they are dressed for the king’s ball. I have seen a picture of this grown as an espalier (a method by which a tree or shrub is pruned to resemble a vine), and the effect was downright astounding. The fruits are good for jelly and wine. Most fruits are too tart to be eaten fresh, but some plant selections produce fruit that’s sweet enough to be eaten right off the plant.

**Origin:** Red currants are native to cooler regions of Europe and Asia. In eighteenth century England, currants became so popular that enthusiasts would force the plants to produce fruit in the early spring and late fall by covering them with glass structures. (This same method is often used today to get flowering bulbs to bloom in the middle of winter.) A certain currant enthusiast from this period named Henry Philips found that he could even further extend his enjoyment of the fruit by carefully packing the currants into glass bottles and burying them in chests of sand. Using this primitive method of preservation, the fruit would last for years!

**Nutrition:** Red currants possess vitamin C, iron, potassium, and fiber. They are beneficial for the immune system, and red currant jelly can even be used as an antiseptic for minor burns.

**Form/Size:** Currants are typically grown as a large,
upright shrub, but a gardener with a smart set of pruners would have little trouble transforming this into a small ornamental tree or an espalier. Plants should be spaced about five feet apart.55

Suppliers:  

Valencia Oranga  
(Citrus sinensis ‘Valencia’)

General:  RUE FAMILY. Perhaps the most fascinating thing about growing potted citrus plants like this is that it connects the act of eating with the act of growing—a process that for the orange is usually separated from us by a thousand or more miles. It is strange, but we live in a world where these fruits that should be so exotic to us are actually commonplace. Save for the world traveler, many or most Midwesterners have probably never seen a ripe orange dangling heavy on a branch, yet we were probably eating these fruits before we had even cut all our teeth. Therefore, growing one of these on your patio is more than a chic, modern statement; it is a means of connecting you and anyone else with the beginning of the food chain we terminate.

Origin:  The orange originated in China before being brought to Europe by Spanish and Portuguese explorers. The Valencia orange derives its name from the famous Spanish coastal city Valencia, and it is simply a late-producing selection of the orange species. It is one of the most commercially important varieties grown in California and Florida.60

Nutrition:  A single orange a day can fulfill the minimum requirement of vitamin C. This well-known vitamin is important in stimulating the immune system, as is beta-carotene, another abundant vitamin found in oranges. Thus, oranges and orange juice are commonly self-prescribed medication for the common cold. Actually, oranges contain nearly all vitamins and minerals to some degree.51

Form/Size:  I assume that the orange, like the lemon, will be relatively contained in relation to the size of the pot.

Suppliers:  We used a local garden center, but many mail-order nurseries are available.

Sour Cherry  
(Prunus cerasus)

General:  ROSE FAMILY. Growing up, a cherry tree planted in my front yard was a continuous source of many fond memories—and just as many fine pies. It is the taste of summer. Alas, my opinion is often shared by our feathered friends of flight, who will settle into a tree and polish off the whole crop leaving but a scattered remnant for our pies. Regardless, I would not trade a sour cherry tree for much of anything else.

Origin:  The sour cherry plant probably originated in Iran and Turkmenistan from the natural cross between sweet cheery (Prunus avium) and ground cherry (Prunus fruticosa). Experts believe that birds dispersed the seeds into Europe (some things never change), where the Greeks readily became the first culture to cultivate sour cherries. Ultimately, they found their way into the United States by way of English colonists.56

Nutrition:  Cherries have a high amount of bioflavonoids, a type of compound with significant antioxidant properties.57 In addition, they are also rich in potassium, with moderate amounts of vitamin C, copper, and iron. The copper and iron are important for our bodies’ blood. Cherries also work wonders on cleaning and enlivening the digestive system.58

Form/Size:  These are generally round, well-mannered trees, and under commercial cultivation, they are contained at about 15 feet tall.59
Suppliers:
1. Stark Bro’s (www.starkbros.com)

Wonderberry or Sunberry (Solanum burbankii)

General: NIGHTSHADE FAMILY. Wonderberry fans claim the black, pea-sized fruits of this plant rival or even surpass the flavor of blueberries. Do not discount their claim, but try not to get too excited. We grew several masses of this plant at the Horticulture Center the first year of the fruit garden, and these plants were never plucked clean of their fruits. Unfortunately, this had very little to do with their flavor. The main complications arose from a research revelation we had after growing and raising a number of these plants: the unripe fruits are poisonous. Although the berries change color when ripe, and the ripe berries are harmless, this discouraged most of us from gobbling up the berries. Nonetheless, if your curiosity is piqued, the berries are rather tasty, and any discriminate omnivore will have no trouble distinguishing between ripe and unripe fruits.

Origin: Perhaps what makes the wonderberry so interesting is the controversy that has enveloped its history. Luther Burbank—considered a plant breeding genius to some and a quack to others—bred and introduced this plant in the early 1900’s calling it a sunberry. Although he alleged the plant was a hybrid cross between an African and European species of nightshades (Solanum guinense and Solanum villosum respectively), people quickly accused him of simply reintroducing the common black nightshade (Solanum nigrum). Modern tests have shown that the genetics of these two species make a hybrid cross nearly impossible, so the exact parentage is still an unsolved mystery. Burbank himself claimed to his death that it was his own hybrid creation.

Nutrition: Common black nightshade and its other close relatives have been recognized for medicinal purposes since the first century Greeks. An early herbalist recounted that the fruits could be used for soothing various skin disease, headaches, stomachaches, and ear pain. More recently, nightshade extracts have been used for relieving the spasms caused by bronchitis and asthma.

Form/Size: Wonderberries form a somewhat spindly herbaceous plant, one to two feet high.

Suppliers:
1. Seed Savers (seedsavers.com)
2. Baker Creek Heirloom Seeds

NOTES:
4. Reich, 31.
7. Reich, “Apples.”
11. Trehane, 29.
14. Trehane, 34.
15. Reich, 121, 132.
16. Reich, 122
19. Reich, 126.
20. Reich 68-69, 72.
21. Reich, 72.
22. Reich, 68.
23. Reich, 69.
24. Reich, 72.
25. Trehane, 75.
26. Reich, 57.
27. Reich, 60.
29. Trehane, 110.
30. Trehane, 122.
33. Trehane, 111-112.
34. Trehane, 22-23.
36. “Arc of Taste: Meyer,” Slow Food USA.
37. Haas, 305.
39. Reich, 162-164.
40. Reich, 162.
41. Reich, 163.
42. Reich, 45-47.
44. Reich, 42.
45. Snake C. Jones and Desmond R. Layne, “Pawpaw Description and Nutritional Information,” Kentucky State University Cooperative Extension Program, http://www.pawpaw.kysu.edu/pawpaw/cooking.htm#Table%202.
49. Rieger, “Raspberries.”
50. Swink and Wilhelm, 650.
51. Collins, “Raspberries.”
52. Reich, 179.
53. Reich, 184.
54. Collins, “Raspberries.”
55. Reich, 182.
56. Rieger, “Cherries.”
57. Collins, “Cherries.”
58. Haas, 303.
59. Rieger, “Cherries.”
61. Haas, 305.
63. Heiser, 63-65.
64. Heiser, 95.
65. Heiser, 64.
66. Heiser, 93.
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The Nutraceutical Garden: Appendix

Component 1: The Weed Garden

Nutritional and Medicinal Benefits of Common Weeds:

The Weed Garden
COMPONENT 4: The Herbaceous Garden
COMPONENT 6: The Fruit Garden