



# STAYING IN TUNE WITH THE SEASONS

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# STAYING IN TUNE WITH THE SEASONS

## INTRODUCTION

We are all aware what the seasons are, right ? They are Spring, Summer, Autumn and Winter.

But if you stop and think about them, what do they mean to you ? Like most people, they simply represent changes in the weather, times to go on different holidays, like skiing in the Winter or camping in the Summer, and times to buy new clothes, like for that special Summer holiday or for children starting school again in the Autumn.

What about health, what do the seasons mean to you ? Most people would probably say ‘that Summer time can mean having to work around the tiresome symptoms of hayfever or Winter can bring the expectation of catching a cold, or worse, Flu.’

And if I were to ask you about food in relation to the seasons, most people would probably think of salads and barbecued food in the Summer, with hotter, more roasted foods in the Winter.

But there is much more to the seasons, and in this thesis I am going to inform you on how seasons can affect our health.

No matter what part of the world that we live in, the influences of our climate, the daily cycles of light and dark, and the food that we eat, all have an affect on our body’s natural rhythms. The body’s natural rhythms are influenced by the seasons, and it is these natural rhythms that help to keep harmony within the body, and therefore help to keep us healthy.

The Chinese, in their traditional herbal medicine, recognised the importance of the seasons ( they recognise five seasons, including a late summer season ) and developed a philosophy called the five elements. This consists of the five elements of metal, earth, water, fire and wood, each of these elements corresponds to a season. These five elements are linked with our body, linking our bodies to the seasons.

The seasons are a continual cycle of life; starting with energy rising in the Spring, reaching a peak in the Summer, then gradually falling in the Autumn, to eventually becoming dormant in the Winter. The seasons could be looked at as Earths cycle of life, just as we have a cycle of life or living. Everything living has a cycle, from the sowing of the seed, to the birth of the living entity, to that living entity growing and maturing, thus reproducing another life and finally dying.

This cycle of living is ever present in the every day circumstances that occur. It could be related to a business meeting for example; the meeting starts in Winter. There’s a sense of unknowing, we are not sure what to say and we are not sure about each other. We are listening and wondering, then something starts to push up out of the ground ( an idea or realisation ) and we move into Spring. The growing “something” may be a tulip instead of the rose we expected, we may try to push it down, making judgements. Then we move on and the meeting reaches a peak, theres warmth, its Summer and we join together. Then we harvest all the important aspects of the meeting and let go of everything else, so from Autumn the cycle of this meeting is complete.

Also in this thesis I am going to show you what foods Nature produces for us, together with their nutritional and healing properties and hopefully help you to understand why these foods should become available in each season and that how our modern way of living is causing us to eat out of season and what effects this may have on our health.

Natural daylight is also important to our health and for most people, our modern lifestyles restricts the amount of natural daylight that we receive.

## THE SEASONS

A season is one of four periods of the year. Each season; Spring, Summer, Autumn and Winter, lasts about three months and brings changes in temperature, weather, the length of daylight and energy.

During the spring, the days are warm in middle parts of the Northern Hemisphere, the northern half of the earth. Summer follows with hot days and warm nights. In Autumn, the days become cooler, leading to the cold of Winter. The four periods are called climatic seasons when based on these temperature and weather changes.

In the Southern Hemisphere, the climatic seasons differ by about six months. This hemisphere has Summer when the Northern Hemisphere has Winter.

## WHAT CAUSES THE SEASONS ?

The seasons are caused by the changing position of the earth in relation to the sun. It is possible for astronomers to tell exactly from the earth's motion around the sun when one season ends and the next season starts.

The dates used for the first day of each season mark the beginning of the astronomical seasons. The beginning and end of the climatic seasons vary from these dates from place to place and from year to year.

The temperature and weather do not change instantly in response to the changing position of the earth in relation to the sun. The warmest and coldest weather generally occurs several weeks after the beginning of the Summer and Winter astronomical seasons. Heat that has been retained by the oceans plays an important role in producing this delayed response.

The seasons keep changing because of the tilt of the earth's axis never changes while the earth circles the sun. One way to understand this is to picture which way the tilt of the axis causes the North Pole to slant at different times of the year. When the North Pole slants toward the sun, the Northern Hemisphere receives the most sunlight and it is Summer there. When the North Pole slants away from the sun, the Northern Hemisphere receives the least sunlight and it is Winter. Spring begins when the North Pole starts to slant toward the sun and Autumn begins when the North Pole starts to slant away again.

## WHAT IS EQUINOX ?

Equinox is either of the two days of the year when the sun is directly above the earth's equator. At these times, the days and nights are of equal length everywhere on the earth. The term equinox comes from the Latin word meaning equal night.

The Equinoxes happen on March 20 or 21 and on September 22 or 23. In the Northern Hemisphere, the March Equinox marks the beginning of Spring, known as the vernal Equinox. The September Equinox marks the beginning of Autumn and is called the Autumnal Equinox. The seasons are reversed in the Southern Hemisphere.

Due to the earth's elliptical ( oval - shaped ) orbit of the sun, the time difference between the March Equinox to the September Equinox is longer than that between the September Equinox to the next March Equinox. The earth moves faster in its orbit when it is closer to the sun, the shortest distance between the earth and the sun occurs in January.

## WHAT IS THE SOLSTICE ?

Solstice is one of the two moments each year when the sun is either at its northernmost or southernmost position. The sun appears directly overhead at different latitudes during the year because of the tilt of the earth's axis of rotation.

The Summer Solstice occurs when the sun reaches its most northerly point, directly overhead at the Tropic of Cancer. At the Winter Solstice, the sun appears at its southerly position, directly overhead at the Tropic of Capricorn.

In the Northern Hemisphere, the day of the Summer Solstice is the longest day of the year and marks the beginning of Summer. Similarly, the Winter Solstice occurs on the shortest day of the year and indicates the beginning of Winter.

## REGIONS WITHOUT SEASONS

Not all regions of the world have all four climatic seasons. In parts of the tropics, for example, temperatures change little. But the amount of rainfall varies greatly, so that these regions have a wet season and a dry season.

The polar regions, on the other hand, have a light season and a dark season. In some parts of the world the sun shines almost all the time in the Summer and almost never in the Winter.

## SPRING

Spring is the season of beginning and creation. Spring is the time when all living things are restored. It is the time to be open to the new and to clear out the past. After the quiet of the Winter months, things are starting to stir, energy is increasing all around us, daylight hours are getting longer and the sun is getting warmer. Spring signals rebirth within the seasonal cycle. The energy of this season is upward and outward and may be best understood by taking a closer look at where this energy manifests itself in nature. This is the time when roots, which have been dormant for many months now, begin to send up their first shoots of the season. Roots, rich and bursting with potential energy below the earth's surface, become active once more, sending their energy up and out.

Spring is our opportunity for active growth; to plant our mental, physical, spiritual seeds, as well as our botanical seeds, so that they may grow throughout the Spring, bear fruit in the Summer, provide abundant harvest in the Autumn and finally warmth and nourishment through the cold Winter.

It's that time of year for the "Spring clean". Traditionally it is the time to open the windows, clean the house out from top to bottom, washing covers and curtains and generally removing all of the dust and rubbish that has accumulated in the house since the beginning of Winter. But it is not only your house that needs a Spring clean, your garden needs to be cleaned and prepared for the new seedlings to grow. The soil must be turned, dead leaves and twigs removed, so as to make a healthy space for the new plants to grow.

Spring time is a great opportunity to get outdoors into the fresh air and preparing your garden for the following Summer months will bring about good exercise. This will help to stimulate your body as well as your mind, "clearing away the cobwebs".

Your body will also benefit from a Spring clean. After the heavy Winter food, slower pace of life and less outdoor exercise, the body also needs cleansing of all the accumulated wastes.

The best way to give your body a Spring clean is to gently cleanse the liver. The liver is the largest organ in the body. It has a rich blood supply from the stomach, intestines, spleen and pancreas via the portal vein and from the aorta via the hepatic artery. All blood is carried from the liver via the hepatic vein to the inferior vena cava. The liver performs a variety of important functions. It is a vital organ, performing a major role in total body metabolism. The liver synthesizes, processes and stores many of the substances that are essential to normal body functioning. The liver also processes and excretes some substances that would be harmful if left in their original form or retained. The liver acts as a generator, distributor and storehouse of energy and plays a major role in detoxification.

Any excesses, whether this be due to overindulgence in food or drink, which can happen during the Christmas season when people tend to over indulge, or due to lifestyle habits effecting sleep patterns, overwork and / or stress can affect the liver. So Spring time is a good time to think about cleansing the body, which will mean detoxifying the liver.

### CLEANSING OUR BODY

One way to aid the liver and help with detoxification is to do a fast. Fasting has been used throughout history for a great many reasons. Hippocrates employed nutrition and fasting in his practise and was well known for saying "food is your best medicine". Fasting is used in many cultures for physical rejuvenation, enhancing vitality, religious and spiritual awareness, to cleanse the body of accumulated wastes and people of their sins. But fasting is not suitable for everyone and advice should be sought before attempting a long fast.

A fast need not be over a long period of time. At the beginning of Spring choose a day when you know you can rest and abstain from solid foods for one day only. This would mean drinking plenty of filtered or mineral water, a warm glass in the morning with a slice of lemon is beneficial to the cleansing process. I would not recommend regular use of lemons, unless you live in a country where they grow naturally, because after lemons have cleared the bloodstream they leech calcium from the teeth and bones. Their benefits for cleansing are due to their astringent properties which contract and tighten tissues, which loosens up and clears toxins from deep tissues.

Other fluids that can be drunk could include home-made green leaf soups, such as watercress or spinach or if you have a juicer then you can juice the green leafy vegetables available to us in Spring.

Even fasting for one day in this way will be beneficial to the digestive system, reducing the work load on the liver. But even if you decide that fasting is not correct for you, the new plants that are beginning to show in the early days of Spring are beneficial to the liver. So by taking advantage of what nature seems to be giving you, you can benefit the liver.

Springtime plants that are beneficial to the liver -

*Taraxacum officianalis*, Dandelion.

The green leaves come up in early Spring, although it is the root which is well known and used for its diuretic, laxative and cholagogue actions, the leaves have a similar, but weaker, action. Therefore they can be added to salads and will have a gently cleansing and liver supporting action. The plant is very nutritious, containing vitamins A, B and C, as well as minerals.

*Allium ursinum*, Bear garlic or Ramsons.

The aerial parts can be made into an infusion. This plant has cholagogue effects which means it increases the secretion of bile from the liver and its expulsion from the gall bladder. It is also; stomachic, vermifuge, carminative, antispasmodic, choloretic, diuretic, expectorant, febrifuge and is an intestinal antiseptic. It begins to flower in April.

*Silybum marianum*, Milk thistle.

The young leaves can be used in salads and the young shoots can be boiled and eaten like cabbage. A well known liver protector, cholagogue and detoxifier, as well as being a bitter tonic.

*Bellis perennis*, Daisy.

The flower heads can be made into an infusion and drunk as a tea. They contain much mucilage, tannin and are bitter and beneficial to liver disorders.

*Cichorium intybus*, Chicory.

The young leaves can be used in salads and have mild hepatic properties. Hepatic means a remedy that enhances liver function.

*Asperula odorata*, Sweet woodruff.

Once one of our national domestic teas, before the importation of colonial teas. An infusion of this plant can be made by adding one teaspoon to a cup of boiling water and left to steep for five to ten minutes. Its actions are; cholagogue, antispasmodic and diuretic, being beneficial in liver disease, as well as a digestive tonic.



## Spring Greens -

Green, leafy plants are in abundance at this time of year. Their green colour is due to chlorophyll, which absorbs energy from the sun and absorbs water from the earth to make sugar, starch and protein. Greens have a moderate amount of protein, from 10 to 20 % and many contain calcium, phosphorus, and vitamins; B, C, E and A.

Chlorophyll has been compared with the human blood. Chlorophyll closely resembles haematin, the substance which when combined with protein forms haemoglobin, which is the largest molecule in our blood that carries oxygen. The difference between haemoglobin and chlorophyll is that haemoglobin contains iron bonded in its structure and chlorophyll contains magnesium.

To take advantage of these benefits of green plants you can grow your own sprouts or cereal grasses. Almost any seed or bean will sprout and this can be done indoors. Some ideas for sprouts are: alfalfa, sunflower seeds or mung beans.

Put a handful of seeds or beans in a large glass jar and cover with three times as much water. Use a cloth or metal mess top over the jar for draining. Soak for up to 24 hours, then drain and rinse them. Place the jar out of sunlight, on its side, for three days, rinsing, draining and shaking them gently, twice daily. Its important to keep them moist, but not too wet or too dry. Then leave them in a place where there is direct and indirect sunlight for a day or two, keeping them moist. Then you have delicious sprouts that can be added to salads. Wait for the sprouts to grow green with chlorophyll though, so you know your getting an abundance of nutrition.

To grow your own cereal grass is another way to benefit the body with the wonderful energy and nutrition that is around in Spring. Wheat grass is the green tops of sprouted, hard red wheat. You can grow the seeds indoors. In a seed tray full with potting soil, spread one layer of wheat, soak with water and cover with a dark cloth and leave for two to three days. When the wheat begins to sprout, uncover and leave in a sunny window. After a few days you will have three to six inches of richly green wheatgrass. This can be juiced and drunk daily. Other cereals that you can grow are; barley grass, oats or rye grass. All rich in phytochemicals, chlorophyll, vitamins and minerals.

Phytochemicals are the plant chemicals, like carotenoids, flavonoids, phenolic acids and tocopherols, which are all excellent antioxidants. These phytochemicals deteriorate when subjected to processing.

The Spring time is well known for its “Spring greens,” like leeks, Spring cabbages, kale, chard, Spring onions, rocket, spinach and watercress and the culinary herbs, such as parsley, basil and mint. If we take a closer look at some of these plants we can see that they are very nutritious and have properties that are beneficial to us at this time of year, when after the heavier foods of Winter, our bodies need the lighter, energising, stimulating foods of Spring.

### *Urtica dioica*, stinging nettle.

Constituents: leaves contain formic acid, silicon, potassium, iron, calcium, tannin, glucoquinines, chlorophyll, vitamin A and C.

The young leaves, in early Spring can be collected and used in cooking, like in nettle soup or used in place of spinach in cooking. Cooking destroys formic acid, which gives nettles their sting.

Nettles can also be collected to be used in Herbal Medicine.

Nettles, eaten in Spring are going to help to nourish the body, therefore boost energy levels and aid detoxification through its diuretic properties, removing acid conditions and lowering blood sugar levels. These properties are very useful, as traditionally Winter foods tend to be sweeter,



due to the amount of dried fruit that is eaten, and more acid producing, like grains, meats, nuts and beans.

Action: nutritive, haemostatic and astringent, circulatory stimulant, diuretic, galactagogue, hypoglycaemic and eliminates uric acid.

The tannin constituents give nettles their astringent effect, the vitamins and minerals give it its nutritive effect and the glucoquinines accounts for its hypoglycaemic ( blood sugar lowering ) effect.

*Nasturtium officinale*, watercress.

Constituents: iron, phosphates, potash, calcium, iodine, sulphur, folic acid and manganese, vitamin C and A.

Watercress contains four times as much vitamin C, weight for weight as lettuce, and more calcium than whole milk. It is also one of the richest sources of vitamin A and dietary fibre. It is eaten in salads or made into a soup.

Actions: hypoglycaemic, diuretic, expectorant, nicotine solvent, antiscorbutic and a blood enricher.

*Spinacia oleracea*, spinach.

Constituents: saponin, calcium, iron, iodine, chlorophyll, flavonoids, vitamin C, K and provitamin A, and folic acid.

Eaten steamed or made into soups, the young leaves can be put into salads. The saponin content of this plant settles the digestive system and aids the absorption of important minerals.

Actions: digestive aid, nutritive and anti-anaemic properties due to its folic acid constituent.

*Asparagus officinalis*, asparagus.

Constituents: steroidal glycosides, bitter glycosides, flavonoids, rutin, potassium salts and saponins.

The tips of this plant are eaten raw or gently steamed. Rutin helps to decrease capillary fragility and permeability and lowers blood pressure. The diuretic properties of this plant are beneficial to the kidneys.

Actions: diuretic, galactagogue and aphrodisiac.

*Medicago sativa*, alfalfa.

Constituents: alkaloids, isoflavones, coumarins, sterols, essential enzymes, provitamin A ( B - carotene), vitamins; B6, C, D, E, K, P, calcium, magnesium, phosphorus and potassium.

They can be sprouted, see section on sprouting, and eaten or the plant can be juiced and drunk or the fresh leaves can be eaten as spinach, in salads and soups.

The eight essential enzymes are: amylase ( digests starches ), coagulase ( coagulates milk ), invertase ( converts sugar into dextrose ), emulsin ( acts upon sugar ), peroxidase ( oxidises blood ), lipase ( fat-splitting enzyme ), pectinase ( forms a vegetable jelly from pectin ) and protase ( digests protein ).

Its nutrient properties increase vitality, promotes strong bones and rebuilds decayed teeth.

Actions: anti-cholesterol, anti-haemorrhagic, anti-anaemia, anticoagulant and antidiabetic, as well as a nutrient.

## SUMMER

With the sun at its most northernmost point, we enter the Summer on June 21st, the time of the Summer solstice. This is nature's season of growth and maturation. The early blossoms of Spring have gone leaving the plants developing fruit making the most of the sun's stronger power and energy, so that the plants can mature. Flowers are blooming all around us and nature is growing tall all around us. We are equally maturing and growing.

This is the time where we are recharging our batteries with the solar power by being outdoors more and / or planning a Summer holiday. We are also beginning to see our plans, made in Spring, come forth into fruition. Now is the time for enjoyment, fun, outdoor pursuits, sports and water recreations.

Foods need to be light and the many different salad leaves give us cooling, bitter properties. Bitter properties in food make them the perfect adjunct for food. Bitters work by stimulating the bitter taste receptors, this small stimulus provokes a complex patterned response within the body. Firstly gastrin, a gastrointestinal hormone, is released. This then increases the following:

Gastric acid and pepsin secretions, pancreatic digestive secretions, intestinal juice production, hepatic bile flow, hepatic bicarbonate production, Brunner's glands secretions, intrinsic factor secretion, insulin, glucagon and calcitonin secretions, muscle tone of lower oesophageal sphincter, muscle tone of stomach and small intestine, cell division and growth of gastric and duodenal mucosa, cell division and growth of the pancreas.

So bitters increase the appetite, increase digestive secretion, protect the gut tissues, promote bile flow and enhance pancreatic function, making them tonic to the upper digestive system.

Also in the Summer time we need to make sure that we are drinking plenty of filtered or natural mineral water as water will be lost easier through heat, exertion and sweating. Water is very important, the human body is made up of approximately 70% water and uses water for nearly all bodily processes, so during these hotter months it is important to increase your water intake.

Natural daylight is important to our health, that is why in the Summertime when there is more natural daylight, we should be outdoors as much as possible. I do not mean sunbathing, which as we know can be very damaging to the skin. If you are outside during the Summer months, then protection from the sun's harmful rays should be taken and eyes should be protected by appropriate eye wear. Sunlight lifts our spirits, makes us feel good and reduces stress, so is beneficial to our nervous system. Sunlight boosts levels of vitamin D in our bodies. Vitamin D is important for the absorption of calcium and phosphorus for our teeth and bones and regulates the heart beat.

The pineal gland is sensitive to daylight and darkness and is thought to regulate our moods, body alertness, biorhythms, temperature levels and sex hormone balance. The pineal gland is the centre of production for a little known hormone, melatonin. Melatonin is released at night time, when the hours of daylight have gone, signalling to the pineal gland its release.

Summer is usually hot and we tend to be more active, so we need a diet that is light, full of energy and cooling. If you look around to see what foods are growing during these Summer months, you will find that nature gives us all that is required.

## SUMMER FOODS

There is an abundance of colourful foods in the Summer time; peas, beans, tomatoes, aubergines, corn on the cob, beetroot, carrots, fennel, cucumbers, lettuces, courgettes, marrows, patty pans, radishes, red onions, garlic and lots of different types of salad leaves as well as many herbs and seeds. Then there are all the different fruits and berries that come later in the season. All enriched from the sun's energy and all very nutritional. Here are some of the Summer plants available and their contribution to your health:

*Petroselinum crispum* - parsley.

Constituents: vitamins C, E, bioflavonoids, iron, chlorophyll, potassium, phosphorus, folic acid, volatile oils apiole and myristicin, coumarins and flavonoids.

This herb is eaten raw in salads and used in cooking. Unfortunately most people use it as a garnish for dishes and do not seem to eat it. But it is great for stimulating the digestive system in a gently warming way and eases flatulence and colic. One cup of this chopped herb contains more beta-carotene than a large carrot, almost twice as much vitamin C as an orange, more calcium than a cup of milk and twenty times as much iron as one serving of liver. Large quantities should be avoided if you have kidney inflammation or are pregnant.

Actions: stomachic, carminative, diuretic, antiseptic, antispasmodic, antirheumatic, emmenagogue, expectorant and a mild brain tonic.

*Solanum lycopersicum*, tomato.

Constituents: tomatine, rutin, lycopene, vitamin C and A.

This nutritious fruit, although most people look on it as a vegetable, is beneficial due to its vitamin content and is good for weak capillaries due to its rutin content. Tomatine is said to be antibiotic. Lycopene seems to have anticancer properties, due to its antioxidant action, particularly protecting from pancreatic and cervical cancers.

*Allium cepa*, onion.

Constituents: volatile oil, flavones, enzymes, vitamin A, B and C.

A research team at the National Cancer Institute, China, have shown that the onion family ( chives, leeks, onions and garlic ) can significantly reduce the risk of stomach cancer. Also inclusion in daily diet can help to prevent those at risk from heart attack or stroke through its low high-density lipoprotein levels. Onions clear arteries of fat which impedes blood flow.

Actions: hypoglycaemic, antibiotic, anticoagulant, expectorant, hypotensive, antibacterial, antisclerotic, anti-inflammatory and diuretic.

*Allium sativum*, garlic.

Constituents: volatile oils, B group vitamins, minerals.

Garlic has been used as a food and as a protector against infections for centuries. It lowers high blood pressure and raises a blood pressure that is too low. It prevents the buildup of cholesterol in the blood.

Actions: antibiotic, bacteriostatic, antiparasitic, antiviral, anti-carcinogen, antispasmodic, antiseptic, fungicidal, anti-thrombotic, cholagogue, diaphoretic, hypoglycaemic, hypotensive, expectorant, antihistamine, anticoagulant, vasodilator, detoxifier and anthelmintic.

*Daucus carota*, carrot.

Constituents: sugar, beta carotene, fibre, starch and pectin.

A super food source of beta carotene, which is a powerful antioxidant having anticancer, artery - protecting, immune-boosting, infection-fighting protective powers. Eating plenty of carrots substantially reduces the risks of degenerative eye diseases, lung cancer and angina. The high fibre content helps to depress blood cholesterol levels.

Actions: diuretic, antiseptic, laxative and vermifuge.

*Apium graveolens*, celery.

Constituents: flavonic glycoside, furanocoumarin, phthalides, polyacetylenes, iron, phosphorus, potassium and sodium.

Celery helps to detoxify carcinogens, especially tobacco smoke. Celery lowers blood pressure by reducing concentrations of stress hormones that cause blood vessels to constrict.

Actions: diuretic, aphrodisiac, carminative, nervine, has an alkaline reaction on the blood.

Fruit -

Fruits have many positive qualities; they are juicy and so have a high water content, like the human body, and arrive in the season where we need to be increasing our fluid intake. Fruits are well stocked in nutrients, like vitamins A, C, B's and E in the seeds. Many minerals, such as calcium, manganese, magnesium, copper, iron and trace minerals are present in fruits. Fruits are low in fats and high in fibre, as well as being low in sodium. They are sweet, cooling and some are crunchy, which is beneficial to our gums. Fruit and fruit juices tend to be purifying and help with our elimination. Fruits may have a cooling, calming action on the body and nervous system and be helpful in reducing body stress. Due to their high nutrient content, they aid our immune system too.

Fruits can be categorized as sweet, subacid and acid. The sweet fruits are mainly the dried fruits, juicy fruits are considered subacid and citrus fruits, along with some berries, are considered acid-tasting fruits. The latter tend to have a higher level of acid, often ascorbic acid ( vitamin C ) and this can make them helpful in cutting fats or helping fat digestion. When broken down in our body though, fruits become more alkaline. When fruits are utilized or burned, the minerals and ash that are left, are alkaline, supporting our body's acid-alkaline balance. Fruits are very easy to digest and therefore are best eaten on their own, rather than with concentrated foods which take longer to pass through our digestive system.

Apples -

Constituents: carbohydrate, fibre, vitamin C, A, B1, B2, B3, B6 and biotin, calcium, magnesium, phosphorus, iron and traces of magnesium, copper, selenium, zinc and vitamin E in the seeds.

They are high in fibre and contain apple pectin, which has a detoxifying quality. Pectin can help to lower cholesterol and alleviate diarrhoea. The potassium content is good for high blood pressure and the flavonoids have antioxidant action, helping to prevent damage to cells by free radicals. Apples also have antibacterial, antiviral, anti-inflammatory, oestrogenic activity. Eating an apple after meals helps to protect teeth and gums from attack by bacteria, which can form plaque.

### Cherries -

Constituents: vitamin C, A, some B's, potassium, calcium, phosphorus, magnesium, manganese, copper and iron.

They are good colon cleansers as they enhance bowel motility. Of the cherry family is Sloe or blackthorn, it is rich in vitamin C and has a tonic effect, affecting the stomach and bladder.

### Plums -

Constituents: vitamin A, C, with traces of B's, potassium, calcium, magnesium, iron, phosphorus and copper.

Plums are antibacterial, antiviral and have a laxative effect.

### Strawberries -

Constituents: vitamin C, A, iron, potassium, mucilage.

Strawberries have antiviral, anticancer activity.

### Blackberries -

Constituents: vitamin A, C, calcium, magnesium, iron and other minerals.

A very nutritious berry becoming ready to eat towards the end of Summer, when its immune boosting vitamin content will be needed.

### Seeds -

Seeds are packed with all the vital, essential nutrients needed for the plant to begin to grow in the Spring. Therefore they have great benefits to us. Some seeds that are ready to be gathered in the Summer are:

#### *Linum usitatissimum*, linseed or flax seed.

Constituents: omega-3 fatty acids, linoleic acid ( vitamin P ), mucilage, protein and minerals.

Omega-3 fatty acids are needed in our diet as they help to reduce blood platelet clumping, dilate blood vessels and reduce inflammation and cell damage. We also need omega-6 fatty acids, but too many can result in a substance called arachidonic acid, which causes inflammation, promotes blood stickiness and blood vessel constriction. Unfortunately omega-6 fatty acids are rich in meats, corn oil, safflower oil and sunflower oil, all in the typical western modern diets. You need to increase the amount of omega-3 fatty acids in your diet in relation to omega-6 fatty acids, to counteract these harmful effects. Apart from fish oils, a good source is linseed oil.

Linseeds mucilage content is healing to the digestive and respiratory tracts.

Actions: demulcent, anti-cough, nutrient, antispasmodic to the stomach and bowels, expectorant, cholesterol lowering and laxative.

#### *Helianthus annuus*, sunflower seeds.

Constituents: linoleic acid ( vitamin P ), B vitamins, vitamin E, zinc and other minerals.

Linoleic acid is necessary for the maintenance and repair of the membrane that encloses a cell. Its vitamin content makes this beneficial to muscles, nerves and blood.

Actions: lowers cholesterol deposits, reduces high blood pressure and protects the heart.

## AUTUMN

As the daylight hours are shortened, and the sun's warm rays are felt less, we enter into Autumn. With cooler, darker evenings, the Autumn equinox arrives on September 23rd, when the nights darkness finally equals the length of the day. After this the nights become longer than the days, until the Winter solstice.

Autumn is the time of the harvest, when all the preparing and growing of the Spring and Summer months have finally come to fruition. Autumn is the season of gathering nature's products before Winter's rest. There is a bounty of fruits, vegetables, cereals, nuts, seeds and fungi to harvest and excess foods can be stored for the long Winter ahead.

In this season of change, we too are harvesting all our plans and projects that we started in the Spring and that we have put so much energy into since then. It too is a time of preparation, preparing for the Winter ahead. Maybe swapping our wardrobe around; putting the cooler Summer clothes away and getting out the warmer clothes or buying new clothes. Maybe preparing for starting up again on studies or starting new courses, or getting back to work after the Summer holidays. During this season we will be spending more time, thoughts and energy on home, work and family life. It is a busy time of year; just as the animals, for instance squirrels, are preparing for the cold of the Winter, by storing up food and getting ready places for hibernation, we too are preparing for the season of rest.

It is time to clear away unfinished projects and open up to the inner wisdom that you can experience in activities like contemplation, writing, reading, and nurturing your family as part of your preparation for the depths of Winter. It is time to have your chimney swept, store up on fuel, or your central heating serviced, so as to make sure that you will be kept warm in the coming colder months.

Change is an inherent process in our lives. If you adapt yourself to the changes that come with the seasons, you will maintain health. You must gain control of your internal climates (emotions) and stay protected from the external climates. Maintaining a healthy state depends especially on a balance of outward activities and regular, inward-directed activities.

Through a daily discipline of inner attention and physical exercise, you can create a more open, resilient and supple body, a mentally and physically relaxed state, and a stronger resistance to disease.

The colours of Autumn are; golds, yellows, reds and oranges, all warming colours, reminding us of the cold to come and gently easing us into cooler times.

With Autumn comes a big shift in energy, climate and diet. First, farmers harvest the remaining fruits and watery vegetables, then they gather the harder root vegetables and squashes, whole grains, legumes, seeds and nuts. Autumn gives us richer, denser foods to support and fuel our bodies and provide us with the additional heat to protect us from the colder, damper climate. Most Autumn foods require more heat to prepare. Our diet should shift toward more cooked foods, wholegrains and the richer protein fat foods as the weather cools and the days shorten. Fewer raw fruits and vegetables and more complex carbohydrates are now the mainstay of our diets, especially from later Autumn to early Spring. This is a great time for hearty, warming vegetable soups and baked apples with spices like cinnamon and nutmeg.



## AUTUMN FOODS

In the Autumn there are still plenty of fruits and berries around, like; apples, pears, plums, sloes, mulberries, blackberries, raspberries, medlars and cherries. Seeds, like sunflower seeds, and nuts are ready for collection, the sweet root vegetables and squashes are around and mushrooms are in plentiful supply, as well as all the grains grown over the Summer period and now ready for harvesting.

Lets look at the foods available to us in the Autumn and what benefits they bestow.

*Allium ascalonicum*, shallot.

Constituents: volatile oil, enzymes and flavones.

This is a well known small onion with a rounded bulb and russet brown skin.

Actions: a heart tonic, stimulates peristalsis, stimulates bile production, lowers blood pressure and is diuretic.

*Ficus carica*, fig.

Constituents: potassium, calcium, phosphorus, magnesium, iron, copper and manganese.

Figs can be eaten in their fresh form or in their dried form, in which they stay rich in the above minerals and trace elements. Fresh figs are great intestinal cleansers, which is very beneficial as the intestines need to be prepared for the more stodgy Winter food. Figs are good energy foods and they support blood formation. When figs are soaked and rehydrated, they are beneficial to intestinal function.

Actions: laxative, demulcent, nutritive.

*Rosa canina*, dog rose ( hips ).

Constituents: vitamin C, B1, B2, E, and K, tannins, sugar, malic acid, citric acid, resin and wax.

Rose hips are said to contain twenty times more vitamin C than an orange. As a fitness tea, it helps to maintain healthy collagen.

Actions: tonic, astringent, diuretic, anti-gall and kidney stone, antidiarrhoeic.

*Solanum tuberosum*, potato.

Constituents: starch, potash, potassium, phosphorus, citric acid, tannin, vitamin C, B1, B2, B6, nicotinamide ( vitamin PP ), acetylcholine.

Drinking the fresh juice has far more benefits than eating the cooked potato, as cooking destroys the vitamins. It is said to relieve the pain of gastric or duodenal ulcers and relieves intestinal colic. Externally the pulp can be applied direct to piles, itching skin, rashes, inflammation of the big toe joint, bruises, synovitis and rheumatic pains.

Actions: anodyne ( externally ), antacid, antispasmodic.



## Fungi -

This is the time of year for fungi or mushrooms. They are high in proteins, which will be needed for the coming cold months ahead. They contain large quantities of vitamin D and some contain the B vitamins; thiamine, riboflavin and niacin, as well as essential amino acids.

Much research is being done into the well known medicinal mushrooms of countries like Japan and China, but little is known about our own wild fungi.

Fungi grow on decomposing materials, and in order for fungi to absorb the decomposing food they must be able to expel undesirable chemicals and contaminants that are absorbed from these decomposing materials. This has led researchers to look at the fungi's aggressive, pro-active immune system. The compounds they found, Host Defence Potentiators ( HDP ), contain long chain sugar polysaccharides, poly-peptides, triterpenoids, complex starches and other metabolites. Complex sugars and their derivatives are able to stimulate a higher level of cytokine production in hormones. Cytokine proteins are produced by our immune system to facilitate communication between cells, like interferon. So researchers have found that studies on mushrooms from Japan, China, Taiwan and Korea have immune enhancing benefits. This could also be true for our own native wild fungi.

If you decide to go hunting in the countryside for the edible fungi, do remember to take a good guide with you as there are poisonous fungi about too. Here are a few of the more commonly known edible fungi:

*Agaricus campestris*, field mushroom.

Locally common in pastures and meadows from August to November. It has a white cap, one to three inches across with a short stem with a ring, which is still attached to the cap in young specimens. It has pink gills at first, then darkening to brown and there is no sheath at the base of the stem and no unpleasant smells.

*Cantharellus cibarius*, chanterelle.

Common in most woodlands, especially beech woods, from July to December. They are shaped like a funnel, one to three inches across. They are an egg-yolk yellow colour with a smell a bit like apricots. Their gills are like veins, being shallow, much forked and continuous with the stem and there is no ring on the stem. They are seldom attacked by insects and cannot be confused with dangerous species.

*Tricholoma saevum*, blewits.

Common in grassy pastures from October to December. They have a cap which is flattish with an incurving marginal edge that is two to five inches across. Pale brown to grey in colour. The gills are white to greyish-pink, they have a stout stem that is tinged with blue and occasionally swollen at the base. They have no ring on the stem and the flesh is white and firm.

## Nuts -

Growing evidence is showing us that tree nuts have bioactive constituents, like plant protein, dietary fibre, vitamin E, magnesium and potassium. It is also showing us that they contain phytochemicals, of which known groups include; polyphenols ( phenolic acid, flavonoids, phytosterols, phytoestrogen ) and phytic acid.

Nuts are high in calories, but low in saturated fat, in fact they have more unsaturated fats and evidence is growing to show that nuts actually help to protect the heart, lower cholesterol and low density lipids and improve the control of blood-glucose concentrations, lowering insulin requirements.

Nuts are a good choice for this time of year, and in the coming months, when we will need high energy foods to give us warmth and strength. Here are some of the nuts available to us:

### *Juglans regia*, walnut.

Walnuts are best when they are fairly ripe and dry, in late October and November. They are a good source of omega-3 fatty acids.

### *Castanea sativa*, sweet chestnut.

Nuts are best in October to November. They are traditionally cooked in a fire.

### *Corylus avellana*, hazel nut.

Best time to gather is late September. Like all nuts, they will keep through the coming Winter in their shells, but they must be stored in a dry warm place, so as to avoid damp and mould to permeate the nutshells and rot the kernal.

## Squashes -

The *Cucurbita* family include; pumpkins, butternut squash and spaghetti squash, to name a few. Like all orange-pigmented vegetables, they are rich in vitamin A ( betacarotene ) which have antioxidant and detoxifying properties as well as immune enhancing properties, vitamin C for all round tissue building and necessary for preventing night blindness, potassium which is beneficial for a healthy heart, and fibre. They also contain modest amounts of the B vitamins; thiamine, niacin and riboflavin, as well as calcium, phosphorus, iron and sodium.

## WINTER

The Winter solstice on December 21st brings us to the shortest day of the year and the start of Winter. From now on the days will slowly be getting longer, but they will be cold days. This is nature's season of rest, nature has withdrawn into the roots and earth, preparing for Spring. This too signals a time for us to be more focused within ourselves, reflecting on what is past. It is a time for resting and replenishing and we become more aware of our senses. We will need to keep fairly active to stay warm, but it is also a time for rest, relaxation and good nutrition.

Winter's season brings us the need for inner nourishment and rest. We want to feel warm and comfortable and tend to stay in more. It's a time for family and friends.

Vitality, like in all seasons, is important to your health in the Winter. It is a balancing of the intake and output of your energy in the form of foods, feelings and work. You need proper rest and sleep, relaxation and play, to balance the activity, stress and work in your life. Creating and maintaining cleanliness within and without is also important to staying healthy. Winter is an important time to feel what your inner changes are and weave them into your dance of existence.

In the Winter we need foods which are higher in carbohydrate and protein, these are more warming foods. Most of the foods we eat this season are foods which have been stored and dried. They are foods which take more preparation and cooking, giving us warming food and hot drinks. Root vegetables are eaten, like carrots, potatoes, turnips, swedes and parsnips, they give us the energy and vitality, that has been taken by nature and put deeper into the ground, ready for the rebirth season that is Spring. Other foods that still grow are from the cruciferous family, like cabbages, cauliflower and broccoli. Stored foods include grains, like oats, wheat and rice. Other stored foods include pulses, like red kidney beans and lentils, nuts, dried seaweeds, seeds and dried fruits. Garlic, onions, and spices are added to foods, giving us warmth and boosting our immune systems.

Let's look at some of the foods that are available for us to use in cooking:

### *Cruciferous family -*

This includes; cabbages, broccoli, and cauliflowers.

Constituents: provitamin A carotenoids, vitamin C and K, fibre, isothiocyanates and indoles.

Rich in antioxidants, the cruciferous family can reduce the risk of cancer by inducing extra protection of the enzymes involved in detoxifying carcinogens and flushing them out of the body. These anticancer properties are due to the isothiocyanates, the most active being sulforaphane which is a powerful enzyme inducer. Indoles are another key factor to their anticancer activity. The cruciferous family of vegetables possess unique phytochemicals that are able to modify the metabolism of estrogen. The importance of eating produce is the fact that the amount of these kinds of nutrients are at their highest if harvested in their correct season. To get the most out of the nutrients, it's best to eat the vegetables raw or lightly steamed.

### *Seaweed -*

Seaweeds reproduce by spores and have seasons of growth, like other plants. They produce shoots in the Spring and grow quickly and luxuriantly during the Summer, withering in the Winter. The best time to collect them is in the Spring, May to June. Then they can be dried, ready to use for the Winter months. Seaweeds contain trace elements that are no longer available in the earth's depleted soils. One constituent, algin, has been shown to have anticancer properties and can remove radioactive and heavy metals from the body. They are rich sources of minerals, like iodine which stimulates the thyroid gland, stimulating metabolism.

*Chondrus crispus*, Irish moss.

Constituents: trace minerals, polysaccharides, iodine, iron, bromine.

A fingerful of the dried seaweed can be added to any hot drink in the morning to help to protect the chest in the Winter. It can be added to soups or stews to help thicken the sauce.

Actions: antitussive, nutrient, demulcent, pectoral, antibacterial, detoxicant, anticoagulant, hypotensive and lowers cholesterol levels.

*Fucus vesiculosus*, bladderwrack.

Constituents: iodine, sodium, manganese, sulphur, silicon, zinc and copper, vitamin K.

It can be sprinkled on top of meals or added to soups. It helps to build up broken down constitutions and increases body heat. The vitamin K content helps to prevent strokes.

Actions: antihypothyroid, antiobesic, antirheumatic, adaptogen, stimulates the circulation of lymph, endocrine gland stimulant, laxative, antibiotic and a mild diuretic.

Dried fruit -

Apricots dried are a rich supply of vitamin A from beta-carotene and also contain high levels of potassium.

Blackcurrants can be dried and eaten in the Winter. They contain good amounts of vitamin C, A, B vitamins niacin, pantothenic acid and biotin. They contain good amounts of iron, potassium, calcium, phosphorus, magnesium and manganese and the seeds contain gamma-linolenic acid (GLA).

Figs that are dried have rich amounts of potassium, calcium, phosphorus, magnesium, iron, copper and manganese. They are good energy foods, they support blood formation and are beneficial to intestinal function.

Prunes are dried plums. They are laxative and have very high levels of iron. They are also rich in vitamin A, niacin, potassium, phosphorus and they have some calcium, magnesium and copper.

Raisins are dried seedless grapes. They are rich in iron, potassium, calcium, magnesium and phosphorus. They have traces of copper, zinc and manganese. They provide quick bursts of energy.

Spices -

Although most spices are not native to England, they have been introduced a long time ago and have many virtues beneficial to the cold, damp Winter season. Spices are stimulating and warming to the body, they stimulate the senses of taste and smell, improving the appetite and aid digestion. Spices can help to expel wind from the stomach and intestines as well. Spices increase the circulation by opening (dilating) the blood vessels, warming up the extremities. Spices are the seeds of aromatic plants or the dried roots of plants. They can be added to soups, stews or casseroles, hot drinks and to fruit desserts. Or they can be added to foot baths or lotions, boosting the peripheral circulation. Below are some of the spices and their actions:

*Capsicum minimum*, cayenne / chilli.

This warming carminative produces natural warmth and equalises the circulation in the elderly. It stimulates the oxygenation of cells, improves digestion and when applied externally; is antiseptic and antispasmodic. Through its stimulating action it is restorative to the digestive, circulatory and respiratory systems of the body.

*Zingiber officinalis*, ginger.

This is great added to desserts, stews or hot drinks. When taken in a hot drink its diaphoretic properties increase perspiration, equalise the circulation, thus reduce high temperatures. It is excellent for colds and chills and chilblains. It is also carminative, expelling wind from the digestive system.

*Foeniculum vulgare*, fennel.

Great as a tea after meals, it will aid digestion through its aromatic, carminative, stomachic properties. It can be added to stews, soups or casseroles. Its actions are also felt in the respiratory system, where its warming, stimulating properties have an expectorant effect.

*Cinnamomum verum*, cinnamon.

This can be added to fruit desserts, like baked apple. It is astringent to the stomach, aromatic, carminative and anti-emetic. Therefore it is beneficial in heartburn, nausea, vomiting and wind. Added to hot drinks it will equalise the blood flow on peripheral circulation.

Root vegetables -

There are now Winter carrots and potatoes around for eating, other root vegetables include parsnips, turnips and swedes.

*Pastinaca sativa*, parsnip.

Constituents: starch, sugar, protein, pectin, a furanocoumarin bergaptene.

Bergaptene is antibacterial and parsnips add energy, protein and fibre to the diet. All beneficial in the colder months.

*Brassica rapa*, turnip.

Constituents: essential oil, glycoside, indoles, folic acid.

Related to the cabbage family, this vegetable contains folic acid, a B vitamin, which protects the lungs from cancer. Also turnip contains indoles which have an anti-oestrogen effect, which is thought to prevent some cancers like breast cancer.

Grains -

Harvested in the Autumn, wholegrains make excellent Winter food. They are our Winter fuel foods due to their complex carbohydrates. They are heating, building foods that if whole (unprocessed), contain minerals and vitamins.

*Avena sativa*, oats.

Constituents: vitamin C, E and B's, calcium, copper, manganese, zinc, selenium and iron, saponins, alkaloids ( including indoles and avenine ), flavonoids, silica, starch, protein, sterol.

Porridge oats make an excellent restorative breakfast, which also lowers cholesterol, stabilizes the blood-sugar levels and is a gentle aperient. It improves stamina and has a restorative action on the nervous system.

*Hordeum distichon*, barley.

Constituents: fibre, calcium, iron, magnesium, potassium, selenium, lysine ( essential amino acid ), protein, starch.

A nutritive, demulcent food, it is also a cholesterol blocker.

Legumes -

This includes kidney beans, pinto beans , Lima beans and lentils. They are complex carbohydrates foods, giving us the energy required to stay warm in the Winter. They have cholesterol lowering properties and they help to regulate blood-sugar levels. They contain starch, protein, some minerals like calcium and some vitamins and folic acid. They can be added to stews and soups

Seeds -

Harvested from the Autumn, we have pumpkin seeds and sunflower seeds. Mixed with dried fruit they make tasty snacks or they can be added to breads and breakfast cereals ( instead of cow's milk, soya or rice milk can be used for cereals and cooking if preferred ).

*Cucurbita pepo*, pumpkin seeds.

Constituents: B vitamins, vitamin A, calcium, iron, phosphorus, zinc, linoleic acid, cucurbitacins.

These are very beneficial for men, as they have a hormone-like effect on the prostate gland, helping to protect the prostate gland from enlargement. Other than nutritive, pumpkin seeds are diuretic and anthelmintic, which will be beneficial as more root vegetables are being eaten in this season, and root vegetables are more likely to have worms in them ( although a healthy digestive system will kill off any worms once the food has entered the stomach ).

## SUMMARY

With each cycle of each season brings change. With this change, we also change. We need to learn and to recognise the changes that happen with each season. The position of the planets change, with this our seasons change and so do we. It is only when we resist this change and move outside the laws of nature, that we encounter difficulty that can effect our health. We need to learn to live within the laws of nature, in order to achieve maximum health.

Spring is the time to clear out the past in order to create space for the new. It is a cleansing time. If we do not create space, then our bodies, mind and life can become clogged.

Summer is about the time to grow and mature in all aspects of our life. In the garden, for example, in order for it to flourish we need to put in the time, energy and tender loving care, if we do not then it will wilt and perish. This can be related to any part of our life, like relationships and work, which also effect our health.

Autumn is the time of preparation, the time to reap the seeds that we have sown so long ago now, back in the Spring, when fresh ideas were being put into plans of action. Its a time of finishing projects so that we will be ready for more inward, home-oriented focus. We need to take extra care of our health, building up our immune system in preparation of the coming darker, colder, wetter months ahead.

Winter is the time of storage, storing all our efforts of the past nine months and contemplating on them. It is a quiet time of year, we need to stay warm, relax and reflect.

With the coming of each new season brings stresses and change which can affect our health if we do not learn to recognise these changes and learn how to deal with these stresses. Our own cycles of experience begin, grow, mature and produce a harvest, which is then stored within, helping to prepare us for our next cycle.

The analogies are never-ending. Nothing is separate; everything is connected. Life is one continuous connection.

Eating in the seasons help to keep us attuned to the earth, its elements and the cycles of nature, which will attune us to the cycles of our bodies. Each season provides us with the more appropriate foods which help to protect us from our climates, support our health and keep us in balance. It is only in the last few thousand years that people have led a settled existence tied to agriculture. Before that, our ancestors use to gather and hunt their food. So in the Spring we have foods which are energising and cleansing to our bodies, giving us a new lease of life. Like the sprouting seeds, green salad leaves, like watercress, spinach and dandelion and the leeks and spring onions. In the Summer there are more cooling, juicy fruits and vegetables available. In the Autumn, more protein, starchy foods, rich in vitamins and minerals to boost our immune system and to prepare us for the colder months to follow. In the Winter the diet is made up of more complex carbohydrates to gives us the heating foods that will see us though the cold, dark, damp Winter months.

Fresh foods will have optimum nutrition for us as they will be richer in energy, vitality and nutrients that we require to maintain our health. Unfortunately nowadays most of this is lost as we rely on supermarkets to supply us with our food. These foods are usually out of season, in fact most people probably are not aware of what foods are available in what season. These foods will have less nutritional value to us, as they have travelled long distances, losing their nutrients and vitality from the time of being picked to the time they reach our kitchen table. Most of these foods would probably have ben sprayed with fertilisers, pesticides, or had chemicals added to them to make them look lovely and fresh. They may even have been genetically modified.



Organic produce is the best we can buy, unfortunately people are put off by their appearances, as they will have blemishes and differ in size. Unlike the kind of produce that we see in the supermarkets fruit and vegetable section - all uniformly the “correct size and colour!” Organic is best for our health and our environment. The more whole foods are, the easier it is for our bodies to digest them, providing the energy for our cells to work. Those foods that are factory processed or heated lose much of their nourishment and are often more difficult for us because our bodies are not accustomed to many of the refined foods or chemicals and they have no specific function in our bodies. These foods which are preserved with unnatural or chemical additives mean that our bodies have to work harder to eliminate them, using up valuable nutrients in the process. Excess can lead to build up of these chemicals in our bodies, this will effect our health. A diet high in whole foods and low in processed or chemically added foods will do us a wealth of good. But proper chewing, slow eating, eating without distractions or upset, balanced diet, regular elimination, regular exercise and a happy life will lead to optimum health.

Other important factors that are important to the seasons are all the medicinal herbs that grow in each season, they all have correct seasons to harvest too, and can aid our vitality and health through the seasons.

I hope this thesis has made you stop and think about the cycles of life, the seasons and how they effect our health.

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