

## Virtual Herb and Spice Cabinet

*Learn about the nutritional benefits of many commonly used herbs and spices and enjoy two of my favorite spice blends*

### ❖ Cinnamon<sup>1</sup>

Cinnamon belongs to the Lauracea family was originally discovered in Ceylon (now Sri Lanka) and was used mostly for trade. However, since the beginning of its use in foods back in 2800 BC, cinnamon has become one of the most common flavoring and healing spices found in kitchens worldwide. Cinnamon has a powerful role in regulating blood glucose levels—decreasing levels of fasting plasma glucose, while also increasing improvement in lipid panels, thus aiding in the treatment of diabetes. Cinnamon also helps with diabetes in that it is said to have an insulin sensitizing action.

Other important functions and health properties of cinnamon include: cognitive enhancement, anti-microbial action, antioxidant abilities, anti-inflammatory action, cardio protection, and blood pressure reduction. Cinnamon helps with cognitive function in that it contains phytochemicals that can boost brain utilization of glucose. In regards to anti-microbial action, cinnamon can inhibit the growth of many bacteria such as *Listeria* and *Escherichia coli*, found in food products. Cinnamon is also a natural antioxidant as its oil forms a phosphomolybdenum complex. The water extract in cinnamon as well as the compounds: trans-cinnamaldehyde, carophyllene oxide, eugenol, and L-borneol, are what gives cinnamon its anti-inflammatory powers. Cinnamon also has powerful abilities to protect the heart, as it contains the active component cinnamaldehyde (vasorelaxation enhancer) and cinnamic acid, which produce nitric oxide, an anti-inflammatory compound. Lastly, nitric oxide in cinnamon causes vasorelaxation which results in decreased blood pressure.

### ❖ Ginger<sup>2</sup>

Ginger is native to southeastern Asia, but its use has spread across the country. Some of the top producers of ginger include: Jamaica, India, Fiji, Indonesia, and Australia. Ginger contains an array of extensive nutritional and healing benefits. One of ginger's health benefits that it is well known for is its powerful effect on gastrointestinal distress. Ginger is high in carminative, which promotes intestinal gas elimination, as well as intestinal spasmolytic, which relaxes and soothes the intestinal tract. Ginger also yields excellent anti-inflammatory effects because it contains anti-inflammatory compounds called gingerols. Other powerful aspects of ginger include: colorectal cancer protection, ovarian cancer prohibition, and immune boosting abilities.

The anti-inflammatory compounds gingerol, also act as the main compound for inhibiting colorectal cancer cell growth. Gingerol's also play a role in killing ovarian cancer cells by inducing apoptosis (programmed cell death) and autophagocytosis (self-digestion). The phytonutrients in ginger not only exhibit anti-tumor effects on cells, but also antioxidant, and anti-inflammatory effects. In regards to ginger's immune boosting activity, ginger works to promote a healthy sweat that can be beneficial during colds.

Sweating is detoxifying and contains a strong germ-fighting agent, a protein, called dermicidin, which is secreted by the body's sweat glands.

#### ❖ Basil<sup>2</sup>

Basil is indigenous to India, Asia, and Africa. However, it is now commonly used in Italy and many Southeast Asian countries, including Thailand, Vietnam, and Laos for its wonderful fragrance and healing properties. This herb provides an abundance of vitamin K and manganese, and is a good source of copper, vitamin A, vitamin C, calcium, iron, folate, magnesium, and omega-3 fatty acids. Not only is basil full of nutrients, but it also contains flavonoids and volatile oils, which provide excellent health benefits. Certain flavonoids found in basil have been found to protect cell structures and chromosomes from radiation and oxygen-based damage. The volatile oils from basil, which contain estragole, linalool, cineole, eugenol, sabinene, myrcene, and limonene, aid in restricting the growth of bacteria. Eugenol is particularly important because it can block the activity of an enzyme known as cyclooxygenase. Because Eugenol has the ability to block this enzyme, it makes basil an "anti-inflammatory" herb. Not only does basil have the ability to help with inflammatory issues, but it also promotes cardiovascular health due to its excellent source of magnesium.

#### ❖ Turmeric<sup>2</sup>

Turmeric has a vast array of health benefits ranging from increased regulation of inflammation, oxidation, cell signaling, blood sugar levels, blood fat levels and brain levels of omega-3 fatty acids or DHA. This spice typically contains curcumin in small amounts; however, it can include more depending on the root. The curcumin found in turmeric has been found to help decrease cancer risk. This has mostly been found in animal studies showing anti-cancer impacts ranging from prostate, lung, colon, cervix, breast, mouth, tongue and stomach. The curcumin also consistently shows the ability to stimulate Phase II Detox activity. As a spice, it can help regulate blood fat levels after a meal. Also, if turmeric is incorporated into certain recipes, certain enzymes can be inhibited. This is mostly in part from the curcumin contained in turmeric. Another promising health benefit being researched currently is digestive health problems, such as Crohn's disease and ulcerative colitis.

Turmeric is native to India and Southeast Asia. India is also the world's largest consumer and exporter of turmeric with Bangladesh following as the second largest producer. Other countries that produce turmeric in large quantities include Pakistan, Sri Lanka, Taiwan, China, Myanmar, and Indonesia. The spice is also grown commercially in many Central and South American countries.

#### ❖ Cayenne Pepper<sup>3</sup>

Cayenne is not just hot to the taste, but is a hot commodity around the world. Since Native Americans first cultivated cayenne almost 5,000 years ago, cayenne is

commonly used worldwide, but emphasized more in cuisines of regions where hot and spicy flavors are notorious such as: Africa, Asia, China, Spain, South America, and Mexico. Cayenne is packed with strong flavors, but also with many nutritional and medicinal benefits: relieving indigestion, inducing sweat, stimulating the digestive system, increasing appetite, relieving flatulence, strengthening the heart and nervous system, and improving peripheral circulation.

Cayenne is high in a compound called capsaicin, which not only gives cayenne its powerful bite, but can be used in the treatment of pain associated with diabetic neuropathy (abnormal/degenerative state of the nervous system or nerves), shingles, psoriasis, post-surgery, arthritis, and post-herpetic neuralgia (persistent pain at the site of an infection that appears to have healed). Capsicum species, like cayenne peppers, are also one of the richest sources of vitamin C, E, and carotenoids, such as capsanthin and capsorubin, which all yield strong antioxidant protective abilities.

#### ❖ Saffron<sup>4,5</sup>

Saffron is native to Iran and its particular taste and color that it adds to food, has made it a popular spice in cuisine from Persian, Arab, Central Asian, European, Indian, Moroccan, and Cornish cultures. Saffron is a beautiful yellow-orange spice that has a unique taste, but also contains many health benefits.

Medicinally, saffron contains anticarcinogenic, anti-mutagenic, immune-modulating, and antioxidant-like properties. More recently, saffron has been shown to aid in depression, premenstrual syndrome, and Alzheimer's Disease. One of saffron's greatest health abilities is its ability to reduce cardiovascular disease. The antioxidants-flavonoids, particularly lycopene, provide added cardiac protection. Additionally, saffron has been shown to be one of the richest sources of riboflavin, which is a powerful B vitamin that does a lot for our bodies, examples include: oxidative stress prevention, migraine/headache frequency and relief, and a key component of folate metabolism. Saffron also contains crocetin, a natural carotenoid antioxidant, which helps to reduce cholesterol in the blood, decrease atherosclerosis, and therefore reducing the risk for heart attacks. Lastly, components of safranal also increase antibacterial and antiviral activity in the body.

#### ❖ Rosemary<sup>2,6</sup>

Rosemary is most commonly found in the Mediterranean region and grows all throughout America and Europe due to the climate. When it comes to health benefits, rosemary targets the immune system and can even help with asthma attacks due to its anti-inflammatory compounds. This aromatic herb also helps with concentration because it increases blood flow to the head and brain. Rosemary is packed with Vitamin A and is similar to turmeric in that it can help with digestion. Not only does rosemary help with the immune system and awareness, but it has also been reported to have anticancer properties. Because rosemary extract contains multiple polyphenols, with carnolic acid and rosmarinic acid, it has widely been experimented with in cancer

studies. These polyphenols affect key signaling molecules involved with anticancer effects. Rosemary extract is also beneficial due to its anti-inflammatory, antioxidant, and antidiabetic properties.

❖ Thyme<sup>2,7</sup>

Thyme is native to the western Mediterranean region of Europe, but is also found in Asia and North America. Thyme is a delicate looking herb containing many nutritional and medicinal benefits. Thyme is rich in nutrients such as vitamin C, vitamin A, iron, manganese, copper, and fiber. Not only can thyme provide an excellent source of various nutrients, but it also provides many medicinal benefits. Thyme is mostly used for treatment of diseases of the upper respiratory tract such as bronchitis, whooping cough, and catarrh. This wonderfully fragrant herb also contains therapeutic properties including antioxidant and antimicrobial activity, anti-inflammatory, analgesic and antipyretic effects, and antidiabetic effects. The essential oils and flavonoids found in thyme increase its anti-oxidant capacity immensely. One of the more important and primary oils found in thyme is thymol. This volatile oil has been found to protect and increase the percentage of healthy fats found in cell membranes and other cell structures. A couple of the flavonoids that contribute to making thyme such an anti-oxidant rich herb include: apigenin, naringenin, luteolin, and thymonin.

❖ Cumin<sup>2,8</sup>

Although the use of cumin in Europe has declined over time, cumin is still commonly used in the Middle East, India, and China. Cumin is a small and aromatic herb, but it also functions as a spice when it is in seed form. Not only can cumin seeds enhance the appetite, taste perception, lactation, and digestion, but they are also used in the treatment of fever, loss of appetite, diarrhea, vomiting, abdominal distension, and edema. Also, cumin seeds contain volatile oils, including Cuminaldehyde, cymene, and terpenoids. Certain volatile oils, in the seeds, are known to possess pharmacological activities such as antimicrobial, anti-diabetic, antiepileptic, anti-infertility, and anticancerous effects. Cumin is a rather small seed, yet it is very flavorful and contains an excellent source of iron. The iron in cumin helps provide energy for the body and assists in maintaining a healthy immune system.

❖ Coriander<sup>2,9</sup>

Coriander is one of the world's oldest spices and is native to the Mediterranean and Middle Eastern regions. It has also been used in Asian countries for thousands of years. Other countries that utilize coriander are India, China, and certain Latin American countries. Coriander is commercially produced in Russia, India, Morocco and Holland.

Coriander functions as both an herb and a spice because both its leaves and seeds can be used for seasoning. The seeds of coriander are an excellent source of dietary fiber, copper, manganese, iron, magnesium, and calcium. Coriander fruits are typically recommended for fever, diarrhea, vomiting, and indigestion as carminative. Carminative

is the oil from coriander and it usually contains 65-70 percent of linalool(coriandrol), which has been studied for hepatoprotective activity and hypotensive effect. Linalool is just one of the phytonutrients that makes coriander a phytonutrient- dense herb. The oil from coriander contains many other advantageous phytonutrients including carvone, geraniol, limonene, borneol, camphor, and elemol. Coriander also contains flavonoids, such as quercetin, kaempferol, rhamnetin, and epigenin. Not only is coriander rich in flavonoids, but it also contains active phenolic acid compounds, including caffeic and chlorogenic acid.

This herb and spice can also be beneficial for vertigo, memory loss, and lowering blood sugar. In certain parts of the world coriander is used for specific reasons. For instance, in parts of Europe, individuals use coriander as an “anti-diabetic” plant. Also, in parts of India coriander is used for its anti-inflammatory properties, and in the United States coriander is being studied for its cholesterol –lowering effects. Lastly, coriander contains an antibacterial compound, dodecenal, which has proven to be a natural means of fighting Salmonella.

#### ❖ Oregano<sup>2,10</sup>

Oregano is native to the western and southwestern regions of Europe and the Mediterranean region. Countries that produce oregano as an essential oil include Greece, Israel, and Turkey. Oregano is a small shrub whose name means “mountain joy” and is botanically known as *Origanum Vulgare*. This popular herb is a very good source of vitamin K, manganese, iron, dietary fiber, and calcium. Not only does this herb provide nutritional benefits, but it also functions as an effective anti-bacterial. Oregano contains the oils thymol and carvacrol, which have been shown to inhibit the growth of bacteria. This nutrient- dense herb also contains various phytonutrients, including thymol and rosmarinic acid. Both thymol and rosmarinic acid have been shown to function as antioxidants that can prevent oxygen-based damage to cell structures throughout the body.

Oregano is also consumed to help treat respiratory tract disorders, stomach disorders, urinary tract disorders, menstrual cramps, rheumatoid arthritis, headaches, diabetes, heart conditions, and high cholesterol. This herb can also be used as an essential oil and applied to the skin for skin conditions including acne, athlete’s foot, ringworm, and rosacea. Also, it is used for spider bites, gum disease, toothaches, and muscle and joint pain.

#### ❖ Sage<sup>2</sup>

Sage is commonly used in countries surrounding the Mediterranean Sea and has been truly native to these countries for thousands of years. Sage is a soft herb that is grayish green in color with a silvery bloom covering. Not only is Sage an excellent culinary herb, but it is also favored for its medicinal properties as well.

Sage has several health benefits just like its sister herb rosemary. Sage is a good source of vitamin K and vitamin A. Also, sage contains a variety of volatile oils,

flavonoids, and phenolic acids, including rosmarinic acid. Rosmarinic acid has both anti-oxidant and anti-inflammatory benefits. The leaves and stem of the sage plant are enriched with antioxidant enzymes, including superoxide dismutase and peroxidase. Rosmarinic acid provides anti-inflammatory benefits because it acts to reduce inflammatory responses by altering the concentrations of inflammatory messaging molecules (like leukotriene B4). If one is suffering from inflammatory conditions such as rheumatoid arthritis, bronchial asthma, or atherosclerosis, sage is highly recommended to include in one's diet. Because this herb contains flavonoids, phenolic acids, and oxygen-handling enzymes it is also able to stabilize oxygen-related metabolism and prevent oxygen-based damage to the cells. There is also one other major benefit to consuming Sage- enhanced memory. Sage has been used in the treatment of cerebrovascular disease for over one thousand years and Chinese sage, in particular, contains active compounds similar to those found in modern drugs used to treat Alzheimer's disease.

### **Spice Blends**

- ❖ Moroccan Wonder: saffron, cumin, cinnamon, coriander, ginger
  - 2 tbsp saffron threads
  - 1 tbsp cumin
  - 1 tbsp coriander
  - 1 tbsp ginger
  - 2 tbsp cinnamon
- ❖ Tuscan Garden: rosemary, basil, sage, thyme, oregano
  - 4 tbsp basil
  - 2 tbsp oregano
  - 2 tbsp rosemary
  - 2 tbsp thyme
  - 1 tbsp sage

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