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McCORMICK Seven Super Spice Glossary Of Terms

Antioxidant

A substance which protects the body from damage caused by oxidation (exposure to oxygen). Antioxidants destroy free radicals, harmful molecules which are believed to cause aging and predispose to cancer. Examples of antioxidants are beta-carotene, vitamin C, vitamin E, selenium and zinc plus a host of natural phytochemicals such as carotenoids, flavonoids, catechins, polyphenols, ellagic acid, mono- and tri-terpenes. Antioxidants are also added to food to slow down or prevent its deterioration, such as when fats turn rancid or when food goes brown.

Anti-carcinogenic

Any property of a substance that reduces the occurrence or severity of cancer.

Anti-inflammatory

Any property of a substance that reduces inflammation.

Beta-carotene

An antioxidant belonging to a group called the carotenoids found in many fruit and vegetables. It is under investigation for its role in preventing the early stages of tumour growth in cancer. Once in the body, it is converted into vitamin A which is why you'll sometimes see it called vitamin A.

Rich sources: orange and yellow fruit and vegetables (pumpkin, carrots, mango, paw-paw, apricots, rockmelon), paprika, green vegetables (spinach, silverbeet, broccoli, dark lettuces, parsley and other herbs).

Bioactive

Any substance that has an effect on living tissue. Substances found in plant foods that not normally yet considered as essential for life (nutrients) but which have possible benefits to human health and may also protect against chronic disease. They have been called bio-active compounds, phytochemicals or phyto-protectants.

Biomarker

A substance used to as an indicator of normal biologic processes or to predict a future illness or to measure the progress of disease or the effects of treatment. For example, antioxidants can serve as biomarkers of a healthy diet that can help delay the onset of heart disease or cancer.

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Bioavailability

The percentage of the nutrient intake that is available to be used inside the body.

Carotenoids

A group of 500 to 600 naturally-occurring compounds which are pigments in plants and give fruit and vegetables their yellow-orange colour. Long recognised as antioxidants, carotenoids are under study for their ability to prevent cancer and heart disease, and eye problems such as cataracts and macular degeneration, because of their effect on cell growth, gene expression and immune response. Examples are beta-carotene, alpha-carotene, lycopene, lutein, zeaxanthin and beta-cryptoxanthin. Some like beta-carotene and alpha-carotene are converted to vitamin A in the body.

Flavonoids

A large group of over 1300 water-soluble natural plant compounds that act as antioxidants, boost the effects of vitamin C, and strengthen connective tissue around blood vessels. These are a sub-group of polyphenols. Sometimes called *bioflavonoids*.

They consist of many different compounds such as flavonols, flavones, isoflavones, catechins and anthocyanins. They are found in all vegetables and fruit. Richest sources: tea, red wine, grapes, apples, onions, berries, cocoa powder.

Free Radicals

Any electronically charged unstable molecule that easily reacts with and damages other molecules. They are formed in the body's normal biochemical processes and also by exposure to smog, cigarette smoke, pollution and the sun's ionising radiation. Well-studied examples are the superoxide radical and hydroxyl radical. See also antioxidant.

Inflammation

A localised protective response by the body to harmful stimuli. Inflammation is characterised by pain, redness, swelling and sometimes loss of mobility.

Lycopene

An important antioxidant belonging to a group called the carotenoids found in high concentrations in tomatoes. A powerful antioxidant, several studies have linked lycopene to lower rates of cancer of the prostate, pancreas and stomach.

Rich sources: tomatoes (especially cooked), tomato paste and sauce, pink grapefruit, watermelon.



ORAC Test

The Oxygen Radical Absorbance Capacity (ORAC) test is one of the most widely quoted lab tests to measure the antioxidant capacity of foods. It estimates how well a compound 'scavenges' a free radical called a peroxy radical. ORAC values for spices are the highest of all foods eg cinnamon comes in at 267 536, thyme is 27 618 while red wine is 3873 and green tea is 1253 umol TE per 100g. *

Phyto-chemical/Phyto-nutrient

Biologically-active substances found in all plant foods ('phyto' means plant) which can function as antioxidants and help protect against many health problems. Includes the carotenoids, polyphenols, salicylates, lignans, indoles and isothiocyanates, triterpenoids and curcumin.

Polyphenols

A large group of antioxidants which all contain a phenol ring structure (phenol is a well-known antiseptic). There are over 4000 distinct types. Many are powerful antioxidants and can neutralise free radicals, reduce inflammation and slow the growth of tumours.

They have a characteristic astringent taste and are found in all plants where they help defend plants against attack by insects and give plants their colour (anthocyanins).

Examples: resveratrol in red wine, capsaicin in chilli and paprika, thymol in thyme, cinnamic acid in cinnamon, rosmarinic acid found in rosemary, thyme, oregano, sage and peppermint.

Super Foods

There are several definitions as to what constitutes a super food although there is no consensus on an exact definition of the term.

We believe a super food has a high concentration of nutrients, over and above what is average or usual for that whole category of foods. This includes antioxidants (phyto-chemicals) as well as vitamins, minerals, fibre and fatty acids.

Some super foods claim to have a health-promoting and/or disease-preventing property beyond the basic function of supplying nutrients. For example, cinnamon can lower blood sugar levels or tea can reduce the risk of heart disease. However much of this is emerging scientific research and usually more than one study is needed for convincing evidence.

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* Figures taken from the USDA database of ORAC values 2997. Access it at <http://www.ars.usda.gov/SP2UserFiles/Place/12354500/Data/ORAC/ORAC07.pdf>

