



VITAL TIMES

SURVIVE YOUR LIFESTYLE WITH 'VITAL GREENS'

ANTIOXIDANTS: THE RISE OF POLYPHENOLS



For many consumers, antioxidants don't go beyond vitamins C and E and beta-carotene, but, as understanding of the antioxidant compounds in fruit and vegetables increases, more research is pointing towards the potential of polyphenols.

Polyphenols are a group of chemical substances found in plants, characterized by the presence of more than one phenol unit (or building block) per molecule. Notable sources of polyphenols include berries, tea, beer, grapes/wine, olive oil, chocolate/cocoa, coffee, walnuts, peanuts, pomegranates, yerba mate, and many other fruits and vegetables. High levels of polyphenols can generally be found in the fruit skins. There's a wide range of compounds in this group including Flavonoids, anthocyanins found in berries, flavonols from a variety of fruit and vegetables, flavones from parsley and thyme, flavanones from citrus, isoflavones from soy, flavonols like the catechins in tea, and proanthocyanidins and resveratrol from berries, wine and chocolate.

Polyphenols were once known as Vitamin P. The possible health benefits of specific polyphenols such as Quercetin are well-established. Polyphenols are now receiving

extensive research due to their potent antioxidant activity, their ability to 'mop-up' harmful free radicals, and the associated health benefits. Many have also been implicated in possible protection against diseases such as cancer and cardiovascular disease, while some have been reported to potentially offer protection from Alzheimer's.

Recent research indicates that polyphenols have the most potent antioxidant characteristics with potential health benefits. They may reduce the risk of cardiovascular disease and cancer. Polyphenols have also been investigated as a source of additional health benefit in organic produce, but no conclusion was made. Polyphenols bind with non-heme iron (i.e. from plant sources) in humans. This decreases polyphenol absorption by the body and is another reason why we keep iron levels at a minimum in **'Vital Greens'**.

However, while the science is beginning to point to the significant potential and benefits of polyphenols, an American Nutrition Conference recently issued **"a call to arms"** for more relevant research into the utilisation of the antioxidants, particularly polyphenols, in order to help **"the successful development of polyphenols as chemopreventive agents in the future"**. Drug companies, the usual drivers of research in nutrition, are not that interested in this area as there are not many opportunities to commercialise food components as they can with creating and patenting new drugs. This means unless the public sector contributes to the research, it isn't done.

A recent study by French researchers using a series of antioxidant assays of extracts from 30 plants found a **"significant relationship between antioxidant capacity and total phenol content [...], indicating that phenol compounds are the major contributors to the antioxidant properties of these plants"**

(J. AGRIC. FOOD CHEM., 2009, VOL. 57, PP. 1768-1774).



"More than 6000 different flavonoids in plants have been described, and their total intake could amount to 1 g/d, whereas combined intakes of beta-carotene, vitamin C, and vitamin E from food most often are less than 100 mg/d," they said.

This is the reason why we have focused on providing the widest range of polyphenols from food in **'Vital Greens'** so we don't have to wait to be vindicated by research ten years down the track. The thousands of years of common use of these compounds in food and recorded benefits by many cultures over thousands of years and experience in our own naturopathic practice have guided our choice of what to include in **'Vital Greens'** to give you protection NOW!



PEA PROTEIN MAY CUT BLOOD PRESSURE AND HELP KIDNEYS: STUDY CONFIRMS

Proteins from pea may reduce blood pressure and improve kidney health, according to a new study from Canada.

Rats fed pea protein isolate extracted from the yellow peas used in 'PhytoProtein' experienced a 20 per cent drop in blood pressure when compared to rats on a normal diet, scientists from the University of Manitoba told attendees at the American Chemical Society's 237th National Meeting.

"In people with high blood pressure, our protein could potentially delay or prevent the onset of kidney damage," said Rotimi Aluko, PhD. **"In people who already have kidney disease, our protein may help them maintain normal blood pressure levels so they can live longer."**

The study was performed in collaboration with Nutri-Pea Ltd., a private Canadian company, and funded by the Canadian government. Dr Aluko said that, if studies continue to show promise, the extract could hit the consumer market within the next two to three years.

Dr Aluko told NutraIngredients.com that the first market would be North America.

"I expect that if the product is successfully established in North America, then it could be introduced into other markets very soon thereafter," he said.

The extract could be made into a soluble powder that can be added to foods and beverages or it could be developed into a pill, added the scientists.

STUDY DETAILS

The study, which is yet to be published in a peer-review journal, involved feeding small daily doses of the protein to laboratory rats with polycystic kidney

disease, a severe form of kidney disease used as a model for research on chronic kidney disease (CKD), a condition that has been affecting an increasing number of people in the US and elsewhere.



After eight weeks, Dr Aluko told attendees at the ACS meeting that the protein-fed rats with kidney disease showed a 20 per cent decrease in blood pressure when compared to diseased rats on a normal diet.

"This is significant because a majority of CKD patients actually die from cardiovascular complications that arise from the high blood pressure associated with kidney malfunction," noted Dr Aluko.

The researchers also report that consumption of the pea extract produced a 30 per cent increase in urine production in the diseased rats, bringing their urine to within normal levels.

Commenting on other studies in this area,

Dr Aluko told this website: **"There has been some work on in vitro effects of pea protein hydrolysate but ours is the first to demonstrate actual lowering of blood pressure in an animal model."**

The researchers are currently doing a clinical trial with mildly hypertensive human volunteers, with results expected later this year, he said.

"The rat model we used had both CKD and hypertension. Results from the current clinical trial will let us know whether the product works in hypertensive individuals," he added.

The mechanism of action is not currently known, said the scientists, but proposed that the pea extract may boost production of a protein that boosts kidney function.

NOT ANY OLD PEA

The new research focused on the yellow pea, but noted that consumption of the peas in their natural state would not produce the same potential health benefits as the purified protein extract. The potentially beneficial proteins exist in an inactive state in natural peas, and must be activated by treatment with special enzymes.

Furthermore, fears over flatulence would be unfounded since the purified proteins don't contain the complex plant-sugars found in fresh beans that are known to trigger flatulence. The extract itself does not appear to have any unpleasant taste or odour, he added.

A NEW BREAKTHROUGH FOR PHYTOPROTEIN! A DELICIOUS CHOCOLATE HIGH ANTIOXIDANT FLAVOUR!

We are releasing this great tasting version of 'PhytoProtein' in late April. Not only will you have the usual benefits of the only alkaline and highest vegetable source of protein (now at 88% pure protein) you will also get the benefits of our high polyphenol Cacao extract (now also in 'Vital Greens') which will provide a great antioxidant boost. Look out for free samples which will be available in health food stores or directly from us.



Questions? More information? Please contact:

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