IN THE NEWS Wednesday, 4 June 2008:

BBC -- A chemical derived from red wine could one day help keep the heart "genetically young", claim researchers.

University of Wisconsin-Madison researchers found that resveratrol appeared to halt age-related changes in the function of heart genes.

The effects, described in the PLOS One journal, appeared to mimic those produced by eating a very low calorie diet - known to prolong life.

But an expert said drinking wine would not achieve the effect.

Resveratrol, a plant polyphenol found in red wine, grapes and pomegranates, has been suggested as one of the reasons for the so-called "French paradox" - the relative longevity of the French despite a diet rich in artery-clogging animal fats.

It has been suggested that the traditional glass of red wine taken at mealtimes was helping beat heart disease.

The Wisconsin researchers the chemical on "middle-aged" mice, looking at the effects on the workings of genes in the heart.

The natural ageing process in animals and humans is marked by changes in the function, or expression, of thousands of genes in the organ, and even though the precise consequences of all these changes in gene expression is not fully understood, they are thought to contribute to its gradual overall weakening.

The mice on resveratrol appeared to have fewer changes in gene expression over time compared with those who did not.

The researchers suggested that this brought studies of the chemical closer to the "consumption reality" of middle-aged humans.

They also noticed similarities between the gene expression changes linked to resveratrol and those noticed in mice given low calorie diets, prompting speculation that the chemical may have a similar effect.

Many animals who undergo "calorific restriction" live longer, and Dr Tomas Prolla, one of the lead authors, suggested a similar process might be at work.
"There must be a few master biochemical pathways activated in response to caloric restriction, which in turn activate many other pathways - and resveratrol seems to activate some of those master pathways as well."

Resveratrol: The most effective and best-researched phytonutrient for maintaining and protecting health.

• Inhibits the initiation, promotion and progression of cancer
• An all natural powerful antioxidant that protects DNA
• Restores glutathione (our most important antioxidant) levels
• Increases levels of quinone reductase (the liver uses this enzyme to detoxify carcinogens)
• Has a protective role against the formation of colon cancer
• May be protective against prostate cancer
• Acts as a beneficial phytoestrogen
• Shown to reduce LDL (bad cholesterol) oxidation
• Enhances healing of skin wounds

What is resveratrol?

Resveratrol, found in grapes and wine, is a naturally occurring antioxidant. A number of beneficial health effects, such as anti-cancer, antiviral, neuroprotective, anti-aging, anti-inflammatory and life-prolonging effects have been reported. Resveratrol is found in the skin of red grapes and as a constituent of red wine may explain the “French paradox” that the incidence of coronary heart disease is relatively low in southern France despite high dietary intake of saturated fats.

Resveratrol is a protective compound produced by red grapes and certain other plants as a defense against parasites. While red wine previously contained 8 to 10 mg resveratrol per litre, there is unfortunately almost no resveratrol in today's red wine due to widespread use of pesticides. We have, however, managed to find a source of pharmaceutical grade resveratrol, extracted directly from red grapes, which retains the natural balance of all its active compounds: polyphenols, flavonoids, anthocyanidins and oligoproanthocyanidins (OPCs). This is then enriched with resveratrol extracted from the plant Polygonum cuspidatum. Resveratrol is without doubt the most effective and best-researched phytonutrient you can take to maintain and protect your health.

Why should you take resveratrol?

Resveratrol is a brilliant solution to many age-related health problems:

• **Hearth Health:** The World Health Organisation suggests that resveratrol single-handedly reduces cardiovascular risk by 40%! Resveratrol is more effective than vitamin E, protecting against a wider range of free radicals to prevent oxidation of low-density lipoprotein (LDL). It inhibits platelet aggregation by blocking the action of thrombin and several other aggregating factors. It promotes production of nitric oxide which relaxes and dilates the arteries. It reduces blood triglyceride and cholesterol levels as well as the intrinsic hypertensive agent endothelin-1.

• **Cancer Prevention:** Resveratrol is the only natural product with such strong evidence to show it stops cancerous cell development at various stages: a study published in the prestigious review 'Science' showed that resveratrol blocks the proliferation of cancerous cells during three important stages of development. A study in which mice were given resveratrol over 18 weeks showed a reduction in skin tumours of 98%! Resveratrol destroys cancerous cells whether or not they are either oestrogen-dependent, or have the gene, p53. An Austrian study showed that resveratrol prevented certain types of cancer from metastasising to bone. Other research has demonstrated that in some cases, it improved the results of chemotherapy. It can also block the cancer-promoting effects of a linoleic acid-rich diet. Unlike many drugs, resveratrol protects, rather than destroys, healthy cells. Its anti-cancer action is diverse, powerful and sophisticated.

• **Brain Health:** Preliminary studies suggest that resveratrol - administered singly, and in combination with other antioxidants - protects the brain against oxidative stress. Oxidative stress is known to play a major role in most neurodegenerative diseases.

• **Inflammation:** A Chinese study has recently shown that, when injected immediately after injury, resveratrol is as effective as the drug prednisone at protecting against inflammation of the spinal cord, but with additional benefit of antioxidant protection. A study of rats pre-supplemented with resveratrol for 21 days has shown that it improves the prognosis, and reduces the permanent effects of stroke.

• **Longevity:** According to a study at Harvard Medical School, resveratrol activates a longevity gene in certain strains of yeast and extends life expectancy by 70%! It works in the same way as calorie restriction (the only scientifically-proven way of increasing longevity) by activating SIR genes. Research to date has been restricted to yeasts, flies and nematodes but it's worth noting that humans also possess these genes.