

SPECIAL BONUS REPORT

# BIO/TECH NEWS

*Inside information on important innovations in Bioscience and Technology*

## TREE BARK and GRAPE SEEDS

Powerful, new Free-Radical Scavenger can help boost your body's defense system against numerous health disorders

(EDITOR'S NOTE: As you probably already know, many medical and scientific researchers are convinced that uncontrolled free radical activity in the body is **directly** associated with a number of **health** problems. Here are just a few' of the many diseases and disorders in which free radicals have been implicated...

Age spots - Aging - Allergies - Alzheimers disease - Angina - Arthritis - Asthma - Atherosclerosis. - **Bleeding** Gums - Internal Bleeding - Bruises - Cancer - Cataracts - Circulation Problems - Cirrhosis - Cold Feet - Cold Fingers - Diabetes, type II - Dry Skin - Edema - Fatigue - Hay fever - Heart Attacks - Hemorrhoids - Hypertension - Inflamed **Tissues** - Jet Lag - Kidney Damage - Liver Damage - Male Sexual Inadequacy - Memory loss - Menstrual Disorders - Migraine headaches - **Multiple** Sclerosis - Night blindness - Parkinson's **Disease** - Phlebitis - Poor Circulation - Prostate problems - Psoriasis - Respiratory problems - Retinopathy - Rheumatism - Senilii - Skin Cancers - Strokes - Stress Damage - Swollen Joints and Limbs - Varicose Veins -- Wrinkling of the Skin - and the list could go on and on and on.

"Free radical scavengers" (anti-oxidants) are key elements in the defense system which the body uses in order to **neutralize** the activity of these dangerous and, over the long-term, deadly, free radical enemies.

Vitamin E, **Vitamin C**, beta-Carotene and Selenium, among their other nutritional benefits, have strong **anti-oxidant** properties. We assume that you are already quite familiar with these important nutrients and take them on a regular basis.

What you probably don't know about, and what you

need to find out about are the powerful free radical scavengers called **proanthocyanidines** ("pycnogenols"). As free-radical scavengers, these substances are 50 times more powerful than **Vitamin E** and at least 20 times stronger than Vitamin C (One report we have seen indicates 1000 times stronger).

If you, a family member, or close friend have any of the kinds of symptoms listed above, please take the time to read this issue carefully. It contains what could very well prove to be the most important and timely information you will ever read which has to do with your long-term health and well-being. In short, and whether or not your health is at present in any way compromised, we can't overemphasize how strongly we feel that you should seriously consider including a good source for **proanthocyanidine** into your daily diet. We are convinced that everyone needs to be taking these on a regular basis. In what follows, you'll see why...

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Finally, We want to be clear about this: What follows is for information purposes only. It is not an attempt by the writers or publishers of the Bio-Tech News to practice medicine nor should it be construed to be such. Readers are hereby encouraged to **consult** with a trusted and competent medical professional concerning the content of this newsletter and any recommendations contained herein.]

## Voyages au Canada

While **visiting** Canada in the late 1940's, French scientist Dr. Jacques Masquelier (MASS-QWA-YAY) **happened** to pick up a book with the above-named **title** written by French explorer, Jacques **Cartier**. What he read from the hand of that ancient explorer forever changed the direction of his life. Here, in part, is what he read in **Cartiers** book, as the explorer recounts an incident where he and 110 men were stranded over much of the winter while their ships were stuck in the frozen waters of the Gulf of St. Lawrence from November 1534 - April 1535:

'Since Mid-November until April 15, we were continuously trapped by five feet of ice and four feet of snow such that it was higher than the decks of our ships. The entire river was frozen above Hocheiage. Thus it was that we lost 25 of our best men to the dreaded sickness [**Sourvy-Ed.**] There were another forty who were at the point of death and the remainder, except two or three who were gravely ill. But God, in his infinite grace, took pity on us and provided us with the knowledge and the remedy for our cure and health in the manner set forth below...

"One day, our captain, taking note of the spreading sickness, and the condition of his men, left the fort and walking on the ice, observed a group of people from Stadacono (A local indian tribe - Ed.), among whom was Agaya, whom the captain had seen ten or twelve days before suffering from the same illness that affected our **crew**; one of his legs had shrunk to the size of a two year old's at the knee with all loss of sensation, he had lost most of his teeth and the remaining teeth were rotten along with rotted and infected gums. The captain, seeing Agaya healthy and alert was overjoyed, hoping to learn of the circumstances of the cure, and how he might help his own crew. When they arrived at the fort, the captain questioned him concerning his cure. Agaya responded that he was cured with the liquid and residue from the leaves of a tree and that was the sole cure for the illness. The captain asked him if there were any such trees in the **vicinity** of the fort and told him that his cabin boy had come down with an illness, not wishing to let Agaya know the extent to which his crew had been affected.

'At that point Agaya sent two women with our captain and they gathered nine or ten branches; and they showed us how to strip the

leaves and pull the bark from the branches, and to boil them in water, then to drink the water every other day, and to put the dregs on the inflamed legs. They informed him that the tree cured all maladies. In their language, the tree is called **annedda**.

"**Shortly** thereafter, the captain made a beverage for the sick members of the crew of whom only one or two were courageous enough to try it. As soon as they had taken it, they asked for more which turned out to be a miracle as for every illness with which they were afflicted, they were cured and restored to health after having drunk the brew only two or three times; such that the crew who had syphilis for five or six years were completely cured.

'After having seen all that, the crew was ready to kill to get the medicine. This wonderful tree has done less than a week what all the physicians of Lowain and Montpellier, using all the drugs of Alexandria, would not be able to accomplish in a year. Thanks to God, everyone who used the remedy was cured and restored to good health."

More than four hundred years later, Jacques Masquelier would read these words and thus was launched on his own journey of exploration and discovery which led to the ability to isolate and extract a substance which offers the promise of health and vitality to countless numbers of people who suffer from free-radical caused degenerative conditions and diseases. It led this twentieth century French "explorer" to discovery of the most powerful, all-natural, free-radical scavenger yet known to mankind...

Upon reading **Cartiers** story, Dr. Masquelier determined to see if he could find out what it was in that pine bark which could have been responsible for the remarkable recovery of those men. Eventually **the** doctor came upon the discovery of a whole new subclass of bioflavonoid compounds called flavanos when he closely examined the pine bark. These **flavan** molecules are called **OPC's** [**Oil of Proantho Cyanidins** - Ed.]. The exciting thing about the **flavanes** is that they are many times more powerful in strengthening capillaries and many times more effective as free radical neutralizers than anything previously discovered. Dr. Masquelier decided to name his new find pycnogenols [which means 'to condense into one' - Ed.]

Masquelier invented and patented the process by which these **flavanes** can be **efficiently** extracted from plant

materials. The technique isolates the smaller condensed molecular structures made up of **flavan - 3 - ols** (catechin and epicatechin) while discarding the larger condensed polymers of **flavan - 3 - ols**, the tannins. But, while the original inspiration for pycnogenols was the bark from the pine tree, other plant sources have yielded proanthocyanidins as well.

Active **pycnogenols** have now been isolated from many plants that are natural food sources like apples, hawthorn berries, cocoa beans, quince, cherries, grapes, raspberries, blackberries, beans, hops and rose hips. **Pycnogenols** have been found to be present in many red wines [a possible explanation for the success of the French "red wine diet"? - Ed.]. But by far the most potent concentrations of **OPCs** yet extracted have turned out to be from pine bark and grape seeds.

## Free Radicals

*Very few individuals, if any, reach their potential maximum life span; they die instead **prematurely** of a wide variety of diseases - the vast majority being **free - radical** diseases.*

-Dr. **Denham Harman**, M.D., Ph.D.  
University of Nebraska  
College of Medicine

*I **firmly** believe that **free** radicals will be the major health issue in **the** years to come, and that scavengers of free radicals will play a decisive role in many important aspects of health.*

Jacques Masquelier, Ph.D.  
Professor Emeritus  
University of Bordeaux

Many medical and scientific researchers have become increasingly concerned that the presence of uncontrolled free radicals in the body is the direct cause of a number of health problems so notably on the increase. The **startling** fact that almost no one has understood until now is that along with the health-building processes we have going on within our bodies, we also have millions of potentially deadly weapons within the cells and fluids inside our bodies. These "weapons" are "loose cannon" molecules which have come to be known as free radicals and which are making us sick, cause us to age, and eventually kill us.

Just what are free radicals? Simply stated a free radical is an atom or molecule with an unpaired

electron. Unpaired electrons make for very unstable, highly **reactive** atoms and/or molecules. **Paired**

electrons by way of contrast, are the characteristic of a far more stable state. Researcher and writer Michael Dye explains it this way;

"This is a very hazardous, unnatural and unstable state, because electrons normally come in pairs. This odd, unpaired electron in a free radical causes it to collide with other molecules so it can steal an electron from them, which changes the structure of these other molecules and causes them to also become free radicals. This can create a **self-perpetuating** chain reaction in which the structure of millions of molecules are affected in a matter of nanoseconds (a nanosecond is a billionth of a second) reeking havoc with our DNA, protein molecules, enzymes and cells."

There is an ongoing, potentially deadly **battle** which is being waged in our bodies every second of our lives, in which billions of free radicals are out to destroy our cells and **alter** our genetic material. According to Dr. Carroll E. Cross (University of California, Davis, School of Medicine, Davis, California), free radicals are "capable of reversibly or irreversibly damaging compounds of all biochemical classes, including nucleic acids, proteins and free amino acids, lipids and lipoproteins, carbohydrates, and connective tissue **macro-**molecules. These species may [also] have an impact on such cell activities as membrane function, metabolism, and gene expression. It is now recognized that free radicals are contributing to more than 60 diseases [see the Editor's Note at the beginning of this issue for partial listing - Ed.].

So how do these free-radicals get into our bodies in the first place? From within, as natural by-products of ongoing biochemical reactions occurring in normal metabolic functions, in the detoxification processes and in immune system defense. From without, free-radicals [better yet, free-radical generating substances-Ed.] can be found in the food we eat, in our water supplies (especially after chemicals and pollutants have entered into them), drugs and medicine we ingest, and the air we breathe. Our environment contributes immensely to the spread of free radicals, as do processes like drugs, radiation, pesticides, air pollutants, solvents, fried foods, **alco-**hol, tobacco smoke, etc. - things most of us are exposed to all the time.

Our bodies do have a defense system against free radicals, however, which employs specialized substances called anti-oxidants. Antioxidants work primarily by donating or 'sacrificing' an electron to the free-radical, which then becomes paired with the formerly unpaired electron, thereby stabilizing and, in effect, eliminating the free-radical. Inside the cells themselves, antioxidant defense is provided largely by specific enzymes such as superoxide dismutase (**SOD**), catalase and glutathione peroxidase. Outside the cells, in the blood plasma, synovial fluids (found in the joints - Ed.) and other fluids of the body, **SOD activities** are very low and catalase and glutathione peroxidase are **essentially** absent. Therefore, other anti-oxidants must be marshaled by the body to deal with the free-radicals which are found in the extracellular fluids. Although the body will produce anti-oxidant defenses in the form of **transferrin-**lactoferrin, ceruloplasmin, albumin, haptoglobin-hemopexin, urate, etc., it also makes great use of nutrients and minerals [in this day and time, it desperately needs to make use of these! - Ed.], such as the well-known vitamins E, C and betacarotene (precursor to vitamin A - Ed.) and the minerals selenium and zinc. But the best yet to be known are pycnogenols, now understood to be the most potent, all-natural antioxidant protection presently known to man.

### **Health Benefits Of Pycnoaenols**

Though Pycnogenok are new to most of us here in the U.S., in many other countries - Singapore, Korea, France, Finland, Holland, Germany, Italy, Argentina and Switzerland, for example, it has been safely taken and its wonderful properties have been appreciated for years.

Pycnogenols were originally introduced in Europe. It has been studied since 1953. Millions and millions of capsules and tablets have been consumed there for decades with no reports of side effects. **What's** more, no negative side effects have been found to effect the digestive, liver, kidney, blood or skin functions, even after Pycnogenols had been ingested for prolonged periods of time. Researchers have **concluded** that pycnogenols are **non-**toxic, non-carcinogenic, **non-**antigenic and non-teratogenic [teratogenesis has to do with birth

defects Ed.].

Here are just a few reasons why pycnogenols have been called the super protector nutrient:

- Because they are such powerful free-radicals scavengers (**antioxi-**dants) pycnogenols have been shown to reduce the risk of a **num-**ber of serious diseases including heart disease and cancer. They reduce atherosclerotic plaque which forms after blood cholesterol has been oxidized.
- Unlike many other nutritional **antioxidants**, pycnogenols cross the blood-brain barrier to provide direct protection to the central nervous system, giving this remarkable substance an important, possible role to play in the treatment of diseases and disorders involving mental deterioration.
- Because of it's activity against loss of collagen elasticity, pycnogenols are a good anti-aging remedy. They can be absorbed through the skin and fixed in the dermis (the fibrous inner layer of the skin), so they may soon be incorporated into many skin creams. Many women take pycnogenols as a kind of oral cosmetic. They want to fight wrinkles before they begin. They expect them to help keep their skin elastic, smooth and more **wrinkle-**free by restoring the skin's collagen and protecting it from free radical attack and enzymatic degradation. Pycnogenols restore elasticity and smoothness to the skin and help protect against and stimulate the healing of psoriasis, age-spots, sun damage and skin cancers.
- For some of the same reasons pycnogenok have been shown to significantly inhibit the incidence of edema (the abnormal pooling of fluid in the tissue - Ed.) because they are so easily absorbed.
- Because pycnogenok can act as a strengthening agent for collagen, they can protect against and help heal varicose veins. They work like the weave in fabric, hooking up with collagen fibers and creating **cross-**linking between them.
- Pycnogenok have also been reported to give significant relief to such serious conditions as **Multiple** Sclerosis, probably much for the same reasons as their ability to help restore and provide elasticity to connective tissues.

- Pycnogenols helps alleviate the pain of arthritis, inflammation and joint pain. They strengthen blood vessels, capillaries, veins and arteries, and help keep red blood cell membranes flexible.
- Pycnogenols maintain proper capillary function which curbs bruising, severity of sports injuries, and risk of phlebitis.
- They have a potent anti-inflammatory affect due to their superior, free-radical scavenger potential.
- They help combat asthma, allergies, hay fever and other respiratory problems.
- Pycnogenols are highly effective as antioxidants against deterioration of the liver! And, since the liver is the main detoxifying, nutrient assimilating and energy producing organ of the body, people who take pycnogenols report less fatigue and increased levels of energy.
- People who suffer from diabetes and diabetic **retinopathy**, a manifestation of diabetes which results in capillary fragility and permeability, have seen it reversed by a treatment of pycnogenols so that the patient doesn't have to go through lengthy laser treatments, and with no harmful side effects. The same positive action has been noted in those who suffer from complications after cataract surgery.
- Pycnogenols have been shown to inhibit the enzyme necessary for histamine production. They are thus far the only known inhibitors of histamine which do not inhibit other enzymes as well. Stress ulcers are formed by the release of histamine. Pycnogenols reduced the incidence of such ulcers in test animals by 82 percent.
- One of the most significant characteristics of pycnogenols is their ability to sequester and reduce the activity of iron in the body. [We intend to do a complete report on the serious health risks and problems associated with iron which become progressively more serious as we grow older (Geritol was a scam; most people have consumed far too much iron in

the form of prescriptions, supplements and iron fortified foods). For our purposes here, suffice it to say that iron is involved as a type of catalyst in the generation of two of the most dangerous free-radicals; the **hydroxyl**, radical and the superoxide radical. So, not only are pycnogenols free-radical scavengers, they also act to prevent the production of **free-radicals** in the body! - Ed.]

In a nutshell, take another look at just a few of the many benefits associated with pycnogenols; Reduced risk of cancer; Reduced risk of cardiovascular disease; Improved circulation; Reduction of inflammation (due to arthritis, phlebitis, sports injuries etc.); Alleviation of edema (including that caused by PMS); Enhanced immune resistance; Improvement of the skin; Improvement in visual acuity; Faster healing; Less fatigue and more energy; plus much, much more.

Although space won't permit it, we could literally fill the pages of an entire book if we were to include just a few of the many varied and remarkable healing, health-boosting experiences people have reported as a result of taking pycnogenols. But, given the information above, this should come as no surprise.

### **Our Need for Supplementation**

If we know that virtually all fruits and vegetables have antioxidant capabilities, why do we need to take it in supplement form? Primarily because modern growing techniques and food distribution reduce or eliminate the proanthocyanidin content of many foods. Picking fruit before it has fully ripened, harvesting vegetables before they're fully mature, and keeping them in cold storage also reduces or eliminates proanthocyanidin content. Modern methods of freezing, canning, and cooking can have a catastrophic effect. The marvelous nutrients so highly concentrated in pycnogenols are especially hard hit by modern food technology, which has the effect of seriously denaturing it.

Pycnogenols act in the body within twenty minutes. Most of it is absorbed on its way to the tissues. Within one hour of ingestion, the antioxidant can be detected in the saliva.

So how much pycnogenols should you take? No U.S.

Recommended Daily Allowance has as yet been established. Dosage is effected by the fact that pycnogenols remain in the body for about three days (72 hours). After you build up an initial residual of the supplement, you can take less, using just enough to replace what you use daily and what is naturally eliminated through the urine and perspiration each day.

Most programs for pycnogenols begin with initial large dosages for the first three days followed by the lessening of supplementation. Suggested dosages for the person just getting started are as follows: One milligram of pycnogenols per pound of body weight for the first week to build up tissue levels. As an example, a person who weighs 150 pounds would take 150 mgs. each day for seven to ten days. There after the daily maintenance amount would be 50 mg. per day. Those who weigh more would take more for maintenance. [For your information, it should be noted that we have heard a number of reports – some nearly miraculous from people who have taken "saturation" dosages for more extended periods of time (1-3 months). Whether or not they would have had the same results by taking the lower 'maintenance' dosages, is impossible to say - Ed.]

Although **pycnogenols** were originally extracted from pine bark, pine bark extract **OPCs** are dramatically more **costly** than extracts from other plant materials, particularly those which are extracted from grape seeds. Pine bark requires extra cleaning and processing, having collected airborne contaminants, sap secretions and other debris over it's 15 year growth cycle prior to harvesting. **Extra** handling is required to chop and clean the material. By way of comparison, the seeds of grapes remain clean from the time they are harvested [they are by products of the wine industry in France - Ed.] until they arrive at the plant to be processed. And kilogram for kilo- gram, grape seeds have been shown to deliver more **OPCs** than pine bark. While pine bark yields 85% of the flavonoid molecules, grape **seeds** yield as high as 95% OPC. Producers now realize that the same amount of time and effort expended on equal weights of these materials will yield more OPC from grape seeds.

Although grape seeds at present yield concentration of **OPCs**, it is our opinion that, since the makeup of plants differs one from another, and even though the chemical 'footprint

for the **OPCs** would be the same, it is nevertheless possible that **OPCs** from pine and **OPCs** from grape might have their subtle differences and therefore might work synergistically together better than either one separately. Therefore, we prefer to get our pycnogenols from as many plant sources as possible.

here to stay. **Pycnogenols** give all of us the opportunity to defend ourselves in a now, more powerful way. So be sure you take advantage of the health giving **benefits** this amazing nutrient has to offer!

### **An Important Final Word**

Given the day and time in which we live and all the attendant challenges which continually assault us from day to day, we think it only makes sense to take advantage of nutrients like pycnogenols which offer the promise of increased health and vitality and even a potentially longer life. Quoting Dr. **Denham Harman**, M.D., Ph.D..

"Advances in average life expectancy at birth in the developed countries seem near an end. In the United States, life expectancy increased rapidly from 47.2 years in 1900 to 67.2 in 1954-55, and then increased progressively, but more slowly, to the present value of 74.8 years, approaching a plateau of 75 to 76 years.

"Attempts to increase the average life expectancy, by lowering the frequency of accidents and disease, are apparently offset to a progressively greater degree by the accumulation of deleterious changes in cells and tissues attributed to aging. Future efforts to reduce premature deaths should add no more than about 1 year to the current life expectancy. Greater increases may be expected from slowing the aging process.

"Aging is the accumulation of the changes responsible for the ever increasing likelihood of disease and death with advancing age. If these changes are produced by free radical reactions, then lowering free radical levels should have a beneficial effect on life span and disease. **Accumulating data** support the possibility.

The average life expectancy of many species has been increased by more than 20% by adding antioxidants to the diet. This increase equivalent to raising the human life span from the present 74.8 years to 97.2 years." [Emphasis ours - Ed.]

Increased health and vitality PLUS a potentially longer life span? Need we say more? Get yourself some pycnogenols and start taking them! Encourage your family members and good friends to do the same. Do it NOW!

Let's face it: Free-radicals are