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“The Phytosome Process”

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Magnifying the Power of Herbal Extracts

By Dr. Michael T. Murray, N.D.

Recent developments in herbal medicine provide strong evidence that advances in technology are fueling a greater effectiveness of nature's healing power. Technology is being used to refine, enhance, and intensify the power of herbal medicines.

This is evident in the development of purified standardized herbal extracts. These extracts contain a specified level of active compounds, thus producing not only a more consistent product, but also more consistent results. Now, there is another breakthrough in herbal medicine—the phytosome process.

What Is a Phytosome?

A phytosome is created by binding molecules of a herbal compound (flavonoids) to molecules of phosphatidylcholine, a natural component of lecithin. Phosphatidylcholine is found throughout the human body as an essential component of cell membranes.

The reaction of phosphatidylcholine with the herbal compounds creates new molecules known as phytosomes. These phytosome molecules contain the water-soluble flavonoids of the herbal compound on the inside surrounded by the fat-soluble fatty acids of the phosphatidylcholine molecules on the

outside.

Phytosomes are similar in many ways to the liposomes now widely used in cosmetics. One difference is size: liposomes, although composed of phosphatidylcholine, are much larger. And, more importantly, in liposomes, the phosphatidylcholine molecules are not actually bound to the internal molecules. In a liposome, the material is simply emulsified.

The phytosome process produces a completely new molecule that is better absorbed and utilized than a liposome. This is true in both oral as well as topical application.

Phosphatidylcholine: The Key to the Phytosome Process

Phosphatidylcholine is a very interesting molecule. It contains a water-soluble head (choline component) with two long, fat-soluble tails (phosphatidyl component). Because of this dual solubility, phosphatidylcholine is an extremely effective emulsifier. Emulsifiers are substances which can mix together two seemingly incompatible liquids, such as oil and water.

The emulsifying action of phosphatidylcholine is often used to greatly increase the absorption of fat-soluble vitamins and drugs. The new phytosome process applies this technology to plant

substances.

Phosphatidylcholine is more than an emulsifier. It is an important constituent of all cell membrane systems. It functions in maintaining the "fluidity" of our cellular membranes. Phosphatidylcholine plays a critical role in all membrane dependent metabolic processes.

For example, membrane-bound enzyme systems, such as those involved in energy production within specialized cell compartments known as mitochondria, depend on phosphatidylcholine for stimulation. If phosphatidylcholine levels are inadequate, these enzymes will not become active. Since the mitochondria produce energy for the entire cell, all cellular processes are adversely affected when this occurs.

Phosphatidylcholine is a widely used pharmaceutical preparation in Europe for the treatment of liver disease and elevated cholesterol levels. In liver disease, phosphatidylcholine protects and enhances liver function; in high cholesterol, it improves the transport of cholesterol to the liver where it can be broken down. In the United States, phosphatidylcholine is regarded as a food supplement because no therapeutic claims are made by manufacturers.

Why Phytosomes Are Better

The phytosome process not only

provides valuable phosphatidylcholine, it also intensifies the action of herbal compounds, by improving absorption, increasing biological activity, and enhancing delivery to the target tissue. Because of these effects, the phytosome is referred to as a delivery system.

Better Absorption

To illustrate the ability of the phytosome process to increase the absorption of herbal compounds let's look at its effect on silymarin, the active component of *Silybum marianum* (milk thistle). Silymarin is a potent liver-protecting substance useful in all types of liver disease and in psoriasis.

Although silymarin is quite effective clinically, it is not very bioavailable.

In contrast, binding one molecule of silymarin to two molecules of phosphatidylcholine in the phytosome process creates a highly bioavailable, new form of silymarin. The phytosome form is far superior to simple silymarin in every respect.

The phytosome process greatly enhances the absorption of silymarin. Furthermore, silymarin phytosome has been shown to deliver more silymarin to the liver. And, as mentioned previously, phosphatidylcholine also protects the liver from damage and enhances liver function. This combined effort is another reason why silymarin phytosome is preferred over simple silymarin extract

Greater Biological Activity

The phytosome process not only improves absorption of the herbal compound, it also enhances the biological activity. This has been clearly demonstrated in animal and human studies. For example, ginkgo phytosome has been shown to be more effective than simple ginkgo in restoring blood flow in people suffering from

arterial insufficiency. Researchers sought to determine the effectiveness of simple ginkgo biloba extract versus its phytosome form in individuals suffering from insufficient blood flow to the hands, legs, and feet. Ginkgo biloba extract standardized to contain 24% ginkgo flavoglycosides is widely used in France and Germany to improve blood flow in cases of cerebral and peripheral vascular insufficiency. The primary cause of insufficient peripheral blood flow is atherosclerosis (hardening of the arteries). In atherosclerosis, plaque progressively narrows and ultimately blocks the artery, resulting in decreased blood supply to the cells. A reduction in blood flow to an area means a lack of oxygen and a buildup of toxic metabolites and free radicals. The result is a painful type of cramp

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called intermittent claudication. It occurs most commonly in the calf muscle and is felt while walking.

Research has already shown that ginkgo biloba extract is very effective at scavenging free radicals. In addition to this antioxidant activity, ginkgo can improve blood flow and increase metabolic processes during decreased blood and oxygen supply. These abilities are responsible for ginkgo's usefulness in cases of arterial insufficiency.

To determine the effectiveness of ginkgo biloba extract (GBE) versus ginkgo phytosome (G-PHY), 88 patients with intermittent claudication were given either GBE or G-PHY. The results (see Figure 3) clearly demonstrate the superiority of G-PHY over GBE. Although both groups improved significantly, the one using ginkgo phytosome showed greater improvement. Similar results were observed in people suffering from Raynaud's phenom-

ena.

The longer the treatment with ginkgo phytosome, the better the results. The results at 12 weeks of therapy were much more obvious than at three or six weeks. This is consistent with other research which clearly shows that ginkgo biloba extract should be taken consistently for at least 12 weeks to determine effectiveness. Although most people report benefits within two to three weeks, some may take longer to respond.

