

ASHITABA, AN UNIQUE PLANT, EVEN AMONG MEDICINAL HERBS.

Ashitaba is commonly referred to as the "leaf of tomorrow" in the Izu Islands of Japan, whose population has long been known for their general longevity, vitality and health. Ashitaba, a member of the celery family, contains many amazing substances which are very good for the body. Only 100 grams of Ashitaba powder contains the vitamin A content of 4 carrots, the vitamin B content of 28 cloves of garlic, the vitamin C content of 4 lemons, iron content nine times that of spinach, the fiber content of 56 stalks of celery, and the protein equivalent to 1260 grams of milk. Ashitaba contains 11 vitamins, 13 minerals, and an abundance of chlorophyll, and more. Ashitaba is one of the few known plants that actually produce vitamin B12, normally produced only in animal life. Some of the most amazing substances contained in Ashitaba are special flavonoids called Chalcones, notably xanthoangelol, xanthoangelol E, and 4-hydroxyderricin, which give the sap of the plant a distinct yellow color. In 1998, xanthohumol was shown to inhibit the activity of the enzyme cytochrome P450, a component in the activation of the uncontrolled division of cancer cells (Anon. 1998). This research, conducted by Buhler (1999) looked at the effects of the flavonoids and chalcones of hops on cancer chemoprevention and cancer chemotherapy. Scientific research on the effects and benefits of these Chalcones has been ongoing for several years on a worldwide basis, although it is not a highly publicized area of discussion. Research indicates that the Chalcones in Ashitaba have anti-tumorigenic ¹, anti-bacterial ² and anti-viral properties. In the plant world, plants have ingenious methods to protect themselves from indigenous organisms in order to ensure health. Some of these substances can also assist the human body in warding off certain types of organisms.

HEALTH BENEFITS OF PRE-BIOTIC FIBER

Despite efforts to encourage higher consumption of fruits, vegetables and whole grains, Americans continue to fall short. These foods provide vital nutrients and fiber. Fiber promotes gut integrity by increasing fecal bulk and regulating transit time. Research has frequently indicated that low-fiber diets are associated with increased risk for digestive-tract cancers. Together, these facts present interesting opportunities for prebiotics. Prebiotics are "nondigestible food ingredients that beneficially affect the host by selectively stimulating the growth and/or activity of one or a limited number of bacteria in the colon," as defined by Gerald Tannock in *Probiotics and Prebiotics: Where are We Going?* They occur naturally and are commonly extracted from bananas, artichokes, onions, garlic, barley, wheat, chicory and tomatoes.

Prebiotic fiber stimulates and increases the number of beneficial bacteria and prevents the colonization of the intestine by invading pathogenic bacteria, such as Clostridium and E-Coli, or yeast, with which they compete for attachment sites and nutrients. In the colon, beneficial bacteria such as bifidobacteria ferment prebiotics to produce short-chain fatty acids (SCFA). SCFAs lower the intestinal environment's pH, providing an environment more conducive to mineral absorption (calcium, magnesium and zinc) and more hostile to harmful bacteria.

Ashi-Flora enhances the number of bifidobacteria in the GI tract, increasing the vitamin status, especially B & K, and helping to digest proteins, fats and carbohydrates. Additionally, prebiotics provide the same benefits associated with other fibers: increased fecal bulk, regulated bowel movements, and possible reduced colon cancer risk.

According to a study recently completed by the National Institute for Agricultural Research in Nantes, France, natural prebiotic fiber can have a significant, positive effect on colitis. Short-chain fructo-oligosaccharides used in the study reduced the duration and severity of colitis and helped diminish the anorexic effects of the disease. Colitis, which affects more than 2 million people worldwide, causes inflammation and ulceration of the colon and can result in malfunction of the immune system. Ashi-Flora™ stimulates growth of probiotics that produce short-chain fatty acids, vital components for activating immunity.



¹ Okayama, et al., *Anti-tumor promotion by principles obtained from Angelica Keiskei*, Department of Pharmacology and Phytochemistry, Meiji College of Pharmacy, Tokyo, Japan.

² Inamori, Y, et al., *Anti-bacterial activity of two Chalcones, xanthoangelol and 4-hydroxyderricin, isolated from Angelica Keisei Koidzumi*, Osaka University of Pharmacological Sciences, Japan, *Pharmacological Therapy*, 1991 Dec.