



HerbClip™

Shari Henson
Heather S Oliff, PhD
Densie Webb, PhD

Brenda Milot, ELS
Marissa Oppel, MS

John Neustadt, ND
Cathleen Rapp, ND

Executive Editor – Mark Blumenthal *Consulting Editors* – Dennis Awang, PhD, Steven Foster, Roberta Lee, MD

Managing Editor – Lori Glenn

Funding/Administration – Wayne Silverman, PhD *Production* – George Solis/Kathleen Coyne

FILE: ■ Obesity
■ Weight Loss
■ Insulin Sensitivity

HC 030256-285

Date: July 29, 2005

RE: Trade Review Article on Herbs Used for Improving Insulin Resistance and the Metabolic Syndrome

Kilham C. Herbs to fight fat and diabetes. *Functional Foods and Nutraceuticals*. February 2005;

<http://www.ffnmag.com/ASP/articleDisplay.asp?strArticleId=646&strSite=FFNSITE&Screen=CURRENTISSUE> (Accessed July 6, 2005).

Obesity is a public health concern in the United States, and millions of people try to lose weight each year through diet, exercise, hypnotherapy, and other means. Being overweight stresses the body in various ways. People who are overweight have imbalances in their endocrine system that lead to insulin resistance and the metabolic syndrome. Insulin is a hormone responsible for moving carbohydrates, the principle energy source for the body, into cells where it can be utilized. When cells are unable to use insulin, blood sugar rises. When blood sugar is elevated and the cells are unable use the sugar to make energy, sugars are converted by the liver into fat. Botanical supplements can help restore insulin sensitivity and improve the metabolic syndrome.

Four plants that increase insulin sensitivity are mentioned in this article. They are fenugreek (*Trigonella foenum-graecum*), Gymnema (*Gymnema sylvestre*), banaba (*Lagerstroemea* spp.), and bitter melon (*Momordica charantia*). Fenugreek helps control blood sugar by stimulating the release of insulin, and is used extensively in the treatment of diabetes. Supplementing with 15 g/day fenugreek "significantly reduced glucose levels after meals" in one human study.

Gymnema is also called gur-mar, or "sugar destroyer." It has the interesting ability to temporarily wipe out the ability to taste sugar when placed on the tongue, and to control blood sugar levels when ingested. It is native to India, where it has been used in Ayurvedic medicine for centuries. Gymnema leaves reduce blood glucose and stimulate insulin secretion. Similarly, banaba leaf also reduces blood glucose. Unlike fenugreek and gymnema, however, banaba does not appear to increase insulin secretion. Rather, it increases

the ability of the body to use the insulin it naturally produces. Banaba leaf contains corosolic acid, "reduced serum glucose in people with type 2 diabetes, but did not reduce serum glucose in healthy individuals." The recommended dose of banaba is 16–48 mg of corosolic acid daily. Animal studies have shown that banaba leaf reduces triglycerides, fat mass, serum insulin and urinary glucose excretion.

Bitter melon is also known as African cucumber, balsam pear, and bitter gourd. It has traditionally been used in Asian cultures to regulate blood sugar in diabetics, "and for colitis, dysentery, intestinal worms, jaundice, and fever." Bitter melon fruit contain chemicals, such as insulin-like peptides and alkaloids.

Two herbs are mentioned specifically for weight loss when combined with other herbs- yerba mate (*Ilex paraguariensis*) and guarana (*Paullinia cupana*). Both originate in South America. Yerba mate is cultivated in Paraguay, Brazil, and northern Argentina, while guarana is native to the Amazon rainforest in Brazil. Both are stimulants. Yerba mate leaves contain 0.56% caffeine and 0.03% theobromine, central nervous system (CNS) stimulant alkaloids. Theobromine is also a stronger cardiac stimulant. Yerba mate is also an appetite suppressant and diuretic. Guarana contains 2.5–7% caffeine, theobromine, and theophylline. Guarana is used extensively in South America in beverages. Traditionally, guarana was used "to relieve fatigue, boost energy, aid concentration and brighten mood." Approximately 15% of adults are sensitive to caffeine and have a low tolerance to these supplements. The author reports, however, that in people who are not sensitive to caffeine, "up to 300 mg/day caffeine is generally safe and beneficial for most adults."

—John Neustadt, ND

Enclosure: Referenced article reprinted with permission from New Hope Natural Media.

The American Botanical Council provides this review as an educational service. By providing this service, ABC does not warrant that the data is accurate and correct, nor does distribution of the article constitute any endorsement of the information contained or of the views of the authors.

ABC does not authorize the copying or use of the original articles. Reproduction of the reviews is allowed on a limited basis for students, colleagues, employees and/or members. Other uses and distribution require prior approval from ABC.