

# Revolutionary Herbal Approach to Weight Loss and Management

## How Garcinia Cambogia Promotes Loss of Body Fat

The active component of Garcinia cambogia for weight management is (-)Hydroxycitric Acid [(-)HCA]. The success of (-)HCA in promoting loss of body fat is linked to its relationship with citrate lyase, an enzyme needed for formation of acetyl Coenzyme A in the cytoplasm. Acetyl CoA is converted to malonyl CoA which provides the building blocks for fat synthesis. In the presence of (-)HCA, citrate lyase preferentially combines with the (-)HCA, leaving less of the enzyme available for formation of acetyl CoA.<sup>(2,9)</sup> The effects of this action in the body include:

- **Fat burning speeds up.** Malonyl CoA blocks the activity of the enzyme carnitine acetyltransferase. This enzyme's main function is to transport fats into the mitochondria where they can be burned for energy.<sup>(2,3)</sup>
- **Appetite is suppressed.** As fat oxidation in the liver is stimulated, gluconeogenesis increases. Increased gluconeogenesis and larger glycogen stores in the liver seem to signal the brain that the body is full.<sup>(2,6)</sup>
- **Metabolic rate increases.** Metabolic energy is necessary in order to synthesize new glucose. Thus, whenever gluconeogenesis is stimulated, metabolic rate increases.<sup>(2)</sup>
- **Stamina and endurance are enhanced.** The result of increased glycogen stores is enhanced stamina and endurance with no increase in body weight, especially body stores of fat.<sup>(2,6)</sup>

## Clinical Studies Show Effectiveness of (-)HCA

Malibar tamarind (*Garcinia cambogia*), also known as brindall berry, is a yellowish fruit about the size of an orange with a thin skin and deep furrows similar to an acorn squash. It is native to South India where it is dried and used extensively in curries. It has also been used historically in the Ayurvedic treatment of obesity. The dried fruit contains 20-30% (-)HCA.<sup>(1)</sup> The Super CitriMax used in Citri-Caps and Citri-Caps Plus is standardized to contain 60% (-)HCA.

At least seven clinical studies with higher order animals have shown that food intake is reduced by up to 46% after an oral dose of (-)HCA. No rebound eating stimuli was observed after discontinuation. W.A. Sergio, author of a review article on Garcinia cambogia, tried eating the fruit of the malabar tamarind and found it to be extremely effective in reducing appetite. He reported a loss about 1 lb. of weight daily without dieting and a sustained increase in energy.<sup>(1,6)</sup>

### CITRI-CAPS® Herbal Combination

Product No. 722      Fill Size: 90 Capsules  
Each capsule contains:      % Daily Value  
Chromium (as chromium nicotinate) - - - - - 65 mcg.      54%  
Super CitriMax® (*Garcinia cambogia*) Standardized to contain 60% (-)Hydroxycitric Acid) - - - 333 mg.      \*  
Atractylodes Root (*Atractylodes lancea*) - - - - 50 mg.      \*  
Advantra Z® (*Citrus aurantii*)(fruit) - - - - - 50 mg.      \*  
Other ingredients: gelatin, rice flour, magnesium stearate.  
**RECOMMENDED USE:** 1 capsule 30-60 minutes before each meal.

### CITRI-CAPS PLUS™ Herbal Combination with Ma Huang and Yerba Maté

Product No. 728      Fill Size: 90 Capsules  
Each capsule contains:      % Daily Value  
Chromium (as chromium nicotinate) - - - - - 65 mcg.      54%  
Super Citrimax® (*Garcinia cambogia*) Standardized to contain 60% (-)Hydroxycitric Acid) - - - 333 mg.      \*  
Ephedra Extract\*\* (*Ephedra sinica*) - - - - - 200 mg.      \*  
Yerba Maté - - - - - 75 mg.      \*  
Atractylodes (*Atractylodes lancea*) - - - - - 50 mg.      \*  
Advantra Z® (*Citrus aurantii*) - - - - - 50 mg.      \*  
Other ingredients: gelatin, rice flour, magnesium stearate.  
**RECOMMENDED USE:** 1 capsule 30-60 minutes before each meal.  
\* Daily Value not established.  
**\*\*SEE EPHEDRA WARNING ON BACK.**  
Advantra Z is a registered trademark of Nutratech.  
Super CitriMax is a registered trademark of InterHealth.

- **Fat production is inhibited.** A diminished quantity of malonyl CoA in the cytoplasm inhibits production of fat and cholesterol.<sup>(2)</sup>
- **Protein is spared.** Studies show that (-)HCA stimulates fat burning and at the same time slows the rate at which protein is oxidized. Consequently, loss of lean tissue is minimized.<sup>(2)</sup>

In addition, (-)HCA does not appear to inhibit brown fat formation.<sup>(1)</sup> In animal studies, (-)HCA did not inhibit basal rates of brown-fat lipogenesis in starved rats, but suppressed the increases in lipogenesis and glucose utilization observed in response to insulin. As basal rates of lipogenesis were not inhibited by (-)HCA, it is suggested that acetate rather than citrate may be a lipogenic substrate for brown fat.<sup>(5)</sup> (-)HCA also produced a significant reduction in food intake, body weight and serum triglyceride levels in rats.<sup>(7)</sup>

# Combination of Ingredients Increases Effectiveness

**Chromium**, a key mineral in the Glucose Tolerance Factor (GTF), helps regulate blood sugar levels by increasing insulin efficiency. Chromium has been shown to enhance body building programs by increasing lean muscle mass while decreasing the percentage of body fat.<sup>(2)</sup>

The combination of *Garcinia cambogia* and chromium nicotinate is ideal because of their synergistic action. In a two month study of 22 obese volunteers on a

calorie restricted diet, those who took an (-)HCA/chromium supplement lost an average of 11 pounds compared to 4 pounds in the placebo group.<sup>(9)</sup>

**Advantra Z** (*Citrus aurantii*) contains a rare composition of five amines that breakdown fat and increase metabolic rate to burn calories without negative central nervous system and cardiovascular effects.<sup>(8)</sup>

**Atractylodes** (*Atractylodes lancea*) is added as a mild diuretic to combat fluid retention.

## Citri-Caps Plus Adds Ma Huang\*\* and Yerba Maté

The Chinese herb **Ma Huang** (*Ephedra sinica*) may be useful as a weight loss aid because of its ability to stimulate thermogenesis. A certain amount of ingested food is converted immediately to heat (diet induced thermogenesis). In lean individuals, a meal may increase thermogenesis up to 40%. In contrast, obese individuals often display only a 10% or less increase. The food energy is stored (as fat) rather than being converted to heat.<sup>(1)</sup>

The reason for decreased thermogenesis in obese individuals is impaired sympathetic nervous system activity. This portion of the nervous system controls many body functions including metabolism. In other words, the reason why many obese individuals have a "slow metabolism" is lack of stimulation by the sympathetic nervous system. Ephedra can activate the sympathetic nervous system, thereby increasing metabolic rate and thermogenesis.<sup>(1)</sup>

**Yerba Maté** is native to South America where it is used as a tea and reported to reduce fatigue. The leaves are rich in vitamins and minerals and also contain matein, a central nervous system stimulant. According to Daniel B. Mowrey, Ph.D., author of **The Scientific Validation of Herbal Medicine**, yerba maté strengthens the immune system, alleviates allergy and hay fever, overcomes constipation, and is "the most powerful rejuvenator known to man."<sup>(10)</sup>

Patients of Dr. Joanne Carson, a metabolic therapist in Los Angeles, reported losing about one pound per week during the first month of drinking yerba maté tea, with no other lifestyle changes. Dr. Carson explains that the weight loss may be due to the mild diuretic properties of the herb; however, another plus was that after drinking copious amounts, their skin looked younger.<sup>(10)</sup>

Another yerba maté enthusiast, Dr. John Helton, a chiropractic physician in Portland, Oregon, reports that his diabetic patients who drink the tea have been able to cut back on insulin.<sup>(10)</sup>

### Additional Recommendations

The ability of (-)HCA to promote fat loss in humans results from increased fat oxidation. Malonyl Coenzyme A inhibits the enzyme carnitine acetyltransferase which transfers fat into the mitochondria where it is burned to produce energy. When malonyl Coenzyme A levels are reduced, more of this enzyme is activated. The amino acid L-carnitine also facilitates activation of this enzyme. To promote maximum oxidation of fatty acids and subsequent loss of body fat, some researchers recommend that individuals who take (-)HCA also take L-carnitine supplements two or more hours after a meal when blood glucose is at fasting levels.<sup>(2)</sup>

WARNING: This information is provided for health care professionals only. **This publication and the product contained herein have not been approved or evaluated by the Food and Drug Administration. This publication, and the product contained herein are not intended to diagnose, treat, cure or prevent any disease.** The product relates to nutritional support only.

**\*\*EPHEDRA WARNING:WARNING: SALE TO, OR USE BY, PERSONS UNDER THE AGE OF 18 IS PROHIBITED. DO NOT USE IF PREGNANT OR NURSING. CONSULT A PHYSICIAN OR LICENSED QUALIFIED HEALTH CARE PROFESSIONAL BEFORE PRODUCT USE IF YOU HAVE, OR HAVE A FAMILY HISTORY OF HEART OR THYROID DISEASE, DIABETES, HIGH BLOOD PRESSURE, RECURRENT HEADACHES, DEPRESSION, ANY PSYCHIATRIC CONDITION, GLAUCOMA, DIFFICULTY URINATING, ENLARGED PROSTATE, SEIZURE DISORDER, IF YOU ARE USING A MONOAMINE OXIDASE (MAO) INHIBITOR OR ANY OTHER DIETARY SUPPLEMENT, PRESCRIPTION DRUG OR OVER-THE-COUNTER DRUG CONTAINING EPHEDRINE, PSEUDOEPHEDRINE OR PHENYLPROPANOLAMINE (INGREDIENTS FOUND IN CERTAIN ALLERGY, ASTHMA, COUGH/COLD AND WEIGHT CONTROL PRODUCTS). EXCEEDING RECOMMENDED SERVING MAY CAUSE SERIOUS ADVERSE HEALTH EFFECTS INCLUDING HEART ATTACK AND STROKE. DISCONTINUE USE AND CALL A PHYSICIAN IMMEDIATELY IF YOU EXPERIENCE RAPID HEARTBEAT, DIZZINESS, SEVERE HEADACHE, SHORTNESS OF BREATH OR OTHER SIMILAR SYMPTOMS. INDIVIDUALS WHO CONSUME CAFFEINE WITH THIS PRODUCT MAY EXPERIENCE SERIOUS ADVERSE HEALTH EFFECTS.**

### REFERENCES

1. Werbach M, Murray M, **Botanical Influences on Illness**, Third Line Press, Tarzana, CA, 1994
2. Majeed M, Rosen R, McCarty M, Conte A, Patil D, Butrym E, **Citrin®—A Revolutionary Herbal Approach to Weight Management**, New Editions Publishing, Burlingame, CA, 1994.
3. Watson J, Pang M, Lowenstein J, "Tricarbal lylate and hydroxycitrate: substrate and inhibitor of ATP citrate oxaloacetate lyase", *Arch Biochem Biophys* 135:209-17, 1969.
4. Watson J, Lowenstein J, "Citrate and the conversion of carbohydrate to fat", *J Biol Chem* 245:599, 1970.
5. Dugden M, et al, "Brown-adipose-tissue lipogenesis in starvation: effects of insulin and (-)hydroxycitrate", *Biosci Rep* 2(6):289-97, 1982.
6. Sergio W, "A natural food, the Malabar Tamarind, may be effective in the treatment of obesity", *Med Hypotheses* 27(1):39-40, 1988.
7. Rao R, Sakariah, K, "Lipid-lowering and antiobesity effect of (-)hydroxycitric acid", *Nutr Res* 8:209-212, 1988.
8. Germano C, **Advantra Z : The Natural Alternative for Weight Loss**, Kensington.
9. Chichoke A, "The Challenge of an Obese Patient" *Dynamic Chiropractic*, Jan 3, 1995, p. 20-21.
10. Heimlich, Jane, "Tonic Teas — Drink Them for Pleasure and for Health", *Health and Healing*, October, 1992.

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