

## Some literature publications in support of Super C Plus with Hesperidin Complex

### Potassium and Magnesium Aspartate

Effects of Magnesium Potassium Aspartate on the Capacity for Prolonged Exercise in Man. *Acta Physiologica Scandinavica*, Vol. 74: 238-245, 1968. The effect of potassium magnesium aspartate on the capacity for continuous, prolonged endurance exercise showed increases in exercise time of 50%.

Treatment of Fatigue with Aspartate Acid Salts. *Northwest Medicine*, Vol. 60: 597-603, 1961. Results indicate that potassium and magnesium aspartate are physiologically effective. It is notable that regardless of the source or type of fatigue that potassium magnesium aspartate is helpful.

Management of Fatigue: A Physiologic Approach. *American Journal of the Medical Sciences*, Vol. 243(6): 88-109, 1962. Eighty-six (86%) of the group treated with magnesium potassium aspartate reported they felt better, were more able to cope with or daily activities, and were not fatigued after a full days schedule.

### Guarana

The effects of long-term administration of guarana on the cognition of normal, elderly volunteers. (Galduroz JC, Carlini EA. Federal University of Sao Paulo, Brazil. *Rev Paul Med*. 1996 Jan-Feb; 114(1):1073-8).

Paulinia cupana (guarana) is a Brazilian plant given great prestige in popular medicine, for example as being a potent stimulator of brain functions. The authors assessed the effects of the long-term administration of guarana on the cognition of normal, elderly volunteers. Forty-five volunteers were studied, with a random distribution in three experimental groups: placebo, caffeine, and guarana, in a double-blind study. There were no significant cognitive alterations in these volunteers.

Weight loss and delayed gastric emptying following a South American herbal preparation in overweight patients.

Andersen T, Fogh J. Medical Center Charlottenlund, Trunnevangen 4A, DK 2920, Charlottenlund, Denmark. *J Hum Nutr Diet*. 2001 Jun; 14(3):243-50.

Effect of guarana ingestion in humans

A double-blind, placebo-controlled, multi-dose evaluation of the acute behavioural effects of guaraná in humans.

*J Psychopharmacol*. 2007 Jan. Human Cognitive Neuroscience Unit, Division of Psychology, Northumbria University, Newcastle upon Tyne, UK.

The present study aimed to systematically assess acute, dose-related effects of an extract of guaraná plant for the first time in humans. This double-blind, counterbalanced, placebo-controlled study assessed the acute mood and cognitive effects throughout the day of four different doses (37.5 mg, 75 mg, 150 mg and 300 mg) of a standardised guaraná extract (PC-102). Guaraná improved secondary memory performance and increased alert and content mood ratings. The two lower doses produced more positive cognitive effects than the higher doses. This research supports previous findings of cognitive improvements following 75 mg guaraná and provides the first exploration of different dose effects of guaraná in humans. The findings suggest that the effects cannot be attributed to caffeine alone.

Some researchers claim that part of the revitalizing effects of guarana may result from its antioxidant action. (Mattei R, Dias RF, Espinola EB, Carlini EA, Barros SB. Guarana ( Paullinia cupana ): toxic behavioral effects in laboratory

The appetite suppressant and energy-inducing effects are related to the caffeine content. Numerous investigational studies have shown the sympathetic stimulant ephedrine, when combined with caffeine, to have a synergistic effect on increasing metabolic rates with subsequent increased energy expenditure (thermogenesis), and to have lipolytic actions. (Breum L, Pederson JK, Ahlstrom F, Fridmodt-Moller J. Comparison of an ephedrine/caffeine combination and dexfenfluramine in the treatment of obesity. A double-blind multi-centre trial in general practice. *Int J Obes Relat Metab Disord* . 1994;18:99-103.)

These effects have resulted in statistically significant weight loss in animal and human trials when combined with diet.

The indigenous people of the Amazon rain forest have used crushed guaraná seed as a beverage and a medicine. Guaraná was used to treat diarrhea, decrease fatigue, reduce hunger, and to help arthritis.<sup>1</sup> It also has a history of use in treating hangovers from alcohol abuse and headaches related to menstruation.

As with any caffeinated product, guaraná may cause insomnia, trembling, anxiety, palpitations, and urinary frequency (Gruenwald J, Brendler T, Jaenicke C, et al. (eds). *PDR for Herbal Medicines*. Montvale, NJ: Medical Economics, 1998, 1017–8. Guaraná should be avoided during pregnancy and breast-feeding.

1. Duke JA. *CRC Handbook of Medicinal Herbs*. Boca Raton, FL: CRC Press, 1985, 349.
  2. Leung AY, Foster S. *Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics*, 2d ed. New York: John Wiley & Sons, 1996, 293–4.
  3. Galduroz JC, Carlini EA. The effects of long-term administration of guaraná on the cognition of normal, elderly volunteers. *Rev Paul Med* 1996;114:1073–8.
  4. Duke JA. *CRC Handbook of Medicinal Herbs*. Boca Raton, FL: CRC Press, 1985, 349.
  5. Gruenwald J, Brendler T, Jaenicke C, et al. (eds). *PDR for Herbal Medicines*. Montvale, NJ: Medical Economics, 1998, 1017–8.
-