

Green Mate for Energy, Weight Control and More

by Dallas Cloutre, Ph.D.

Many Americans are looking for energizers that go beyond the daily grind to supply antioxidant and other benefits. This search has fueled interest in green tea extracts not only because that beverage fights free radicals along with fatigue but also because its energy boost is less “ragged” than that supplied by coffee

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and it increases the body's metabolism beyond the effects found with caffeine alone.

Now a new “green” beverage extract is making its way onto shelves. Green Mate,

which is unfermented yerba maté, already has drawn attention in Europe, including official recognition in the *German Commission E Monographs*. Its American journey has only just begun.

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Green Mate is related to typical yerba maté much as green tea is to black tea. Just as black tea has been fermented, whereas green tea has not, traditional maté is often aged for up to 12 months. Volatile and unstable compounds, such as antioxidants, are either destroyed or greatly changed by slow fermentation and by other procedures used to stabilize the herb. The parallel between tea and maté as beverages is very strong. Of the 196 volatile chemical compounds found in yerba maté, 144 are also found in tea. Fermentation is especially destructive to the caffeoylquinic acids, including chlorogenic acid, that give maté much of its antioxidant “punch” and its digestive benefits. Green Mate is especially rich in antioxidants—much more so than its fermented cousin—and it is a natural source of a mineral noted for improving sugar metabolism.

TRADITIONAL USES

South American traditional herbal systems employ yerba maté as a tonic, diuretic,

stimulant (to reduce fatigue) and as an aid to gastric functions. It also is used to promote internal cleansing and the elimination of wastes from the body. In Europe it is used for weight loss and to combat physical and mental fatigue. In Germany it is the subject of an official monograph that lists its uses as including mental and physical fatigue. In France, yerba maté is approved for the lack of energy and as an aid in weight-loss programs, among its other functions. Similarly, in the *British Herbal Pharmacopoeia* (1996) it is indicated for the treatment of fatigue, for use in weight loss, etc. Yerba maté now is cultivated even in India and is listed in the Indian *Ayurvedic Pharmacopoeia*.

MODERN RESEARCH: ACTIVE INGREDIENTS PROMOTE DIGESTIVE HEALTH

The traditional uses of yerba maté enjoy support from modern research, which has uncovered the presence of a number of active compounds. The most important of these are known as caffeoylquinic acids, which include chlorogenic acid. These are powerful antioxidants that also are found in artichoke extracts and likely play a role in the digestive benefits associated with the intake of maté. Chlorogenic acid is linked to the improved secretion of bile and may inhibit the actions of toxins upon the liver. Bile is produced by the liver and stored. It is released by the gall bladder as needed for the digestion of fats. Insufficient bile flow is a common cause of many digestive disturbances. Cholagogues (substances that increase bile flow) aid digestion, especially in cases of overindulgence and the consumption of excessive alcohol. *One caveat, however, is in order. Individuals with gall bladder disease or bile duct blockage should not consume Green Mate extract.*

Green Mate, which presently is available from Jarrow Formulas® and only a few other companies, is a standardized 5:1



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extract supplying not less than 20 percent caffeoylquinic acids, including five percent chlorogenic acid. Because Green Mate is not fermented, these active ingredients are present in the amounts at least twice those found in ordinary maté.

PROVEN ANTIOXIDANT PROTECTION

Scientific studies performed in Europe and North America have demonstrated that maté exerts significant antioxidant activity. Not only the caffeoylquinic acids but also other antioxidant phytochemicals found in maté leaves may be protective. The water extract of maté used in a test tube study designed to discover the nature of this antioxidant protection showed greater protection than vitamin C, the best known water-soluble antioxidant. Maté extract, as well, turned out to be more protective than butylated hydroxytoluene (BHT), an artificial antioxidant often tested in such studies to provide a convenient yardstick of activity.

An *in vitro* or test tube study showed that yerba maté inhibits the formation of advanced glycation end products (AGEs). The formation of AGEs is thought to play a part in the devel-

opment of diabetic complications and is yet another marker to antioxidant protection. Clinical studies indicate yerba maté leaf inhibits lipoxygenase, an enzyme involved in inflammation. Maté extract, similarly, inhibits lipid (fat) peroxidation; this was recently proven in a human study. LDL (low-density lipoprotein) oxidation was decreased in this trial. Inasmuch as the oxidation of LDL is considered to be an initiating factor in damage to artery walls and the formation of plaques, this is an important health finding.

Research has shown maté to be comparable to green tea in terms of total polyphenol content. Comparative tests show even better free radical scavenging in some models. Overall, maté is on par with green tea in providing antioxidant protection. Green maté supplies approximately twice the amount of protective polyphenols found in ordinary maté.

A SAFER, GENTLER ENERGY TONIC FOR FAT METABOLISM

Yerba maté traditionally has been used to combat fatigue. This benefit is explained in part by the small amount of caffeine found in the herb—roughly the same amount as is

found in tea—plus theobromine (found in chocolate) and some related compounds. However, the presence of this small quantity of caffeine does not explain the effect of the herb on fat metabolism. Swiss researchers performed a human study (published in 1999) that suggested that yerba maté might be beneficial as an aid to fat loss. In this trial there was a drop in respiratory quotient, a marker that indicates a rise in the proportion of the body's energy that is derived from fat as a fuel source. This result is similar to that widely publicized for green tea. Of the twelve different commercial plant preparations claimed to be effective against obesity tested in this trial, only maté gave evidence of a thermogenic effect.

A much harder to explain effect found when maté is taken in combination with certain other herbs is a change in appetite. In a clinical study, yerba maté was given in combination with the plants guaraná and damiana. This combination prolonged gastric emptying (slowed down how quickly food left the stomach) and led to reduced food intake and lessened body weight. Inasmuch as the individual herbs were not tested separately, it is not known whether maté taken by itself might actually have some of this effect.

Along with its antioxidant and energizing benefits, maté may be useful for yet another reason. The beverage supplies the mineral manganese, which is important for carbohydrate metabolism and thyroid regulation. Manganese is another component that maté has in common with green and black teas.

CONCLUSION

Move over, green tea? Perhaps. It is certainly true that the field of antioxidant-rich extracts from health beverages has just gotten more crowded. Green Mate offers the benefits of ordinary maté, but in more concentrated form. These benefits include first class free radical scavenging, protection of cholesterol against oxidative damage, and a reduction in advanced glycation end products (AGEs). Green Mate is a tonic to digestive health and a proven energizer. As an added bonus, Green Mate promises to be a safe means of increasing thermogenesis and daily caloric expenditure. Whether you are a dieter or an early riser looking to ingest some health benefits along with the daily grind, Green Mate is worth a try. □

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