

YerbaMate': Unequaled Natural Nutrition

Legends of the Guarani Indians

The natural use of yerbamate' among the native Guarani is for healthful purposes. They use it to boost immunity, cleanse and detoxify the blood, tone the nervous system, restore youthful hair color, retard aging, combat fatigue, stimulate the mind, control the appetite, reduce the effects of debilitating disease, reduce stress, eliminate insomnia, and so forth.

In this booklet we will explore the properties of yerbamate' in an effort to see if it qualifies for the accolades it has received down through the centuries..

Description of Yerbamate'

Mate' (*Ilex paraquariensis*) is an evergreen member of the holly family. It goes by several common names, including Paraguay tea, Jesuit tea, missionary tea and South American holly. It grows wild in Argentina, Chile, Peru, and Brazil, but is most abundant in Paraguay where it is also cultivated. The leaves are used nutritionally and medicinally; they are usually ground and steeped in hot water for several minutes and served hot or cold. The plant is classified according to Western herbal medicine as aromatic, stimulant, bitter, aperient, astringent, diuretic, purgative, sudorific, febrifuge, alterative and stimulant, but these terms sometimes miss the mark entirely, as we shall see.

Constituents

Several attempts to characterize part or all of the constituents of mate' have been made during the last few decades. They agree on some points, and disagree on others. This is not unusual; different assay techniques will be sensitive to different nutrients. The one thing that unites the various assays is the consistent detection of numerous vitamins and minerals. There is the usual array of resins, fiber, volatile oil, and tannins that characterize many plant substances. **But then there is the growing list of vitamins and minerals, including carotene, vitamins A, C, E, B1, B2, B complex, riboflavin, nicotinic acid, pantothenic acid, biotin, vitamin C complex, magnesium, calcium, iron, sodium, potassium, manganese, silicon, phosphates, sulphur, hydrochloric acid, chlorophyll, choline, inositol.** Different assays find different nutrients; there is probably no single assay that has found all of them. There are certainly still other nutrients that have not been identified as yet.

One group of investigators from the Pasteur Institute and the Paris Scientific Society concluded that mate' contains practically all of the vitamins necessary to sustain life. They focused especially on pantothenic acid, remarking that it is rare to find a plant with so much of this significant and vital nutrient. It is indeed difficult to find a plant in any area of the world equal to mate' in nutritional value.

In addition, mate' contains a substance belonging to a very specialized class of chemical compounds. Though only small amounts of this substance occur in mate', its presence has generated a huge amount of attention. The substance is a xanthine alkaloid called mateine. Because of all the attention heaped upon its presence in yerbamate', the following fairly extensive treatment is given, even though in reality the substance probably contributes little if anything to the activity of the plant.

Yerbamate' and the Xanthine Alkaloids Does It Contain Any Caffeine?

[From "Yerba Mate: Unequaled Natural Nutrition by Daniel Mowry, PhD]

The xanthines draw a lot of attention because they number among them some traditional nasties, chief of which is caffeine. Others are theophylline and theobromine. All of the xanthines have a similar stereo-chemistry but each has its own unique set of properties. For many years, and even now, in some sectors, yerbamate' was (is) thought to contain caffeine. It turns out that mateine is not identical to caffeine; it

differs from caffeine in some rather dramatic ways. Some members of the scientific community still resort to calling mateine a South American term for caffeine, or to maintaining, in perfect knowledge of the falseness of the assertion, that two substances so similar chemically must have the same properties. Slowly, they are being forced to acknowledge the distinction between mateine and caffeine.

Modern studies seem to validate the difference between mate' and other xanthines- containing plants, such as guarana. Stereo- chemical and clinical work on xanthines in the last couple of decades have shown that, though similar in structure, the members of this class have widely varying pharmacology. In fact, there is only one effect that seems to be shared by all trimethyl xanthines: smooth muscle relaxation. It is this action that makes them with the exception of caffeine, whose smooth muscle relaxant effects are diminished by other side effects, good clinical dilators of the bronchi and hence useful in the treatment of asthma.

"Over the past year, I have been giving the Yerba mate' tea to my patients who need to stop using caffeine-containing products for health reasons. I have had good feedback on the results. I like having a healthful substitute for coffee, tea and colas to offer them." K.L.P., M.D.

Chemical assays on mate' have traditionally looked for caffeine, and in such tests mateine, being a simple stereo- isomer of caffeine, would test positive. Until recently nobody has looked at the exact structure of the molecule- - and, to my knowledge, nobody in the United States has ever made the attempt. Researchers at the Free Hygienic Institute of Homburg, Germany, concluded that even if there were caffeine in mate', the amount would be so tiny that it would take 100 tea bags of mate' in a six ounce cup of water to equal the caffeine in a six ounce serving of regular coffee. They make the rather astute observation that it is obvious that the active principle in yerbamate' is not caffeine! But then, we know for sure it is not caffeine, for caffeine is not present at all.

Mateine, then, has a unique pharmacology and it is unfair to compare it to caffeine (incidentally, guarana may not contain caffeine either- - it may contain something that could be called guaranine- - however that substance looks like it is more deleterious than caffeine!). Mateine appears to possess the best combination of xanthine properties possible. For example, like other xanthines, it stimulates the central nervous system, but unlike most, it is not habituating or addicting. Likewise, unlike caffeine, it induces better, not worse, attributes of sleep. It is a mild, not a strong, diuretic, as are many xanthines. It relaxes peripheral blood vessels, thereby reducing blood pressure, without the strong pressor effect on the medulla and heart exhibited by some xanthines. We also know that it improves psychomotor performance without the typical xanthine- induced depressant after effects.

Dr. Jose Martin, Director of the National Institute of Technology in Paraguay, writes, "New research and better technology have shown that while mate'ine has a chemical constituency similar to caffeine, the molecular binding is different. Mateine has none of the ill effects of caffeine." And Horacio Conesa, professor at the University of Buenos Aires Medical School, states, "There is not a single medical contraindication" for ingesting mate'. Clinical studies show, in fact, that individuals with caffeine sensitivities can ingest mate' without adverse reactions.

The time has come, therefore, to discard the outmoded ideas that (1) xanthines are all alike, (2) that yerbamate' contains caffeine, and (3) that mateine is identical with caffeine. It would be tragic indeed if nature created such a beneficial plant and then, through some bizarre quirk, contaminated it with caffeine. It is more likely that mate' is, as some say, "Natures most perfect beverage," or, as others maintain, "the beverage of the Gods."

Summarizing the clinical studies of France, Germany, Argentina and other countries, it appears that we may be dealing here with the most powerful rejuvenator known to man. Unlike the guarana of the Tupi, the coca of the Incas, the coffee of India, or the tea of China, mate' rejuvenates not by the false hopes of caffeine, but simply through the wealth of its nutrients.

Gastrointestinal Properties

Perhaps the main area of application of mate' is the gastrointestinal tract. Reported effects range from the immediate improvement in digestion to the ability to repair damaged and diseased gastrointestinal tissues.

Constipation, acute or chronic, can easily be overcome through the use of mate'. Considering the seriousness of this health problem in the United States and other developed countries, a simple and effective solution such as drinking a pleasant beverage should be a welcome addition to treatment regimens. Mate' appears to work mainly by softening the fecal mass, but it also appears to stimulate normal peristalsis to some degree.

"Before we became acquainted with Yerba mate', three out of the five members of our family suffered from constipation and hemorrhoids. Now that we have added mate' to our daily diet, not one of us suffers from either of these problems."

Sometimes, hemorrhoidal relief can also be obtained through drinking the tea, since the bowel movement will reduce the pressure on blood vessels caused by the hard stool.

Dieters use mate' to suppress the appetite, while providing necessary nutrition, energy and improved elimination to compensate for a reduction in ingested calories.

Usage Recommendations

One effective method is to drink 2-3 cups per day for 4-5 days. Another approach is to steep about two tablespoons 4-5 minutes in 16-32 ounces of water, and drink this daily, first thing in the morning on an empty stomach. Dieters drink one cup of tea 10-15 minutes before meals.

"For several years I have had to take antacids because of a digestive problem. I have discovered that when I drink Yerba mate' daily, I do not have any need for medications. I feel so much better! I seem to have much more energy too."

"I have recently discovered that...yerbamate' (3 cups a day) is absolutely remarkable in helping patients of mine lose weight quickly and safely... an average of 10 pounds in less than 3 weeks WITHOUT changing their normal diet or doing any extra exercise other than 20 minutes of walking every day. Other advantages...: reduction of allergies, firmer and smoother skin tone, increased energy levels and increased circulation..."

"Yerbamate'...gives me energy and I am losing weight using it. It suppresses my appetite and even though the pollen count is in the severe level I am not sneezing. I love it!"

Mate', Fatigue and the Nervous System

Better than any other xanthine alkaloid, mate' has the ability to quicken the mind, increase mental alertness and acuity, and do it without any side effects such as nervousness and jitters. These observations have been made time and again by qualified medical experts as well as by the lay user.

The effects of mate' on the nervous system are varied and not very well understood. The best guess is that it acts like a tonic, stimulating a weakened and depressed nervous system, and calming an overexcited one. Certainly the nutritional value of the plant cannot be overlooked as a possible substrate for improved health and function. Our knowledge of mate's effects are currently limited almost exclusively to observations on gross changes in behavior: such as an increase in energy and vitality, better ability to concentrate, less nervousness, agitation and anxiety, and increased resistance to both physical and mental fatigue.

"Since I've been drinking (mate') tea, I have found energy I didn't know I had. I generally feel better...I was sluggish, had headaches daily and basically was rundown. I tried different vitamins but none of them seemed to work. The tea has relieved all of my problems and most of all I feel better knowing that it is completely natural, no harsh drugs or stimulants."

"The (mate') tea does produce a feeling of general well being and is a reliable pick me up. It literally conquers fatigue! We love to drink it in the morning to start our day out refreshed without consuming unhealthy amounts of caffeine or sugar."

One consistent observation is the improvement in mood, especially in depression, that follows the ingestion of the tea. This may be a direct result, or it may be an indirect result of increased energy.

Reported improvements in memory have not been substantiated experimentally or clinically, but are logical, and may again be attributed to the nutrients, especially choline, an important central nervous system neuro-transmitter.

One of the remarkable aspects of mate' is that it does not interfere with sleep cycles; in fact, it has a tendency to balance the cycles, inducing more REM sleep when necessary, or increasing the amount of time spent in delta states. Many people report that they require less sleep when using mate'; usually such an experience is accompanied by a deeper, more relaxing sleep.

The non-addicting nature of mate' makes it an ideal substitute for people who are trying to kick the caffeine habit.

Cardiovascular Effects

Heart ailments of all kinds have been treated and/or prevented through yerbamate; use. Yerbamete' supplies many of the nutrients required by the heart for growth and repair. In addition, it increases the supply of oxygen to the heart, especially during periods of stress or exercise. This prevents the onset of lactic acid build-up and fatigue that occur when cellular oxygen levels fall below a critical point and low-energy producing, anaerobic glycolysis sets in.

Reports of mate' reducing blood pressure are not uncommon.

"I am 65 years old and have been suffering with blockage of the arteries. One of the arteries in my neck was closed 50% and the other one 45%. After drinking these teas for several weeks my doctor informed me that the arteries were both open and almost normal (and) that my heart is also now functioning almost normally (and) that I should discontinue the pills for circulation and the pills for the arteries."

Mate also belongs to that class of herbal medicines called alteratives. That is, it seems to be continually striving to rid the blood of waste materials and miscellaneous toxins.

Effects on the Immune System

A consistent observation in most South American literature on mate' is that it increases the immune response capability of the body, stimulating the natural resistance to disease. This also involves a nourishing and strengthening effect on the ill person, both during the course of the illness and during convalescence, sometimes dramatically accelerating recovery times.

Exact mechanisms of action have not been worked out, but they must certainly involve both a direct antimicrobial action against certain infectious organisms, and a general nonspecific effect on overall resistance. The nutritional content of the plant probably plays a major role here, but it is also probable that other constituents contribute to the action by stimulating the production and activity of white blood cells.

"The thing we appreciate most about the mate' is that we have found that all of us are not sick as often as we used to be, and when we do catch a bug it is not as severe or long term as it was before... We believe this is due to the high nutrient content of the tea."

Nutritional Properties

As discussed in the section on constituents, mate' contains a wide variety of essential nutrients. The interactions and synergy among these nutrients have never been systematically studied. But the stories surrounding the nutritional applications of mate' tea are nothing short of amazing.

Mate' is often used as a staple food, sometimes substituting for such important foods as bread and vegetables. It is easily capable of eliminating the sensation of hunger, and can impart a similar invigoration as a full meal. Peace Corps workers have reported cases in which large groups of natives remain in good health for extended periods of drought and famine, even though they eat only one small meal per day. How so? By drinking copious amounts of yerbamate' tea. Some natives spend their entire lives on such a diet, and live to very advanced ages, sometimes in excess of 100 years.

South American governments have adopted the practice of encouraging mothers, especially in the poorer regions, to include yerbamate' in the diet of their school age children.

"...I began drinking yerbamate' after about a three year illness. At the time I was at a point of pretty good recovery, but was having so much trouble with tenseness, sleeping or even resting. I...began taking four to six cups a day. I was overjoyed when within 24 to 48 hours, I was able to lay down and actually rest and drop off to sleep. Much to my surprise, within about three weeks my hair...started to perk up, gain body and return to normal."

North American and European missionaries sent to the river forests of Paraguay and Brazil routinely report periods where they themselves have gone for months at a time subsisting only on yerbamate' tea with no observable ill effects other than some weight loss.

Sailors routinely use mate' to prevent scurvy, but that alone doesn't signify a great deal. Much more interesting are reports of mate's ability to increase the sailors' ability to adapt to the hot, humid, stultifying environments of furnace rooms, galleys, boiler rooms, etc. In fact, this is an extraordinary attribute of mate' in general. One of the best ways to adapt to the jungle climate of South America is the frequent drinking of mate' tea.

There is the story of a telegram sent during the Russo- Japanese war that stated that the only Japanese regiments that did not suffer from foot infections, apparently caused by rice consumption (?), were those that drank mate' tea instead of the normally and widely ingested tea or coffee. Similar nutritional benefits have been reported by the medical researchers in the Italian army who observed the rejuvenating effects of mate' among undernourished and diseased soldiers in infantry regiments.

An article in "The Society Arts Journal" noted, "Mate' has an amazing power to sustain strength neither tea nor chocolate can pretend to have. Hikers using mate' are able to walk six to seven hours without the necessity of eating."

We might also point out that the nutrients in mate' tea are in a liquefied state and are therefore more easily assimilated than the nutrients in other foods or in pills or capsules.

Endocrine/Metabolic Properties

Mate' has long been known to prevent and reduce fatigue. The most logical mechanism of action at this time seems to be a direct stimulating effect on metabolism in muscle cells.

Additionally, there is growing clinical evidence that mate' stimulates the adrenal glands to produce corticosteroids. This mechanism of action may account for the commonly observed action of mate' to decrease the severity and incidence of allergy and hay fever.

Usage Recommendations

The recommended application for allergy relief is three or more tablespoons of bulk (pulverized) herb, steeped 5- 10 minutes in 24 or more oz. of water. This would be sipped through a bombilla first thing in the morning on an empty stomach, or whenever symptoms arise.

"While I was given the herbal beverage to relieve fatigue . . . it also completely eliminated all of my allergy symptoms. . . I experimented for several days. It worked every time!"

"I have been using yerbamate' for about two years. For 25 years, 365 days of each year, I had a sinus problem! Since I started using yerbamate' . . ., the only time I have a problem is when I don't drink 3- 4 eight ounce cups of tea each day. Yerbamate' . . . has truly changed my life. I am seldom sick, always feel good and have a lot of energy."

(After discussing a long history of allergy complications in her son) "We didn't want to get him started on medication again, so we prayed for wisdom. While visiting friends a week later, we were introduced to yerbamate' tea. I, too, was having some allergy problems, but, almost instantly after drinking one cup of tea, my nasal passages dried up. In a week's time (our son) was all dried up and feeling so much better. We gave him one or two cups each day. Now, two months later, the tea continues to be effective treatment."

The adrenocortical action may help explain reported cases of hypoglycemic patients responding to mate'. It is possible that mate', by stimulating the adrenal cortex to secrete glucocorticoids, helps balance blood

glucose levels. Similarly, it may also stimulate the production of mineralcorticoids, thereby helping to regulate electrolyte metabolism. These hypotheses are attractive, given certain clinical observations, but need to be scrutinized more closely in experimental settings.

"I have a very sluggish body. I am hypoglycemic/borderline diabetic and I have swollen gums and infected jawbones. My digestive system leaves a lot to be desired. I have trouble digesting proteins, starches and sugars. Upon drinking yerbamate' and purple lapacho, I found myself running around and feeling like I was 17 years old (she is 50). My mind and body were all of a sudden pulled out of a sluggishness into top performance."

Mate reduces the effects of stress on the body; this property probably involves a combination of effects on the endocrine system, the nervous system and the immune system, but is one of the most important of the herb's actions.

Miscellaneous Uses

1. Alcohol Substitute .

One finds frequent reference to this property of mate' in South American literature on herbal medicine. Apparently, alcoholics find the ingestion of yerbamate' a pleasant substitute for liquor. The detoxification action of mate' must certainly play a role here. The rapid regeneration of liver tissue and the observable increase in vigor, clarity of thought and health must all be involved in the effectiveness of mate' for this condition.

2. Degenerative Conditions .

Related to its amazing nutritive value are the frequent applications of mate' to overcome the debilitating effects of neurasthenia, rheumatism, diabetes and senility. The special constellation of nutritive effects of mate' can sometimes be seen in a reduction or reversal of some signs of aging, including wrinkles, amount of time spent in convalescence and mood swings.

3. Headaches, Migraine and Neuralgia .

The combined effects of mate' on the nervous and cardiovascular system probably helps to account for its ability to relieve various kinds of pain in the area of the skull.

4. Diuretic .

There is no doubt that mate' can induce diuresis. But the effect seems to be tonic in nature, i.e., it only kicks in when you need it. This is good, because we wouldn't want to have our bodies continually trying to divest itself of intracellular water.

5. Hair Color .

It is felt by some mate' aficionados that use of the herb helps maintain a youthful hair color. Admittedly far out, this claim may nevertheless contain a rudiment of validity to the degree that proper nutrition or the proper mix of nutrients might contribute to such a phenomenon.

6. Sexual Performance .

Improvements in this rather subjective domain have been reported. Just how valid such reports are, even if truly believed by the participants, cannot be determined without considerable clinical research. Should mate' be proved to have stimulating effect on the adrenal glands (which appears very likely), one could expect some effect on the production and regulation of androgenic hormones, with a resulting effect of some kind on sexuality.

Quality

We are just entering an era of increased trade with South America, and the importation of herbal materials is still very primitive. Problems of communication, of being able to oversee operations, of simple plant identification and other problems make trade in South American herbs a difficult practice. In addition, South American herbalists are the first to admit the impurity of almost all yerbamate' products currently found on the market. They are full of insect parts, materials from other plants with irritating effects on the gastrointestinal tract, and they are sometimes totally misidentified.

One common problem in the mate' market is a general lack of awareness concerning the importance of allowing the plant to dry or 'cure' for several months (at least twelve) before packaging it for sale. In a general survey I recently made of about half a dozen importers, only one considered this an aspect worthy of consideration.

For these and other reasons, it is wise to purchase your mate' only from a reputable firm that takes extraordinary means to overcome the inherent difficulties. You may find it difficult to locate that firm, but the search is worth the trouble.

Generally, a firm that specializes in yerbamate' (and other South American herbs) will be best informed and much more careful in their importing practices from that continent.

Yerbamate' and Stevia

Some people find the taste of pure yerbamate' somewhat unpleasant, kind of like alfalfa. For this reason the practice of combining mate' with the very pleasant tasting stevia, another herb from South America, has become a very popular way of enhancing the flavor. It indeed makes for a regal treat.

Stevia is a very healthful herb in its own right, being widely used both internally for stomach ailments and blood sugar regulation, and externally for skin problems, such as acne, cuts, bruises and burns.

The Bombilla

The Argentines and Paraguayans developed a method for ingesting yerba mate' that, in concept, deserves to be emulated by other nations. The method uses a straw, usually metal, that has a fine metal filter attached to the end which is inserted in the tea. The straw replaces the tea bag as a means for keeping fibrous material from being mixed with the ingested liquid tea.

The bombilla has the advantage that it can be inserted directly into the bulk of leaves and twigs (twigs must be removed from material put in a tea bag). As one sucks on the straw embedded in the mass of herb, the herbal material becomes lodged against the screen and the liquid is drawn through it. This process forcibly removes far more of the nutrients from the herb than any other practical method. Some of the finer particulate matter works its way through the holes in the strainer and is ingested, but this material causes no discomfort whatsoever, and is good for you. The better bombillas can be placed in a dishwasher for cleaning.

The bombilla method was probably developed by the natives as experience taught them that they received a good deal more nutritional value by using this method of extraction.

The bombilla method has received some criticism from an hygienic point of view. Indeed, when used in the mate' rituals of South America, where the straw is passed from one participant to another around the circle, it probably is an unsanitary practice. But a one owner- one bombilla concept has much to recommend itself in terms of both hygiene and nutrition.

Notes on the Text

Note 1: The material appearing in italic print with quotation marks around it, throughout this pamphlet, was taken from actual letters in my files. Where necessary the generic term 'yerbamate' was used in place of a proprietary brand name.

Note 2: It should also be mentioned that several of the letter- writers indicated that they were using a tea made from a combination of mate' and stevia to improve the taste.

YerbaMate': Unequaled Natural Nutrition is not intended as medical advice. Its intention is solely educational. Please consult a medical or health professional for medical advice.

ABOUT THE AUTHOR

Dr. Mowry is known primarily for his efforts to bring scientific data about herbal medicine to the attention of the American public. Toward this end he has published the books entitled the Scientific Validation of Herbal Medicine, and Guaranteed Potency Herbs: Next Generation Herbal Medicine, which have become standard texts in the field.

Dr. Mowry is Director of the Mountainwest Institute of Herbal Sciences, in Salt Lake City, Utah.