



## REVIEW ARTICLE

# Yerba Mate – a study on the tea from Latin America

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## ABSTRACT

The purpose of this study is to create awareness among Hospitality Professionals, Tea connoisseurs, students, and researchers of India and neighboring countries about this Tea. Yerba Mate tea, an infusion prepared from the leaves of the *Ilex paraguariensis* tree. It is a popular non-alcoholic beverage in South America that is quickly gaining traction in the international market, either as tea or as a component of prepared foods or nutritional supplements. For ages, the indigenous people have consumed it as a social and therapeutic beverage. Yerba Mate tea is Argentina's national drink, but it's also well-known for its energizing, rejuvenating, and weight-loss effects. South American footballers, who appear to carry their mate gourds with them wherever they go, have popularized the drink in Europe. This review focuses on the history, production, and health benefits of Yerba.

**Keywords:** Tea, Yerba Mate, herbal tea, antioxidant, beverage

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## INTRODUCTION

The term Yerba Mate is derived from the Spanish word "hierba," which means "herb," and the indigenous Quechuan word "mati," which means "drinking container" ([https://www.medicinenet.com/yerba\\_mate/definition.htm](https://www.medicinenet.com/yerba_mate/definition.htm)). Yerba mate has been consumed throughout South America for centuries, long before the arrival of the Spanish. The Guaran people, who resided in what is now Paraguay, north of Argentina, south of Brazil, and parts of Uruguay and Bolivia, were the first to drink it. It was first ingested by chewing *I. paraguariensis* green leaves (Filip et al., 2007). Since the introduction of the Jesuits in the area in the 17th century, consumption has been outlawed and then promoted as it was good for their health. It was primarily consumed in rural regions before becoming more popular in cities in the late 1800s and throughout the twentieth century. Mate consumption has risen as a result of the migration of South Americans to North America and Europe (Heck and De Mejia, 2007).

*Ilex paraguariensis*, a perennial tree native to southern Brazil, Paraguay, and Argentina, This plant has over 480 different varieties, but only about 2-3 are used to make Yerba Mate. The stimulating beverage is made from the dried leaves and

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stems. The dried leaves are infused with hot water and brewed ( Burris et al., 2012; Poswal et al., 2019). This style of drinking mate is called as chimarrão. In other variation, it is brewed with cold water called as *tereré*.

Mate is commonly consumed out of a dried gourd with a metal straw known as a "bombilla" in Latin America (Heck and De Mejia, 2007). The term "tereré" refers to infusions made using cold water (Yi et al., 2017). It's prepared from a dried leaf infusion of *Ilex paraguariensis*, a member of the Aquifoliaceae family. Guarani indigenous people have been drinking yerba mate as a beverage from the time of the Spaniards' invasion of South America (Dellacassa and Bandoni, 2001).

The Jesuits saw the plant's commercial potential and brought wild-growing yerba mate into cultivation. a Jesuit monk, reported the use of the most significant plant to the Guarani people (Morley, 1939).

## GROWING AND HARVESTING

Yerba mate can be grown and prepared in a number of different ways. Yerba mate is often grown in one of two environments: plantations or wild forests. To achieve standard quality plantation method is practiced (Heck and De Mejia, 2007). Harvesting, roasting, drying, milling, maturing, and blending/packing are the different steps used in yerba mate processing (Yi et al., 2017). Growing- Under the shade of sunlight strongest chosen seeds are grown in Nursery. The saplings are moved to the field when they are between nine and twelve months old. Prior to seedling transplantation, the fields are ploughed extensively and deeply to create light, "airy" soil with good drainage.

The plants are ready for their first harvest around the age of four. It is carried out between April to September. The Yerba Mate plant's leaves, stems, and topmost branches are gathered.

- 1) Sapecado/Drying- The gathered brushes are then dried off in the next step. It develops enzymes that allow the plant to oxidize after harvesting, slowing the rate of deterioration. To reduce the water content of the leaves by nearly 20% of their original weight, dry the plant. The water content of the leaves is reduced by nearly 20% of their original weight.
- 2) Secado (Drying)- In this process moderate heat is given to leaves for 20 hours.
- 3) Chanchada- The leaves are fully dried and called as Chanchada , ready for further storage.
- 4) Beneficio (Storage)- Yerba Mate Chanchada can be stored for up to two years and is subjected to quality checks on a regular basis.
- 5) Milling- Large fragments of leaves are broken into small fragments. Blending of stems and leaves are regulated strictly according to national standard level.
  - PN1 = 70% leaves / 30% stem.
  - PN2 = 60% leaves / 40% stem.
  - PN3 = 50% leaves / 50% stem.

- 6) Padrão Nacional (PN)

The finished product is subsequently packaged and labelled with legitimate certification labels in branded packaging. It's now ready to be shipped (Croge et al., 2020).

## HEALTH PROMOTING PROPERTIES

Yerba mate extracts have a higher level of polyphenolics than green tea and other related plants to the concentrations found in red wine (Gugliucci et al., 2009; Lunceford and Gugliucci, 2005) Caffeic acid, caffeine, caffeoyl derivatives, caffeoylshikimic acid, chlorogenic acid, feruloylquinic acid, kaempferol, quercetin, quinic acid, rutin, and theobromine are among the polyphenols found in yerba mate.zinc), as well as vitamins like A, C, E, B1, B2, Niacin, and B5 ( Burris et al., 2012).

The amount of study done on the isolation and identification of antibacterial components generated from yerba mate is less in number (Kellie Parks Burris, 2011; Kubo et al., 2002). The antioxidant, antiobesity, and anti-inflammation activities of yerba mate extracts and components have previously been reviewed.(Bastos et al., 2007; Heck and De Mejia, 2007)

Anti-diabetic - Advanced glycation end products have been found to be controlled by yerba mate (Lunceford and Gugliucci, 2005; Poswal et al., 2019).

Increases Digestion- A team of researchers from Argentina discovered that yerba maté can stimulate bile flow and improve intestinal transit (Gorzalczany et al., 2001; Poswal et al., 2019).

Stimulant and Anti Fatigue- Yerba maté stimulates the central nervous system. The ability to maintain aerobic glucose breakdown during exercise for lengthy periods of time appears to be one of maté's metabolic benefits. As a result, more calories are expended, improving cardiac efficiency and delaying lactic acid build-up (Bastos et al., 2007).

Effective in Weight Control- In 2001, a research team in Denmark investigated the effects of a herbal preparation of yerba maté, guaraná, and damiana (YGD) on stomach emptying and weight loss.

They found that taking YGD capsules for 45 days significantly delayed gastric emptying, reduced the time to perceived gastric fullness, and resulted in considerable weight loss in overweight patients treated in primary care (Poswal et al., 2019).

Hypocholesterolemic effect – Proper intake of Yerba Mate leaves infusion helps in controlling the plasma levels of cholesterol and triglycerides (Stein et al., 2005).

## PREPARATION OF YERBA MATE

### Ingredients

- Organic Yerba Mate leaves – 100gms.
- Water-300ml.

## Methods-

- Fill your mate cup with yerba mate tea (until it's 34% full).
- Place a little of the yerba mate in a bowl of warm water.
- The yerba is starting to get moist, and the infusion is begun. Wait 30 seconds before continuing.
- In a damp yerba mate tea, place the mate straw.
- Softly pour in hot water. If you wish to sweeten the mate, add sugar to taste and drink yerba mate.

(<https://yerbamate.com/pages/how-to-make-yerba-mate-tea>)

Anyone who has tried yerba will agree that the first time its bitter, herbal flavor and hazy appearance can put you off for a long time. After a few more cups, the taste becomes more pleasurable, the tongue detects new flavors, and the brain craves another sip. So, even if you don't like it right away, you'll grow to like it.

The yerba mate tree belongs to holly family that produces little fruit that converts into green- white blossoms and has evergreen leaves. Hand-picked leaves and fragile stems are frequently dried under a protective temperature. They may be roasted over a wood fire before being sliced into the final dried form.

It may have combination properties of Herbal Teas, Coffee and Chocolates providing energy, healing and soothing benefits. In recent years the popularity of Yerba Mate has inclined in India but still beverage demand is fluctuating (Table 1).

**Table 1: Yerba Mata import by India**

Item	Year Code	Year	Unit	Value
Mate	2010	2010	Tones	0
Mate	2011	2011	Tones	0
Mate	2012	2012	Tones	0
Mate	2013	2013	Tones	0
Mate	2016	2016	Tones	1
Mate	2017	2017	Tones	3
Mate	2018	2018	Tones	1
Mate	2019	2019	Tones	0

(Source- <http://www.fao.org/faostat/en/?#data/TP>)

## CONCLUSION

The balance between work and life has become a great challenge worldwide. This herbal tea may be considered as mighty tea of South America. Yerba Mate is rich in antioxidants which may be good for diabetes, overweight, and fatigue. India may be a good market for this product. Once brewed mate leaves are reused again and again in common households. The reuse

practice needs to be studied well. Yerba Mate has shown multiple health benefits in laboratory trials. Given the paucity of human clinical evidence, future studies will be required to determine the true extent.

## REFERENCES

- Bastos, D., Oliveira, D., Matsumoto, R., Carvalho, P., and Ribeiro, M. 2007. Yerba mate: pharmacological properties, research and biotechnology. *Med Aromat Plant Sci Biotechnol*, 1(1), 37–46.
- Burris, Kellie P., Harte, F. M., Michael Davidson, P., Stewart, C. N., and Zivanovic, S. 2012. Composition and bioactive properties of Yerba Mate (*Ilex paraguariensis* A. St.-Hil.): A review. *Chilean Journal of Agricultural Research*, 72(2), 268–274. <https://doi.org/10.4067/s0718-58392012000200016>
- Burris, Kellie Parks. 2011. TRACE: Tennessee Research and Creative Exchange Antimicrobial activity of aqueous Yerba Mate extracts.
- Croge, C. P., Cuquel, F. L., and Pinto, P. T. M. 2020. Yerba mate: Cultivation systems, processing and chemical composition. a review. *Scientia Agricola*, 78(5), 1–11. <https://doi.org/10.1590/1678-992x-2019-0259>
- Dellacassa, E., and Bandoni, A. 2001. El mate. *Revista de Fitoterapia*, 1(4), 269–278.
- Filip, R., Bandoni, A., Bracesco, N., and Gugliucci, A. 2007. Mate ( *Ilex paraguariensis* ). May.
- Gorzalczany, S., Filip, R., Alonso, M., Miño, J., Ferraro, G., and Acevedo, C. 2001. Choleric effect and intestinal propulsion of “Mate” (*Ilex paraguariensis*) and its substitutes or adulterants. *Journal of Ethnopharmacology*, 75, 291–294. [https://doi.org/10.1016/S0378-8741\(01\)00179-9](https://doi.org/10.1016/S0378-8741(01)00179-9)
- Gugliucci, A., Bastos, D. H. M., Schulze, J., and Souza, M. F. F. 2009. Caffeic and chlorogenic acids in *Ilex paraguariensis* extracts are the main inhibitors of AGE generation by methylglyoxal in model proteins. *Fitoterapia*, 80(6), 339–344. <https://doi.org/10.1016/J.FITOTE.2009.04.007>
- Heck, C. I., and De Mejia, E. G. 2007. Yerba mate tea (*Ilex paraguariensis*): A comprehensive review on chemistry, health implications, and technological considerations. *Journal of Food Science*, 72(9). <https://doi.org/10.1111/j.1750-3841.2007.00535.x>
- Kubo, I., Muroi, H., and Himejima, M. 2002. Antibacterial activity against *Streptococcus mutans* of mate tea flavor components. *Journal of Agricultural and Food Chemistry*, 41(1), 107–111. <https://doi.org/10.1021/jf00025a023>
- Lunceford, N., and Gugliucci, A. 2005. *Ilex paraguariensis* extracts inhibit AGE formation more efficiently than green tea. *Fitoterapia*, 76(5), 419–427. <https://doi.org/10.1016/j.fitote.2005.03.021>
- Morley, E. J. 1939. The eighteenth century. *Year's Work in English Studies*, 20(1), 128–152. <https://doi.org/10.1093/ywes/XX.1.128>

Poswal, F. S., Russell, G., Mackonochie, M., MacLennan, E., Adukwu, E. C., and Rolfe, V. 2019. Herbal Teas and their Health Benefits: A Scoping Review. *Plant Foods for Human Nutrition*, 74(3), 266–276. <https://doi.org/10.1007/s11130-019-00750-w>

Stein, A., Russell, R. B., and Aloy, P. 2005. 3did: Interacting protein domains of known three-dimensional structure. *Nucleic Acids Research*, 33(DATABASE ISS.), 413–417. <https://doi.org/10.1093/nar/gki037>


Yi, F. A. N., Sun, L. E., Hao, D. C., Peng, Y., Han, F. M., and Xiao, P. G. 2017. Complex phylogenetic placement of *Ilex* species (Aquifoliaceae): A case study of molecular phylogeny. *Pakistan Journal of Botany*, 49(1), 215–225.

[www.pexels.com](http://www.pexels.com)

[https://en.wikipedia.org/wiki/Yerba\\_mate](https://en.wikipedia.org/wiki/Yerba_mate)



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