



Enhancing Nootropics

**Study shows cognitive benefits
from Guayusa and Lion's Mane**

Nootropics Boom: Consumers Seek Mental Edge

Consumers are increasingly prioritizing their emotional well-being and, therefore, are seeking products that align with feeling good, staying mentally focused, and improving their productivity throughout the day. In 2023, nearly two-thirds (74%) of American consumers shared a belief that their food and beverage choices made an impact on their overall mental and emotional health.^[1]

These attributes are part of an emerging category called nootropics, which are defined as products or ingredients that can enhance cognitive function. The gradual increase in demand for improving cognitive performance has led to an upsurge in clinical research, investing in ingredients that can bring tangible results to the nootropics market. In the latest placebo-controlled crossover study, Applied Food Sciences (AFS) investigates two of its functional ingredients, guayusa and lion's mane, shedding light on the potential of these natural ingredients to enhance mental acuity and mood.

Guayusa (*Ilex guayusa*), pronounced “gwwhy-you-sah,” is hailed as an Amazonian “super leaf” thanks to exceptional antioxidant properties and unique caffeine content. AFS created AmaTea® Max, a patented organic guayusa extract, to enhance its naturally occurring actives and provide a bright, cognitively uplifting energy boost.



The effects of this impressive ingredient have already been published in studies covering sports nutrition, esports, and daily focus. However, for added peace of mind regarding safety, Applied Food Sciences also received a historical first “no questions letter” from the FDA confirming its GRAS-safe usage for certain food and beverage applications.



“We like to say ‘guayusa hits different,’” explains Brian Happel, National Sales Director with Applied Food Sciences.

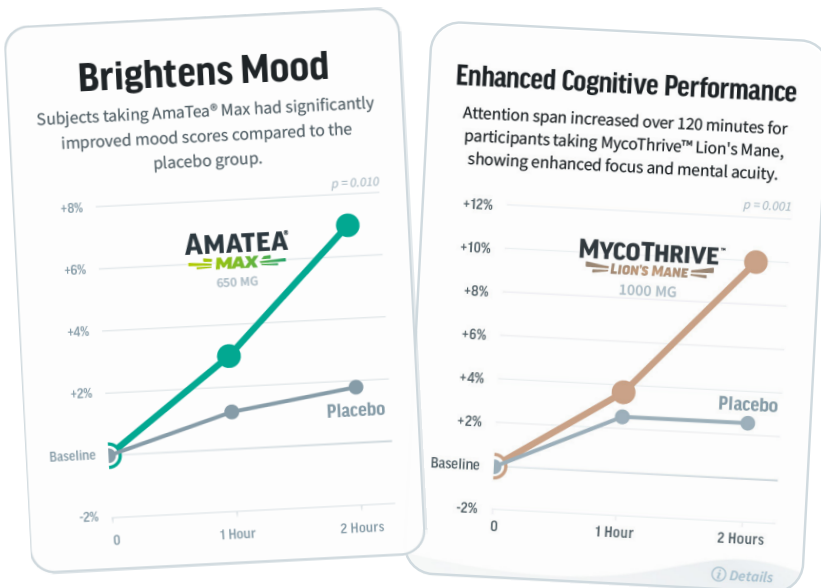
“AmaTea® Max produces a focused, ‘feel good energy’ that consumers will notice. This study expands on numerous others to paint a more clear picture on the potential cognitive benefits of guayusa for work, sports, and mood.”



Lion's mane (*Herichium erinaceus*) has a rich history in Eastern medicine. Its distinctive compounds, called hericenones and erinacines are believed to be responsible for lion's mane's nootropic effects through its ability to simulate Nerve Growth Factor (NGF) synthesis, which plays a role in cell growth and neuroprotective properties in the central nervous system, especially where memory, attention, and spatial navigation take place. MycoThrive™ Lion's Mane is a GRAS ingredient extracted from the edible fruiting body of the mushroom. MycoThrive™ Lion's Mane contains a diverse array of bioactive compounds, including beta-glucan polysaccharides, proteins, hericenones, and erinacines.

“This study marks an important milestone for lion's mane,” clarifies Happel.

“While lion's mane is most known for its chronic benefits (over 30-60 days), this research is the first to study the acute (single-dose) cognitive benefits of Lion's Mane in healthy adults in as little as 1-2 hours post-ingestion.”



About the Study

A double-blind, randomized, placebo-controlled crossover study included 40 healthy adults to evaluate attention, working memory, mental processing speed, and mood. The study examined a single dose of 650 mg guayusa extract (AmaTea® Max) vs. 1 g of lion's mane (MycoThrive™ Lion's Mane Extract) vs. the placebo. Testing occurred at three intervals: baseline (pre-ingestion), 60 minutes, and 120 minutes post-ingestion.

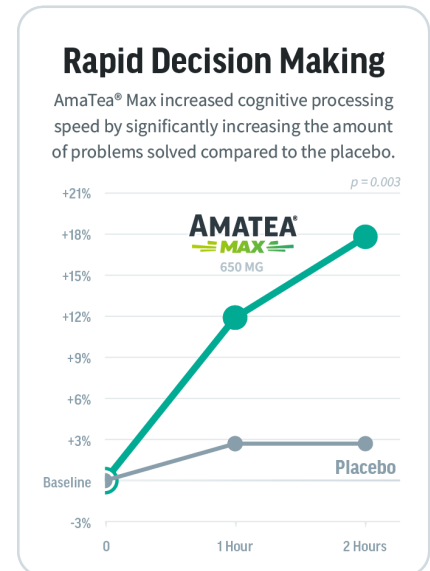
Participants underwent comprehensive neuropsychological assessments using the Go/No-Go, Serial-Sevens, and N-Back tasks. The Go/No-Go task primarily measures reaction time.^[2] The Serial-Sevens task evaluates concentration, focus, and rapid decision making.^[3] Whereas the N-Back task is extensively used to assess working memory.^[4] Participants were also graded on subject assessments of cognitive perception based on visual analog scales (VAS) and a four-item subjective happiness scale (SHS). VAS assessed focus, mood, mental clarity, concentration, productivity, and ability to tolerate stress, whereas SHS assessed happiness, mood, and overall well-being.

Guayusa & Lion's Mane: *The New Mood Boosters*

Both AmaTea® Max and MycoThrive™ Lion's Mane demonstrated statistically significant cognitive benefits. AmaTea® Max notably improved reaction time and accuracy in cognitive tasks, while also enhancing mental clarity, focus, and productivity. In comparison, MycoThrive™ Lion's Mane showed promise in enhancing working memory, attention, and reaction time. Both ingredients contributed to mood and overall perceptions of happiness/well-being. The difference between the products was most notable in the timing of effects.^[5]

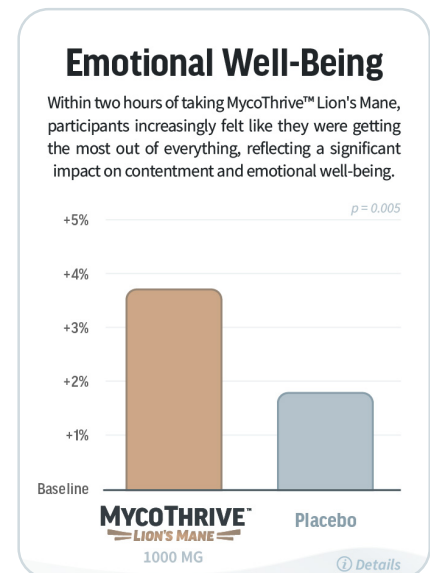
Concentration, Focus, and Rapid Decision Making (Serial-Sevens Task):

AmaTea® Max and MycoThrive™ Lion's Mane statistically significantly improved concentration and focus to help subjects make quicker decisions and improve scores against the placebo at 60 and 120 minutes post-ingestion.



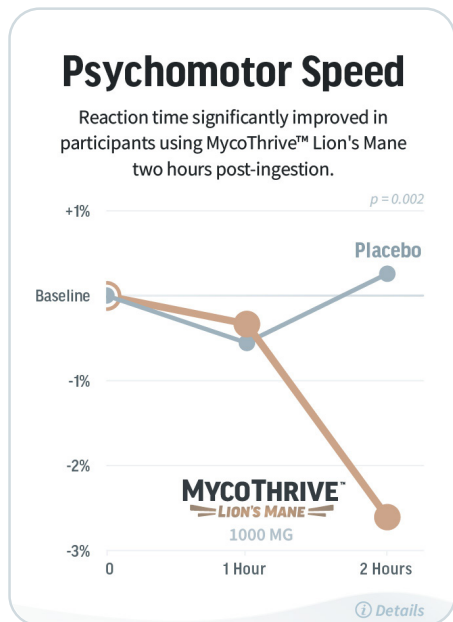
Happiness / Brighter Mood (SHS):

AmaTea® Max and Lion's Mane improved subjective ratings of "happiness compared to peers" and helped subjects feel like they had a "brighter mood" and were "getting the most out of everything". However, the result occurred earlier in Lion's Mane (1 hr post-ingestion vs. 2 hrs for AmaTea® Max).



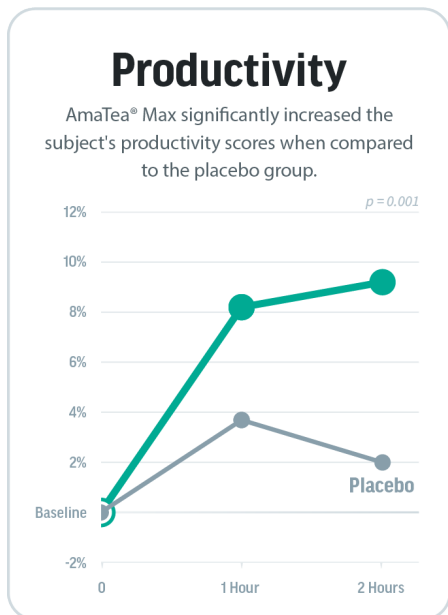
Reaction Time (Go/No-Go Task):

AmaTea® Max gave participants statistically significantly sharper reaction times within the first hour and maintained the result throughout the second hour. MycoThrive™ Lion's Mane also improved reaction time at 120 min. While the caffeine in AmaTea® Max positively influenced psychomotor tasks initially, both ingredients improved reaction time performance.



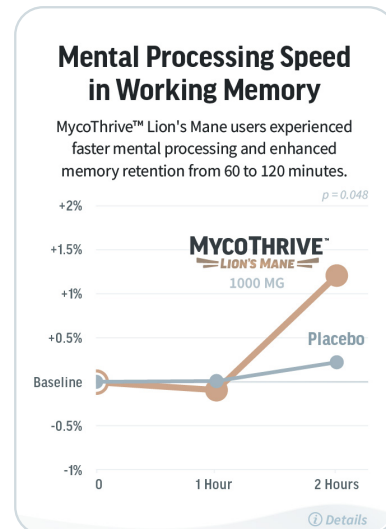
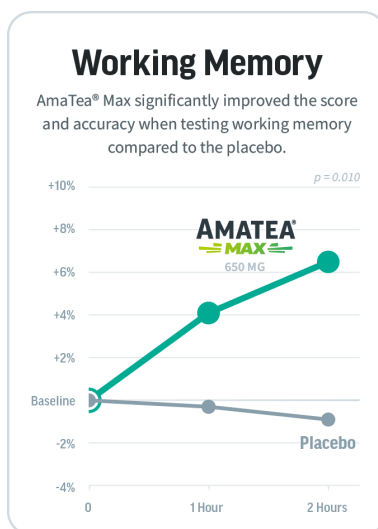
Mental Clarity and Productivity (VAS):

AmaTea® Max statistically significantly improved VAS mental clarity, focus, concentration, mood, and productivity at 60 and 120 minutes following ingestion.



Working Memory (N-Back Task): Both MycoThrive™ Lion's Mane and AmaTea®

Max statistically significantly improved scores and accuracy when testing working memory compared to the placebo across a 2-hour testing period.



Conclusion

When 60% of consumers say they are seeking out clinically studied products, research like this helps brands make a greater impact on consumers.^[6] This groundbreaking study underscores the cognitive-boosting potential of naturally derived ingredients like AmaTea® Max and MycoThrive™ Lion's Mane. Manufacturers looking to make products for sharper focus, improved memory, or a brighter mood, should contact Applied Food Sciences to learn more about these innovative ingredients.

About Applied Food Sciences – For over 20 years, Applied Food Sciences has manufactured functional ingredients for the natural products industry. AmaTea® Max and MycoThrive™ Lion's Mane are the latest examples of the company's innovative and on-trend products. If you are developing a product, visit [AppliedFoods.com](https://www.appliedfoods.com) to learn more and inquire samples.

Sources:

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