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MAGAZINE For Brain Fog

Two plant extracts restore mental clarity, energy, and focus.

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We all have moments when we feel mentally fatigued and find it hard to concentrate. This is often referred to as **brain fog**.

Until recently, it was believed that little could be done about it.

But by studying various medical conditions associated with brain fog, scientists have pinpointed biological alterations in the brain that may cause these feelings of decreased mental energy and sharpness.¹⁻⁷



This research has allowed for the identification of **two** plant-based nutrients that can prevent or potentially even reverse these alterations to bring back mental clarity, energy, and focus.

In clinical studies, **mango leaf extract** containing the compound **mangiferin** improves reaction time, reduces mental fatigue, and boosts attention, performance accuracy, and working memory.^{8,9}

In additional clinical studies, **peppermint oil** significantly *reduces* the development of mental fatigue and *improves* aspects of attention and memory.¹⁰

These two ingredients can help to lift the clouds of brain fog and restore mental energy, clarity, focus, and performance.

What Is Brain Fog?



Brain fog refers to a general feeling of decreased **mental energy** and **focus**. It may be characterized by mental fatigue and clouding, forgetfulness, fuzzy thinking, confusion, and difficulty concentrating.

It's more than an annoyance. It can also decrease **cognitive performance** and hinder the ability to get work done or accomplish goals.

Scientists trying to understand brain fog noted certain medical conditions associated with some of the same mental symptoms.

For example, people with allergies, inflammatory disorders, and dietary sensitivities often complain of brain fog.¹⁻⁷ Over **90%** of patients with **mast cell disorders**, which increase inflammation, report frequent **cognitive impairment** consistent with **brain fog**.²

Even **seasonal allergies** can lead to reduced cognitive performance, including impaired attention, memory problems, and reduced speed of information processing.¹

These observations led scientists to propose that **brain fog** may be caused by several related mechanisms. These include the release of **histamine** (the chemical that causes allergic symptoms), **inflammation**, neurotransmitter **imbalance**, and impairments in neuronal **activity**.¹⁻³

Plant Extracts That Help

When researchers set out to find compounds that could alleviate **brain fog**, they looked for ingredients that met

two criteria:

- They had a track record in animal or human studies of improving the **symptoms** of brain fog, like aspects of cognition.
- They targeted the possible **causes** of brain fog, by reducing neuroinflammation, histamine modulation, balancing neuro-transmitters, or neuronal activity support.



They found two plant-derived ingredients that were the most promising: **mango leaf extract** and **peppermint oil**.

Mangiferin Boosts Brain Power

Mango leaves, extracts, and teas have long been used in Asian and African countries to treat a range of disorders, including fatigue and exhaustion.

More recently, scientists found that **mango leaf** extracts have **neuroprotective**, anti-inflammatory, and anti-diabetic properties.⁸

Mangiferin is a compound found in mango leaves that is believed to be largely responsible for these effects.

In animal models, mangiferin helps **protect the brain** by reducing oxidative stress and neuroinflammation and by providing neurotransmitter support.¹¹⁻¹³

Animal studies have also found that mangiferin prevents cognitive impairment and memory impairments, symptoms of **brain fog**.¹⁴ In addition, in mice and rat studies, mangiferin was shown to have favorable anti-allergic properties^{15,16} This further suggests benefits against brain fog in those with **allergies**.

More recently, human trials have explored the use of mangiferin-containing extracts in treating symptoms consistent with brain fog.

One study randomized healthy adults into four groups. One group took a mango leaf extract containing **60% mangiferin**, one took **caffeine**, one was given a combination of mangiferin and caffeine, and one received a **placebo**.⁸

The **mango leaf** extract led to a remarkable **47%** improvement in **fatigue** compared to baseline. It also led to an almost **5%** improvement in **reaction time** compared to baseline, which was a significant improvement compared to the placebo group. This was a greater improvement than seen with caffeine alone **or** the combination of caffeine and mangiferin.

Tests of electrical activity in the brain showed that those taking mangiferin had *increased* activity in regions associated with complex cognitive processing, attention, and memory.

In another clinical study, healthy young adults were given either **300 mg** of the mangiferin-containing mango leaf extract or a placebo.⁹ In tests, the extract improved specific areas of cognitive function, including aspects of **attention**, **performance accuracy**, and **working memory**.

These improvements were accompanied by a more **relaxed mood**. This is notable because many people who take caffeine to counter brain fog complain that it *reduces* relaxation and increases nervousness and jitters.

WHAT YOU NEED TO KNOW

Banish Brain Fog

- **Brain fog** is a constellation of symptoms that cloud mental function, including reduced mental energy, clarity, focus, and performance.
- Scientists have found clues that inflammation, histamine release, and neurotransmitter imbalances may contribute to brain fog.
- **Mango leaf extract** and **peppermint oil** may help prevent or reverse these potential causes of brain fog.
- Human studies have found that **peppermint oil** and mango leaf extract containing the active compound **mangiferin** each improve aspects of cognition associated with brain fog, including attention, memory, and cognitive performance.



- These two ingredients help combat brain fog and bring back mental focus, attention, energy, and sharpness.

Peppermint Sharpens the Mind

The herb **peppermint** has been traditionally used for its medicinal properties, including as a digestive aid and to promote calming. Its oil contains a high concentration of **monoterpene** compounds, including menthol and menthone.

Studies have shown that plants rich in monoterpenes have cognitive benefits.^{17,18} For example, peppermint teas have been shown to improve **memory** and **mental alertness** in human subjects.¹⁹

Mint species have demonstrated the ability to modulate various **neurotransmitters** in the brain, such as acetylcholine and GABA, which play roles in cognition, mood, and mental alertness.¹⁰

In a clinical trial, researchers randomized healthy adults to receive either **peppermint oil** containing **60% monoterpenes** or a placebo, and tested various aspects of memory, attention, and mood.¹⁰

The peppermint oil significantly *reduced* the development of **mental fatigue** and *improved* aspects of **attention** and **working memory**. By contrast, those receiving the **placebo** were severely fatigued within a few hours after the various demanding cognitive tasks.

Peppermint oil and mango leaf extract can help lift brain fog and bring back mental clarity, energy, and focus.

Summary



Brain fog refers to symptoms of reduced mental energy, clarity, focus, and performance.

Research suggests that neuroinflammation, histamine release, and neurotransmitter imbalances can contribute to the development of brain fog symptoms.

Two plant-derived nutrients may help combat brain fog. Preclinical studies show that **mangiferin** from mango leaf extract and **peppermint oil** address the mechanisms thought to contribute to brain fog.

Human studies of mangiferin and peppermint oil show that they improve various aspects of brain fog, reducing **mental fatigue** and improving **attention, memory, and cognitive performance**.

A combination of these two ingredients may maximize the brain-supporting power of these nutrients and help lift brain fog.

If you have any questions on the scientific content of this article, please call a **Life Extension** Wellness Specialist at 1-866-864-3027.

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