Saffron

Saffron is used for depression, PMS symptoms, post-partum depression, memory, appetite suppression, energy & stamina in athletes, and preventing neurodegenerative diseases like Parkinson's and Alzheimer's

Saffron is the dried *stigma* of the *Crocus sativus* plant native to the Middle East. And is the world's most expensive culinary spice largely due to the way it must be grown and harvested (by hand).

As a nootropic, *Saffron* has been used for thousands of years as an *anxiolytic, sedative, and antidepressant*.[i]

Today, *Saffron* is used to help manage appetite, for energy and stamina, anxiety, and is a very effective antidepressant.

Recent studies show *Saffron* as effective as some popular prescription antidepressants. And can even help alleviate the *sexual dysfunction* caused by these drugs.

I first became aware of *Saffron* when researching this ingredient included in ***Performance Lab Vision***.

And then noticed in the last year that it was appearing on shelves as a standalone supplement in the 'brain health' section of local vitamin and health food shops.

Here we'll explore how *Saffron* benefits your brain.

Saffron helps:

- **Anxiety & depression**: *Saffron* extracts (*crocin & safranal*) inhibit the uptake of *dopamine* and *norepinephrine* in the brain which helps improve mood.
- **Alzheimer's & dementia:** *Saffron* inhibits the deposit of *amyloid-β* which is associated with the progression of Alzheimer's disease. Saffron also inhibits the breakdown of *acetylcholine (acetylcholinesterase)* just like the current medication (*donepezil*) approved to treat Alzheimer's.
- **Neuroprotectant**: *Crocin* and *safranal* which are unique carotenoids in *Saffron* make it a potent *antioxidant*. Scavenging *free radicals* which reduces inflammation, preventing *apoptosis*, and protecting brain cells and *mitochondria*.[ii]

Overview

Saffron *(Crocus sativus)* as a nootropic is the dried crimson *stigma* of the *C. sativus* flower cultivated primarily in Iran.

The earliest reference to *Saffron* goes back to around 2,300 BC from Sargon, founder of the Akkadian empire. Sargon was born in a village on the shores of the Euphrates called Azupiranu (city of Saffron).[iii]

Since then, documentation of *Saffron* use over the last 4,000 years for at least 90 illnesses has been uncovered.

Saffron takes a long time to germinate from seed and 3 years for the plant to flower. Once it blooms in mid-Autumn, the flowers must be picked carefully *by hand* within 1 – 2 weeks.

Each *Crocus sativus* plant produces 3 – 4 flowers per season. Each flower produces a 3-pronged style, each prong terminating in a vivid crimson *stigma*. *Saffron* is the dried stigma of *Crocus sativus*.

This labor-intensive production method makes *Saffron* the most expensive culinary spice in the world.

Saffron contains the metabolites *crocin, picrocrocin*, *safranal,* and the antioxidants *lycopene* and *zeaxanthin* as well as *Vitamin B_{12}* all which provide its medicinal value.[iv]

As a nootropic, *Saffron* may be used for depression, *PMS* symptoms, *post-partum depression*, *memory*, appetite suppression, and preventing neurodegenerative diseases like Parkinson's and Alzheimer's.

How does Saffron work in the brain?

Saffron boosts brain health and function in several ways. But two in particular stand out.

1. **Saffron boosts mood**. Recent studies suggest that *brain-derived neurotrophic factor (BDNF)*, *Nerve Growth Factor*, and *cAMP Response Binding Protein (CREB)* all play a role in anxiety and depression.

Further research shows that *Saffron* has a significant effect on *BDNF, NFG* and *cAMP* levels in the brain.[v] Which likely explains why *Saffron* is so effective in treating teenage anxiety and depression.

One study in 2018 had 80 participants aged 12 – 16 years with anxiety and depression try *Saffron extract (Affron®)* 14 mg or a placebo for 8 weeks.

The study concluded that S*affron extract* was *effective in relieving the symptoms of separation anxiety, social phobia and depression* compared to placebo.[vi]

Researchers in the psychology department at Murdoch University in Perth conducted a systematic analysis of every clinical trial they could find for high-quality, randomized, double-blind studies using *Saffron*, a placebo and antidepressant meds as controls in humans (not animals).

The team concluded that *clinical trials support the use of Saffron for the treatment of mild to moderate depression*.[vii]

2. **Saffron for preventing Alzheimer's**. One of the most common symptoms in Alzheimer's patients is *depression*.

And doctors commonly prescribe antidepressants for treatment. Including drugs like sertraline (Zoloft®).[viii] Despite the fact that *these meds don't work for Alzheimer's disease and come with a host of side effects*.[ix]

An alternative treatment is obviously needed. So researchers set up a double-blind, placebo-controlled trial with 46 Alzheimer's patients. The patients were given 15 mg of *Saffron* twice daily or placebo for 16 weeks.

The results of this trial showed *Saffron produced a significantly better reduction in behavioral and psychological symptoms* than placebo. And concluded, "*Saffron is both safe and effective in mild to moderate Alzheimer's*".[x]

The *acetylcholinesterase* inhibitor donepezil (Aricept®) is also prescribed to Alzheimer's patients. For increasing *acetylcholine* which has been found to be low in these patients.

A 22-week, randomized, double-blind trial with 54 Alzheimer's patients was conducted to *compare donepezil with Saffron*. Patients received either 15 mg of *Saffron* twice per day or 5 mg of *donepezil* twice per day for the extent of the trial.

This phase II study found *Saffron extract was as effective as donepezil in the treatment of mild to moderate Alzheimer's*. But *Saffron did not produce the side effect of vomiting*.[xi]

How things go bad

Depression is a growing health problem. With over 10% of Americans taking prescription antidepressants. Of whom 90% experience at least one adverse effect. Ranging from sexual dysfunction to convulsion to bleeding disorders.

Antidepressant use can result in:

↓ Abnormal bleeding

↓ Agitation, aggression, anxiety, and delirium

↓ Confusion, convulsions and even death

↓ Decreasing memory, delusional thinking

↓ Hallucinations, headaches, and heart attacks

↓ Insomnia, lethargy, nightmares, and panic attacks

↓ Sedation, impaired driving, slow speech

↓ Sexual dysfunction, priapism

↓ Panic attacks, paranoia, suicidal thoughts, violent behavior

↓ Serotonin Syndrome, withdrawal symptoms

A growing database of studies and user reviews show that *Saffron* helps *treat depression without the risky side effects* of prescription antidepressants.

Saffron has also been shown to be effective with other conditions for which antidepressants are prescribed. Including *anxiety, Alzheimer's, and obsessive-compulsive disorder (OCD)*.

We even have reports of *Saffron* reversing the *sexual dysfunction caused by using prescription antidepressants*.

Saffron to the rescue

To experience *Saffron's* nootropic value you'll need to use more than a sprinkling of the spice from your local supermarket.

Studies show *Saffron* could be an *alternative to some popular antidepressant* meds.[xii] And for *anxiety*.[xiii]

Another study with 18 – 45-year-old women suffering from *post-partum depression* showed Saffron effective in *reducing depression*.[xiv]

And a group of women aged 18 – 45 dealing with *Premenstrual Syndrome (PMS)* found that *Saffron* was effective in relieving depression during two menstrual cycles (cycles 3 and 4).[xv]

Saffron is a *smooth muscle relaxant* and helps lower blood pressure. Likely because of its inhibitory effect on *histamine H_1* receptors, stimulatory effect on *ß2-adrenoceptors*, and antagonist effect on *muscarinic* receptors.[xvi]

Saffron inhibits *acetylcholinesterase* which increases *acetylcholine* in your brain. Improving brain signaling and helping *learning and memory*.[xvii]

Saffron inhibits the deposition of *amyloid β-peptide (Aβ)* fibrils which has been implicated in Alzheimer's.[xviii]

Several human studies show *Saffron* as effective as some popular antidepressants in treating mild to moderate anxiety and depression.[xix]

Some of the symptoms of Parkinson's Disease originate from underutilization of dopamine in the *substantia nigra* area of the brain. Studies show *Saffron* helps protect the *substantia nigra* dopamine neurons associated with Parkinson's.[xx]

Newly published studies show *Saffron* helps protect your eyes from *ultraviolet blue light radiation (UV-B)*. And flicker sensitivity from glaring monitors and headlights.[xxi]

Saffron improves the oxygen and nutrient supply required for healthy eyes. By boosting blood flow in the *retina* and *choroid* of your *eyes*.[xxii]

How does Saffron *feel*?

Many neurohackers report supplementing with *Saffron* has helped them stop eating junk food, avoid nighttime snacking, and they're no longer obsessed with thinking about food all the time.

Saffron has been proven to help *with Age-Related Macular Degeneration (AMD)*. Vision may be sharper. And you can see a line or two further down the Snellen chart at your next eye appointment.

Glare from headlights during nighttime driving and flicker from monitors is no longer a problem.

You may experience an improvement in mood when supplementing with *Saffron*. No longer over-reacting and work-related stress now feels like you are again in control.

Many neurohackers report an increase energy and better libido with *Saffron*.

Feeling tired and emotional is a thing of the past. You're back to your bright, positive, happy self!

The Research

Clinical research into the efficacy of *Saffron* is encouraging. But trial lengths have typically been limited to 4 – 6 weeks. And sample sizes are relatively small (30 – 40 people).

And keep in mind of the potential for bias because most clinical trials with humans have been conducted in Iran. Which produces nearly 90% of saffron for the world market.

Saffron as good as Prozac

A double-blind, randomized trial with 40 adult outpatients suffering from major depression was conducted at the University of Tehran. The study compared *Saffron petals* with *fluoxetine* (Prozac®) for the treatment of depression.

Patients were given 15 mg of *Saffron* petals in the morning and evening, or 10 mg *fluoxetine* morning and evening for 8 weeks.

The study concluded that *Saffron petals were as effective as fluoxetine in the treatment of mild to moderate depression*. The remission rate was 25% in both groups with no significant differences in side effects.[xxiii]

Saffron for Alzheimer's Disease

There is increasing evidence to suggest that *Saffron could be used in the management of Alzheimer's Disease*.

In one Iranian study, 54 adults aged 55 year or older with Alzheimer's participated in a 22-week, double-blind trial. Patients were randomly assigned 30 mg per day of *Saffron* (15 mg twice per day) or 10 mg per day of *donepezil* (Aricept®) (5 mg twice per day).

The study found that *Saffron was as effective as the drug donepezil in the treatment of mild to moderate Alzheimer's* after 22 weeks.[xxiv]

Other research shows that *Saffron* may inhibit the aggregation of *amyloid-β* in the human brain and may therefore be useful in Alzheimer's.[xxv]

46 patients with Alzheimer's volunteered for a 16-week, double-blind trial. Patients were randomly assigned 15 mg of *Saffron* twice per day or a placebo for the 16-week study.

After 16 weeks, *Saffron produced a significantly better outcome on cognitive function than placebo*.

The study concluded, "*This double-blind, placebo-controlled study suggests that at least in the short-term, Saffron is both safe and effective in mild to moderate Alzheimer's*."[xxvi]

Saffron for anxiety & depression

60 adult patients with anxiety and depression were given a 50 mg *saffron* capsule or placebo capsule twice daily for 12 weeks.

Depression and anxiety questionnaires were used at the beginning, 6 and 12 weeks during the trial. The patients who used the *saffron* supplements had a significant reduction in anxiety and depression symptoms.

The study concluded "*Saffron appears to have a significant impact in the treatment of anxiety and depression disorder. Side effects were rare*."[xxvii]

Dosage Notes

Recommended dose of *Saffron* is 25 - 30 mg twice per day for mild to moderate depression.

Clinical studies have evaluated doses ranging from 20 – 400 mg per day of Saffron.

Dosages up to 1.5 g per day of Saffron are thought to be safe.[xxviii] With toxic effects reported for 5 g doses.

As with many nootropics, more is NOT better when using Saffron. Some research shows that dosages above 1.5 g of Saffron can be extremely toxic.

Side Effects

Genuine *Saffron* is non-toxic and well-tolerated by most people when used at the recommended dosage.

Some reported side effects of *Saffron* include headaches, nausea, dizziness, vomiting, and mania (esp. if you are bipolar). *Saffron* can aggravate asthma symptoms.

5 g of Saffron are associated with toxic effects. And very high doses of Saffron (10 - 20 g) can be deadly.

No drug interactions have been reported. But interactions with anti-aggregating drugs are theoretically possible.

Do NOT use *Saffron* if you have a bleeding disorder.

Available Forms

Saffron as a nootropic is typically sold in capsules.

Most individual *Saffron* supplements on the market are standardized (for 0.3% safranal) usually with 88.5 mg '*Saffron extract'*.

For nootropic use, look for supplements guaranteed to contain a *patented version of Saffron extract*. Otherwise, you'll not likely experience the cognitive benefits of this nootropic for reasons I'll go into in a minute.

Affron®: Manufactured by *PharmActive Biotech Products* in Madrid, Spain and not easily found in Saffron products sold in the USA. But here's one by BCN Health: *Saffron Ultra*

Satiereal®: Made by *PLT Health Solutions* in Morristown, NJ and included in select Saffron products like this one by Life Extension: *Optimized Saffron*

Safranal®: Manufactured by *Sigma-Aldrich* and included in some Saffron supplements like this one by 1 Body: *Saffron 8825*

Saffron is also included in much smaller amounts in some vison/eye formulas. While extremely effective for vision health, it's not enough for much cognitive benefit.

For example, ***Performance Lab Vision*** contains 1 mg of *Saffron* extract. Which I've found very effective for *reducing glare from computer screens and headlights* during nighttime driving. And *reducing eye fatigue* from monitor flicker.

Keep in mind that *Saffron* is *the most valuable medicinal food plant on the planet*. Which makes it a primary target by unscrupulous marketers for adulteration.

Common adulterants include mixing *Saffron* with things like beet, pomegranate fibers, and red-dyed silk fibers to decrease the cost of *Saffron*.

Sometimes the flowers of other plants, including safflower, marigold, arnica and tinted grasses are fraudulently mixed with genuine *Saffron* stigmas.

The common mislabeling of *turmeric (curcuma longa)* as "Indian saffron", "American saffron", or "Mexican saffron" can easily be mistaken as genuine *Saffron*.

When *Saffron* is used for therapeutic purposes such as a nootropic supplement, *adulteration will make it completely useless or even harmful*.[xxix]

Before you buy your *Saffron* supplement make sure you check that it's a reputable supplement manufacturer who tests all their raw ingredients and encapsulated product.

This is a classic case of discounted or cheap *Saffron* is not a bargain. But something else entirely. Buyer beware!

Nootropics Expert Recommendation

Saffron 25 - 30 mg twice a day

We recommend using *Saffron* as a nootropic supplement.

Your body does not make *Saffron* on its own. So to get its benefits you must take it as a supplement.

Saffron is especially helpful for suffering from anxiety and depression. Studies show Saffron to be as effective as some popular antidepressants but without the side effects.

If you are currently using antidepressants, Saffron may help alleviate the sexual dysfunction caused by these drugs.

Saffron seems to be an effective way to control appetite. No snacking between meals and you're no longer obsessed about food.

Saffron has the added benefit of more energy and stamina to help you through your day.

You can safely take up to 200 mg of *Saffron* daily if needed. But dosed 100 mg at a time. Be familiar with the associated side effects of higher doses of Saffron.

For nootropic use, choose a patented form of Saffron supplement such as the ones I've described above under "*Available Forms*".

Saffron is also a very effective vision supplement. Driving at night is easier on your eyes. And the flicker caused by screens and monitors won't leave you with eye fatigue later in the day.

For a great vision supplement, I highly recommend ***Performance Lab Vision***.

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