

Hop plant

Humulus lupulus



The dried, flowering part of the plant is used to make medicine. Hops is **used for anxiety, inability to sleep (insomnia) and other sleep disorders, restlessness, tension, excitability, attention deficit-hyperactivity disorder (ADHD), nervousness, and irritability.**

Hops are the flower of the hop plant (*Humulus lupulus*) used to make beer. In addition to imparting flavor to ales and pilsners, hops are also believed to offer health benefits. Many of these are attributed to compounds found in the plant's artichoke-shape buds, including the flavonoids xanthohumol and 8-prenylnaringenin and the essential oils humulene and lupuline.

Alternative practitioners believe that these compounds have anti-inflammatory, anti-anxiety, analgesic (pain-relieving), and even anti-cancer properties. Some of these claims are better supported by research than others.

What Potential Benefits Do Hops Offer?

An essential ingredient in beer brewing for well over 1,000 years, hops have been used medicinally since medieval times. Today, herbalists and supplement manufacturers claim that adding hops to a diet can improve your overall health and even prevent certain diseases.

Here is a look at some of the current research.

Insomnia

Early physicians observed that hops pickers tired very easily during the harvest and assumed that a sticky resin excreted by the cut plant caused this effect. In recent years, scientists have confirmed that humulene and lupuline found in hops have mild sedative properties that may have applications in medicine.

A few small studies have investigated the effects of hops on sleep-wake cycles using nonalcoholic beer. In a 2012 study published in PLoS One, female nurses working rotating or night shifts were given alcohol-free beer with supper for two weeks. Researchers monitored the subjects' sleep patterns with a wristband sleep tracker and found that the beer not only helped them fall asleep 8 minutes faster, but also reduced anxiety levels.

These results are similar to a 2014 study of 30 college students. The three-week study used sleep-quality index questionnaires to determine sleep habits. After the first week, students were asked to drink non-alcoholic beer with dinner for the next 14 days. The study authors report significant improvement in sleep scores as well as the time it took to fall asleep.

Other research has focused on using hops along with valerian to treat insomnia. According to a 2010 review of studies from Australia, pairing hops with valerian may help treat insomnia. Of the 16 reviewed studies, 12 found that the combination improved sleep quality and reduced the time it took to fall asleep.

In some cases, this translated to two and a half hours of additional sleep per night and a 50% decrease in the number of nighttime awakenings. These effects may be especially beneficial in people with rotating work shifts and may even prove useful in treating mild anxiety.

Hops in combination with valerian and passionflower may be an effective alternative to prescription sleep medicine. A 2013 study compared the sleeping pill Ambien (zolpidem) to an herbal combination of hops, valerian, and passionflower, and both were found to be equally effective.



Hot Flashes

The flavonoid 8-prenylnaringenin found in hops is classified as a phytoestrogen—a plant-based compound that mimics the activity of the female hormone estrogen. It is believed by some that 8-prenylnaringenin can help increase estrogenic activity in the body, overcoming symptoms of hypoestrogenism (estrogen deficiency).

Since hot flashes and night sweats that typically accompany menopause are due to drops in estrogen that occur, hops may help alleviate them.

According to a 2010 study from Finland, menopausal women provided an eight-week course of a hops extract experienced a reduction of hot flashes, night sweats, and even low libido compared to those provided a placebo.⁶

Moreover, the extract appeared to do so without some of the adverse effects of traditional hormone replacement therapy (HRT), such as bloating, leg cramps, indigestion, headaches.

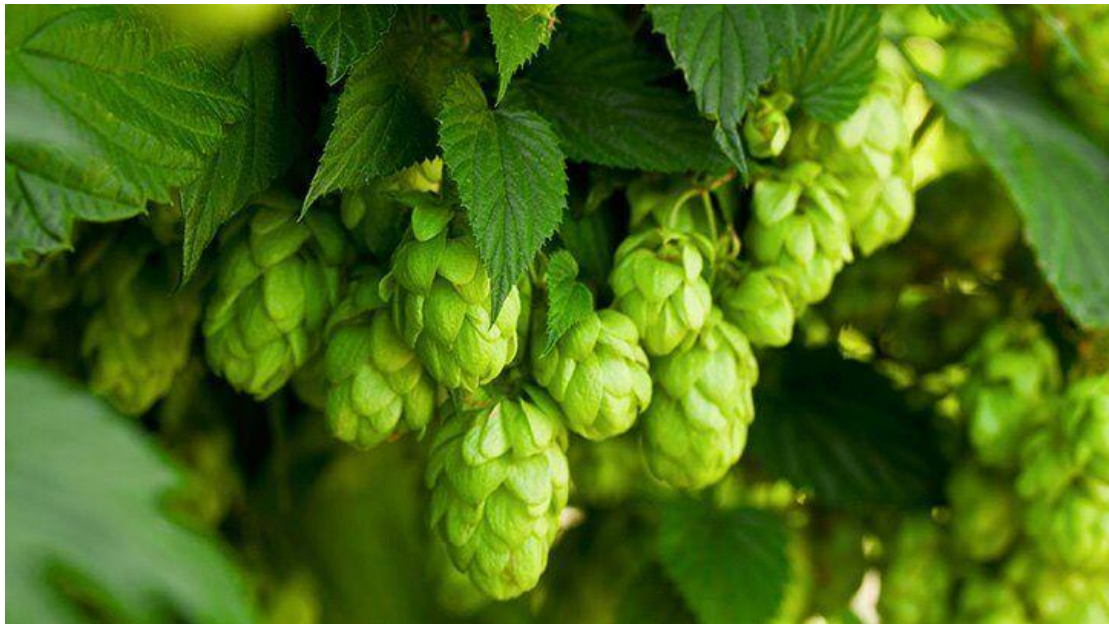
Cardiovascular Disease

Atherosclerosis, often referred to as the hardening of the arteries, is a condition in which the accumulation of plaque inside an artery can lead to a heart attack or stroke. The compound xanthohumol in hops is believed to have anti-restenotic effects, meaning that it can help relax blood vessels and improve blood circulation.

A 2012 study from Japan found that mice fed a hops xanthohumol extract had significant increases in "good" high-density lipoprotein (HDL) cholesterol, corresponding to a decreased risk of atherosclerosis.

Moreover, the increases were seen in a type of HDL rich in apolipoprotein E, a protein central to the metabolism of fat and the prevention of cardiovascular disease.

These same effects may benefit people with obesity by promoting weight loss, reducing abdominal fat, lowering blood pressure, and increasing insulin sensitivity, according to research from Oregon State University.



Cancer

There is little evidence that hops can directly prevent cancer. However, the compound xanthohumol appears to exert anti-cancer effects that may one day lead to the development of novel cancer therapies.

According to a 2018 review of studies from China, xanthohumol was able to kill certain types of cancer in test tube studies, including breast cancer, colon cancer, ovarian cancer, liver cancer, melanoma, leukemia, and non-small cell lung cancer.

The flavonoid appears to do it in several ways. In some cases, xanthohumol was cytotoxic, meaning that it directly "poisons" and kill cancer cells (and, presumably, other cells around it). In other cases, it triggers apoptosis, also known as programmed cell death.

Cancer occurs when cells mutate and no longer undergo the natural process of apoptosis, allowing them to multiply without end. If scientists are able to identify how xanthohumol activates apoptosis in cancer cells, there may one day be a hops-derived drug able to reverse certain cancers.

Depression

Hops are also being studied as a potential treatment for depression and other mood disorders. A 2017 study published in the journal *Hormones* found daily supplementation with hops can reduce stress, anxiety, and depression.

For the placebo-controlled clinical trial, 36 young adults with mild depression were given either 400 milligrams (mg) of Melcalin hops or a placebo for four weeks. At the end of the study, those taking hops showed significant reductions in anxiety, stress, and depression levels compared to the placebo group.

Researchers also measured levels of the stress hormone cortisol throughout the study but did not find any correlation between cortisol levels and hops usage.

Possible Side Effects

When taken for health purposes, hops supplements are believed to be safe and have minimal side effects. Some people may experience tiredness; taking the herbal supplement just before bedtime usually helps minimize the impact of this symptom.

Hops may also cause an allergic cross-reaction (generally with mild rash and congestion) in people who are allergic to birch pollen.

It is not known at what dose hops supplements are beneficial or at what point they may be harmful. Hops supplements are generally

offered in 300-mg to 500-mg formulations and are considered safe within this range.

Hops should be avoided in certain groups, including people with depression in whom hops may cause a worsening of symptoms. People with estrogen-dependent conditions, including endometriosis, gynecomastia (enlarged breasts in males), and certain types of breast cancer, should avoid hops due to their estrogen-like activity.

Due to their sedating effect, hops supplements should be stopped two weeks before surgery as they may amplify the effects of the anesthesia. It is for this same reason that you should avoid taking hops with alcohol, sleeping pills, or other central nervous system depressants.

What to Look For

Most supplements are sold in capsule, tincture, or powder forms.

Dietary supplements are not required to undergo the rigorous testing and research that pharmaceutical drugs do. For this reason, the quality of supplements can vary from one brand to the next. To ensure quality and safety, only choose supplements from reliable, well-known manufacturers.

While many vitamin manufacturers will voluntarily submit their supplements for quality testing by an independent certifying body (like U.S. Pharmacopeia and ConsumerLab), the practice is less common among herbal supplements manufacturers.

Irrespective of the brand you choose, keep in mind that the safety of supplements in pregnant women, nursing mothers, and children has not been established.

Other Questions

Does beer have medicinal properties?

It is hard to recommend drinking beer for the treatment of any medical condition. While some doctors will endorse a daily glass of red wine to reduce your risk of heart disease, there is no data to suggest that beer has the same benefit.

Can you use fresh hops instead of supplements?

On their own, hops are pretty unpalatable and difficult to digest. But when infused into food, they impart a flavor that many people find

appealing (and, presumably, many of the flavonoids and essential oils beneficial to your health).

If you'd like, you can use them to flavor teas or add a bitter, citrusy note to certain foods like custard, ice cream, and meat marinades.

To make a hop iced tea, add ½ ounce of dried hops to one cup of water and one cup of sugar. Bring these to a boil and let steep for 10 minutes. When cooled, add up to 2 liters (½ gallon) of lemonade with ice and serve.

Where can I get fresh hops?

Fresh-off-the-vine hops are harder to find outside of growing regions, though more and more home gardeners are growing them in their own backyards these days. Hops can also be purchased as dried pellets or leaves for home beer brewing.