

GREEN BLACK WALNUT

Tick-borne illnesses (TBIs) are a growing public health concern, with increasing prevalence and diverse presentations. While conventional treatments exist, they often fall short in addressing the complex and chronic nature of these illnesses. Natural remedies, particularly green black walnut hull (GBWH) from *Juglans nigra*, have emerged as potential allies in managing TBIs and promoting general well-being. [1] This article explores the scientific evidence supporting the use of GBWH in alleviating symptoms of TBIs, highlighting its potential benefits and key aspects of quality products.

TBIs are a spectrum of infectious diseases caused by various pathogens transmitted through tick bites. These pathogens include bacteria like *Borrelia burgdorferi* (Lyme disease), *Anaplasma phagocytophilum* (anaplasmosis), and *Babesia microti* (babesiosis), as well as viruses and parasites. [2] TBIs can present with a range of symptoms, including fatigue, joint pain, skin rashes, neurological issues, and cognitive difficulties. [3] Delayed diagnosis and inadequate treatment often lead to chronic illness and significant impact on quality of life.



While conventional treatments focus on managing symptoms and targeting specific infections, they often fail to address the underlying inflammatory processes and multi-systemic effects of TBIs. Additionally, antibiotic resistance poses a growing challenge in managing these illnesses. [4] Consequently, there is a growing interest in natural remedies that offer a more holistic approach to managing TBIs and promoting recovery.

Green Black Walnut Hull is a natural remedy that has been used for centuries to support a healthy environment in the intestine and treat parasitic infections. The hulls of black walnuts contain juglone, a substance that may offer [health benefits such as antioxidant effects and antibacterial properties](#). [5]

Green Black Walnut Hull (GBWH) in Tick-Borne Illness Management:

GBWH, harvested before the outer hull hardens, has been used for centuries in traditional medicine for various ailments. Recent research has shed light on its potential benefits in addressing TBIs due to its unique bioactive compounds:

- **Juglone:** A natural antibiotic with potent activity against a wide range of bacteria, including those associated with TBIs. Studies have demonstrated its effectiveness against *Borrelia burgdorferi*, *Anaplasma phagocytophilum*, and *Rickettsia rickettsii* (causative agent of Rocky Mountain spotted fever). [6]
- **Tannins:** Polyphenols with anti-inflammatory and antioxidant properties, helping to reduce inflammation and oxidative stress associated with TBIs. [7]
- **Ellagic acid:** A potent antioxidant with anti-inflammatory and immune-modulatory effects, supporting the immune system's response to pathogens and promoting healing. [8]
- **Vitamin C:** An essential nutrient with antioxidant and immune-boosting properties, further supporting the body's defence mechanisms.

Component	Role in Alleviating Tick-Borne Illnesses
Juglone	Exhibits antibacterial and antiviral properties
	May have anti-parasitic effects, potentially affecting ticks
	Acts as a natural insecticide, potentially repelling ticks
Tannins	Have astringent properties that may support wound healing
	Antioxidant effects may help reduce inflammation and oxidative stress
Quinones	Display antimicrobial activity, potentially targeting tick-borne pathogens
Polyphenols	Antioxidant properties may contribute to immune system support
Omega-3 Fatty Acids	Anti-inflammatory effects may help in reducing inflammation associated with tick-borne illnesses
Flavonoids	Exhibit antioxidant and anti-inflammatory properties
	May support the immune system's response to infections
Vitamin C	Boosts the immune system and aids in collagen production
	May support the body's ability to fight infections

[Different components in Green Black Walnut Husk, and their role in alleviating tick symptoms]

GBWH exhibits potential in alleviating various TBI symptoms by,

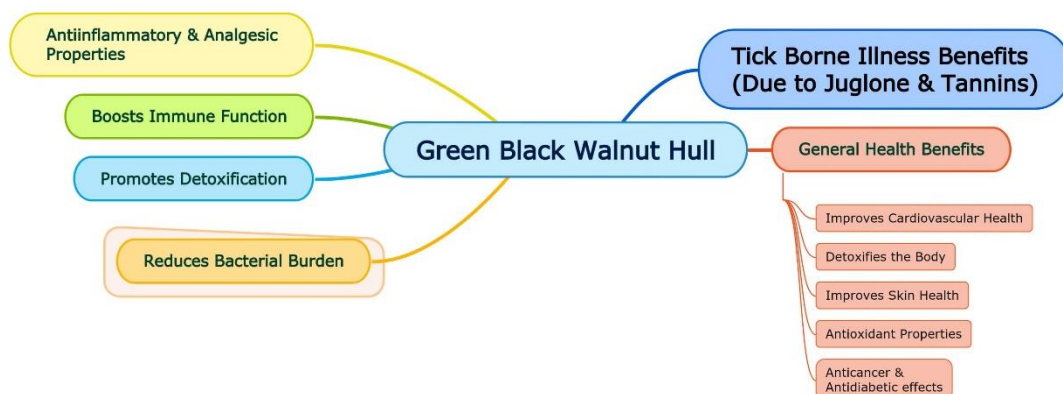
- **Reducing bacterial burden:** GBWH contains juglone, a potent naphthoquinone with demonstrated antibacterial activity against a broad spectrum of bacteria, including those implicated in TBIs such as Lyme disease and anaplasmosis. [9] This antibacterial property helps inhibit the growth and replication of bacteria, reducing the severity of TBI symptoms.
- **Mitigating inflammation:** Tannins and ellagic acid help reduce inflammation, which can alleviate pain, fatigue, joint pain, and other inflammatory symptoms. [10] By mitigating the inflammatory response triggered by tick bites and TBI symptoms, GBWH helps alleviate pain, swelling, and discomfort associated with these infections.
- **Boosting immune function:** Vitamin C and other antioxidants support the immune system in fighting off infections and promoting overall recovery. This protection against oxidative damage helps promote overall well-being and aids in the healing process.

- **Promoting detoxification:** GBWH might play a role in supporting the body's natural detoxification processes, aiding in the elimination of pathogens and metabolic waste products. This regenerative aspect contributes to the restoration of health and vitality. [11]

General Health Benefits of Green Black Walnut Hull?

Beyond its potential in TBI management, GBWH offers several general health benefits:

- **Cardiovascular Health:** Green black walnut hulls may help lower blood pressure and cholesterol levels, which are important factors for cardiovascular health. High blood pressure and cholesterol can damage the blood vessels and increase the risk of heart attack and stroke. [12]
- **Detoxifying the body:** Green black walnut hulls can help cleanse the body of toxins, especially in the digestive tract, and restore a healthy balance of bacteria in the gut. [13] Tannins have astringent properties that can help regulate the digestive system and alleviate digestive discomfort.
- **Protecting against bacterial infection:** Green black walnut hulls have antibacterial and astringent properties that can help prevent the growth of harmful bacteria, such as E. coli and Staphylococcus aureus. [14] GBWH protects against oxidative stress and inflammation, contributing to overall health and well-being.
- **Preventing or treating cancer:** Green black walnut hulls have antioxidants, flavonoids, quinones and polyphenols that have anti-inflammatory, anti-cancer and neuroprotective effects. They may help prevent or treat colon, rectal and other types of cancer.
- **Skin Health:** Green black walnut hulls have antibacterial and astringent properties, which can help protect the skin from infections and inflammation. They can also help treat skin diseases, such as eczema, psoriasis, herpes, and skin parasites. [15]
- **Antioxidant Properties:** Green black walnut hulls have antioxidant properties, which can help protect the cells from oxidative stress and damage. Oxidative stress is a major factor in aging and chronic diseases, such as cardiovascular disease and cancer.

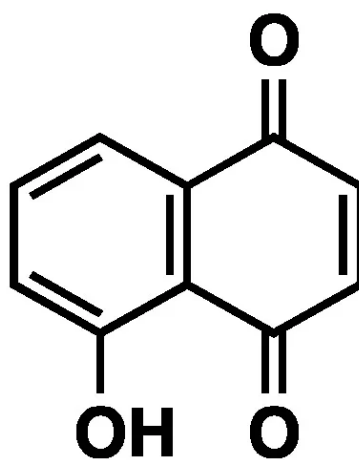


[General Health Benefits of Green Black Walnut Hull]

How does Green Black Walnut Hull works?

GBWH, the green outer hull of the black walnut (*Juglans nigra*), is a potent source of diverse bioactive compounds. These compounds, including juglone, tannins, flavonoids, and quinones, are responsible for its remarkable therapeutic properties.

Juglone is a quinone that has antibacterial, antifungal, antiviral, and antiparasitic properties. It can kill or inhibit the growth of harmful microorganisms, such as bacteria, fungi, viruses, and parasites, that can cause infections and diseases. Juglone also has antioxidant properties, which means it can protect the cells from oxidative stress and damage caused by free radicals. [16] Oxidative stress is a major factor in aging and chronic diseases, such as cardiovascular disease and cancer. Juglone works by undergoing bioreduction to form a semiquinone, which then reduces oxygen to form superoxide, a reactive oxygen species (ROS) that can damage the DNA, proteins, and lipids of the target cells.



The chemical structure of juglone (5-hydroxy-1,4-naphthoquinone)

Tannins are substances that have astringent and anti-inflammatory properties. They can tighten and dry the skin, reduce swelling and redness, and heal wounds and ulcers. Tannins also have antioxidant and immune-boosting properties. They can scavenge free radicals, enhance the function of the immune system, and promote the synthesis of collagen, which is a protein that supports the structure and elasticity of the skin. [17] Tannins work by forming complexes with proteins, polysaccharides, and metal ions, which can modulate their activity and stability.

The efficacy of Tick Guard Vitality lies in its unique formulation, carefully crafted by master herbalists. The tincture harnesses the regenerative power of organic and sustainably wild-crafted Green Black Walnut Hull, ensuring the highest quality and potency. The formulation maximizes the concentration of juglone, enhancing the tincture's ability to guard against tick infections. [18]

The superiority of Tick Guard Vitality begins at the source—the cultivation of Green Black Walnut. The tincture's organic and sustainably wild-crafted nature ensures that the walnut trees thrive in optimal conditions, free from synthetic pesticides or fertilizers. This meticulous approach not only preserves the integrity of the active compounds but also aligns with the principles of environmentally conscious herbalism. [19]

Quality Considerations for Green Black Walnut Hull Products:

Green Black Walnut Hull is often harvested at the green stage of fruit development because the green hulls contain greater concentrations of medicinal compounds than the fully ripened hulls do. The hulls have long been used to support a healthy environment in the intestine. The astringency from the tannins in the hulls offers many topical applications for skin as well. Green black walnut hulls are one of the three primary ingredients in our Parasite Detox formula, a powerful remedy for killing parasites and restoring gut health. [20]

Green Black Walnut Hull is a regenerative organic and sustainably wild-crafted product, which ensures the highest quality and potency. It is master herbalist formulated and contains antibacterial juglone that guards against tick infections. Tannins reduce swelling and pain from ticks, making it an effective remedy for tick-borne illnesses.

Green Black Walnut Hull is superior to other such products because of its potent anthelmintic properties. It is a very effective and natural treatment for athlete's foot and is useful in treating skin diseases, particularly of a fungal nature, including eczema, psoriasis, herpes, and skin parasites.

The quality of GBWH products can significantly impact their potency and efficacy. Key aspects to consider include:

Formulation: The efficacy of Tick Guard Vitality lies in its unique formulation, carefully crafted by master herbalists. The tincture harnesses the regenerative power of organic and sustainably wild-crafted Green Black Walnut Hull, ensuring the highest quality and potency.

Green Black Walnut Hull, scientifically known as *Juglans nigra*, has been revered for its antibacterial properties, primarily attributed to juglone—a bioactive compound with robust antimicrobial activity. The formulation maximizes the concentration of juglone, enhancing the tincture's ability to guard against tick infections.

Growing Methods: The superiority of Tick Guard Vitality begins at the source—the cultivation of Green Black Walnut. The tincture's organic and sustainably wild-crafted nature ensures that the walnut trees thrive in optimal conditions, free from synthetic pesticides or fertilizers. This meticulous approach not only preserves the integrity of the active compounds but also aligns with the principles of environmentally conscious herbalism. [21]

Extraction Techniques: The extraction process employed in creating Tick Guard Vitality is as crucial as the ingredients themselves. A meticulous extraction method ensures the retention of the walnut hull's bioactive compounds, including juglone and tannins. The extraction process optimizes the concentration of juglone, enhancing the tincture's efficacy in preventing and combating bacterial agents transmitted by ticks. Tannins, another key component of Green Black Walnut Hull, contribute to Tick Guard Vitality's anti-inflammatory properties.

Clinical Evidence and Hope for the Future:

Green black walnut hull is a natural remedy that has been used for various health conditions, including tick-borne infections. There are different researches regarding the benefits of green black walnut hull and its role in tick infection wellness. Here are some of them:

- A study by researchers from the Johns Hopkins Bloomberg School of Public Health and the California Center for Functional Medicine and Focus Health found that green black walnut hull extract was one of the most effective plant extracts against the bacterium that causes Lyme disease, *Borrelia burgdorferi*. The extract was able to kill both free-swimming and microcolony forms of the bacterium, as well as persister cells that are resistant to antibiotics. [22]
- A study by researchers from the University of New Haven and the Lyme Disease Research Group found that green black walnut hull extract was able to inhibit the biofilm formation of *Borrelia burgdorferi*, which is a protective layer that makes the bacterium more difficult to eradicate. The extract also showed synergistic effects with antibiotics, enhancing their efficacy against the bacterium.
- A study by researchers from the University of Bari and the University of Messina in Italy found that green black walnut hull extract had anti-inflammatory and antioxidant properties that could help modulate the immune response and reduce the oxidative stress caused by Lyme disease. The extract also showed anti-cancer activity against human leukemia cells. [23]
- A study by researchers from the University of Illinois at Chicago and the Chicago College of Osteopathic Medicine found that green black walnut hull extract had anti-parasitic activity against *Babesia microti*, which is a protozoan parasite that can co-infect with *Borrelia burgdorferi* and cause babesiosis, a malaria-like disease. The extract was able to kill the parasite in vitro and in vivo, and also reduced the parasite load and the severity of symptoms in mice. [24]
- A research conducted by Feng et al. in 2020 discovered that green black walnut hull extract showed effectiveness against the Lyme disease bacterium *Borrelia burgdorferi* in laboratory experiments. It's important to note that this study was carried out in vitro, using cultured bacterial samples exclusively. To assess its real-world effectiveness and safety, additional clinical trials involving human subjects are required. Italian university research also indicates that the compounds present in green black walnut hull have demonstrated antioxidant and anti-inflammatory properties, suggesting potential benefits in managing immune and oxidative stress reactions associated with Lyme disease.

These are some of the researches that support the use of green black walnut hull as a potential alternative or complementary treatment for tick infection wellness. However, more clinical trials are needed to confirm the safety and efficacy of this herbal remedy in humans.

On the other hand, some medical experts argue that there is insufficient evidence from clinical human trials to verify the efficacy and safety of using green black walnut hull extract as a Lyme disease treatment (Johnson, 2021). More research is still needed for exploring the benefits of green black walnut hull in Lyme disease.

In terms of its effectiveness against tick-borne illnesses, Green Black Walnut Hull is a powerful remedy that guards against bacterial infections from ticks, revitalizes after chronic tick illness, and reduces inflammation from ticks. The antibacterial juglone in Green Black Walnut Hull guards against tick infections, while the tannins reduce swelling and pain from ticks. Green Black Walnut Hull is also effective in treating Lyme disease, which is caused by the bacterium *Borrelia burgdorferi*, which is transmitted to humans through the bite of infected black-legged ticks. [25]

Conclusion:

In conclusion, Green Black Walnut Hull, a regenerative and sustainably crafted product, has centuries-old use in promoting intestinal health and combating parasitic infections. Formulated by master herbalists, it contains antibacterial juglone, effectively guarding against tick infections and reducing swelling and pain caused by ticks, making it a potent remedy for tick-borne illnesses, including Lyme disease. Distinguished by superior anthelmintic properties, Green Black Walnut Hull serves as a natural and effective treatment for conditions like athlete's foot, fungal skin diseases (eczema, psoriasis, herpes), and skin parasites. It also revitalizes after chronic tick illness, offering therapeutic benefits beyond Lyme disease treatment.

In the herbal landscape, Tick Guard Vitality stands out as a meticulously formulated, sustainably sourced, and scientifically validated solution to tick-borne illnesses. Careful cultivation and sustainable wild-crafting practices preserve the intrinsic properties of Green Black Walnut Hull. Extraction techniques, maximizing juglone and tannins, enhance Tick Guard Vitality's efficacy against tick infections and alleviate the consequences of tick bites. Navigating the complexities of tick-borne illnesses, Tick Guard Vitality emerges not just as a remedy but as an innovative beacon in herbal therapeutics—a testament to nature's power harnessed through scientific rigor.

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