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Natural Antibiotics: From Plants to Remedies

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Herbal Antibiotics Over Time

Herbal antibiotic treatments have a long history, rooted in the diverse traditions of cultures around the world. These natural remedies were essential long before the advent of modern medicine, serving as the primary means to combat infections. Ancient texts from various cultures reveal the knowledge our ancestors possessed about medicinal plants and their properties. The Ebers Papyrus, an ancient Egyptian medical document dating back to 1550 BC, is one of the oldest records detailing the utilization of moldy bread and medicinal soils for treating infections. Archaeological discoveries at the Dakhleh Oasis in Egypt have unearthed traces of tetracycline, an antibiotic known for its chelating properties, in human skeletal remains. This finding not only sheds light on the ancient Egyptians' understanding of therapeutic substances but also proves their advanced medical knowledge. The Greeks and Romans further expanded this knowledge, with Hippocrates and Galen studying the properties of herbs like oregano and thyme in treating infections. The Roman naturalist Pliny the Elder wrote extensively about the medicinal uses of plants like thyme and sage in his work "Naturalis Historia."

Fast forward to the Middle Ages, where the monasteries of Europe became centers of learning and preservation of medicinal knowledge. Monks meticulously copied ancient manuscripts and cultivated herb gardens, ensuring the continuity of herbal medicine. Then during the Renaissance, scientific exploration flourished, this led to a deeper understanding of the mechanisms behind natural antibiotics. Researchers began isolating active compounds from plants, uncovering the secrets behind their efficacy.

Different Cultural Perspectives

Ayurveda, from India, relies on herbs like Turmeric and Neem to fight infections and boost immunity. Turmeric contains curcumin, an antimicrobial compound, used to treat infections. Neem is used in Ayurveda for its antiseptic and antibacterial properties to address skin, infections, and dental issues, aiming to restore balance in the body.

Traditional Chinese Medicine uses herbs like Astragalus and Coptis to balance yin and yang energies, strengthening the immune system and to fight infections. Coptis is known for its antibacterial effects due to the compound berberine and is used for gastrointestinal problems. Chinese Medicine combines herbal treatments with acupuncture and lifestyle changes to restore health and balance.

Folk Medicine all over the world sees the use of regional herbs to fight infection. In Africa it is common to use garlic to fight infection and to boost the immune system, while ginger is also often used to help with respiratory and digestive infections due to its antibacterial and anti-inflammatory properties.

In Europe, traditionally people use herbs like thyme and sage to take care of infections. Native American tribes for centuries have used herbs like Echinacea and Goldenseal. Echinacea boosts the



immune system, while Goldenseal is known for its antimicrobial action. In Australia, the Aboriginals use Tea Tree and Eucalyptus, while the Amazon Rainforest holds a wealth of flora and fauna with antimicrobial properties that are used by indigenous tribes. The bark of the Pau d'Arco tree, the resin from the Jatoba tree and the sap from the Sangre de Drago, to name just a few, are all used for their antibacterial properties.

The Evolution of Herbal Practices into Modern Medicine

The discovery of synthetic antibiotics, starting with penicillin in 1928 by Alexander Fleming, revolutionized medical treatment by reducing mortality from bacterial infections. This breakthrough paved the way for other antibiotics that transformed healthcare, making diseases and infections more manageable and often curable. However, the misuse of antibiotics has led to antibiotic resistance, where bacteria become resistant to these drugs. This issue has revived interest in herbal remedies due to their potential to fight antibiotic-resistant bacteria.

Integrative medicine combines traditional herbal practices with modern antibiotics for more effective treatments, acknowledging the benefits of both systems. For instance, turmeric, known for its anti-inflammatory and antimicrobial properties, is being researched as a complement to conventional antibiotics. Integrative medicine aims to enhance treatment effectiveness while minimizing resistance risks. The combination of ancient herbal knowledge with contemporary medical advancements is vital for combatting infections effectively and sustainably. The global focus on natural health emphasizes the importance of conserving medicinal plants for future generations through sustainable practices and botanical preservation efforts. By blending historical wisdom with scientific advancements, natural antibiotics offer effective, safe, and sustainable healthcare solutions that align with the increasing demand for holistic approaches.



Natural Antibiotics vs. Synthetic Antibiotics

Understanding the pros and cons of natural and synthetic antibiotics helps us make informed choices about treatment options and recognize the importance of using each type judiciously.

Natural antibiotics tend to be less harsh on the microbiome, maintaining a balance that doesn't disrupt beneficial bacteria as much. However, it's essential to recognize that while natural antibiotics can be potent, they might not always suffice for severe bacterial infections. Their efficacy is often limited to specific pathogens, meaning they may fall short when faced with more aggressive or widespread infections. In such cases, relying solely on natural treatments could lead to inadequate therapy, prolonged illness, or worsening conditions. This risk underscores the importance of understanding the limitations of natural antibiotics and using them appropriately based on the severity of the infection.

On the other end of the spectrum, synthetic antibiotics are laboratory-manufactured and designed to combat a broad range of bacteria. Their development has revolutionized modern medicine, enabling effective treatment of life-threatening infections that were once considered incurable. For example, Amoxicillin and Ciprofloxacin are widely used synthetic antibiotics that treat various bacterial infections, from urinary tract infections to respiratory illnesses. The versatility and potency of these medications make them invaluable in clinical settings, especially for severe or systemic infections where rapid and comprehensive action is necessary.

Nonetheless, the powerful nature of synthetic antibiotics comes with noteworthy drawbacks. One significant issue is the potential for side effects. While some individuals might experience mild allergic reactions, others could face more serious repercussions like gastrointestinal disturbances, disruptions to the body's natural flora, or even life-threatening conditions such as anaphylactic shock. Additionally, the overuse and misuse of synthetic antibiotics contribute significantly to the growing problem of antibiotic resistance. This phenomenon isn't just a theoretical risk; it's a pressing global health crisis that threatens to undermine decades of medical advancements.

It is important to have the right tool for the right job. Natural antibiotics are excellent for minor infections and preventive measures, helping maintain overall health without introducing strong chemicals into the body. For example, incorporating antimicrobial herbs like oregano or ginger into one's routine can offer daily protection and bolster the immune system's natural defenses.

Synthetic antibiotics, while effective, should be prescribed and taken with caution. Patients must adhere strictly to the prescribed dosage and complete the full course of treatment, even if symptoms improve before the medication is finished. This practice ensures that all the bacteria are eradicated, minimizing the chance for surviving bacteria to develop resistance. Those opting for natural antibiotics should also seek guidance from knowledgeable healthcare providers to avoid inappropriate use and ensure the chosen remedy suits their specific needs.



How Bacteria Develop Resistance

Bacteria have an incredible ability to adapt and evolve, which plays a pivotal role in the development of antibiotic resistance. This phenomenon occurs when bacteria undergo mutations in their genetic material, that enable them to survive exposure to antibiotics. These mutations can result in various forms of resistance, such as altering the target site of the antibiotic, producing enzymes that degrade the antibiotic, or increasing the efflux pumps to expel the antibiotic from the cell. When a strain of bacteria develops resistance, it can thrive even in the presence of the drug designed to eliminate it. Bacteria's ability to mutate continuously presents a significant challenge in managing infections. Certain bacterial mutations may alter the protein structures targeted by antibiotics, rendering the treatment ineffective.

The misuse and overuse of antibiotics significantly contribute to the emergence of resistant bacterial strains. Incorrect antibiotic usage is prevalent, with estimates suggesting half of antibiotics globally are employed erroneously.

Low and middle-income nations bear the brunt of this issue, with most fatalities among children under five occurring in these regions. Annually, over 200,000 newborns, primarily in low and middle-income countries, perish due to antibiotic-resistant sepsis. The economic impact is substantial, with projected expenses reaching up to US\$3.4 trillion by 2030.

The escalation of antimicrobial resistance stems mainly from human activities, exacerbated by globalization and increased mobility. Microorganisms transcend national boundaries, spreading among humans, animals, and through environmental mediums like water and soil. The widespread use of antibiotics in agriculture and livestock further accelerates this process, as resistant bacteria can transfer from animals to humans. Poor infection control practices and inadequate sanitation also contribute to the spread of resistant bacteria, making it a significant public health challenge.

Slowing Down the Emergence of Antibiotic Resistant Bacteria

To effectively slow down the emergence of antibiotic-resistant bacteria, it is crucial to adopt a multi-pronged approach that includes both medical guidelines and lifestyle changes.

Firstly, one of the most vital actions individuals can take is to use antibiotics only when necessary and strictly as prescribed by a healthcare professional. Overuse and misuse of antibiotics are key drivers of resistance. People often assume that antibiotics are a cure-all for infections, but they are only effective against bacterial infections and not viral ones like the common cold or flu. Self-medicating or pressuring doctors to prescribe antibiotics for conditions that do not require them only exacerbates the problem.

It is always important to complete the full course of antibiotics, even if you start feeling better before the medication is finished. The temptation to stop taking antibiotics once symptoms subside is



strong, but doing so can leave behind surviving bacteria that are more likely to develop resistance. These resilient bacteria can multiply, leading to infections that no longer respond to standard treatments. By taking the entire prescribed course, you ensure that all the bacteria are eradicated.

Maintaining a healthy immune system is another critical strategy. Proper nutrition, regular exercise, and adequate sleep are foundational pillars of good health. Consuming a balanced diet rich in vitamins, minerals, and antioxidants strengthens your body's natural defenses. Regular physical activity boosts circulation and improves the efficiency of immune cells.

Incorporating organic foods and herbal alternatives into your diet and health practices can also significantly contribute to slowing down antibiotic resistance. Organic foods are typically produced without the use of synthetic pesticides and antibiotics, making them a safer choice. Opting for organic meats and dairy products ensures that these items have not been exposed to antibiotics, which can contribute to resistance. Many herbs and natural remedies have antimicrobial properties and can serve as effective alternatives to synthetic antibiotics for minor infections. While they may not replace conventional antibiotics for severe infections, using alternatives for minor issues reduces the overall demand for synthetic options.

Simple hygiene practices like washing hands thoroughly with soap and water, cooking food properly, and keeping living spaces clean can prevent infections from occurring in the first place. By reducing the incidence of infections, we reduce the need for antibiotics and thus curb the development of resistance.



Plant Antibiotics and Their Uses

Garlic (*Allium sativum*)

Garlic is a bulbous plant belonging to the Allium family, which includes onions and leeks. It is known for its strong odor and flavor, which becomes more pronounced when it is crushed or chopped. Known as "lashuna" in Ayurveda. The plant thrives in various climates and is widely cultivated around the world and accepted by the conventional medical establishment.

Garlic has been used for thousands of years for both culinary and medicinal purposes. Ancient civilizations such as the Egyptians, Greeks, Romans, and Chinese recognized its therapeutic potential. The Egyptians used garlic in burial rites and believed it had sacred properties, while Hippocrates, often called the "father of medicine," prescribed garlic for various conditions. Throughout history, garlic has been valued for its ability to enhance immunity and combat infections.



Properties

Pungent - Heating - Drying - Antioxidant - Antibiotic - Stimulant - Expectorant - Anti fungal - Lowers Blood pressure and Cholesterol - Antispasmodic

Antimicrobial Action

Garlic's antimicrobial action is primarily due to allicin, which disrupts the cell walls of bacteria, fungi, and viruses, thereby inhibiting their growth.

Uses

Garlic is used both as a preventive measure and as a treatment for various infections. It can be consumed raw, cooked, or in supplement form. Garlic can be powdered, drank in tea, decoction, or in an infused oil. Medicinally, garlic is used to:

- ❖ Garlic is known to enhance the immune system. Regular consumption can help strengthen the body's defense against illnesses.
- ❖ Used to treat respiratory infections, including bronchitis, chest infections, asthma, flu, colds, and ear infections.
- ❖ Infused garlic oil can be used as a chest rub for coughs and chest infections. It can also be applied to the ear to help with ear infections.



- ❖ Fresh garlic juice can be applied to fungal infections such as athlete's foot. Crush fresh garlic and apply the juice directly to the affected area.
- ❖ Supports cardiovascular health and may help lower blood pressure and cholesterol levels. Incorporating garlic into your diet can provide these benefits.
- ❖ Garlic has natural antibiotic properties. Chewing 6-12 raw cloves of garlic throughout the day can help fight infections. Consume 3 cloves at a time, a few times a day.

Precautions

- ❖ Garlic can cause gastrointestinal discomfort in some individuals. Start with small amounts to see how your body reacts.
- ❖ Garlic may interact with certain medications, including anticoagulants and antihypertensives. Consult a healthcare professional before using garlic if you are taking these medications.
- ❖ Excessive consumption of garlic can lead to strong body odor and bad breath. Eating an apple or drinking a small amount of lemon juice can help alleviate this odor.
- ❖ Some people may be allergic to garlic and may develop a rash. If this occurs, cease use immediately.
- ❖ Breastfeeding mothers should avoid large amounts of garlic as it may cause colic in infants.

Tips for Foraging and Planting

- ❖ Wild garlic is commonly found in woodlands and moist environments.
- ❖ Identify wild garlic by its broad, green leaves and distinct garlic smell.
- ❖ Harvest the leaves in spring before the plant flowers for the best flavor.
- ❖ Garlic is best planted in the fall, a few weeks before the first frost.
- ❖ Can be harvested 6-8 months after planting.
- ❖ Choose a sunny spot with well-drained soil.
- ❖ Plant cloves 2 inches deep and 6 inches apart, with the pointed end facing up.
- ❖ Mulch to protect against extreme cold and weeds.
- ❖ Water regularly, but do not overwater as garlic prefers slightly dry conditions.

Ginger (*Zingiber officinale*)

Ginger is a flowering plant whose rhizome, or root, is widely used as a spice and a folk medicine. It is characterized by its pungent and spicy aroma, which is primarily due to its essential oils and phenolic compounds.

Ginger has been used for thousands of years in traditional medicine and culinary practices across various cultures. Originating in Southeast Asia, it was known in ancient China and India for its medicinal properties. It was also used by Greeks and Romans, who





considered it a valuable trade commodity. Traditional uses of ginger include treating digestive issues, inflammation, and various ailments.

Properties

Pungent- Sweet - Warming - Drying - Analgesic - Expectorant - Stimulant - Antidepressant - Antioxidant - Antispasmodic

Antimicrobial Action

Ginger exhibits broad-spectrum antimicrobial activity against a variety of pathogens. Ginger is the main bioactive compound responsible for much of ginger's medicinal properties, particularly its anti-inflammatory and antioxidant effects. Studies have shown that gingerol and shogaol can inhibit the growth of bacteria and viruses. These compounds work by disrupting the microbial cell membrane, inhibiting the synthesis of essential proteins, and interfering with metabolic pathways.

Uses

- ❖ Ginger can effectively reduce nausea and vomiting. It can be consumed as crystallized ginger, in capsules, or as tea. This is particularly useful during pregnancy and for travel sickness.
- ❖ May help alleviate menstrual cramps. Drink ginger tea or use grated ginger in a warm compress applied to the lower abdomen for relief.
- ❖ Ginger's anti-inflammatory properties can help reduce muscle pain and soreness. Can be used in a massage oil by making an infused oil or by adding essential oil to a carrier oil.
- ❖ Ginger may help reduce inflammation and alleviate pain associated with conditions like osteoarthritis. Consuming ginger tea or incorporating ginger into your diet can provide these benefits.
- ❖ Fresh ginger can be dried and powdered for convenience, making it easy to use in various recipes and remedies.
- ❖ Ginger can be taken internally to help with chronic indigestion, bloating, gas, colic, and irritable bowel syndrome. Drinking ginger tea or taking ginger powder can aid digestion. Additionally, ginger oil can be massaged around the abdomen to stimulate digestion and appetite.
- ❖ A ginger gargle can ease a sore throat.

Precautions

- ❖ Ginger may cause mild side effects such as heartburn, diarrhea, and stomach discomfort. Start with small amounts to see how your body reacts.
- ❖ Ginger may interact with blood thinners and medications for diabetes and high blood pressure. Consult a healthcare professional before using ginger if you are taking these medications.
- ❖ Pregnant women should consult a healthcare provider before using large amounts of ginger to ensure it is safe for their specific situation.



Tips for Foraging and Planting

- ❖ Ginger is not typically foraged in the wild; it is best grown or purchased from a reputable source.
- ❖ When selecting fresh ginger, look for firm, smooth, and unblemished roots.
- ❖ Ginger thrives in warm, humid climates.
- ❖ Plant ginger in well-drained soil with plenty of organic matter.
- ❖ Start with a piece of fresh ginger root that has visible eyes (buds).
- ❖ Plant the ginger root 2-4 inches deep, with the buds facing up, and water regularly but avoid waterlogging.
- ❖ Harvest ginger 8-10 months after planting when the leaves start to yellow and die back.

Thyme (*Thymus vulgaris*)

Thyme is a perennial herb from the mint family, Lamiaceae. It is known for its small, aromatic leaves and pink or purple flowers. Thyme is native to the Mediterranean region and is widely cultivated for culinary, medicinal, and ornamental uses. It thrives in sunny, dry conditions and well-drained soil.



Thyme has been used since ancient times for its medicinal and culinary properties. The ancient Egyptians used thyme for embalming, while the Greeks used it in their baths and as incense in their temples. Romans used thyme to purify their rooms and to give aromatic flavor to cheese and liqueurs. Throughout history, thyme has been associated with courage, with medieval knights wearing thyme as a symbol of bravery. Its use as a medicinal herb has been well-documented in traditional European, Middle Eastern, and African cultures.

Properties

Antiseptic - Antifungal - Antibacterial - Expectorant - Soothing - Digestive tonic - Diuretic

Antimicrobial Action

Thyme's antimicrobial action is largely due to its essential oils, particularly thymol and carvacrol. These compounds disrupt the cell membranes of bacteria and fungi, leading to their death.

Uses

- ❖ Thyme can be used to alleviate respiratory conditions. It can be ingested as a tea or tincture. Essential oil can be used in steam inhalation to relieve symptoms.
- ❖ Thyme tincture can be used 2-3 times a day for its antiviral and antibiotic effects. Drinking thyme tea 2-3 times a day can also provide these benefits. This can be helpful for coughs, chest infections and urine infections.



- ❖ Thyme acts as an antiseptic. It can be used in a salve combined with tea tree oil to treat minor wounds, skin infections and fungal infections.
- ❖ Thyme tea can help relieve digestive issues such as bloating and indigestion. Drinking thyme tea regularly can support overall digestive health.
- ❖ Regular consumption of thyme supports and strengthens the immune system.
- ❖ Use an infusion of thyme or add 20 drops of tincture or 3-4 drops of essential oil to a sitz bath to help treat thrush and other vaginal infections.
- ❖ Thyme cough syrup can effectively calm a cough.
- ❖ Thyme vinegar can be used to treat an athlete's foot. Mix 1 part thyme vinegar with 1 part water and use it as a douche for thrush.
- ❖ An infused oil or thyme essential oil diluted in a carrier oil can be used as a massage oil to help relieve arthritis symptoms.

Precautions

- ❖ Thyme oil should be used with caution as it is highly concentrated and can cause skin irritation if not properly diluted. Always dilute essential oil in a carrier oil before use.
- ❖ People with allergies to plants in the Lamiaceae family should avoid thyme. Perform a patch test before using thyme oil on the skin to check for any allergic reactions.
- ❖ Excessive consumption of thyme can lead to gastrointestinal upset. Use in moderation and follow recommended dosages.

Tips for Foraging and Planting

- ❖ Wild thyme can be found in dry, rocky areas and open fields.
- ❖ Look for small, aromatic leaves and purple flowers.
- ❖ Harvest in the morning after the dew has dried but before the heat of the day to ensure the highest concentration of essential oils.
- ❖ Plant thyme in well-drained soil in a sunny location.
- ❖ Space plants 12-24 inches apart to allow for airflow and prevent fungal growth.
- ❖ Water sparingly; thyme is drought-tolerant and prefers dry conditions.
- ❖ Harvest thyme by cutting the top 5-6 inches of the plant before it flowers for the best flavor and potency.

Echinacea (*Echinacea purpurea*)

Echinacea is a perennial herb belonging to the Asteraceae family. It is characterized by its daisy-like flowers with purple, pink, or white petals and a spiny central disk. Echinacea is native to North America and thrives in prairies and open wooded areas.

Echinacea, commonly known as coneflower, has been used for centuries by Native American tribes for its medicinal properties. It was traditionally used to treat wounds, infections, and snake bites. In the late





19th and early 20th centuries, echinacea became popular in North American and European herbal medicine. Today, it is widely used as an immune system booster and for the prevention and treatment of colds and flu.

Properties

Stimulates Immune System - Antimicrobial - Antiviral - Antiseptic

Antimicrobial Action

Echinacea's antimicrobial action is attributed to its ability to enhance the immune system. It stimulates phagocytosis, the process by which immune cells engulf and destroy pathogens. Additionally, echinacea increases the production of interferons, proteins that inhibit viral replication. The combination of alkamides, chicoric acid, and polysaccharides contributes to its ability to combat bacterial and viral infections.

Uses

- ❖ Regular use of echinacea can help support and boost the immune system. It can be taken as a tea, tincture, or in capsule form. To make echinacea tea, steep 1-2 teaspoons of dried echinacea in hot water for 10-15 minutes. Tinctures are also a perfect way to take a more concentrated dose.
- ❖ May help prevent and treat colds, viruses, and flu. Consuming echinacea tea or taking it in tincture or capsule form at the onset of symptoms can reduce the severity and duration of these illnesses.
- ❖ Known to reduce the severity and duration of infections when taken regularly.
- ❖ Echinacea can be applied topically to aid in wound healing and treat infections. As part of a wound powder it can be applied directly to cuts and abrasions. Alternatively, mix with a carrier substance like coconut oil for a salve.
- ❖ Echinacea has anti-inflammatory properties that can help alleviate conditions such as sore throats. Use echinacea in a gargle to relieve symptoms of tonsillitis, sore throat, mouth ulcers, and gum infections.
- ❖ May be used as a supportive treatment for herpes.

Precautions

- ❖ Echinacea can cause allergic reactions, particularly in individuals allergic to plants in the Asteraceae family, avoid giving to children.
- ❖ Long-term use (beyond 8 weeks) is not recommended without medical supervision.
- ❖ May interact with immunosuppressant medications.
- ❖ Perform a patch test before using any new herbal remedy on your skin to check for allergic reactions.
- ❖ Use echinacea in cycles, such as two weeks on and one week off, to avoid overstimulation of the immune system.



Tips for Foraging and Planting

- ❖ Echinacea can be found in prairies, meadows, and open wooded areas in North America.
- ❖ Look for its distinctive daisy-like flowers with purple or pink petals and spiny central cones.
- ❖ Harvest the roots in the fall after the plant has gone to seed for the highest concentration of active compounds.
- ❖ Echinacea prefers well-drained soil and full sun but can tolerate partial shade.
- ❖ Sow seeds in the spring or fall, lightly covering them with soil.
- ❖ Space plants 12-18 inches apart to allow for growth.
- ❖ Water regularly until established, then reduce watering as echinacea is drought tolerant.

Sage (*Salvia officinalis*)

Sage is a perennial, evergreen subshrub with woody stems, grayish leaves, and blue to purplish flowers. It belongs to the mint family, Lamiaceae, and is native to the Mediterranean region. Sage thrives in well-drained soil and full sun, making it a popular herb in gardens worldwide.



Sage has been valued for its medicinal, culinary, and ornamental uses for thousands of years. The ancient Egyptians used sage for fertility, while the Greeks and Romans valued it for its healing properties. During the Middle Ages, sage was a key component of medicinal gardens in monasteries. It has been used traditionally to treat a variety of ailments, including digestive issues, inflammation, and infections. Sage is also associated with wisdom and longevity, and it was often used in rituals and ceremonies.

Properties

Women's tonic - Stimulant - Strengthening - Antispasmodic - Nervine – Antiseptic

Antimicrobial Action

Sage exhibits significant antimicrobial activity, largely due to its essential oils such as thujone, camphor, and 1,8-cineole. These compounds disrupt microbial cell membranes, inhibit the growth of bacteria, fungi, and viruses, and modulate inflammatory responses. Studies have demonstrated sage's effectiveness against various pathogens, including *Staphylococcus aureus*, *Escherichia coli*, and *Candida albicans*.



Uses

- ❖ Sage can be used to help alleviate symptoms associated with menstruation and menopause. Teas and tinctures are a great way to ingest sage but not to be taken for long periods. A warm compress soaked in sage tea can also provide relief.
- ❖ May have calming properties that help alleviate symptoms of depression, nervous exhaustion, and anxiety. Incorporate sage tea into your daily routine to experience these potential benefits.
- ❖ Drinking sage tea, especially when combined with rosemary, may help improve memory and cognitive function. Prepare a tea with equal parts sage and rosemary leaves steeped in hot water.
- ❖ Cold sage tea can be used to help dry up breast milk. Brew the tea as usual, let it cool, and drink it to aid in this process. Always consult with a healthcare provider before using sage for this purpose.
- ❖ May relieve inflammation and infection in the mouth or throat, such as in cases of laryngitis and tonsillitis.
- ❖ Helps with digestion and alleviate gastrointestinal discomfort. Drinking sage tea before meals may also help increase appetite.
- ❖ May help reduce inflammation associated with conditions like arthritis.
- ❖ Sage can be applied topically to aid in wound healing and treat skin infections.

Precautions

- ❖ Sage contains thujone, which can be toxic in high doses. Avoid excessive consumption.
- ❖ Always dilute essential oils before use. For topical applications, mix with a carrier oil. For gargling, use only a few drops in a large amount of water.
- ❖ Pregnant and breastfeeding women should avoid sage.
- ❖ Sage may interact with medications that affect the central nervous system and blood pressure.
- ❖ Perform a patch test before using any new herbal remedy on your skin to check for allergic reactions.
- ❖ Follow recommended dosages for teas, tinctures, and essential oils to avoid potential side effects.

Tips for Foraging and Planting

- ❖ Sage is native to the Mediterranean region, so it is often found growing wild in these areas, particularly in rocky and dry environments.
- ❖ In some regions, sage can be found growing naturally in coastal areas with well-drained, sandy soils.
- ❖ Sage commonly grows in chaparral and scrubland ecosystems, which are characterized by dry, rocky soil and plenty of sunlight.
- ❖ Look for its distinctive gray-green leaves and blue to purplish flowers.



- ❖ Prune regularly to promote bushy growth and prevent legginess.
- ❖ Water regularly until established, then reduce watering as sage is drought tolerant.
- ❖ Plant seeds or cuttings in the spring or fall, spacing plants 12-24 inches apart.
- ❖ Sage prefers well-drained soil and full sun.
- ❖ Harvest leaves in the morning after the dew has dried for the best flavor and potency.

Honey (*Apis mellifera*)

Honey is a natural substance produced by bees from the nectar of flowers. It is known for its sweet taste, viscous consistency, and diverse health benefits. Ancient civilizations such as the Egyptians, Greeks, and Romans documented its use for wound healing and treating various ailments. Honey was also a key component in traditional Ayurvedic and Chinese medicine.



Manuka honey is derived from the nectar of the Manuka tree (*Leptospermum scoparium*), native to New Zealand and Australia, and has been used by indigenous Maori and Aboriginal people for its therapeutic properties. Manuka honey stands out for its unique and potent antibacterial properties, which are much higher compared to other types of honey.

Properties

Antifungal - Antibacterial - Nourishing - Moisturizing - Antiseptic - Antioxidant - Antiallergenic - Anti-inflammatory - Antiviral - Expectorant - Immune stimulant - Laxative – Tonic

Antimicrobial Action

Honey's antimicrobial action is due to its high sugar content, low pH, and the presence of hydrogen peroxide and methylglyoxal. These properties create an inhospitable environment for bacteria, fungi, and viruses. Manuka honey, with its high methylglyoxal content, has been shown to be particularly effective against antibiotic-resistant bacteria such as MRSA (Methicillin-resistant *Staphylococcus aureus*).

Uses

- ❖ Honey is effective for treating wounds and burns. Apply a thin layer of honey directly to the affected area and cover with a sterile bandage, changing it 1-2 times daily.
- ❖ Mix honey with Aloe Vera pulp in equal parts and apply directly to burns for additional soothing and healing effects.
- ❖ Use a honey compress to soothe cuts and bruises and prevent infection. Apply honey to a clean cloth and place it on the affected area.
- ❖ Honey soothes sore throats and coughs, making it an excellent base for cough syrups and a great addition to teas.



- ❖ Mix warm water with honey to create a soothing gargle for sore throats.
- ❖ Honey can help soothe mouth sores. Pass a small amount of honey over the affected area for relief.
- ❖ Smearing set honey onto an athlete's foot several times a day may relieve symptoms.
- ❖ Internal use of honey can help combat gastrointestinal infections. Regular ingestion supports digestive health.
- ❖ Regular consumption of honey can help boost the immune system.
- ❖ Topical application of honey can help with skin conditions like acne and eczema. Apply honey directly to the affected area and let it sit for 15-20 minutes before rinsing off.
- ❖ Prepare a soothing tea with honey, lemon, and ginger to help fight colds, coughs, and flu.
- ❖ **As a preventive:** Take 1 tablespoon, pure or diluted in tea, 3 times per day.
- ❖ **For acute conditions:** Take 1 tablespoon every hour, or 1 tablespoon in tea 6–10 times per day.

Precautions

- ❖ Honey should not be given to children under one year of age due to the risk of botulism.
- ❖ People with diabetes should use honey cautiously as it can affect blood sugar levels.
- ❖ Allergic reactions to honey are rare but possible, especially in individuals allergic to bee products. Perform a patch test before topical use if you have known allergies.

Tips

- ❖ When buying honey, look for raw and organic options to ensure it retains its beneficial properties.
- ❖ Manuka honey should have a Unique Manuka Factor (UMF) rating to indicate its potency.
- ❖ Plant nectar-rich flowers and shrubs to support local bee populations.
- ❖ Ensure a pesticide-free environment to protect bees and promote healthy honey production.
- ❖ Consider setting up a beehive if local regulations allow, to produce your own honey.

Clove (*Syzygium aromaticum*)

Clove is a tropical evergreen tree whose dried flower buds are used as a spice. Cloves are known for their strong, pungent aroma and taste. The plant thrives in tropical climates and is widely cultivated in countries such as Indonesia, India, Madagascar, Zanzibar, Pakistan, and Sri Lanka.

Clove has been used for thousands of years in traditional medicine and culinary practices. Many ancient civilizations valued cloves for their aromatic qualities and medicinal properties. During the Middle Ages, cloves were highly prized and extensively traded. Traditionally, cloves were used to treat digestive issues, toothaches, and respiratory ailments.





Properties

Analgesic - Antiviral - Warming - Anti-inflammatory - Digestive - Antiparasitic - Expectorant - Antifungal

Antimicrobial Action

Clove's antimicrobial action is primarily due to eugenol, which can disrupt microbial cell membranes and inhibit enzyme activity. Studies have shown that clove oil is effective against a variety of pathogens, including *Staphylococcus aureus*, *Escherichia coli*, and *Candida albicans*. Eugenol also exhibits antiviral properties, making cloves a versatile natural remedy.

Uses

- ❖ Clove oil is well-known for its analgesic properties, particularly for dental pain. Dilute a few drops of clove oil with a carrier oil (like olive or coconut oil) and apply it to the affected tooth using a cotton ball. Alternatively, you can chew on a whole clove near the painful area.
- ❖ Can help alleviate digestive issues like bloating, indigestion, and nausea.
- ❖ Sprinkle a small amount of clove powder into your food to aid digestion.
- ❖ Cloves have expectorant properties that can help clear respiratory passages and relieve coughs. Perfect for steam inhalations and chest rubs.
- ❖ Cloves possess anti-inflammatory and antimicrobial properties that can be used for minor cuts and wounds. Infused oil can be used for minor cuts and wounds to prevent infection and reduce inflammation. This oil can also be used to relieve muscle and joint pain when massaged to the affected area. It also makes a great insect repellent.
- ❖ To maintain oral hygiene clove can be used in a mouthwash to freshen breath and reduce bacteria.

Precautions

- ❖ Clove oil is very potent and should be used with caution. It must be diluted before topical or internal use.
- ❖ Excessive consumption of cloves or clove oil can cause gastrointestinal upset and other side effects. Use cloves in moderation.
- ❖ Pregnant and breastfeeding women should consult a healthcare provider before using clove oil.
- ❖ Cloves may interact with medications that affect blood clotting.
- ❖ Always dilute clove oil before applying it to the skin to avoid irritation.
- ❖ Perform a patch test before using clove oil or any clove preparation on your skin to ensure you do not have an allergic reaction.

Tips for Foraging and Planting

- ❖ Cloves are not typically foraged in the wild but are harvested from cultivated clove trees.



- ❖ If growing your own clove tree, ensure it is in a tropical or subtropical climate.
- ❖ Harvest the flower buds before they open and dry them in the sun.
- ❖ Clove trees prefer well-drained, loamy soil and full sun.
- ❖ Plant seeds or cuttings in the spring or summer.
- ❖ Water regularly, keeping the soil moist but not waterlogged.
- ❖ Clove trees can take several years to mature and produce flower buds.

Oregano (*Origanum vulgare*)

Oregano is a perennial herb in the mint family, Lamiaceae. It is characterized by its aromatic leaves and small purple flowers. Native to the Mediterranean region, oregano is widely cultivated for its culinary and medicinal uses. The herb thrives in well-drained soil and full sun.



Oregano has been used for thousands of years, both as a culinary herb and for its medicinal properties. Ancient Greeks and Romans valued oregano for its flavor and therapeutic benefits. The name "oregano" comes from the Greek words "oros" (mountain) and "ganos" (joy), reflecting the herb's delight to the senses. Traditionally, oregano was used to treat respiratory and digestive issues, and it was also applied to wounds for its antiseptic properties.

Properties

Antimicrobial - Antioxidant - Anti-inflammatory - Antispasmodic - Carminative - Immune Booster - Antiparasitic - Analgesic

Antimicrobial Action

Oregano's antimicrobial action is primarily due to carvacrol and thymol, which disrupt the cell membranes of bacteria, fungi, and viruses. These compounds are effective against a range of pathogens.

Uses:

- ❖ Oregano oil can help alleviate symptoms of respiratory conditions. It can be ingested in capsule form, which are available at health food shops, or used essential oil can be used in steam inhalation by adding a few drops to hot water and covering the head and bowl with a towel.
- ❖ Can help with bloating, indigestion, and gastrointestinal infections. A tea is an easy way to use oregano for digestive issues. Take an infusion 2-3 times a day.
- ❖ Acts as a natural antibiotic and antifungal agent, helping to combat infections. It can be ingested in capsule form, tea, tincture or essential oil can be diluted and applied topically to affected areas.



- ❖ Regular ingestion of oregano oil capsules can support immune function and overall health, helping to protect against various infections and illnesses.

Precautions

- ❖ Oregano oil is very potent and must be used with caution. Always dilute oregano oil before topical or internal use to avoid irritation.
- ❖ People with allergies to plants in the Lamiaceae family (such as mint, basil, lavender, and sage) should avoid using oregano oil. always to a patch test first.
- ❖ Pregnant and breastfeeding women should avoid using oregano.

Tips for Foraging and Planting

- ❖ Wild oregano can be found in rocky, dry areas and hillsides in the Mediterranean region and parts of the United States.
- ❖ Look for its distinctive aromatic leaves and small purple flowers.
- ❖ Harvest the leaves in the morning after the dew has dried for the best flavor and potency.
- ❖ Oregano prefers well-drained soil and full sun.
- ❖ Plant seeds or cuttings in the spring, spacing plants 12-24 inches apart.
- ❖ Water regularly until established, then reduce watering as oregano is drought-tolerant.
- ❖ Harvest oregano by cutting the top 5-6 inches of the plant before it flowers for the best flavor and potency.

Turmeric (*Curcuma longa*)

Turmeric is a perennial herbaceous plant in the ginger family, Zingiberaceae. It is characterized by its bright yellow-orange rhizomes, which are used both as a spice and a medicinal herb. Turmeric thrives in tropical climates with ample rainfall.

Turmeric has been used for over 4,000 years in traditional medicine and culinary practices. Originating in South Asia, it has been a staple in Ayurvedic and Chinese medicine. Historically, turmeric was used to treat a variety of ailments, including digestive issues, skin diseases, and inflammatory conditions. It is also a significant cultural and religious symbol in many South Asian traditions.



Properties

Anti-inflammatory - Antioxidant - Antimicrobial - Digestive aid - Liver tonic - Analgesic - Immune booster



Antimicrobial Action

Turmeric's antimicrobial action is largely due to curcumin, which can disrupt microbial cell membranes, inhibit the growth of bacteria, fungi, and viruses, and modulate inflammatory responses.

Uses

- ❖ Turmeric is known for its anti-inflammatory and analgesic properties, which can help alleviate pain and inflammation in a wide range of conditions such as arthritis. Tincture is a great way to ingest turmeric for these benefits.
- ❖ Can support digestive health and relieve gastrointestinal discomfort. It can also be consumed in powder form or as a curcumin extract.
- ❖ Acts as a natural antibiotic and antifungal agent, helping to combat infections.
- ❖ Regular consumption of turmeric can support immune function and overall health, helping to protect against various infections and illnesses. It can be taken as a tincture daily in the morning.
- ❖ Helps with respiratory infections.
- ❖ Turmeric can be applied topically to aid in wound healing and treat skin conditions. Apply a paste made from turmeric powder and water directly to the skin for its antimicrobial and anti-inflammatory effects.
- ❖ Turmeric is often combined with black pepper to enhance its bioavailability. Making a tincture with black pepper and turmeric is a great way to combine these plants. (See Chapter 4)
- ❖ Reduces the risk of chronic diseases such as heart disease.
- ❖ Lowers LDL cholesterol and triglycerides.
- ❖ May have anti-cancer properties.
- ❖ Potentially reduces the risk of neurodegenerative diseases.
- ❖ Improves cognitive function.
- ❖ Aids liver detoxification.
- ❖ Neutralizes free radicals, protecting cells from oxidative stress
- ❖ Reduces the risk of autoimmune diseases

Precautions

- ❖ Turmeric can cause gastrointestinal discomfort in some individuals if taken in large amounts. Start with small doses to see how your body reacts.
- ❖ Turmeric may interact with blood-thinning medications and medications for diabetes. Consult a healthcare professional before using turmeric if you are taking these medications.
- ❖ Pregnant and breastfeeding women should consult a healthcare provider before using turmeric supplements.



Tips for Foraging and Planting

- ❖ Turmeric is not typically foraged in the wild but is cultivated in tropical and subtropical regions.
- ❖ When growing your own turmeric, ensure the plant is in a warm, humid environment with well-drained soil.
- ❖ Harvest the rhizomes when the leaves start to yellow and die back, usually 8-10 months after planting.
- ❖ Turmeric prefers rich, well-drained soil and a warm, humid climate.
- ❖ Plant turmeric rhizomes in the spring, 2-4 inches deep, with the buds facing up.
- ❖ Water regularly and ensure the soil remains moist but not waterlogged.
- ❖ Harvest the rhizomes after 8-10 months, when the plant's leaves begin to yellow.

Neem (*Azadirachta indica*)

Neem is a fast-growing, evergreen tree native to the Indian subcontinent. It thrives in tropical and subtropical regions. The tree produces a variety of bioactive compounds found in its leaves, bark, seeds, and flowers, making it an important medicinal plant.

Neem has been used for over 4,000 years in traditional Indian and Ayurvedic medicine. Known as the “village pharmacy” in India, neem has a long history of use in treating various ailments such as skin diseases, infections, and as an insect repellent. The ancient texts of Ayurveda praise Neem for its myriad of health benefits, and it continues to be a cornerstone in traditional medicine systems.



Properties

Antibacterial - Antifungal - Antiviral - Anti-inflammatory - Antioxidant - Immune booster - Antiparasitic - Antiseptic - Cooling - Bitter - Detoxifying

Antimicrobial Action

Neem exhibits a broad spectrum of antimicrobial activities due to its rich composition of bioactive compounds. Azadirachtin and nimbidin disrupt the cell membranes of bacteria, fungi, and viruses, thereby inhibiting their growth. Neem has been shown to be effective against a variety of pathogens.

Uses

- ❖ Neem is effective in treating various skin conditions. Apply neem oil diluted in a carrier oil to affected areas to help reduce symptoms and promote healing.
- ❖ Supports oral health by preventing gum diseases and cavities. Use neem leaf powder or neem-based toothpaste.



- ❖ Acts as an antiparasitic agent and can be used to help treat conditions such as malaria.
- ❖ Neem tea or neem leaf powder can be taken to aid digestion and improve liver function.
- ❖ Regular consumption of neem can enhance immune function and support overall health.
- ❖ Can be applied topically to aid in wound healing and treat infections. Use neem oil diluted in a carrier oil for best results.
- ❖ Neem oil is an effective natural insect repellent. Apply neem oil diluted in a carrier oil to the skin or use it in sprays to repel insects.

Precautions

- ❖ Neem oil should be used with caution as it can cause skin irritation if not properly diluted. Always dilute neem oil before topical use.
- ❖ Pregnant and breastfeeding women should avoid using neem in large amounts due to potential risks.
- ❖ High doses of neem can be toxic, especially for children and infants. Always adhere to recommended dosages.
- ❖ Neem may interact with medications for blood sugar control and immune modulation. Consult a healthcare professional before using neem if you are taking these medications.

Tips for Foraging and Planting

- ❖ Neem is not typically foraged in the wild but is cultivated in tropical and subtropical regions.
- ❖ Neem trees are medium to large with a straight trunk, rough bark, and a broad, spreading crown.
- ❖ The leaves are compound with multiple leaflets, each about 3-8 cm long, serrated, and dark green in color.
- ❖ The best time to harvest neem leaves is during the growing season, typically in late spring to early summer when the leaves are fresh and abundant.
- ❖ Collect in the morning after the dew has dried to ensure the leaves are at their freshest.
- ❖ Neem trees can grow rapidly and reach heights of 50-65 feet.
- ❖ Water regularly until established, then reduce watering as neem is drought-tolerant.
- ❖ Plant seeds or cuttings in the spring or summer, spacing trees 10-15 feet apart.
- ❖ Neem prefers well-drained soil and full sun.
- ❖ Harvest the leaves, seeds, and bark as needed for medicinal uses.
- ❖ When growing your own neem tree, ensure it is in a warm climate with well-drained soil.

Goldenseal (*Hydrastis canadensis*)

Goldenseal, native to North America, has a long history of use among Native American tribes for its medicinal properties. It was traditionally used to treat skin diseases, digestive issues, and as an eye



wash for infections. Early settlers adopted its use, and it became a staple in American herbal medicine. Known as the “King of the Mucous Membranes,” goldenseal was widely used in the 19th century to treat a variety of ailments.

Goldenseal is a perennial herb in the buttercup family, Ranunculaceae. It is characterized by its yellow root and bright green, serrated leaves. The plant thrives in rich, shady, and moist environments, typically in the woodlands of the eastern United States.



Properties

Antibacterial - Antifungal - Antiviral - Anti-inflammatory - Antioxidant - Immune booster - Digestive aid - Liver tonic - Antiseptic - Astringent - Cooling

Antimicrobial Action

Goldenseal’s antimicrobial action is largely due to berberine, which can disrupt the cell membranes of bacteria, fungi, and viruses, inhibiting their growth. Berberine has been shown to be effective against a variety of pathogens, including *Staphylococcus aureus*, *Escherichia coli*, and *Candida albicans*. It also exhibits anti-inflammatory properties, making it useful for treating infections and inflammatory conditions.

Uses

- ❖ Goldenseal can help alleviate symptoms of respiratory infections. It can be taken in the form of root powder, tincture, or capsules.
- ❖ Can help with digestive issues. It acts as a natural remedy for conditions like diarrhea, gastritis, and peptic ulcers.
- ❖ Acts as a natural antibiotic and antifungal agent, helping to combat infections.
- ❖ Goldenseal supports liver health and aids in detoxification processes.
- ❖ Can be applied topically for wound healing and treating skin infections. Create a paste from goldenseal powder and water and apply it directly to the affected area.
- ❖ **Goldenseal Root Powder:** Take 500-1000 mg, 2-3 times daily.
- ❖ **Goldenseal Tincture:** Take 1-3 drops per kilo of your weight divide the dose into 2-3 times to take per day, dilute into a small amount of water.

Precautions

- ❖ Goldenseal should not be used by pregnant or breastfeeding women due to potential uterine contractions and other adverse effects.
- ❖ High doses of goldenseal can cause gastrointestinal upset and other side effects. Stick to recommended dosages.
- ❖ People with hypertension or heart conditions should use goldenseal cautiously, as it can affect blood pressure.



- ❖ Goldenseal may interact with medications metabolized by the liver and certain anticoagulants. Consult a healthcare professional before using goldenseal if you are taking these medications.

Tips for Foraging and Planting

- ❖ Goldenseal is often found in rich, shady woodlands in the eastern United States.
- ❖ Look for its distinctive yellow root and bright green, serrated leaves.
- ❖ Harvest the roots in the fall for the highest concentration of active compounds.
- ❖ Goldenseal prefers well-drained, rich, and moist soil in a shady location.
- ❖ Plant seeds or root divisions in the fall or early spring, spacing plants 12-18 inches apart.
- ❖ Water regularly, keeping the soil moist but not waterlogged.
- ❖ Mulch to retain moisture and suppress weeds.
- ❖ Harvest the roots after 2-3 years of growth.

Lemon (*Citrus limon*)

Lemon is a small evergreen tree in the Rutaceae family. The fruit is known for its bright yellow color, tart taste, and distinctive aroma. Lemons thrive in tropical and subtropical climates and are widely cultivated in regions such as the Mediterranean, California, and Florida.



Lemons have been used for their medicinal and culinary properties for thousands of years. Originating in Southeast Asia, lemons were cultivated in ancient India, China, and the Middle East. They were introduced to Europe by Arab traders and became widely used during the Roman Empire. Historically, lemons were used to treat scurvy among sailors, thanks to their high vitamin C content, and were valued for their antiseptic and anti-inflammatory properties.

Properties

Antibacterial - Antifungal - Antiviral - Antioxidant - Digestive aid - Immune booster - Detoxifying - Astringent - Cooling - Refreshing

Antimicrobial Action

Lemon exhibits significant antimicrobial activity due to its high content of citric acid, vitamin C, and essential oils. These compounds disrupt microbial cell membranes and inhibit the growth of bacteria, fungi, and viruses. Lemon juice and lemon oil have been shown to be effective against a variety of pathogens, including *Staphylococcus aureus*, *Escherichia coli*, and *Candida albicans*.



Uses

- ❖ Lemon can help alleviate symptoms of colds, sore throats, and respiratory infections. Freshly squeezed lemon juice can be taken in small amounts throughout the day or diluted in water for relief.
- ❖ Regular consumption of lemon helps boost the immune system and overall health, making the body more resistant to infections.
- ❖ Lemon aids digestion and can help alleviate gastrointestinal discomfort.
- ❖ Acts as a natural antibiotic and antifungal agent, helping to combat infections.
- ❖ Lemon can be applied topically to aid in wound healing and treat skin conditions.
- ❖ Help detoxify and cleanse the body. Drinking lemon water regularly can support the body's natural detox processes.
- ❖ **Lemon Juice:** Freshly squeezed juice can be taken in small amounts throughout the day or diluted in water for regular consumption.
- ❖ **Lemon Tea:** Juice of half a lemon in a cup of warm water, taken 2-3 times daily.
- ❖ **Lemon Essential Oil:** 1-2 drops diluted in a carrier oil for topical use or added to a diffuser for aromatherapy.

Precautions

- ❖ Lemon juice can erode tooth enamel if consumed in large quantities or undiluted. It is best to drink lemon juice through a straw and rinse your mouth with water afterward.
- ❖ Lemon juice and essential oil may cause skin irritation when applied topically, especially when exposed to sunlight. Always dilute essential oil and avoid sun exposure after application.
- ❖ People with citrus allergies should avoid using lemon products to prevent allergic reactions.

Tips for Foraging and Planting

- ❖ Lemons are typically cultivated rather than foraged.
- ❖ When growing your own lemon tree, ensure it is in a warm, sunny location with well-drained soil.
- ❖ Harvest lemons when they are fully yellow and slightly soft to the touch.
- ❖ Lemon trees prefer well-drained, slightly acidic soil and full sun.
- ❖ Plant seeds or young trees in the spring, spacing them at least 12-15 feet apart.
- ❖ Water regularly, keeping the soil moist but not waterlogged.
- ❖ Prune to maintain shape and remove dead or diseased branches.
- ❖ Fertilize with a balanced, slow-release fertilizer during the growing season.



Onion (*Allium cepa*)

Onion is a biennial plant in the Amaryllidaceae family. It is characterized by its bulbous shape, layered structure, and pungent aroma. Onions are widely cultivated around the world and come in various varieties, including yellow, red, and white onions.



Onions have been used for thousands of years in culinary and medicinal practices. Originating in Central Asia, onions were cultivated in ancient Egypt, where they were considered sacred and used in religious ceremonies. They were also a staple in the diets of the Greeks and Romans. Historically, onions have been used to treat a variety of ailments, including colds, wounds, and respiratory issues, due to their natural antiseptic and anti-inflammatory properties.

Properties

Antibacterial - Antifungal - Antiviral - Anti-inflammatory - Antioxidant - Immune booster - Digestive aid - Circulatory stimulant - Warming - Expectorant

Antimicrobial Action

Onion's antimicrobial action is primarily due to its sulfur compounds, such as allicin and allyl sulfides, which can disrupt microbial cell membranes and inhibit the growth of bacteria, fungi, and viruses. Quercetin also contributes to onion's antimicrobial properties by modulating inflammatory responses and enhancing immune function.

Uses

- ❖ Onion can help alleviate symptoms of colds, coughs, and respiratory infections. Consuming raw onions or onion syrup can provide relief.
- ❖ Mix onion juice with honey to relieve a cold. Take a teaspoon of this mixture 2-3 times daily.
- ❖ Regular consumption of onions helps boost the immune system and supports overall health.
- ❖ Brew onion tea by simmering onion slices in water for 10-15 minutes. Strain and drink to help boost immunity.
- ❖ Help with digestive issues by promoting healthy gut flora and alleviating gastrointestinal discomfort.
- ❖ Act as a natural antibiotic and antifungal agent, helping to combat infections.
- ❖ Can be applied topically to aid in wound healing and treat skin infections. Apply fresh onion juice or a poultice to the affected area.
- ❖ Cut an onion in half and secure it with a cloth around the head over the ears to draw out infection.
- ❖ Can help lower blood pressure and cholesterol levels, promoting cardiovascular health.



- ❖ Use onion extract or juice to help manage blood pressure and cholesterol levels.
- ❖ Help regulate blood sugar levels, beneficial for people with diabetes.
- ❖ Eating onions can help with joint problems such as arthritis.
- ❖ Onions can also help reduce water retention.
- ❖ Onions have detoxifying properties that help cleanse the body. Incorporate onions into your diet regularly to aid in detoxification.

Precautions

- ❖ Onions can cause gastrointestinal discomfort, such as bloating and gas, in some individuals. Start with small amounts to see how your body reacts.
- ❖ Some people may be allergic to onions and may experience symptoms such as skin rashes or digestive upset. Discontinue use if any allergic reactions occur. Do a patch test first.
- ❖ Cutting onions can cause eye irritation and tearing. To reduce this effect, chill the onions before cutting or cut them under running water.
- ❖ Onions can interact with blood-thinning medications and may affect blood sugar levels. Consult a healthcare professional before using onions medicinally if you are taking these medications or have a related health condition.

Tips for Foraging and Planting

- ❖ Onions are typically cultivated rather than foraged.
- ❖ When growing your own onions, ensure they are in a sunny location with well-drained soil.
- ❖ Harvest onions when the tops start to yellow and fall over, usually in late summer.
- ❖ Onions prefer well-drained, fertile soil and full sun.
- ❖ Plant onion seeds or sets in the early spring, spacing them 4-6 inches apart.
- ❖ Water regularly, keeping the soil moist but not waterlogged.
- ❖ Harvest when the bulbs are mature and the tops have died back.

Tea Tree (*Melaleuca alternifolia*)

Tea tree oil has been used for centuries by the indigenous Bundjalung people of Australia, who crushed the leaves to treat cuts, wounds, and skin infections. The oil gained wider recognition in the 1920s when Australian chemist Arthur Penfold documented its antiseptic properties. During World War II, tea tree oil was included in the first-aid kits of soldiers and factory workers. Today, it is widely used in natural medicine and personal care products for its potent antimicrobial properties.

Tea tree is a small tree or shrub in the Myrtaceae family, native to the swampy regions of New South Wales, Australia. It has narrow, aromatic leaves and white,





papery bark. The essential oil, extracted from the leaves through steam distillation, is highly valued for its medicinal benefits.

Properties

Antibacterial - Antifungal - Antiviral - Anti-inflammatory - Antiseptic - Immune booster - Expectorant
- Cooling - Detoxifying

Antimicrobial Action

Tea tree oil's antimicrobial action is largely attributed to terpinen-4-ol, which disrupts the cell membranes of bacteria, fungi, and viruses, leading to their death. Studies have shown that tea tree oil is effective against a wide range of pathogens, including *Staphylococcus aureus*, *Escherichia coli*, and *Candida albicans*. The oil also exhibits anti-inflammatory properties, making it useful for treating skin conditions and infections.

Uses

- ❖ Tea tree oil can effectively treat acne and other skin infections due to its antimicrobial properties.
- ❖ Helps alleviate symptoms of colds, coughs and sinusitis. Use the essential oil in steam inhalation or add it to a warm bath for relief.
- ❖ Acts as a natural antibiotic and antifungal agent, helping to combat infections.
- ❖ Soothes insect bites and stings, promotes wound healing, and reduces inflammation.
- ❖ Mix 1-2 drops of tea tree oil with 1 teaspoon (5 ml) of a carrier oil. This provides a 2% dilution, which is generally safe for most skin applications.
- ❖ Add 5-10 drops of tea tree oil to a warm bath to enjoy skin and respiratory benefits.
- ❖ Add a few drops to your shampoo or conditioner to help manage dandruff and scalp issues.

Precautions

- ❖ Tea tree oil should always be diluted before topical use to prevent skin irritation.
- ❖ Tea tree oil should not be ingested, as it can be toxic when consumed.
- ❖ Perform a patch test before using tea tree oil to check for allergic reactions. Apply a small amount of diluted oil to a patch of skin and wait 24 hours to ensure no adverse reactions occur.
- ❖ Keep tea tree oil out of reach of children and pets.
- ❖ Avoid applying tea tree oil before sun exposure, as it can increase the skin's sensitivity to UV rays.

Tips for Foraging and Planting

- ❖ The best time to forage tea tree leaves is during the growing season when the leaves are most abundant and aromatic, typically in late spring to early summer.



- ❖ Forage in the morning after the dew has dried but before the heat of the day to ensure the leaves are at their freshest.
- ❖ Take only what you need to ensure the tree continues to thrive. Avoid stripping any single tree of too many leaves.
- ❖ Move between different trees or areas to minimize the impact on any single tree or population.
- ❖ Take only what you need to ensure the tree continues to thrive. Avoid stripping any single tree of too many leaves.
- ❖ If growing your own tea tree, ensure it is in a warm, sunny location with well-drained soil.
- ❖ Harvest the leaves and young stems for essential oil extraction.
- ❖ Tea tree prefers well-drained soil and full sun.
- ❖ Plant seeds or cuttings in the spring or summer, spacing plants 6-8 feet apart.
- ❖ Water regularly, especially during dry periods.
- ❖ Prune to maintain shape and promote new growth.

Aloe Vera (*Aloe barbadensis miller*)

Aloe vera is a succulent plant belonging to the Liliaceae family. There are over 500 species of aloe, but *Aloe barbadensis miller* is the most widely recognized for its medicinal properties. It is characterized by its thick, fleshy leaves containing a clear gel and a yellow latex.



Aloe vera has been used for over 6,000 years for its medicinal properties. Ancient civilizations such as the Egyptians, Greeks, and Romans highly valued aloe vera for its healing and regenerative properties. It was often referred to as the "plant of immortality" and was used to treat wounds, burns, and various skin conditions. Aloe vera is also a staple in Ayurvedic medicine and traditional Chinese medicine for its extensive health benefits.

Properties

Antibacterial - Antifungal - Antiviral - Anti-inflammatory - Antioxidant - Immune booster - Digestive aid - Skin healing - Cooling - Moisturizing - Soothing

Antimicrobial Action

Aloe vera exhibits significant antimicrobial activity due to its rich composition of bioactive compounds. Aloin and other anthraquinones have potent antibacterial, antifungal, and antiviral properties. The gel's natural enzymes and saponins further contribute to its ability to inhibit the growth of harmful microorganisms. Studies have shown that aloe vera is effective against various pathogens.



Uses

- ❖ Apply aloe vera gel directly to the skin for wounds and skin irritations. Helps to cool and reduce inflammation.
- ❖ Aloe vera gel soothes sunburn and various skin irritations, providing a cooling effect and aiding in skin repair.
- ❖ Mix equal parts of aloe vera and honey for application to burns.
- ❖ Apply a thin layer of aloe vera gel to areas affected by eczema or psoriasis and leave it on to absorb.
- ❖ Drink 30-50 ml of aloe vera juice daily to support digestive health, detoxify and boost the immune system. You can mix it with water, smoothies, or other juices for a pleasant taste.
- ❖ Aloe vera acts as a natural antibiotic and antifungal agent, helping to combat infections when applied topically.

Precautions

- ❖ Aloe latex, the yellow part of the leaf, can be a strong laxative and should be used with caution. Avoid consuming it in large amounts to prevent gastrointestinal issues.
- ❖ Some individuals may experience allergic reactions to aloe vera. Perform a patch test before widespread topical use by applying a small amount of gel to the inner forearm and waiting 24 hours to check for any adverse reactions.
- ❖ Excessive consumption of aloe vera juice can lead to gastrointestinal discomfort. Stick to recommended dosages and consult a healthcare provider if you experience any adverse effects.

Tips for Foraging and Planting

- ❖ Aloe vera is native to arid regions and is commonly found in deserts and semi-desert areas.
- ❖ In some regions, aloe vera grows naturally in coastal areas with sandy, well-drained soils.
- ❖ Some regions have farms dedicated to growing aloe vera for commercial purposes. Visiting these farms might allow you to purchase or sometimes forage for aloe vera with permission.
- ❖ When growing your own aloe vera, ensure it is in a warm, sunny location with well-drained soil.
- ❖ Harvest the outer leaves of the plant for use, allowing the inner leaves to continue growing.
- ❖ Aloe vera prefers well-drained, sandy soil and full sun.
- ❖ Plant aloe vera in pots or directly in the ground in the spring or summer.
- ❖ Water sparingly, allowing the soil to dry out between waterings.
- ❖ Harvest leaves as needed, cutting close to the base of the plant.



Eucalyptus (*Eucalyptus globulus*)

Eucalyptus has a long history of use in traditional medicine by the indigenous peoples of Australia. They used eucalyptus leaves to treat fevers, wounds, and respiratory issues. In the 19th century, eucalyptus oil gained popularity in Europe and North America for its antiseptic and decongestant properties. It was widely used during World War I for its disinfectant properties in hospitals and medical facilities.



Eucalyptus is a fast-growing evergreen tree native to Australia. It belongs to the Myrtaceae family and is known for its tall stature and aromatic leaves. Eucalyptus globulus, commonly known as blue gum, is the species most widely used for medicinal purposes.

Properties

Antibacterial - Antifungal - Antiviral - Anti-inflammatory - Antiseptic - Immune booster - Expectorant
- Respiratory aid - Cooling – Energizing

Antimicrobial Action

Eucalyptus oil's antimicrobial action is primarily due to 1,8-cineole, which disrupts the cell membranes of bacteria, fungi, and viruses, inhibiting their growth. Studies have shown that eucalyptus oil is effective against a range of pathogens. The oil also exhibits anti-inflammatory and decongestant properties, making it useful for treating respiratory infections and inflammation.

Uses

- ❖ Eucalyptus oil can help alleviate symptoms of respiratory conditions. Use essential oil or leaves in steam inhalations or add it to a warm bath for relief.
- ❖ Apply eucalyptus infused salves to wounds and inflamed areas or as a chest rub to relieve respiratory problems.
- ❖ The oil acts as a natural antibiotic and antifungal agent, helping to combat infections when applied topically.
- ❖ Eucalyptus oil can help relieve muscle and joint pain. Great for muscle rubs.
- ❖ Regular use of eucalyptus oil can support immune function and overall health.
- ❖ Eucalyptus Bath: Add 10 drops of eucalyptus oil to a warm bath to benefit from its muscle-soothing and respiratory-relieving properties.

Precautions

- ❖ Eucalyptus oil should always be diluted before topical use to prevent skin irritation. Mix it with a carrier oil such as coconut or almond oil.
- ❖ Eucalyptus oil should not be ingested, as it can be toxic when consumed.



- ❖ Perform a patch test before using eucalyptus oil to check for allergic reactions. Apply a small amount of diluted oil to the inner forearm and wait 24 hours to ensure no adverse reactions occur.
- ❖ Keep eucalyptus oil out of reach of children and pets to prevent accidental ingestion or contact.
- ❖ People with sensitive skin should use eucalyptus oil with caution and always ensure it is properly diluted.

Tips for Foraging and Planting

- ❖ Blue gum eucalyptus is a tall tree with smooth, mottled bark that sheds in strips, revealing a pale, sometimes blue-grey trunk.
- ❖ The leaves are long, narrow, and lance-shaped, with a bluish-green color and a strong, distinctive eucalyptus aroma.
- ❖ The best time to forage eucalyptus leaves is during the growing season, typically in late spring to early summer when the leaves are most abundant and potent.
- ❖ Forage in the morning after the dew has dried to ensure the leaves are fresh.
- ❖ Only take what you need and avoid over-harvesting from a single tree. This ensures the tree remains healthy and continues to thrive.
- ❖ Move between different trees or areas to minimize the impact on any single population of trees.
- ❖ If growing your own eucalyptus tree, ensure it is in a warm, sunny location with well-drained soil.
- ❖ Eucalyptus prefers well-drained soil and full sun.
- ❖ Plant seeds or cuttings in the spring or summer, spacing trees 10-15 feet apart.
- ❖ Water regularly, especially during dry periods.
- ❖ Prune to maintain shape and promote new growth.

Rosemary (*Rosmarinus officinalis*)

Rosemary is a woody, perennial herb in the mint family, Lamiaceae. It is characterized by its needle-like leaves and fragrant, evergreen foliage. Rosemary thrives in warm, sunny climates and is widely cultivated for its culinary and medicinal uses.

Rosemary has been used for thousands of years in culinary and medicinal practices. Originating in the Mediterranean region, rosemary was highly valued in ancient Greece, Rome, and Egypt. It was used for its aromatic qualities, as a symbol of remembrance, and for its ability to enhance memory and concentration. In the Middle Ages, rosemary was commonly used to ward off evil spirits and protect against the plague.





Properties

Antibacterial - Antifungal - Antiviral - Anti-inflammatory - Antioxidant - Immune booster - Digestive aid - Circulatory stimulant - Memory enhancer - Warming - Energizing

Antimicrobial Action

Rosemary's antimicrobial action is due to its rich composition of bioactive compounds like carnosic acid, rosmarinic acid, and 1,8-cineole, which disrupt microbial cell membranes and inhibit the growth of bacteria, fungi, and viruses. Rosemary also exhibits significant antioxidant and anti-inflammatory properties.

Uses

- ❖ Rosemary can help alleviate symptoms of respiratory conditions. Use rosemary tea or inhale rosemary essential oil for relief.
- ❖ Aids digestion and promotes gut health. Drinking rosemary tea can help alleviate digestive discomfort.
- ❖ Acts as a natural antibiotic and antifungal agent, helping to combat infections.
- ❖ Regular use of rosemary can help reduce inflammation and support heart health.
- ❖ Inhaling rosemary oil and drinking tea can enhance memory and concentration. Use rosemary essential oil in a diffuser to benefit from its cognitive-enhancing properties.
- ❖ Rosemary oil can promote hair growth and improve scalp health. Dilute rosemary oil in a carrier oil and massage it into the scalp.
- ❖ Use 1-2 drops of rosemary oil diluted in 1 teaspoon of carrier oil for topical applications such as treating skin infections, reducing inflammation, and massaged into the scalp can promote hair growth. As a massage oil it can relieve sore and tired muscles.

Precautions and Safety Guidelines

- ❖ Rosemary oil should always be diluted before topical use to prevent skin irritation. Mix it with a carrier oil such as coconut or almond oil.
- ❖ Excessive consumption of rosemary can cause gastrointestinal discomfort. Stick to recommended dosages.
- ❖ Pregnant and breastfeeding women should avoid rosemary.
- ❖ People with high blood pressure or epilepsy should use rosemary with caution, as it can potentially exacerbate these conditions.
- ❖ Perform a patch test before using rosemary oil to check for allergic reactions. Apply a small amount of diluted oil to the inner forearm and wait 24 hours to ensure no adverse reactions occur.

Tips for Foraging and Planting

- ❖ Rosemary is native to the Mediterranean and can be found growing wild in coastal areas and rocky hillsides in this region.



- ❖ It can also be found in other regions with similar semi-arid climates where it may grow wild.
- ❖ Rosemary is typically cultivated rather than foraged.
- ❖ When growing your own rosemary, ensure it is in a warm, sunny location with well-drained soil.
- ❖ Harvest the leaves and young stems for culinary and medicinal use.
- ❖ Rosemary prefers well-drained soil and full sun.
- ❖ Plant seeds or cuttings in the spring or summer, spacing plants 2-3 feet apart.
- ❖ Water regularly, keeping the soil moist but not waterlogged.
- ❖ Prune to maintain shape and promote new growth.

Astragalus (*Astragalus membranaceus*)

Astragalus is a perennial herb in the Fabaceae family, native to the northern and eastern regions of China. It grows in grassy regions and has a long, fibrous root that is harvested for medicinal use. The plant thrives in well-drained soil and sunny locations.

Astragalus has been used for over 2,000 years in Traditional Chinese Medicine (TCM). Known as Huang Qi in Chinese, it is valued for its ability to strengthen the body's defenses against illness, support longevity, and enhance energy levels. Ancient texts from TCM highlight its use as an immune tonic, adaptogen, and remedy for various ailments. In modern herbal medicine, astragalus is praised for its immunomodulatory, anti-inflammatory, and antioxidant properties.



Properties

Antibacterial - Anti-inflammatory - Antioxidant - Immune booster - Adaptogenic - Digestive aid - Liver tonic - Cardiovascular support - Warming - Tonic

Antimicrobial Action

Astragalus exhibits antimicrobial action primarily through its polysaccharides and saponins, which enhance the immune system's ability to fight off bacteria, viruses, and fungi. Studies have shown that astragalus can inhibit the growth of certain pathogens and enhance the body's resistance to infections. Its immunomodulatory effects help balance the immune response, making it effective in preventing and treating infections.

Uses

- ❖ Astragalus is known for its immune-boosting properties. Regular consumption can help prevent colds and flu.



- ❖ Astragalus is an adaptogen that helps the body cope with stress by balancing cortisol levels and supporting adrenal function.
- ❖ Supports heart health by reducing inflammation and improving circulation.
- ❖ Can help increase energy levels and reduce fatigue, making it a good choice for those needing an energy boost.
- ❖ Contains properties that support wound healing and minimize scarring.
- ❖ Supports kidney function and can help maintain urinary health.
- ❖ Drink 1-2 cups of tea daily to support immune function, energy levels, and overall health.
- ❖ Astragalus tincture is particularly useful for individuals needing a potent immune boost or those with cardiovascular concerns.

Precautions

- ❖ People with autoimmune diseases or those taking immunosuppressant medications should consult a healthcare provider before using astragalus, as it may stimulate the immune system.
- ❖ Pregnant and breastfeeding women should avoid Astragalus.
- ❖ People with allergies to plants in the Fabaceae family should avoid using astragalus to prevent allergic reactions.

Tips for Planting and Sourcing

- ❖ Astragalus can be quite expensive when purchased from herbal suppliers or health food stores. However, you can often find the same product at Chinese or Asian markets for a fraction of the price, sometimes costing as little as one-tenth of what herbal marketers charge.
- ❖ Astragalus is typically cultivated rather than foraged.
- ❖ When growing your own astragalus, ensure it is in well-drained soil and a sunny location.
- ❖ Harvest the roots in the fall after the plant has matured, usually after 3-4 years.
- ❖ Astragalus prefers well-drained soil and full sun.
- ❖ Plant seeds or root cuttings in the spring, spacing plants 12-18 inches apart.
- ❖ Water regularly, especially during dry periods.
- ❖ Harvest the roots after 3-4 years of growth for the highest concentration of active compounds.



Tinctures



Making herbal tinctures is a process that allows anyone to tap into the powerful properties of plants and create concentrated liquid extracts for promoting health and wellness. These preparations have gained popularity due to their convenience and potency, making them an excellent choice for anyone looking to incorporate natural solutions into their daily routine.

Tinctures typically involve soaking herbs in a solvent made from alcohol and water which draws out active ingredients from the plant material. The primary purpose of herbal tinctures is to extract and preserve the beneficial compounds found in herbs, ensuring that these properties remain potent over time and the extraction process leads to a concentrated liquid which contains the important medicinal properties. This preservation method allows for extended shelf life, often lasting around five years when stored properly. As a result, individuals can benefit from the healing properties of herbs without needing fresh supplies constantly.

Organic grain alcohol, with its higher alcohol content (usually around 95%), is a great option for making tinctures. Its potency allows for a more thorough extraction of medicinal compounds, resulting in highly concentrated tinctures.

To make 500 mL of 70% alcohol from 95% grain alcohol, follow this simple recipe:

Materials Needed:

- 95% grain alcohol
- Distilled, filtered, mineral or clean spring water
- Measuring cup
- Mixing container

Instructions:

1. Measure 368 mL of 95% grain alcohol.
2. Measure 132 mL of water.
3. Pour the grain alcohol into the mixing container.
4. Add the water to the alcohol.
5. Mix thoroughly.

To Make 500 mL of tincture using grain alcohol:

Materials Needed:

- Organic grain alcohol (already diluted to 70%)



- Clean spring water, filtered, or mineral water
- Dried or fresh herbs and roots - (When selecting herbs, ensure they are of high quality. Fresh herbs should be vibrant in color and free from any signs of decay. Dried herbs should be crisp, aromatic, and stored properly to maintain their potency.)
- Measuring cup or graduated cylinder
- Large glass jar that is tightly sealing 800ml - (Glass jars are essential because they do not react with the ingredients, ensuring the purity of your tincture. Mason jars or any other type of sealable, wide-mouthed jars work well for this purpose.)
- Fine mesh strainer or cheesecloth
- Dark glass bottles for storage
- Knife or herb chopper
- Labels for identification

Instructions:

1. Prepare the Herbs:

- For dried herbs: Use 50 g of dried herbs.
- For fresh herbs: Use 100 g of fresh herbs.
- Chop the herbs finely to maximize absorbency.

2. Combine Herbs with Alcohol and Water:

- **For Fresh Herbs:**
 - Place the 100 g of fresh herbs into a clean container.
 - Add 400 mL of the 70% alcohol.
 - Add 100 mL of clean spring water, filtered, or mineral water.
- **For Dried Herbs:**
 - Place the 50 g of dried herbs into a clean container.
 - Add 350 mL of the 70% alcohol.
 - Add 150 mL of clean spring water, filtered, or mineral water.

3. Mix and Store:

- Ensure the herbs are fully submerged in the liquid.
- Seal the jar tightly.
- Store in a cool, dark place for 4-6 weeks, shaking the mixture daily to enhance extraction.
- Label the jar with the name of the plant used and date of extraction.

4. Strain and Bottle:

- After the extraction period, strain the liquid through a fine mesh or cheesecloth to remove the herb particles.
- Transfer the tincture to dark glass dropper bottles for storage. Label with name and date.



How to Take Tinctures

You can take 1-3 drops per kilo of your weight in drops per day. You can divide the total number of drops into 2 or 3 doses. The dosage will depend on the seriousness of the condition. For most problems you will not need to take more than 2 drops per kilo. For daily use as a preventive treatment for example when trying to give the immune system a boost, 1 drop per kilo is probably sufficient taken in the morning. Using a dropper bottle count the number of drops desired whilst dropping into a small amount of water. Avoid eating and drinking anything other than water for at least an hour before and after taking the tincture. Be sure to read all precautions in Chapter 3 for each plant before ingesting.

Turmeric and Black Pepper Tincture



This is a perfect option for who wants to increase their immunity and can be taken daily. Great for colds and flus as well as treating infections.

To make a black pepper and turmeric tincture first grate the fresh turmeric root. Then spread the grated turmeric on a clean surface and allow it to sun dry. This helps preserve the curcumin properties, which are sensitive to heat. Use whole black peppercorns. For 500ml of tincture use 50 g of dried, grated turmeric and 5 g of whole black peppercorns. Follow the recipe for dried herbs cited above to make

the tincture.

For optimal absorption and benefits, it is often recommended to consume curcumin (the active compound found in turmeric) with black pepper, which contains piperine to enhance bioavailability. The primary benefit of combining turmeric with black pepper is the dramatic increase in curcumin absorption. Piperine inhibits certain enzymes in the liver that would otherwise break down curcumin quickly, allowing more curcumin to enter the bloodstream and be utilized by the body.

Echinacea and Goldenseal Tincture

To make this tincture you will use 25g of each plant dried to make 500ml.

Echinacea and Goldenseal tincture offers a potent combination of health benefits, especially in boosting the immune system and combating infections. Echinacea contains active compounds which enhance immune function, helping to prevent and reduce the severity of colds, flu, and other infections. These compounds also provide anti-inflammatory and antioxidant properties. Goldenseal contains berberine which contributes to its strong antimicrobial





properties, effectively fighting bacteria and viruses. Additionally, Goldenseal supports digestive health by soothing mucous membranes and relieving gastrointestinal issues. Together, Echinacea and Goldenseal create a synergistic effect that strengthens the body's natural defenses, promotes respiratory and digestive health, and supports overall wellness, perfect for a wide number of health concerns.

Thyme Tincture



Thyme tincture can be made using either fresh or dried thyme. Thyme tincture is an essential addition to any medicine cabinet due to its potent antiviral and antibiotic properties. The active compound thymol is responsible for these effects, making thyme tincture highly effective for treating coughs, chest infections, flu, viruses, and urinary tract infections. Additionally, thyme tincture helps boost immunity, making it beneficial for those feeling susceptible to illnesses. It is also safe for use by pregnant women and children. With its powerful medicinal properties, thyme tincture is a versatile and reliable natural remedy.

Use 10 drops in half a cup of water as an antimicrobial mouthwash to help with oral health and gum conditions. Add 40 drops to a sitz bath to treat thrush.



Remedies for Internal Use

Infusions and decoctions are methods used to extract the beneficial compounds from herbs, but they differ in the plant parts used and preparation techniques. Infusions involve steeping the delicate parts of plants, such as leaves, flowers, and green stems, in boiling water for 5 to 15 minutes. This method is ideal for extracting vitamins, volatile oils, and other delicate compounds, commonly resulting in teas and herbal drinks. In contrast, decoctions are used for tougher plant parts like roots, bark, seeds, and woody stems. This method involves simmering the plant material in water for 20 to 45 minutes, making it effective for extracting minerals, bitter compounds, and other robust constituents.

Infusions

Standard-strength water infusions are versatile and can be used as teas, gargles, skin lotions, and for compresses. For hand or foot baths and douches, dilute the infusion with an equal amount of water.

- Use 1 teaspoon of dried herbs or 1 tablespoon of fresh herbs per cup of boiling water.
- Boil the water.
- Take the water off the heat. Add in the herbs.
- Put on the lid of the pan or teapot and leave to infuse.
- The brewing time depends on the part of the plant being used and on your taste. Some prefer a stronger tea. In general, you can brew up to 3 minutes for flowers and soft leaves, and up to 5 minutes for normal leaves.
- Strain using a wire strainer.



Decoctions



Decoctions can also be diluted in equal parts with part to be used as the same way as water infusions for gargles and hand baths etc.

- Use 40g of plant material and 750ml of water.
- Put the herb and the water in saucepan.
- Put on a tight lid and bring to the boil.
- Turn down to a simmer for 10-15 minutes.
- Strain the herb into a bottle.
- It will keep for 2-3 days in the fridge.



Cold and Flu Tea

Ingredients:

- 2 tablespoon fresh ginger root, grated (or 1 teaspoon dried ginger)
- 2 cloves garlic, crushed
- 1 tablespoon fresh thyme leaves (or 1 teaspoon dried thyme)
- 1-2 tablespoons honey (to taste)
- 4 cups water

Instructions:

1. Place the ginger and garlic in a pot.
2. Add 4 cups of cold water.
3. Bring the water to a boil. Put on a tight lid.
4. Reduce heat and simmer gently for 10-15 minutes.
5. Remove the pot from heat.
6. Add the thyme and put the lid back on to infuse for 5 minutes.
7. Strain the tea.
8. Add 1-2 tablespoons of honey to taste while the tea is still warm. Stir well until the honey is fully dissolved



Immune Boosting Tea

Ingredients:

- 1 teaspoon dried echinacea
- 1 teaspoon dried sage
- 1/2 teaspoon ground turmeric
- 1 slice of lemon
- 2 cups hot water

Instructions:

1. Place the echinacea, sage, turmeric, and lemon slice in a teapot or saucepan.
2. Pour 2 cups of just boiled water over the herbs.
3. Cover and let the mixture steep for 5 minutes.
4. Strain the tea to remove the herbs and lemon slice.
5. Pour the tea into a cup and enjoy it warm.
6. You can add honey to taste if you prefer a sweeter tea.



Take 2-3 cups per day.



Onion and Herb infused Honey

For soothing throat irritation, coughs and fighting infections, homemade syrups can be particularly effective. A simple yet potent syrup can be made by infusing honey with this simple recipe.

Onion, rich in sulfur compounds, functions as an anti-inflammatory and antimicrobial agent. Honey enhances these effects while providing a soothing coating for the throat. Eucalyptus helps clear nasal congestion and has antibacterial properties, while thyme acts as an antimicrobial and antiviral herb.



Ingredients:

- 1 medium onion, thinly sliced
- 500g of Raw honey
- A few eucalyptus leaves, broken up
- A handful of fresh or a tablespoon of dried thyme.

Instructions:

1. Thinly slice the onion.
2. In a clean, dry jar, place a layer of thinly sliced onion at the bottom.
3. Cover the onion layer with a generous amount of raw honey.
4. Add some of the eucalyptus leaves and thyme on top.
5. Continue layering the onion slices, honey, eucalyptus leaves, and thyme until the jar is full, ensuring that the final layer is honey to fully cover the ingredients.
6. Seal the jar tightly with a lid.
7. Store the jar in a cool, dark place for 2-3 weeks.
8. Turn the jar upside down every day to help the ingredients infuse evenly.
9. Strain the mixture through a fine mesh strainer or cheesecloth to remove the solid ingredients.
10. Transfer the infused honey syrup into a clean jar for storage.
11. Store the syrup in a cool, dark place. It can be kept for several months.

Take a teaspoon as needed.

Golden Milk Recipe

Golden milk, also known as turmeric milk, offers numerous health benefits. Turmeric, the main ingredient, which has powerful anti-inflammatory and antioxidant properties. Ginger and cinnamon further enhance these effects, contributing to improved digestion, reduced inflammation, and better



immune function. Black pepper is included to enhance the absorption of curcumin. This soothing and warming beverage is not only delicious but also supports overall wellness. Golden milk can be enjoyed at any time of day, but it is particularly beneficial when consumed in the evening due to its calming and anti-inflammatory properties.

Ingredients:

- 1 cup milk (dairy or plant-based, such as almond, coconut, or soy milk)
- 1/2 teaspoon ground turmeric
- 1/4 teaspoon ground ginger (or 1/2 teaspoon fresh grated ginger)
- 1/4 teaspoon ground cinnamon
- Pinch of black pepper (to enhance turmeric absorption)
- 1 teaspoon honey or maple syrup (optional, for sweetness)
- 1/2 teaspoon vanilla extract (optional)



Instructions:

1. Pinch of ground nutmeg or cardamom (optional, for extra flavor)
2. Pour the milk into a small saucepan and heat over medium heat until warm but not boiling.
3. Whisk in the ground turmeric, ground ginger, ground cinnamon, and a pinch of black pepper.
4. If using, add the honey or maple syrup, vanilla extract, and a pinch of ground nutmeg or cardamom.
5. Reduce the heat to low and let the mixture simmer for about 5 minutes, whisking occasionally. This allows the spices to infuse into the milk.
6. For a smoother texture, you can strain the golden milk through a fine mesh strainer to remove any large pieces of ginger or undissolved spices.
7. Pour the golden milk into a cup and enjoy it warm.

Aloe, Lemon, and Ginger Juice

Aloe, Lemon, and Ginger Juice is a potent combination that improves digestion and boosts the immune system. Aloe vera, known for its soothing properties, supports digestive health by promoting healthy gut bacteria. It also aids in detoxification, helping to cleanse the liver and improve overall bodily functions. Adding lemon to this mix infuses the juice with a rich dose of vitamin C, an essential nutrient for boosting the immune system and fighting off infections. Lemon also acts as a natural detoxifier, further enhancing the body's defense mechanisms. Ginger has antibacterial properties. This spicy root not only adds a zesty kick to the juice but also helps to ward off harmful bacteria and reduce inflammation. You can sweeten with honey which also is great to help antibacterial.



Ingredients:

- 1 large aloe vera leaf
- 1-inch piece of fresh ginger
- 1 large lemon
- 1-2 tablespoons honey (optional)
- 2 cups water

Instructions:

1. Cut the aloe vera leaf and remove the green outer skin.
2. Scoop out the clear gel from inside the leaf. You'll need about 2 tablespoons of aloe vera gel.
3. Peel the ginger and grate or finely chop it.
4. Squeeze the juice from the lemon. You can also add some lemon zest for extra flavor if you like.
5. In a blender, combine the aloe vera gel, grated ginger, lemon juice, and water. Blend until smooth.
6. If you prefer a sweeter taste, add 1-2 tablespoons of honey to the blender and blend again until well mixed.
7. Pour the mixture through a strainer into a glass to remove any pulp or ginger pieces.
8. Serve the juice immediately or chill it in the refrigerator for a refreshing drink.

Adjust the amount of ginger, honey and lemon to suit your taste preferences.



Topical Applications

Wound Powder

Wound powder can be a beneficial aid in the healing process of minor cuts and abrasions. It helps to absorb moisture from the wound, forming a protective layer that promotes healing. The powder can also help to reduce the risk of infection and soothe irritation. Some wounds do not respond well to a wet dressing like a salve and a dry wound powder is a more appropriate form of treatment.



To use wound powder, first, clean the wound with mild soap and water, then pat it dry. Apply a thin layer of the powder directly onto the wound. Cover the powdered wound with a sterile dressing to keep it clean.

Precautions to take when using wound powder include avoiding inhaling the powder during application, as it can be harmful to the lungs. Also, if the wound shows signs of infection or does not improve, seek medical attention. Remember, wound powder is only suitable for minor wounds and should not be used on deep cuts or burns.

Ingredients:

- 1 part Goldenseal root powder
- 1 part Echinacea root powder
- 1 part Thyme powder
- 1 part Sage powder

Instructions:

1. You can powder the herbs by using a mortar and pestle, spice grinder, or blender. Make sure the plants are completely dry before grinding. Goldenseal and Echinacea root can be bought easily in powder form.
2. Mix all the powdered ingredients thoroughly in a bowl.
3. Store the mixture in an airtight container.
4. Apply a small amount of the powder directly to clean wounds to help prevent infection and promote healing.

Herbal Oil for Skin Infections

This herb oil for skin infections offers numerous benefits due to the potent antimicrobial, anti-inflammatory, and healing properties of these herbs. Tea tree oil is well-known for its strong



antibacterial and antifungal effects, making it highly effective against a range of skin infections. Sage oil provides additional antimicrobial benefits and has soothing properties that help reduce skin irritation and inflammation. Thyme has powerful antiseptic and antifungal properties. Eucalyptus has antibacterial and anti-inflammatory benefits. You can apply to skin infections 2-3 times daily.

It is essential to perform a patch test before widespread application to ensure there are no adverse reactions. Pregnant women, young children, and individuals with sensitive skin should avoid using this herb oil blend.

Ingredients:

- 1/2 cup Coconut oil
- 2 tablespoons dried crushed Eucalyptus leaves
- 2 tablespoons dried Sage leaves
- 2 tablespoons dried Thyme leaves
- 48 drops of Tea Tree oil

Instructions:

1. Combine the oil and dried herbs in a small saucepan.
2. Heat on low heat stirring with a wooden spoon. Do not let the oil boil or the plants burn. Simmer until the leaves are crispy.
3. Remove from heat and let cool slightly.
4. Strain the oil to remove the herbs.
5. Add the tea tree oil and mix well.
6. Store in jar and label.



Wound Salve

This wound salve helps to disinfect wounds, reduce inflammation, and promote faster healing. To use, apply a small amount of the salve directly to the affected area up to three times daily. Ensure the wound and your hands are clean before application. As with any new topical product, perform a patch test to check for skin sensitivity or allergic reactions. This salve is intended for external use only and should be kept out of reach of children. Pregnant or nursing women, and individuals with sensitive skin should avoid using the salve. Store the salve in a cool, dark place to maintain its effectiveness.





Ingredients:

- 300g Coconut oil
- 50 g Beeswax
- 100 drops of Goldenseal and Echinacea Tincture (optional)
- 50 drops of Thyme Essential Oil
- 50 drops of Tea Tree oil

Instructions:

1. Melt the coconut oil in a double boiler.
2. Keep the oil on a low heat. Add the tincture(optional) and make sure that all the liquid, both water and alcohol, from the tincture is completely evaporated before allowing the salve to cool. Any remaining water in the salve will form small bubbles that rise to the top and pop at the surface. You will know that all the moisture has been removed when no more bubbles appear while stirring the salve. Failing to eliminate all the moisture can cause the salve to mold. Be prepared to heat and stir the salve for an extended period to ensure all the moisture is evaporated.
3. Add in the wax and stir until completely melted.
4. Remove from the heat.
5. Add tea tree oil and thyme oil and mix well.
6. Pour into a sterilized jar and let cool.

Mouthwash

This mouthwash recipe helps to prevent plaque buildup and soothes irritated gums. Helps to treat gingivitis. It not only freshens breath but also supports oral health by reducing bacteria, preventing infections, and promoting overall gum and tooth health.

Ingredients:

- 1.5 cups of water
- 1 tablespoon dried Echinacea
- 5 drops Tea Tree oil
- 80 drops of Thyme Tincture

Instructions:

1. Boil the water, take off the heat and add the dried herbs.
2. Let the mixture cool, then strain out the herbs.
3. Add tea tree oil and thyme tincture and mix well.
4. Store in a sterilized bottle.
5. Use as a mouthwash twice daily.



Nasal Spray



A simple but very effective nasal spray for sinus infections is made with saline solution and turmeric tincture. This turmeric helps to relieve inflammation from the nasal passages and the saline solution is effective for maintaining healthy nasal passages and alleviating various nasal and sinus issues. Saline solution loosens and thins mucus, making it easier to expel, providing relief during colds, allergies, or sinus infections. Additionally, it helps clear out irritants such as pollen, dust, and pollutants, reducing allergic reactions and inflammation. The salt in the solution can also reduce swelling, easing congestion and improving breathing.

Add 10 drops of turmeric tincture to 30ml of saline solution. Put into a sterilized bottle with a spray valve or with a small opening. If using a bottle with a small dropper opening when applying, you should tilt your head upwards and pour into the nose whilst inhaling for the solution to enter the nasal passages. 30ml of solution should be used in one day many times throughout the day. The solution does not keep well and should be used immediately and kept in the fridge.



Using and Applying Essential Oils

Steams for Respiratory Infections

Steam inhalations offer a multitude of benefits, particularly for respiratory health. The warm, moist air helps to loosen mucus and phlegm, making it easier to expel and thereby relieving congestion and improving breathing. This is especially beneficial during colds, sinus infections, and allergies. The steam also moisturizes dry and irritated nasal passages and throat, providing soothing relief. When combined with essential oils such as eucalyptus or peppermint, steam inhalations can enhance these effects, as the oils' natural decongestant and anti-inflammatory properties are inhaled directly into the respiratory tract. Additionally, steam inhalation can help to clear out bacteria and allergens from the airways, reducing the risk of infections and promoting faster recovery.



Materials Needed:

- A large bowl
- Hot water
- A towel
- Essential oils (e.g., eucalyptus, peppermint, lavender, tea tree, rosemary)

Instructions:

1. Boil water and let it cool slightly so it's hot but not scalding. Pour the hot water into a large bowl.
2. Add 3-4 drops of your chosen essential oil(s) to the hot water. Here are some common essential oils and their benefits:

Eucalyptus: Helps relieve congestion and sinus issues.

Peppermint: Soothes respiratory passages and has a cooling effect.

Tea Tree: Offers antimicrobial properties, helpful for infections.

Rosemary: Improves circulation and eases respiratory issues.

Thyme: Also offers antimicrobial properties and is good for respiratory infections.

3. Sit comfortably at a table. Place the bowl of hot water in front of you.
4. Drape a towel over your head and the bowl to create a tent, trapping the steam.



5. Close your eyes to avoid irritation. Lean over the bowl, keeping your face about 8-12 inches above the water. Breathe deeply and slowly through your nose for about 5-10 minutes. Take breaks if needed. Ensure you're breathing in the steam and essential oils, allowing them to reach your respiratory system.
6. After your steam session, remove the towel and take a few moments to breathe normally.
7. Drink a glass of water to stay hydrated.

Use only high-quality, pure essential oils. Some oils may cause irritation or allergic reactions, so start with a small amount.

Steam inhalation can be done 1-2 times daily, especially during cold or allergy seasons.

Chest Rubs

Using a chest rub made with essential oils offers numerous benefits for respiratory health. The combination of eucalyptus, peppermint, and tea tree oils creates a powerful blend that helps alleviate congestion and ease breathing. Eucalyptus oil is renowned for its ability to clear nasal passages and reduce inflammation, making it easier to breathe. Peppermint oil provides a cooling sensation and can help soothe respiratory discomfort, while its menthol content acts as a natural decongestant. Tea tree oil, with its antimicrobial properties, aids in fighting off respiratory infections and supports the immune system. Together, these essential oils not only provide immediate relief from respiratory issues but also promote overall respiratory health.



Ingredients:

- 2 tablespoons coconut oil (or another carrier oil like olive oil or almond oil)
- 4 drops eucalyptus essential oil
- 3 drops peppermint essential oil
- 3 drops tea tree essential oil
- Small jar or container for storage

Instructions:

1. If using coconut oil, gently melt it over low heat until it becomes liquid. If using another carrier oil, you can skip this step.
2. In a small bowl, mix the melted coconut oil (or your chosen carrier oil) with the essential oils:
 - 4 drops of eucalyptus oil
 - 4 drops of peppermint oil
 - 3 drops of tea tree oil.



3. Stir the mixture well to ensure the essential oils are evenly distributed throughout the carrier oil.
4. Pour the mixture into a small, clean jar or container with a lid. Allow it to cool and solidify if using coconut oil or keep it as a liquid if using another carrier oil.
5. To use, scoop a small amount of the chest rub and apply it to your chest, neck, and back. Gently massage it into your skin. The warmth of your body will help release the essential oils, allowing you to inhale their beneficial properties.

Tips and Precautions:

- Before using the chest rub, perform a patch test on a small area of your skin to ensure you don't have any allergic reactions to the essential oils.
- Keep the chest rub away from your eyes, nose, and mouth. Do not apply to broken or irritated skin.
- Store the chest rub in a cool, dark place to preserve the effectiveness of the essential oils.
- For adults 5 drops of essential oil per tablespoon of carrier oil is sufficient. For children up to 7 years old use half the amount of essential oil and up to 3 years old use a quarter of the amount of essential oil.



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