

## Lemongrass extracts, their uses and health benefits

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### Introduction:

Lemongrass botanically is *Cymbopogon* spp. and family Poaceae. It grows in numerous parts of tropical and subtropical regions in South East Asia and Africa. It is a perennial grass plant that can reach 6 inches in height. Its bulb-like stems are made up of terete and glabrous linearly venated encased leaves with a narrow base and pointy apex. The leaf is around 100 cm in length and 2 cm in breadth.



When the leaves are squeezed, they normally release a golden or amber-colored, aromatic essential oil. Lemongrass was first distilled for export in the Philippines in the 17th century. The first samples of closely

similar citronella oil were presented during the 1951 World's Fair in London Crystal Palace. Lemon grass is a popular flavoring component in a various food product. In addition to its appealing citrus taste, lemongrass essential oils have showed strong antibacterial properties, making them suitable for integration into culinary products.

### Extraction of Lemon Grass Oil

The primary source of lemongrass essential oil is the leaves, which have a dry matter content of 1% to 2% essential oil. The traditional ways of extracting it include steam and hydro distillation, both of which require a lot of time. The novel Microwave-Assisted Hydro distillation (MAHD) method preserves the oil's quality while cutting down on the extraction time. Compared to Soxhlet extraction and hydro distillation procedures, pressurized liquid extraction employing nitrogen gas is a unique approach that produced oil of higher quality. Citronella oil extraction from Supercritical method using high pressure CO<sub>2</sub>.

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## Bioactive Compounds Present in Lemon Grass and its Oil

There is already a plethora of ethnopharmacological uses for lemon grass. Its ability to restore health may be attributed to the various secondary metabolites it generates. the presence of minerals, fiber, proteins, carbs, lipids, and a number of other bioactive substances. These fall into several types, including tannins, phenols, alkaloids, terpenoids, and flavanoids.

### Uses:

Lemongrass is a plant. Medicine is made from the leaves and oil. In many different parts of the world, lemongrass is utilized as aromatherapy and is typically eaten orally, applied topically, or inhaled. Home gardens typically include citronella plants to deter insects like adult whiteflies. Its cultivation makes it possible to cultivate some vegetables (like broccoli and tomatoes) without using pesticides.

The most well-known application of lemongrass is in Asian cooking, particularly Thai and Vietnamese food. It is also used as a remedy in India. It used fresh or dried, powdered and oil; it has a mild citrus flavor. It's frequently used perfumes, cosmetics, curries, soups, and teas.

### Health Benefits:

➤ **Reduces Fever:** Because of its ability to reduce fever, it is a febrifuge that is also

referred to as "fever grass." Ayurvedic medicine makes considerable use of the antipyretic and diaphoretic effects to induce sweating, which helps treat fevers.

➤ **Skin Care:** The astringent and antibacterial properties of this famous skin tonic also make it a great cleaner for oily or acne-prone skin. Not only does it sterilize the pores, but it also helps to tone up and reinforce the skin's tissues. When using products that contain lemongrass, caution should be exercised because in certain situations, using the product undiluted may cause skin irritation.

➤ **Lowers Cholesterol:** It supports healthy cholesterol levels since it has anti-hyperlipidemic and anti-hypercholesterolemic qualities. By keeping lipids from building up in the blood vessels and encouraging free blood flow through the arteries, this may help avoid a number of cardiac disorders, including atherosclerosis.

➤ **Reduces Obesity:** It has proven to be successful in combating obesity. It reduces the buildup of belly fat and encourages the burning of fat reserves, aiding in the prevention of diet-related weight gain. It improves the body's fatty acid oxidation process and supports a healthy metabolism.

➤ **Detoxifies the Body:** Lemongrass's diuretic qualities may aid in the removal of

toxic waste products from the body. In addition to lowering uric acid levels, detoxification aids in the management of the body's many organs, including the kidneys and liver. The herb's diuretic properties aid in raising both the volume and frequency of urination, which supports digestive health and aids in the body's detoxification.

- **Anticancer Potential:** It is efficient at inhibiting the growth of cancer cells while not affecting the body's healthy cells. This is mainly due to the presence of a chemical component known as citral.
- **Stomach Disorders:** The antimicrobial and antibacterial qualities of lemongrass essential oil aid in the treatment of diseases brought on by a various of pathogens, including *Escherichia coli* and *Helicobacter pylori*. It helps relieve gastrointestinal issues and reduce inflammation; you can use it to help with digestion and if you have stomach aches, constipation, ulcerative colitis, diarrhea, nausea, or gastric ulcers.
- **Nervous System:** It is thought to be a nervous system tonic because of its nervine properties. It arouses mental activity and aids in the treatment of vertigo, anxiety, convulsions, and other neurological conditions. It is used in therapeutic baths,

which help to soothe the body and reduce weariness and anxiety brought on by stress.

- **Boosts Immunity:** Its extracts are advantageous to the inflammatory activities of cytokines, the signalling molecules that let cells to interact with and react to their surroundings. Its anti-inflammatory properties may stem from the fact that citral, one of its constituents, inhibits the generation of cytokines.
- **Respiratory Disorders:** Its therapeutic properties in treating colds and coughs make it a popular ingredient in Ayurvedic medicine. In addition to its various health benefits, the vitamin C concentration can help relieve nasal congestion, the flu, and other respiratory conditions like bronchial asthma.

**Conclusion**  
It is a very important medicinal crop, contain various bioactive compounds. it uses to making various products such as perfumes, cosmetics and healthy food products. these are protecting many diseases, disorders and infection.