

## Lemongrass: its uses, medicinal properties and industrial properties

Komal

University of Agricultural Sciences, Chandigarh University (Mohali), Punjab

Corresponding author: rameshkumar565287@gmail.com

ARTICLE ID: 068

### Introduction:

Cymbopogon, Citronella also known as lemongrass, barbed wire grass, silky heads, Cochin grass. Lemongrass is a tall, stalky plant. It has a fresh, lemony aroma and a citrus flavor. It's a common ingredient in Thai cooking and bug repellent. Lemongrass essential oil is used in aromatherapy to freshen the air, reduce stress, and uplift the mood. Lemongrass is also used as a folk remedy to promote sleep, relieve pain, and boost immunity. One of the most popular ways to enjoy lemongrass is in tea. The name cymbopogon derives from the Greek words kymbe ('boat') and pogon ('beard') "means in most species, the hairy spikelets project from boat-shaped spathes.

### Nutritional value of lemongrass

Vitamins, minerals, electrolytes, and other chemicals that act as antioxidants are abundant in all parts of lemongrass. This herb is, therefore, highly beneficial for health. Lemongrass leaves are high in crude fiber, a type of dietary fiber, making the herb high in carbohydrates. One hundred grams of lemongrass has 99 calories, but no cholesterol.

### Main Uses of Lemon Grass

Lemongrass is used in two forms -

- Lemongrass oil
- Lemongrass Leaves

### Lemongrass Oils & Uses

- Lemon Grass Oil, is the most popular and beneficial way to use in Industries.
- Lemon Grass oil is extracted from the leaves and stem of lemon grass plant.
- Lemon Grass oil is used in the making of soaps, and also in perfumes, scents, attar and incense sticks (agarbatti).

- Lemon Grass oil is also used as a medicinal herbs in the pharmaceutical industry.
- Lemon Grass oil is further processed into Alpha Ayonen and Beta ayonen.
- In beekeeping, lemongrass oil imitates the pheromone emitted by a honeybee's Nasonov gland to attract bees to a hive or to a swarm.
- Lemongrass oil is used as a pesticide and a preservative.
- lemongrass oil has antifungal properties.

### **Lemon Grass Leaves Uses**

- Dry Lemon grass leaves are widely used in Herbal tea, Lemon tea and various other types and varieties of Herbal tea.
- Lemon grass leaves when made in to a paste has anti fungal qualities and therefore, is helpful in treating Ringworm.
- Lemon Grass also helps in improving digestion.
- It is also helpful for the urinary related problem and reduces gastric problems.
- Lemon grass has widespread utility not only for perfumes ind ustry but also for Pharmaceutical medical purposes.

### **Other uses of lemongrass**

- Culinary herb in Asian cuisine subtle citrus flavour dried and powdered or used fresh used in teas soups and curries poultry, fish, beef, and seafood often used as a tea in African countries.
- Ability to repel some insects, such as mosquitoes.
- No toxicity when used as a topical insect repellent.
- Lure to attract honey bees pheromone created by the honeybee's Nasonov gland.
- It is effective in calming barking dogs.
- It is popular in many Asian cuisines and adds an intriguing flavor to soups and stews.
- This herb has a pungent lemony, herbaceous, and sweetly floral flavor that works well with both sweet and savory foods and beverages.
- Fresh or dried lemongrass can be steeped or boiled to make an herbal infusion or decoction.
- Culinary Flavouring

- Lemongrass flavour has an edge over the Lemon flavor since this oil is not acidic in nature.
- Dried lemongrass leaves are widely used as a lemon flavour ingredient in herbal teas, prepared either by decoction or infusion of 2-3 leaves in 250 or 500 ml of water and other formulations.
- Lemongrass tea is a diuretic and imparts no biochemical changes to the body in comparison with the ordinary tea.
- Lemongrass iced tea is prepared by steeping several stalks in a few quarts of boiling water. This can also be combined with green or black teas.
- It is also used in instant beverages. It not only adds lemon flavor but also provide vitamin A and promotes digestion of fat.
- Lemongrass is commonly used in Asian cooking. It is used extensively in Thai cuisine in the form of fresh grass or dried and ground grass. The dishes include soup, grilled chicken and curries. It adds a lemon taste to the food.

### **Essential oil**

- ❖ Lemongrass oil is used in culinary flavouring. It is used in most of the major categories of food including alcoholic and non alcoholic beverages, frozen dairy desserts, candy baked foods, gelatins and puddings, meat and meat products and fat and oils.
- ❖ It is used to improve the flavour of some fish and can be used to flavour wines, sauces etc.

### **Oleoresin**

- Oleoresin, comprising of the volatile and non-volatile components responsible for the characteristic flavour and aroma, can be separated by subjecting the herb to extraction with a suitable solvent or a mixture of solvents. The solvent residue in the product should be minimal; typically less than 25-30 ppm. The oleoresin is a concentrated wholesome product with better storage characteristics.
- Oleoresin is mainly used in flavouring foods, drinks and bakery preparations. It is very good for flavouring tea.

### **Medicinal and industrial properties of lemon grass**

1. **It has antioxidant properties**

Lemongrass contains several antioxidants, which can help scavenge free radicals in your body that may cause disease. Antioxidants of note are chlorogenic acid, isoorientin, and swertiajaponin. These antioxidants may help prevent dysfunction of cells inside your coronary arteries.

2. **It has antimicrobial properties**

Lemongrass tea may help treat oral infections and cavities, thanks to its antimicrobial properties. , lemongrass essential oil showed antimicrobial abilities against Streptococcus mutans bacteria, the bacteria most responsible for tooth decay.

3. **It has anti-inflammatory properties**

Inflammation is thought to play a role in many conditions, including heart disease and stroke. Two of the main compounds in lemongrass, citral and geraniol, are thought to be responsible for its anti-inflammatory benefits. These compounds are said to help stop the release of certain inflammation-causing markers in your body.

4. **It may reduce your cancer risk**

The citral in lemongrass is also thought to have potent anticancer abilities against some cancer cell lines. Several components of lemongrass help fight cancer. This occurs either by causing cell death directly or boosting your immune system so that your body is better able to fight-off cancer on its own. Lemongrass tea is sometimes used as an adjuvant therapy during chemotherapy and radiation. It should only be used under the guidance of an oncologist.

5. **It may help promote healthy digestion**

A cup of lemongrass tea is a go-to alternative remedy for upset stomach, stomach cramping, and other digestive problems.

Lemongrass may also be effective against gastric ulcers. Essential oil of lemongrass leaves can help protect the stomach lining against damage from aspirin and ethanol. Regular aspirin use is a common cause of gastric ulcers.

6. **It may act as a diuretic**

In the world of natural health, lemongrass is a known diuretic. A diuretic makes you urinate more often, ridding your body of excess fluid and sodium. Diuretics are often prescribed if you have heart failure, liver failure, or edema.

7. **It may help reduce high systolic blood pressure**

Lemongrass tea experienced a moderate drop in systolic blood pressure and a mild increase in diastolic blood pressure. They also had a significantly lower heart rate.

8. **It may help regulate your cholesterol**

High cholesterol may increase your risk of heart attack or stroke. Lemongrass oil extract helped to lower cholesterol in animals. The reduction in cholesterol was dependent on the dose.

9. **It may help you lose weight**

Lemongrass tea is used as a detox tea to kick-start your metabolism and help you lose weight. Even so, most research on lemongrass and weight loss is anecdotal, not scientific. Since lemongrass is a natural diuretic, if you drink enough of it, you're likely to drop some pounds.

10. **It may help relieve symptoms of PMS**

Lemongrass tea is used as a natural remedy for menstrual cramps, bloating, and hot flashes. There isn't any research specifically on lemongrass and PMS, but, in theory, its stomach-soothing and anti-inflammatory properties may help.

11. **Joint Pains**

- Due to its anti-inflammatory and pain-relieving properties, lemongrass helps treat arthritis, rheumatism, osteoarthritis, gout and other types of joint pain.
- Its anti-inflammatory properties help suppress the activity of cyclooxygenase-2, an enzyme involved in inflammation that causes pain, especially in joints.
- Plus, lemongrass helps to alleviate muscle spasms or sprains by relaxing the muscles, which in turn reduces the pain-related symptoms.
- You can mix lemongrass oil with coconut oil in a 1:2 ratio and rub it over the affected area. Leave it on for a few hours before rinsing it off. Do this daily for a few weeks.

12. **Diabetes**

The purifying and cleansing effect of lemongrass tea, help to detoxify the pancreas and improve its functions, thus lowering blood sugar level in diabetic patients. Though more studies and research is required in this area.

13. **Healthy Skin**

- Lemongrass has been treasured as a skin tonic and makes an effective cleanser for oily or acne-prone skin, due to its astringent and antiseptic qualities.
- It helps in strengthening the skin tissues and toning up the pores while also sterilizing them.
- Care should be taken while using lemongrass products, as the undiluted application might lead to dermal irritation in some cases.

- Dilute lemongrass oil with water or another base, such as olive oil, before use. Mix one-half cup of freshly sliced lemongrass in one cup of olive oil and heat it for five minutes. Remove from heat and allow it to cool before applying on skin.
- Lemongrass oil helps relieve pain in muscles, joints, toothache and headache etc. resulting from viral infections like cough and cold, influenza, fever, pox etc.
- Oil also helps cure body pain resulting from sudden exercises, sports etc.
- The oil is diluted with coconut oil five times and massaged for rheumatic pains.
- Steam Inhalation with boiled leaves is a cure for cold and influenza.
- Taking in of two to three drops of oil mixed with powdered sugar candy (kalkandam), dried ginger and pepper will get rid of fever and cough. The oil when given with tea can bring down fever.
- Oil is used on various types of skin infections, usually as a wash or compress and is especially effective on ringworm and infected sores. Application of a paste of the leaves of lemon grass made in butter milk is useful in treating ringworm.
- It is good for curing external and internal wounds and hence an ingredient of the anti septic lotions and creams.
- It strengthens stomach, stimulates appetite, promotes digestion, and regulates nervous system and vascular expansion. Lemongrass oil can relieve gas trouble.
- Lemon grass oil prevents formation of pimples and acne and acts as a muscle and tissue toner. It reduces the puffiness in skin and is a good hair tonic.
- Lemongrass also finds use in aromatherapy. Fresh herb or oil of lemongrass is used for foot bath. The patient additionally benefits by inhaling the scent
- It also treats pain arising from rheumatism and nerve conditions. This refreshing fragrance reduces headache and prevent drowsiness and rejuvenates mind and soul. It is also used to make aroma therapy candles.
- The oil should be mixed with a carrier oil before application on the body. Its use may be avoided during pregnancy.

### **Conclusion:**

Lemongrass is a medicinal plant with more and more medicinal properties and we also use it for cooking, in industries, its oil is having many uses and leaves as well.