

ESSENTIAL OILS TO KNOW AND USE

PART 2



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Lecture 8

Cajeput Oil

- Cajeput oil is derived from the leaves and twigs of the cajeput tree, scientifically known as *Melaleuca leucadendra* or *Melaleuca cajuputi*. This tree is native to Southeast Asia and Australia. The oil is extracted through steam distillation of the leaves and twigs.
- Cajeput tree is also known as the paperbark tree, Bottle brush tree
- **Family Myrtaceae**



Chemical Constituents

- **Cineole (Eucalyptol):** This is the primary constituent of cajeput oil, contributing to its medicinal properties and aroma.
- **Terpinen-4-ol:** Known for its antimicrobial properties.
- **α -Terpineol:** Provides a pleasant aroma and contributes to the oil's therapeutic effects.
- **Limonene:** Offers antioxidant properties and contributes to the oil's fragrance.
- **Pinene:** Known for its anti-inflammatory and bronchodilator effects

Uses

- **Medicinal:** It is traditionally used for its analgesic, antiseptic, antifungal, and expectorant properties. It can be applied topically to relieve muscle pain, joint pain, and insect bites. When inhaled or used in steam inhalation, it helps in clearing respiratory congestion, easing coughs, and treating sinusitis.
- **Skin Care:** Due to its antiseptic properties, cajeput oil is used in skincare products to treat acne, eczema, and minor skin infections. It can also help in reducing inflammation and promoting wound healing.
- **Hair Care:** Cajeput oil is sometimes used in hair care products to promote scalp health and stimulate hair growth.
- **Insect Repellent:** The oil's aroma acts as a natural insect repellent, making it useful in mosquito repellent formulations.

Tea Tree oil

Biological Source:

Tea tree oil, also known as melaleuca oil, is derived from the leaves of the tea tree, *Melaleuca alternifolia*. The tea tree is native to Australia. The oil is obtained through steam distillation of the **leaves**.

- **Family: Myrtaceae**



Chemical Constituents



Component	Concentration
Terpinen-4-ol	35.0–48.0%
γ-Terpinene	14–28%
α-Terpinene	6.0–12.0%
1,8-Cineole	traces–10.0%
Terpinolene	1.5–5.0%
α-Terpineol	2.0–5.0%
α-Pinene	1.0–4.0%
P-cymene	0.5–8.0%
Sabinene	traces–3.5%
Limonene	0.5–1.5%

Uses

- 1.Skincare:** Tea tree oil is widely used in skincare products to treat acne, as it effectively kills acne-causing bacteria (*Propionibacterium acnes*) and reduces inflammation. It can be applied topically in diluted form to acne-prone areas to help clear blemishes and prevent future breakouts.
- 2.Hair Care:** Tea tree oil is added to shampoos and hair care products for its antifungal properties, helping to treat dandruff and alleviate scalp itchiness. It also promotes hair growth by unclogging hair follicles and stimulating the scalp.
- 3.Antiseptic and Wound Healing:** Due to its powerful antiseptic properties, tea tree oil is used to clean and disinfect minor cuts, scrapes, and wounds. It helps prevent infection and promotes faster wound healing.
- 4.Oral Health:** Tea tree oil is sometimes added to toothpaste and mouthwashes for its antibacterial properties, which can help in maintaining oral hygiene and preventing gum disease.
- 5.Insect Repellent:** The strong aroma of tea tree oil acts as a natural insect repellent, making it useful for warding off mosquitoes, flies, and other insects.

Peppermint Oil

Peppermint oil is derived from the leaves of the peppermint plant, scientifically known as *Mentha × piperita*. Peppermint is a hybrid species of mint, a cross between watermint (*Mentha aquatica*) and spearmint (*Mentha spicata*). It is native to Europe and Asia but is now cultivated worldwide for its medicinal and culinary uses.



Family **Lamiaceae**, which is also known as the **mint family** or the **deadnettle family**.

Chemical Constituents

- 1. Menthol: (35% - 45%)** This compound provides a characteristic cooling sensation and has analgesic properties. It also helps alleviate respiratory congestion.
- 2. Menthone: (20% - 31%)** Another major component responsible for the minty aroma of peppermint oil. It also has mild analgesic properties.
- 3. Menthyl acetate:** This contributes to the oil's aroma and has calming effects.
- 4. 1,8-Cineole (Eucalyptol): (3% - 15%)** Exhibits anti-inflammatory and expectorant properties.
- 5. Limonene:** Provides a citrusy aroma and has antioxidant properties.
- 6. β -Pinene:** Contributes to the oil's fresh, pine-like scent and possesses anti-inflammatory effects.

Uses

- **Aromatherapy:** The inhalation of peppermint oil vapors can help improve focus, concentration, and mental alertness, provide a natural energy boost and promote a sense of vitality and well-being, reduce stress, anxiety, and tension.
- **Digestive Health:** Peppermint oil is often used to relieve symptoms of indigestion, bloating, gas, and stomach discomfort.
- **Respiratory Relief:** The inhalation of peppermint oil vapors can help clear nasal congestion, relieve sinus pressure, and ease respiratory symptoms associated with colds, flu, and allergies. It is often added to steam inhalations or diffused in the air.
- **Pain Relief:** Peppermint oil has analgesic properties and can be used topically to relieve muscle pain, tension headaches, and migraines.
- **Oral Health:** Peppermint oil is added to toothpaste, mouthwash, and oral care products for its refreshing flavor and antibacterial properties. It helps freshen breath, prevent cavities, and promote overall oral hygiene.

Wintergreen oil

Wintergreen oil, also known as **Gaultheria oil**, is derived from the leaves of the wintergreen plant, scientifically known as *Gaultheria procumbens*. This plant is a small, creeping shrub native to North America, particularly found in eastern Canada and the northeastern United States. The oil is obtained through steam distillation of the leaves.



Family: Ericaceae

Chemical Constituents:

The main chemical constituent of wintergreen oil is **methyl salicylate**, which typically comprises over **98%** of the oil. Methyl salicylate is a naturally occurring compound with analgesic, anti-inflammatory, and antirheumatic properties. Other minor constituents may include:

- ✓ **α -Pinene**
- ✓ **Limonene**
- ✓ **Myrcene**
- ✓ **Delta-3-Carene**
- ✓ **Delta-Cadinene**

Uses

- 1. Pain Relief:** Wintergreen oil is commonly used topically to alleviate muscle and joint pain, arthritis, rheumatism, and other inflammatory conditions. It provides a warming sensation and helps reduce discomfort.
- 2. Sports Injuries:** It is often used in sports medicine to relieve sore muscles, strains, and sprains. The oil can be applied directly to the affected area or used in massage oils and liniments.
- 3. Headaches:** Wintergreen oil may help relieve tension headaches and migraines when applied topically to the temples and forehead. Its cooling effect can help soothe headaches and promote relaxation.
- 4. Respiratory Relief:** The inhalation of wintergreen oil vapors can help alleviate respiratory congestion and symptoms of colds, flu, and sinusitis. It has expectorant properties that help loosen mucus and clear airways.

Clove oil

Biological Source: Clove oil is derived from the flower buds of the clove tree, known as *Syzygium aromaticum* (formerly *Eugenia caryophyllus*). The clove tree is native to Indonesia and is also cultivated in other tropical regions, including Madagascar, Zanzibar, Sri Lanka, and India. The oil is extracted primarily from the dried flower buds through steam distillation.

Family Myrtaceae



Chemical Constituents

- 1. Eugenol:** This is a phenolic compound, constituting **70-90%** of the oil. Eugenol is responsible for its analgesic, antimicrobial, and anti-inflammatory effects.
- 2. Eugenyl acetate:** Another important compound found in clove oil, contributing to its aroma and therapeutic properties.
- 3. β -Caryophyllene:** A sesquiterpene present in clove oil, known for its anti-inflammatory and analgesic properties.
- 4. α -Humulene:** Contributes to the oil's anti-inflammatory effects.
- 5. Acetyleneugenol**

Uses

- 1. Aromatherapy:** Cinnamon oil is valued in aromatherapy for its warming, comforting, and stimulating properties. It can help alleviate stress, fatigue, and mental exhaustion, and uplift the mood.
- 2. Dental Care:** Clove oil is commonly used in dental care products such as toothpaste, mouthwash, and dental gels due to its analgesic and antimicrobial properties.
- 3. Pain Relief:** Clove oil has analgesic properties and is used topically to relieve pain associated with arthritis, muscle aches, and headaches.
- 4. Digestive Health:** It can help stimulate digestion and relieve stomach discomfort.
- 5. Antimicrobial:** Clove oil exhibits strong antimicrobial properties and treats infections caused by bacteria, fungi, and viruses.
- 6. Respiratory Support:** Inhalation of clove oil vapors can help alleviate respiratory congestion, coughs, and sinusitis.

Grapeseed oil

- Grapeseed oil is extracted from the seeds of grapes, primarily from *Vitis vinifera*, the common grapevine.
- Grapes are widely cultivated around the world for winemaking, and **grapeseed oil is a byproduct** of the wine-making process.
- *The oil is extracted from the seeds, which are typically discarded after the grapes are pressed for their juice.*



Chemical Constituents

Grapeseed oil is primarily composed of fatty acids, with **linoleic acid** being the predominant one. The chemical composition of grapeseed oil can vary depending on factors such as the grape variety, growing conditions, and extraction methods.

On average, grapeseed oil contains approximately:

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|--|----------|------------------|
| 1. Linoleic Acid | : | 60% - 70% |
| 2. Oleic Acid | : | 15% - 20% |
| 3. Palmitic Acid | : | 8% - 10% |
| 4. Stearic Acid | : | 3% - 6% |
| 5. α-Linolenic Acid | : | <1% |

Aromatherapy Uses

- **Massage Oil:** Grapeseed oil is **an excellent carrier oil** for massage therapy due to its light and non-greasy texture. It glides smoothly over the skin, allowing for easy application and absorption. When combined with essential oils, grapeseed oil can enhance the benefits of massage by providing lubrication and promoting relaxation.
- **Aromatherapy Blends:** Grapeseed oil serves as an excellent base for diluting essential oils in aromatherapy blends. It helps disperse essential oils evenly and allows for safe topical application.

References

- Evans, W. C. (2009). Trease and Evans' Pharmacognosy. Elsevier Health Sciences.
- Price S, Price L. Aromatherapy for health professionals. 4th Edn., London: Churchill Livingstone; 2011.
- Lis-Balchin M. Aromatherapy Science: A guide for healthcare professionals. London: Pharmaceutical Press; 2006



Thank You