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# Pharmacological Aspects of Essential Oil - Wintergreen Oil

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Abstract: Wintergreen oil an essential oil has been used since years as antiseptic, antipyretic, anti rheumatic, aromatic and astringent properties. In India, it has been traditionally been used to relieve pain and fever and topically for muscle pain. Ancient Indian medicine has touted Gaultheria procumbense as an herb with the ability to provide hepatic regeneration, platelet aggregation inhibitor. Since wintergreen oil has antimicrobial, antioxidant, astringent, and other useful properties, it is quite widely used. The objective of this article is to highlight various uses of wintergreen essential oil.

Keywords: Essential Oils, Wintergreen Oil

# 1. Introduction

Essential oils (also called volatile oils) are aromatic oily liquids obtained from plant materials (flowers, buds, seeds, leaves, twigs, bark, herbs, wood, fruits and roots). They can be obtained by steam distillation method which is the most commonly used technique for commercial production. Some oils have been used in cancer treatment. (14). The antimicrobial activity of plant oils and extracts has been recognized for many years. Plant oils and extracts have been used for a wide variety of purposes since many years. In particular, the antimicrobial activity of plant oils and extracts has formed the basis of many applications, including raw and processed food preservation, pharmaceuticals, alternative medicine and natural therapies(15).A wide variety of essential oils possess antimicrobial properties. In many cases this activity is due to the presence of active monoterpene constituents. Studies show that monoterpenes exert membrane-damaging effects(16). About 100% pure components of essential oils have been tested for their antioxidant effect. The main compounds, namely monoterpene hydrocarbons, oxygenated monoterpenes, sesquiterpene hydrocarbons, oxygenated sesquiterpenes, benzene derivatives, and non isoprenoid components comprising alcohols, aldehydes, ketones, are the most common constituents of most essential oils.(17)

Genus name - Gultheria

Species name - Gultheria procumbense

# 2. Other Common Names

- wintergreen
- Winterberry
- Checkerberry
- Tea Leaf
- Deer berry
- · Box berry
- Eastern teaberry

# a) Botanical Description

This plant isan herb belonging to the family Ericaceous, (2) native to North America, Europe and Nepal (3). This is a low-growing plant, found in forest having a pleasant aroma and taste. It is a small low-growing shrub, typically reaching 10–15 centimeters. Their leaves are evergreen, elliptic or

ovate 2–5 cm long and 1–2 cm broad, with a distinct oil of wintergreen scent. The flowers are bell-shaped, 5 mm long, white, borne solitary or in short racemes. The berrylike fruit is actually a dry capsule surrounded by fleshy calyx (6).leaf part of the plant has the medicinal value. (4)

### b) Chemistr

Wintergreen oil is an extracted product of a small herb called the checkerberry or teaberry. The mail constituent of wintergreen oil is Methyl Salicylate. This makes up to 98% of its content. This component gives to strong aromatic sweet woody odor to its oil which is pale yellow or pinkish fluid. It may also contain tannin and resin, a-pinene, myrcene, delta 3 carene, 3, 7-guaiadiene, delta cadinene which gives the plant a distinct medicinal smell. (5) (1) this oil is widely being used as antiseptic ingredient, cream and ointments for joint and muscular skeletal disorder. (1)

## c) Oil Extrection

A volatile oil is obtained by first macerating the leaves in warm water. The oil is then extracted by steam distillation of leaves. Chemical composition is almost 100% pure *methyl salicylate*, but trace amounts of other chemicals may also be found.

### d) Actions & Uses:

- Wintergreen oil acts in a similar way as aspirin in that it can produce analgesic effect when topically applied on skin.
- It also shows antipyretic actions when the essence of wintergreen is mixed with alcohol
- · Is very effectual against intermittent fever.
- This can also be used to treat sexually transmitted disease as gonorrhea and in gonorrheal & other rheumatism.
- Wintergreen oil can be used for trigeminal neuralgia, and in subcutaneous and chronic cystitis.
- This oil is used as liniments and ointments for reliving pains in above mentioned cases.
- This is also used in many food and beverages, candies and also in tooth paste(7).
- In perfumery they are used in forest type of woody perfumes. (8)

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