

# Yuzu

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## BOTANICAL NAME

*Citrus Junos* Sieb. ex Tanaka.

## FAMILY

Rutaceae

## BOTANY AND ORIGINS

Yuzu (*Citrus junos* Sieb. Ex Tanaka) is a small, yellow-golden citrus fruit resembling a small orange or tangerine. It is believed to have originated in the upper reaches of the Yangtze River in China and arrived in Japan during the Sui Dynasty or Tang Dynasty over 1,000 years ago.<sup>1</sup>

## METHOD OF EXTRACTION

Yuzu oil is expressed from the peels of the yuzu fruit. However, most commercial grade yuzu oil nowadays is distilled from the whole left-over fruit after juice extraction.

## CHARACTERISTICS

The cold expression oil is a mobile, yellowish to orange yellow oil with an exquisite fresh-citrus and sweet odour. Matsumoto et al. describe the scent as somewhere between grapefruit, mandarin and orange, with subtle overtones of bergamot and lime, with a pleasing subtle floral note.<sup>1</sup>

## CHEMICAL COMPOSITION

The chemical composition of cold pressed yuzu essential oil was reported as follows:

$\alpha$ -thujene (0.115%),  $\alpha$ -pinene (0.95%),  $\beta$ -pinene (0.48%), sabinene (0.15%), myrcene (1.85%),  $\alpha$ -phellandrene (0.25%), *d*-limonene (85.53%), Y-terpinene (6.83%), terpinolene (0.38%), linalool (1.47%), linalyl acetate (0.01%), trans-limonene oxide (0.03%), terpinene-4-ol (0.12%),  $\alpha$ -terpineol (0.07%),  $\beta$ -caryophyllene (0.26%),  $\beta$ -farnesene (0.19%).<sup>2</sup>

Like most other citrus oils, yuzu oil is not very stable and deteriorates easily upon exposure to moisture, air and daylight.

## ADULTERATION

Yuzu oil is rarely adulterated. However, there are different qualities of the oil, and it is important to get freshly produced and carefully stored oil. Considering genuine cold-pressed yuzu oil is expensive, it is likely cold-pressed yuzu oil is adulterated with the addition of lower quality steam-distilled yuzu and other citrus oils.

## HISTORY AND TRADITIONAL USES

### Traditional uses

Yuzu is an essential ingredient in Japanese cuisine. It has traditionally been used in Japan to promote mind and body health. Taking a *yuzu-yu* (Yuzu bath), a hot bath in which whole yuzu fruits are floated, is a winter solstice custom that dates back to the early 18th century. The yuzu bath warms the body; guards against colds; treats arthritis, rheumatism, and rough skin.<sup>1</sup>

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## Food, perfumery and flavouring

Yuzu oil is extensively used as a flavour in beverages and as a fragrance component in soaps, detergents and personal care products.

Yuzu fruits and its juice have traditionally been used to make vinegar and seasoning. The peel of yuzu fruit is highly valued by chefs who use it to enhance flavor and garnish dishes. Yuzu is used in Japan to make various sweets, including marmalade, jelly and cakes.<sup>1</sup>

Researchers have found that yuzu extract prevents cognitive decline and impairs glucose homeostasis in  $\beta$ -amyloid induced rats. It has been suggested that yuzu fruits are rich in flavonoids and vitamin C, which might ameliorate the cognitive dysfunction in  $\beta$ -amyloid-induced dementia.<sup>3</sup>

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## PHARMACOLOGY AND CLINICAL STUDIES

Not many pharmacological studies have been done involving yuzu oil. Limonene is often considered one of the more important constituents in citrus oils and often contributes to the citrus oil's hepatoprotective and anticarcinogenic activity.<sup>4</sup>

Considering the limonene content in cold-pressed yuzu oil is similar to that found in lemon, it is likely to have excellent detoxification activity.

### Premenstrual syndrome

A study in Japan investigated the effects of inhalation of yuzu oil to alleviate premenstrual syndrome (PMS). The researchers compared the effects of inhalation of yuzu oil to lavender oil, which was used as the control. The researchers concluded short-term inhalation of yuzu oil could alleviate premenstrual emotional symptoms, which they considered was attributable to the improvement of parasympathetic nervous system activity. The researchers also concluded the effects of yuzu did not differ from those of lavender oil.<sup>5</sup>

### Autonomic nervous system activity

According to a recent study, ten-minute inhalation of yuzu scent significantly decreased salivary chromogranin A (CgA) used as an endocrinologic stress marker, which reflects sympathetic nervous system activity. Inhalation of yuzu oil

also alleviated negative emotional stress and contributed to the suppression of sympathetic nervous system activity.<sup>1</sup>

Matsumoto et al. cite research explaining that citrus oils with a very high percentage of limonene have a stimulatory effect on the sympathetic nervous system, which contributes to mental alertness. On the other hand, citrus fruit oils with less limonene content oil such as yuzu had suppressed sympathetic nervous system activity, leading to lower levels of anxiety and a more positive mood. The research also suggested the Y-terpinene content promotes dopamine release, which results in stress reduction.<sup>1</sup>

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## PROPERTIES

Yuzu essential oil is not commonly used in aromatherapy. However, it is likely the oil will have antidepressant, antiseptic, depurative, disinfectant, diuretic, hepatoprotective and stimulating properties. Matsumoto et al. state yuzu oil possesses antioxidant, anticarcinogenic, anti-inflammatory, and antidiabetic properties and enhances cognitive function.<sup>1</sup>

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## AROMATHERAPY USES

### Detoxification

The actions of yuzu oil have been described as being similar to that of other citrus oils rich in d-limonene. The d-limonene content of yuzu indicates yuzu oil has hepatoprotective properties similar to lemon oil.

Yuzu oil is likely to be a lymphatic stimulant similar to that of grapefruit, lemon or sweet orange oils. Therefore, it is recommended for the treatment of cellulite, obesity and water retention.

### Psychological

Yuzu oil has an uplifting and reviving effect, which makes it valuable for treating stress, depression and nervous exhaustion. It is recommended for people who are feeling depressed and lethargic, particularly in Winter.

### Skin care

Many citrus oils are used for treating oily skin and acne. Yuzu oil may therefore be considered for treating oily skin and acne.

## ENERGETICS, PSYCHE AND SUBTLE USES

### Energetics

Yuzu oil is cooling, cleansing and decongesting. It is beneficial for both an overheated Liver and sluggish lymphatic system. Symptoms associated with an overheated Liver include: abdominal distension, constipation, nausea and a feeling of general irritability.

Yuzu oil, like all citrus oils, has the ability to smooth the flow of stagnant *Qi*, which is associated with the Wood Element. This helps to alleviate irritability, stress and tension.

According to the principles of Five Elements, yuzu oil helps to reduce excess *damp* associated with the Earth Element. *Damp* conditions are often associated with chronic indigestion, abdominal bloating, lethargy, heaviness of the body and water retention.

According to the principles of Ayurveda, yuzu oil would strengthen *Vata* and *Pitta* and help to reduce *Kapha*.

### Personality

The yuzu personality is described as a warm, happy person who is bursting with energy, and loves life and people. They can be great motivators and have so much 'get up and go' without being overbearing.

According to Myers-Briggs personality types, the yuzu personality is likely to be an ENTP. ENTPs are energetic, enthusiastic and confident. Many are non-conformists. They are innovative and have excellent analytical ability and are resourceful when solving problems. They like variety and change. Because they have so many interests, they feel that life is too short. They feel relaxed when they try new things. They enjoy travelling to exotic places. They can be inspirational and rise to leadership positions because of their quick mind. They work best when interacting with many people. They are optimistic, charming and quick-witted. They value their freedom and independence. They seek growth, excitement, and continuous improvement in their relationships. They enjoy debating and they like to have the last say. They may deny emotional pain and keep busy to avoid dealing with their feelings. They can be arrogant, argumentative and insensitive.

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## Subtle

Yuzu oil awakens the human spirit from a slumber – it is energising and enlivening. It can reconnect the mind, body and soul. Consider using yuzu oil whenever you are feeling drained and depressed. The vibrant fruity aroma of yuzu lifts the spirits and radiates optimism. Yuzu oil helps us focus our thoughts on the positive aspects of our life.

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## BLENDING TIPS

### Aromatherapy

- For the relief of stress, anxiety and nervous tension, consider blending yuzu essential oil with Atlas cedarwood, bergamot, geranium, grapefruit, lavender, lemon, neroli, sweet orange or sandalwood.
- To alleviate fatigue and feelings of apathy, consider blending yuzu oil with black pepper, cardamom, coriander seed, ginger, lemon, lemon myrtle, cold-pressed lime, sweet orange or rosemary.
- To create a detoxification blend, consider blending yuzu oil with essential oils such as juniper berry, sweet fennel, lemon, sweet orange or rosemary.

### Perfumery

Yuzu oil is typically not used in perfumery. However, it would add a fresh, uplifting top note to any perfume.

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## HOW TO USE

### Bath

Full-body bath, foot bath

### Topical

Compress, massage, ointment, skincare

### Inhalation

Direct inhalation, diffuser, oil vaporiser

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## SAFETY

Yuzu oil is non-toxic, non-irritating and non-sensitising. Old and oxidised yuzu oil should be avoided.

## REFERENCES

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