

## Camellia Seed Oil Research Paper

### APPEARS INS



Camellia Seed Oil is derived from the Camellia Flower. At Three Ships, we use oil from two different Camellia species, Camellia Japonica (e.g. seen in [Radiance Day Cream](#)) and Camellia Oleifera (e.g. seen in [Glow Oil Serum](#)).

Camellia Seed Oil is known for its antioxidant and properties and ability to reduce the look of fine lines obtained through components such as vitamins and fatty acids.

### EMOLLIENTS WORK TO MOISTURIZE AND SOFTEN THE SKIN BY SUPPORTING THE SKIN'S NATURAL LIPID BARRIER

There are many species of Camellia Flowers. Camellia Japonica Oil has been historically used in Japan to protect hair and skin while Camellia Oleifera Oil is often used for cooking purposes in China. While the exact percentages of the specific bioactive components vary somewhat between these two species, they both work to moisturize the skin by acting as an emollient and protect the skin against free radicals with antioxidants present in the seed oils.

Emollients work to moisturize and soften the skin by supporting the skin's natural lipid barrier. Fatty acids, which are also present in the Camellia oils, are lipids that make up part of the skin barrier. Free radicals are reactive species naturally present in the environment that react with the skin causing damage and degradation. Antioxidants work to combat free radical activity and protect your skin. Some antioxidants present in the Camellia oils are vitamin E and phenolic compounds.



To obtain the Camellia Seed Oil, Camellia Seeds are first harvested and dried. Traditionally, the dried seeds are then cold pressed through an extruder to separate the oil from the solid components. That oil is then further refined to create high purity Camellia Oil. The cold pressing technique uses lower temperatures than other methods, minimizing the degradation seen in the bioactive components, like vitamins and fatty acids, throughout the process. The Camellia Japonica used by Three Ships is sourced from Japan and the Camellia Oleifera is sourced from Argentina. It should also be noted that exact ratios of bioactive components present in the oils may vary slightly due to the different growing conditions associated with each batch. However, the exact process of extraction method for the Camellia Oil that Three Ships sources is proprietary information.

## FATTY ACIDS

Camellia Japonica and Camellia Oleifera Seed Oil both contain fatty acids, lipids which generally consist of a carboxyl group (- COOH) at the end of a hydrocarbon chain. Fatty acids that are present in both Seed Oils include oleic acid, palmitic acid, linoleic acid, and stearic acid, with oleic acid being the most prominent in both, measured to make up about 65.80% and 68.0-87.0% of the fatty acid composition for the Camellia Japonica and Camellia Oleifera Seed Oils, respectively. Oleic acid moisturizes the skin and enhances the skin penetration of the other components by disrupting the skin barrier. In addition to these fatty acids, components such as phenols, vitamin E, and squalene have been detected in Camellia Oils as well.

## ANTIOXIDANTS

Antioxidants work to protect the skin by combating free radicals, which are an external factor related to skin aging. Free radicals contain unpaired electrons which can react on the surface of the skin. Modern day environmental stressors such as UV exposure, pollution, and smoking contribute as a source of these damaging free radicals. Antioxidants work by neutralizing free radicals, e.g. through the donation of a hydrogen atom, which stops the free radicals from reacting further on the skin's surface while still maintaining stability themselves. Some antioxidants seen in Camellia Oil are vitamin E and phenolic compounds.

## SCIENTIFIC STUDY

### Effect of Camellia Japonica Oil on human type I procollagen production and skin barrier function

Camellia Japonica is also said to reduce the look of fine lines. This concept was backed by a study done on Camellia Japonica Oil. The study found that the oil increased procollagen production with increased oil dosage. The oil was also found to decrease the production of MMP-1, an enzyme which contributes to the collagen degradation. The same study also measured trans epidermal water loss and found that there was less water loss after two hours using the oil, when compared to a control of lotion.

Camellia Seed Oil hydrates the skin while possessing antioxidant and anti-aging properties. Antioxidant components such as phenols and vitamin E combat free radicals and it has been found that Camellia Japonica Seed Oil also benefits collagen-related factors such as procollagen production. In addition, the cold-pressing technique used to extract the oils minimizes the degradation of the Camellia Seed Oil's bioactive components during production. Camellia Japonica Seed Oil can be found in Three Ships products like the Radiance Day Cream, and Camellia Oleifera Seed Oil can be found in products like the Glow Oil Serum.