Study on Physical and Chemical Properties of Hemp Seed Oil under Different Storage Conditions

Hemp is an annual herb of the cannabis family, also known as marijuana, hemp, kiln, etc., widely used in textile, paper, food and other aspects.

The stems, rods, leaves and seeds of Hemp are all treasures. Among them, hemp seeds can be pressed in various ways, such as cold pressed oil, hot pressed oil, ultrasonic and microwave-assisted extraction oil, etc. 89%~92% of unsaturated fatty acids, which have strong ability to penetrate the skin, are natural surfactants and are suitable as raw materials for skin care and sunscreen products.

Microwave drying machine

In recent years, the growing area of domestic hemp plants has increased, resulting in more hemp (oil), providing an opportunity for the comprehensive utilization of hemp seed oil. Hemp seed oil refining.

Hemp seed oil is not easy to store and has poor stability. The author studied the physicochemical properties of cold pressed and hot pressed hemp seed oil in different storage environments, focusing on the appearance and UV-visible absorption spectrum and gas chromatography-mass spectrometry (GC-MS) of fatty acids in oils and fats. The

comparison of the physical and chemical properties of oil storage under different environments provides a certain theoretical guidance for the storage and use of oils and fats.

The filtered hot-pressed hemp seed oil has a dark green color, a transparent oil and a rich oily taste. The cold-pressed hemp seed oil has a light green color, a transparent oil and a fragrant oily taste.

The same type of oil extraction method has different colors under different storage conditions, and the possible reason is that the substance containing the pigment in the oil has changed. The author used low temperature and dark light as a comparison of other storage methods because the low temperature oil was stable.

After storage for 4 months, the color and transparency of hot-pressed and cold-pressed hemp seed oil at low temperature are basically unchanged, and it is set as a control oil; the color of hot-pressed oil at room temperature is dark green, the oil is transparent, cold pressed The appearance of the oil is light green and green, the grease is transparent, and some of the oil color changes in the bottle mouth; the color of the oven environment is not obvious, but there is a slight turbidity phenomenon, and there is a small amount of precipitated sticky oil at the bottom; the color of the indoor environment is light, both have micro Turbidity, there is also a small amount of precipitated viscous oil at the bottom; the color of the outdoor environment is light and shiny, with a small amount of precipitation at the bottom, and a small amount of precipitated viscous oil at the bottom.

The oil under low temperature and light-proof conditions has a light scent and no obvious pungent odor; the odor of oil stored at constant temperature and light is not changed much; the oil stored in the oven environment, indoor environment and outdoor environment has a pungent odor, which is He Jinfeng, using GC-MS/HPLC to test the oxidation of oils and fats can produce aldehydes, ketones, hydrocarbons and other substances.

Cold pressed and hot pressed hemp seed oil In 5 different storage environments, temperature and light affect the color, transparency and odor of the oil; the greater the temperature change, the stronger the light, the color fading of the oil, the transparency is reduced, and the Produces a pungent odor and the lower the stability. The GC-MS method analyzed the fatty acid composition of the hemp seed oil of two different oil extraction methods, and the content was different.

The oil has a strong absorption peak at (200 ~ 275 nm) and UVB (270 ~ 320 nm), which can absorb ultraviolet rays better and is suitable as a raw material for sunscreen. When storing hemp seed oil, it is necessary to avoid the grease as much as possible. In contact with air, it should be kept away from light or vacuum and inert gas to protect the grease from oxidation.