

SPECIFICATION

Responsible Department in Turkey

NAME: Turkish Patent and Trademark Office
ADDRESS: Hipodrom Caddesi No:13 (06560) Yenimahalle/ANKARA
TURKEY
TEL: +90 312 303 10 00
E-MAIL: cografiisaret@turkpatent.gov.tr

Applicant Group

NAME: MILAS CHAMBER OF COMMERCE AND INDUSTRY
ADDRESS: Hayıtlı Mahallesi 23 Nisan Bulvarı No 172 Milas/Muğla TURKEY
TEL: +90 252 512 90 09
E-MAIL: info@mitso.org.tr

Milas Chamber of Commerce and Industry was established in 1923 and has 2400 members. It is an organisation established to facilitate occupational activities of its members and help them in terms of business development and target markets. Most members are engaged in processing and marketing of agricultural products.

1. Name of the product

MİLAS ZEYTİNYAĞI

2. Product Description

“Milas Zeytinyağı” is an extra virgin olive oil produced exclusively from “Memecik” variety olives grown in Milas province. The olive oil is produced with mechanical processes only.

- The oil is green colour with yellow tones.
- The aroma of the olive oil is reminiscent of grass and the flavour is characterized by capsicum and black pepper tastes.
- α - tocopherol: At least 100 mg/kg of oil
- Total Phenolic Content: At least 100 mg/kg
- The amount of free fatty acid as oleic acid in Milas Olive Oils is below 0.7% in terms of oleic acid.
- The average peroxide value for Milas Olive Oils is 4.5 meq active oxygen / kg of oil with a maximum of 20 meq active oxygen / kg of oil

The characteristics of “Milas Zeytinyağı” linked to the main variety which is “Memecik”. “Memecik” variety has been cultivated in the Milas region for generations. Although it is grow in other Aegean and Mediterranean regions, it is most suited to the natural conditions of Milas region. The

greater percentage of olive trees in this region is “Memecik” variety. Memecik is dual-use cultivar, used both as table olive and for extraction of oil. Fruits of this cultivar are big in size and spherical that is high in both oil content and quality. Its oil has dark, green/yellow colour and pungent fruity smell.

3. Definition of the geographical area

The protected area refers to all the villages and towns under the municipality of Milas. They are all in the province of Muğla, located in southern Aegean region.

4. Proof of origin

“Milas Zeytinyağı” is produced exclusively from Memecik variety. Any other varieties mixed in during harvest may not exceed 5%. Operations related to the production of the raw material and its processing must be undertaken within the defined geographical area. The controls regarding Milas Zeytinyağı is coordinated by Milas Chamber of Commerce and Industry. The coordinator will keep a list of the oil producers to ensure the traceability and origin of the product. The inspection body carries out the necessary audits on “Milas Zeytinyağı” including free acidity, peroxide number, the total amount of phenolic content, the total amount of tocopherol and the packaging material as glass bottles or cans. The commission takes legal action against the unlawful and illegal users of the geographical mark, and the inspection body carries out audits upon the complaints, doubts and when needed.

5. Description of the method of obtaining the agricultural product or foodstuff

1. Harvesting of the Olives:

Rapid processing to olive oil is required for Memecik variety of olives as soon as they are harvested. With the reason that the olives may easily be damaged, that they are exposed easily to enzymatic spoiling due to the high level of water they contain, that mold, yeast and gram negative bacteria may easily grow in olive stacks. For this reason olives are harvested by hand or with sticks and are kept in crates that allow air flow and processed as soon as possible.

2. Cleaning-washing of the olives

Cleaning process is made up by two phased washing process. For that purpose, spiral, palletized washing tanks, pressured water sprayers, vibrating sieves, moving bands are used. The wash water needs to be between 30-40°C.

3. Grinding-pressing of the olives

In order to facilitate the process of pressing, it is recommended that the olives are divided into 3-4 parts by passing through grinders because that affects the oil yield positively.

4. The malaxation of olive paste

After the processes of grinding and pressing, the olive paste obtained should be kneaded especially when metal mills are used.

5. Extraction of the oil from the olive paste

Extraction of the oil from the olive paste is carried out with two or three phased centrifugal extractors or with hydraulic presses operating in bulk system.

6. Separation of oil black water from the olive oil

The black water in the oil paste requires to be removed from the oil by separation process which is the last process step in the olive oil production. For this reason, separation by decantation and separation by centrifuge methods are used.

7. Filtration of the olive oil

The olive oil cleansed from black water contains a fair amount of sediment material and water. These materials affect negatively the quality during the storage of the olive oil and cause increase in the acidity of the oil. Due to this reason, in order to produce vivid, natural color olive oil, the olive oil should be filtered and cleansed from the foreign materials. For this reason, cotton filters are used.

8. Storage of the olive oil

In order to avoid occurrence of undesired changes in the quality of the olive oil during the storage stage, storage tanks should have the following specifications:

- The tanks should be manufactured from the material that does not have liquid permeability.
- The tank material should be physically and chemically stable against oil.

- The tank material should not incorporate odors and taste that may taint the oil, should not contain metals that cause oxidation.
- Should protect the oils from air and light, should be able to maintain the oil at a fixed temperature.

Underground and aboveground tanks that carry the above specifications are used in the storage of Milas Zeytinyağı.

6. Link

Specificity of the geographical area

Milas is located in Menteşe region in the northwestern part of Muğla province, and it is a mountainous region where there are narrow and deep valleys and calcareous lands, extending in the north-southeast direction of Bafa lake-Milas depression and Ilbira Mountain in the west and Akçay depression in the east. Limited agricultural areas and the mountainous masses and slopes in the district have prepared a favorable environment for olive farming. In Milas, olive cultivation has become an agricultural activity that is completely forced by natural conditions.

The typical characteristics of the Mediterranean climate are seen in Milas district. Olive plants require average temperature conditions of 15-20°C during flowering period, 15-20°C during fruit ripening period and a minimum of 5°C from ripening to harvest period. In addition, it needs a certain cold period during the formation of the flower bud. Olives are very sensitive to low temperatures and will be damaged if the minimum daily temperature falls below -7°C. The average daily temperature in olive fields in Milas is minimum 9.9 °C in December, 8.9 °C in January and 9.5 °C in February which is very suitable for cooling period. The lowest average temperature is 19.4 °C in May which is the flowering period and the lowest average temperature is 17.4 °C in the fruit ripening period. These temperature values are nearly optimum growing conditions for olive trees and gives high yield of olives. Alluvial soil as well as clay-sandy soil is seen in Milas. This type of soil retains water and makes it possible for olives trees to grow stronger roots to give higher yields. Also, Milas province has a long standing average precipitation record of 900-1000 mm which is suitable for olive farming without any need for irrigation. Although irrigation makes larger olives with higher water content, it also adversely effects the accumulation of phenols and their transfer to the olive oil.

Human Factors

The town of Milas has been an ancient human settlement area of more than 5,000 years. The natural conditions have made olive farming and olive oil production to be the primary agricultural activity in the region since Caria Civilization. On the Milas-Bodrum road, a press bed formed in a native rock in Saricay bed Pilavtepe is dated to 2000 BC. Records from 16th and 17th centuries AD mention the olive mills and the olive houses of

the Ottoman Empire in Milas. The know-how of local olive growers is essential to start harvest. The maturation of olive oil influences both the chlorophyll content and antioxidant content. Choosing the right time to harvest (before fully ripening stage where chlorophyll and phenolic levels are lower) gives Milas Zeytinyağı its specific color and phenolic content. The long tradition of olive oil making in the area also lead to the establishment of many olive oil production facilities in the region. This way the olives are processed to olive oil in very short time, preventing the hydrolyzation of triglycerides to free fatty acids and keeping the free fatty acid content low.

Specificity of the product

The specificity of “Milas Zeytinyağı” is linked to its dark green/yellow color and pungent fruity smell with its grassy aroma and grass and capsicum and black pepper tastes. These characteristics are influenced to the “Memecik” variety. Memecik variety has been cultivated in the Milas region for generations and greater percentage of olive trees in this region is of “Memecik” variety. According to scientific studies Memecik olive variety inherently have high antioxidant activity and phenolic content compared to other cultivars grown in Turkey (Sevim and Tuncay; 2012). However the α -tocopherol content of olive oils produced from Memecik olive variety in Milas are higher compared olive oils from other olive cultivars grown in the area and also olive oils from other regions (Sevim, Köseoğlu, Çetin; 2016). Research into the volatile components of Milas Zeytinyağı has shown that the high phenolic content accounts for the aroma and taste of Milas Zeytinyağı and the most frequent phenolic compounds are hexanal, which is responsible for "green, apple and cut grass", E-2-hexenal for “bitter, almond, green and apple”, hexanol for as "fruity and cut grass" and Z-3 hexenol which is responsible for "green fruity and bitter" aroma components. The high phenolic and α -tocopherol content also protects the olive oil from oxidation, giving it lower peroxide values.

Causal link

Milas Zeytinyağı is characterized by the presence of the Memecik variety, which is well established in the area and accounts for almost all its olive trees. The dominant presence of this variety contribute to the chemical composition of the oil, in particular the phenolic content and antioxidant activity.

The specific pedo-climatic conditions of the geographical area and human factors also play a role in creating the specificity of Milas Zeytinyağı. The mountains and slopes in the district has forced olive farming to be major agricultural activity. The temperature values are nearly optimum growing

conditions for olive trees and gives high yield of olives. Lack of irrigation produces olives with high phenolic content. Olive growers start harvest before the olives are fully ripened to give the olive oil its specific color and aroma. The fast speed of processing also plays a role to keep peroxide and free fatty acid values low.

7. Name and address of the authorities or bodies verifying compliance with the provision of the specification [Article 11/R.510]

Control Body:

Name: Milas Provincial Directorate of Ministry of Agriculture and Forestry

Address: İsmetpaşa Mah. Zafer Sokak No:19

Telephone: + 90 252 512 11 49

Email: milas@tarimorman.gov.tr