

## 1. Name

'Queso Manchego'

## 2. Member State

Spain

## 3. Description of the agricultural product or foodstuff

### 3.1. Type of Product

Class 1.2. Cheeses

### 3.2. Description of the product to which the name in point 1 applies

Pressed cheese made from milk of ewes of the 'Manchega' breed, aged for a minimum of 30 days for cheeses weighing up to 1,5 kg and from 60 days up to a maximum of 2 years for larger cheeses.

Milk must be free of medicated products which may have a negative effect on the processing, maturation and preservation of cheese.

The analytical characteristics of milk are:

		<u>Methods of analysis</u>
- Fat content:	minimum 6.5%	Gerber method (B.O.E. 20-07-77)
- Protein content:	minimum 4.5%	Kjeldahl method (B.O.E. 20-07-77)
- Dry extract:	Minimum 11%	Drying on stove (B.O.E. 20-07-77)
- pH:	6.5-7	Direct measurement - pHmeter
- Cryoscopic point:	≤ a -0.550 °C	Cryoscope
- Absence of medicinal products		Growth inhibition <i>Bacillus sterotermophilus</i>

The microbiological and pharmacologically active conditions required for milk shall be those indicated in the European legislation in force.

'Queso Manchego' is a fatty cheese, the physical characteristics of the cheese at the end of its maturation are the following:

- Shape: cylindrical with noticeably flat faces.
- Maximum height: 12 cm
- Maximum diameter: 22 cm
- Diameter/height ratio between 1.5 and 2.20
- Minimum weight: 0.4 kg
- Maximum weight: 4.0 kg

The physical-chemical characteristics of the cheese are:

		<u>Methods of analysis</u>
- pH:	4.8 to 5.8	pHmeter – penetration electrode
- Dry matter:	minimum 55%	Measurement by N.I.R. technique (Near Infrared Radiation) Drying in stove at 105 °C (B.O.E. 30-08-79).

- Fat content: minimum 50% of Measurement by N.I.R. technique the dry matter (Near Infrared Radiation) HCL digestion and fat extraction with ether (B.O.E. 30-08-79).
- Total protein in dry matter: minimum 30% Measurement by N.I.R. technique (Near Infrared Radiation)
- Sodium chloride: maximum 2.3%
- Absence of milk of other animal species

The microbiological limits are as follows:

- *Escherichia coli*: maximum of 1,000 colonies/gram.
- *Staphylococcus aureus*: maximum of 100 colonies/gram.
- *Salmonella*: absence in 25 grams.
- *Listeria*: absence in 25 grams.

The organoleptic characteristics of the cheese are:

a) Rind

- Consistency: hard, free of parasites.
- Colour: pale yellow or greenish-blackish when the surface of moulds developed during maturation is not cleaned.
- Appearance: presence of the prints of the moulds type pleitas on the lateral surface and type flower on the flat faces.

b) Paste

- Consistency: firm and compact.
- Colour: from white to ivory-yellowish.
- Smell: lactic, intensely acidic and persistent, developing spicy notes overall persistence in cheeses that have been well aged,
- Flavour : slightly acidic, strong and flavoursome, becoming spicy in cheeses that have been well aged. Pleasant and distinctive aftertaste produced by the milk of ewes of the 'Manchega' breed.
- Appearance: small, unevenly distributed eyes, although these are sometimes not present,
- Texture: low elasticity, buttery, slightly floury, can become granular in very well-aged cheeses.

Organoleptic evaluation by tasting panel: minimum 58 points.

### 3.3. Geographical area

The production area is constituted by local authority areas of the provinces of Albacete, Ciudad Real, Cuenca and Toledo, which constitute the region of La Mancha.

The area of production and maturation of 'Queso Manchego' coincides with the production area.

The territorial area covered by the designation of origin 'Queso Manchego' is 4,419,763 ha as follows:

- Albacete: 957,269 ha (21.66% of the region)
- Ciudad Real: 1,465,549 ha (33.16% of the region)
- Cuenca: 978.078 ha (22.13% of the region)
- Toledo: 1,018,867 ha (23.05% of the region)

The local authority areas protected by the Protected Designation of Origin 'Queso Manchego' are the following:

Albacete, Alcaraz, Balazote, Ballestero (El), Barrax, Bienservida, Bonete, Bonillo (El), Casas de Juan Núñez, Casas de Lázaro, Cenizate, Corral-Rubio, Chinchilla de Montearagón, Fuente-Álamo, Fuensanta, Gineta (La), Hellín, Herrera (La), Higuera, Hoya-Gonzalo, Lezuza, Madrigueras, Mahora, Masegoso, Minaya, Montalvos, Montealegre del Castillo, Mottilla, Navas de Jorquera, Munera, Ossa de Montiel, Peñas de San Pedro, Pétrola, Povedilla, Pozohondo, Pozuelo, Robledo, Roda (La), San Pedro, Tarazona de la Mancha, Tobarra, Valdeganga, Villalgordo del Júcar, Villamalea, Villarrobledo y Viveros, from the province of Albacete.

Abenójar, Albaladejo, Alcázar de San Juan, Alcobá de los Montes, Alcolea de Calatrava, Alcubillas, Aldea del Rey, Alhambra, Almagro, Almedina, Almuradiel, Arenas de San Juan, Argamasilla de Alba, Argamasilla de Calatrava, Ballesteros de Calatrava, Bolaños de Calatrava, Cabezarados, Calzada de Calatrava, Campo de Criptana, Cañada de Calatrava, Caracuel de Calatrava, Carrión de Calatrava, Carrizosa, Castellar de Santiago, Ciudad Real, Corral de Calatrava, Cortijos (Los), Cózar, Daimiel, Fernán Caballero, Fuenllana, Fuente el Fresno, Granátula de Calatrava, Herencia, Labores (Las), Luciana, Malagón, Manzanares, Membrilla, Mestanza, Miguelturra, Montiel, Moral de Calatrava, Pedro Muñoz, Picón, Piedrabuena, Poblete, Porzuna, Pozuelo de Calatrava, Pozuelos de Calatrava (Los), Puebla del Príncipe, Puerto Lápice, Puertollano, Retuerta del Bullaque, Robledo (El), Ruidera, San Carlos del Valle, San Lorenzo de Calatrava, Santa Cruz de los Cáñamos, Santa Cruz de Mudela, Socuéllamos, Solana (La), Terrinches, Tomelloso, Torralba de Calatrava, Torre de Juan Abad, Torrenueva, Valdepeñas, Valenzuela de Calatrava, Villahermosa, Villamanrique, Villamayor de Calatrava, Villanueva de la Fuente, Villanueva de los Infantes, Villanueva de San Carlos, Villar del Pozo, Villarrubia de los Ojos, Villarta de San Juan y Viso del Marqués, from the province of Ciudad Real.

Abia de la Obispalía, Acebrón, Alarcón, Albaladejo del Cuende, Alberca de Zánacara (La), Alcázar del Rey, Alconchel de la Estrella, Almarcha (La), Almendros, Almodóvar del Pinar, Almonacid del Marquesado, Altarejos, Atalaya del Cañavate, Barajas de Melo, Barchín del Hoyo, Belinchón, Belmonte, Belmontejo, Bonilla, Buenache de Alarcón, Campillo de Altobuey, Cañada Juncosa, Cañavate (El), Caracena, Carrasposa de Haro, Carrasposa del Campo, Campos del Paraíso, Casas de Benítez, Casas de Fernando Alonso, Casas de Guijarro, Casas de Haro, Casas de los Pinos, Casasimarro, Castillejo de Iniesta, Castillejo del Romeral, Castillo de Garcimuñoz, Cervera del Llano, Cuevas de Velasco, Enguñanos, Fresneda de Altarejos, Fuente de Pedro Naharro, Fuentelespino de Haro, Gabaldón, Graja de Iniesta, Herrumbrar (El), Hinojosa (La), Hinojosos ( Los), Hito (El), Honrubia, Hontanaya, Hontecillas, Horcajada de la Torre, Horcajo de Santiago, Huelves, Huerta de la Obispalía, Huete, Iniesta, Ledaña, Leganiel, Loranca del

Campo, Mesas (Las), Minglanilla, Moncalvillo de Huete, Monreal del Llano, Montalbanejo, Montalbo, Mota de Altarejos, Mota del Cuervo, Motilla de Palancar, Naharros, Olivares del Júcar, Olmedilla de Alarcón, Olmedilla del Campo, Ossa de la Vega, Palomares del Campo, Paracuellos, Paredes, Parra de las Vegas (Las), Pedernoso (El), Pedroñeras (Las), Peral (El), Peraleja (La), Pesquera (La), Picazo (El), Pinarejo, Pineda de Cigüela, Piqueras del Castillo, Portalrubio de Guadamejud, Poveda de la Obispalía, Pozoamargo, Pozorrubio, Pozoseco, Provencio (El), Puebla de Almenara, Puebla del Salvador, Quintanar del Rey, Rada de Haro, Rozalén del Monte, Rubielos Altos, Rubielos Bajos, Saceda del Río, Saceda-Trasierra, Saelices, San Clemente, San Lorenzo de la Parrilla, Santa María del Campo Rus, Santa María de los Llanos, Sisante, Solera de Gabaldón, Tarancón, Tébar, Torrejoncillo del Rey, Torrubia del Campo, Torrubia del Castillo, Tresjuncos, Tribaldos, Uclés, Valdecolmenas de Abajo, Valdemoro del Rey, Valeras (Las), Valhermoso de la Fuente, Valparaíso de Abajo, Valparaíso de Arriba, Valverde de Júcar, Valverdejo, Valle de Altomira (El), Vara del Rey, Verdelpino de Huete, Vellisca, Villaescusa de Haro, Villagarcía del Llano, Villalgordo del Marquesado, Villalpardo, Villalba del Rey, Villamayor de Santiago, Villanueva de Guadamejud, Villanueva de la Jara, Villar de Cañas, Villar del Águila, Villar de la Encina, Villar del Maestre, Villar de Olalla, Villarejo de Fuentes, Villarejo de la Peñuela, Villarejo Periesteban, Villarejo Seco, Villarejo-Sobrehuerta, Villar del Horno, Villares del Saz, Villarrubio, Villarta, Villas de la Ventosa, Villaverde y Pasaconsol, Zafra de Záncara y Zarza de Tajo, from the province of Cuenca.

Ajofrín, Alameda de la Sagra, Abarreal de Tajo, Almonacid de Toledo, Almorox, Añover de Tajo, Arcicóllar, Argés, Barcience, Bargas, Borox, Burguillos de Toledo, Burujón, Cabañas de la Sagra, Cabañas de Yepes, Cabezonesada, Camarena, Camarenilla, Camuñas, Carmena, Carpio de Tajo (El), Carranque, Casarrubios del Monte, Casasbuenas, Cedillo del Condado, Ciruelos, Cobeja, Cobisa, Consuegra, Corral de Almaguer, Cuerva, Chozas de Canales, Chueca, Dosbarrios, Escalona, Escalonilla, Esquivias, Fuensalida, Gálvez, Gerindote, Guadamur, Guardia (La), Huecas, Huerta de Valdecarábanos, Illescas, Layos, Lillo, Lominchar, Madrideos, Magán, Manzaneque, Maqueda, Marjaliza, Mascaraque, Mazarambroz, Menasalbas, Métrida, Miguel Esteban, Mocejón, Mora, Nambroca, Navahermosa, Noblejas, Noez, Novés, Numancia de la Sagra, Ocaña, Olías del Rey, Ontígola, Orgaz, Palomeque, Pantoja, Polán, Portillo de Toledo, Puebla de Almoradiel (La), Puebla de Montalbán (La), Pulgar, Quero, Quintanar de la Orden, Quismondo, Recas, Rielves, Romeral (El), San Martín de Montalbán, Santa Cruz de la Zarza, Santa Cruz de Retamar, Seseña, Sonseca, Tembleque, Toboso (El), Toledo, Torre de Esteban Hambrán (La), Torrijos, Totanés, Turleque, Ugena, Urda, Val de Santo Domingo, Valmojado, Ventas con Peña Aguilera (Las), Ventas de Retamosa (Las), Villacañas, Villa de Don Fadrique (La), Villafranca de los Caballeros, Villaluenga de la Sagra, Villamiel de Toledo, Villaminaya, Villamuelas, Villanueva de Alcardete, Villanueva de Bogas, Villarejos de Montalbán, Villarrubia de Santiago, Villaseca de la Sagra, Villasequilla de Yepes, Villatobas, Viso de San Juan (El), Yébenes (Los), Yeles, Yepes, Yuncler, Yuncillos y Yuncos, from the province of Toledo.

#### 3.4. Link with the geographical area

The elements that prove that 'Queso Manchego' is originating in the area are:

a) Characteristics of the product

The cheese has organoleptic, physical and chemical characteristics, mentioned in the description of the product, and which relate it to its natural environment, production and processing.

In addition, to guarantee the origin, a control and certification system is established that allows the individual identification of the protected product.

b) Controls and certification

Fundamental requirements that guarantee the origin of the product:

1. The milk must be obtained exclusively from sheep of the Manchega breed registered in the production area.
2. Milk must be milked, cooled, preserved and transported in a controlled manner.
3. The cheese must be made in registered dairies located within the production area. Dairies should have systems in place to ensure the independent production of the cheese to be protected (from the reception of the raw material to the dispatch stage).
4. Maturation and preservation must also be carried out in registered premises in such a way as to ensure the identification and clear separation of cheeses which may be graded from other cheeses.
5. The final product must be subjected to the corresponding physical-chemical and organoleptic analyses in order to guarantee its quality.
6. Once all the checks referred to above have been completed, the product is placed on the market with the guarantee of its origin, which is shown on the casein plate or similar affixed to the rind of the cheese and on the numbered counter label.
7. In order to facilitate obtaining the licence to use the trademark in accordance with 'Queso Manchego' Designation of Origin and the corresponding certification by the Certification Service of the Regulatory Council of 'Queso Manchego' Designation of Origin, producers and manufacturers must have control systems that ensure the cheese's compliance with these technical specifications.

### 3.5. Product acquisition

The milk intended for the production of 'Queso Manchego' comes from registered farms and under the conditions specified in section B of this Specification.

a) Milking and milk transportation

After milking, the milk cannot remain at room temperature; therefore, it must be immediately processed into cheese or refrigerated to a maximum temperature of 4°C to prevent microbial growth.

The collection and transportation of the milk will be carried out under good hygienic conditions, using isothermal, refrigerated tanks or any other system that ensures the quality of the milk is not compromised, and that the milk's

temperature does not exceed 10°C throughout the entire route or at the destination point.

b) Coagulation

Milk coagulation is induced using natural rennet or other legally authorized coagulant enzymes. For this process, the milk is heated in a water bath or with water steam, at a temperature between 28°C and 32°C for 30 to 60 minutes.

c) Cutting the curds

The obtained curd is subjected to successive cuts, at the discretion of the producer. The ideal moment for cutting is when the curd has the appropriate consistency. The movements of the cutting elements should be slow, and the cutting surface as fine and sharp as possible.

d) Whey removal and reheating

Mass is stirred for a period between 15 and 45 minutes, while simultaneously being reheated in a water bath or with steam, at a temperature not lower than 28°C and not higher than 40°C. As the name suggests, this phase facilitates the removal of whey from inside the curd grains.

At the end of this process, the resulting whey is eliminated by gravity, leaving the curd ready for the next stage.

e) Moulding

The curd will be introduced into cylindrical moulds either manually or mechanically. During moulding, the characteristic "Flor" pattern is imprinted on the surfaces of the cheese, and the "Pleita" pattern is imprinted on the sides. These patterns are created by the moulds used, which must be made of materials permitted by current legislation and have dimensions suitable to ensure the cheeses meet the required weight and size.

f) Pressing

Once the curd is in the moulds, it is pressed using appropriate presses. The pressing time will range between 1 and 6 hours.

During this phase or the moulding phase, a casein plate with an identifying number and series (composed of five numbers and two uppercase letters) will be centrally applied to each piece to allow for individual identification.

g) Unmoulding

Once the required time has elapsed, the curd in the moulds will be extracted from the moulds.

h) Salting

After pressing and unmoulding, the cheese will be salted, which can be done by wet (brine), dry, or a combination of both methods, using sodium chloride.

In the case of brine immersion, this phase will last a minimum of 5 hours and a maximum of 48 hours.

i) Maturation

The maturation period for the cheeses is at least 30 days for cheeses weighing less than 1.5 kg and 60 days for those weighing more, starting from the date of moulding. During this period, necessary practices of turning and cleaning are applied until the cheese attains its distinctive characteristics.

The maturation facilities or chambers must have systems that ensure the clear identification and separation of cheeses eligible for 'Queso Manchego' Protected Designation of Origin. These facilities or chambers should maintain a temperature between 3°C and 16°C and a relative humidity between 75% and 90% throughout the entire process.

3.6. Connection with the environment

a) Historical

Since ancient times, the inhabitants of this region have been engaged in shepherding and cheese making, just like all primitive populations.

Evidence of this can be found in the remains of basins, perforated vessels, cheese-making tools, and other utensils displayed in the museums of these four provinces.

'Queso Manchego' is mentioned in several historical and literary documents. For instance, in 'Don Quijote' by Miguel de Cervantes, the cheese is clearly associated with 'La Mancha'.

In 1878, Balanguery Primo's literary work "Exploitation and Manufacture of Milk, Butter, and Cheeses of Various Kinds" features a chapter dedicated to Spain's main cheeses, prominently referencing 'Queso Manchego'

In 1892, Ángel Muro's "General Dictionary of Cooking" links Spanish sheep's milk cheeses with Manchego. Muro also discusses 'Queso Manchego' in his comprehensive cooking treatise "El Practicón," published in 1898.

In 1909, Buenaventura Aragón's book "Manufacturing All Kinds of Cheeses and Butter" mentions 'Queso Manchego'. It is also highlighted in Dionisio Pérez's "Guide to Good Spanish Eating," published in 1929.

This designation was provisionally recognized by the Order of July 2, 1982, from the Ministry of Agriculture, Fisheries, and Food.

b) Natural

1. Orography

The natural region of La Mancha is located in the southern part of the central plateau of the Iberian Peninsula and it is characterized by a low relief descending to the Atlantic, maintaining a uniform profile interrupted only by small elevations in the westernmost part of the region and the presence of small hills formed by rock formations resistant to erosion.

## 2. Soils

La Mancha is a high plain located in the central plateau of the Iberian Peninsula, resting on calcareous-clay soils from the Miocene epoch (the third period of the Tertiary Era). The lands designated for grazing consist of substrates rich in limestone or marl, whose potential vegetation includes forests of evergreen trees and shrubs, such as holm oaks and kermes oaks, which cover a significant portion of the deep soils.

## 3. Climate

The climatology of the region is extreme, with large fluctuations, as befits the continental type, with very cold winters and hot summers, sometimes reaching 40 °C, with daily temperature variations of sometimes 20 °C and 50 °C a year. Rainfall is scarce, which places the region in the so-called arid Spain, with an extremely dry environment, with a relative humidity of 65%.

## 4. Hydrography

The regional territory is crossed by four main rivers: 'Tajo' and 'Guadiana', which flow into the Atlantic, and 'Júcar' and 'Segura', which belong to the Mediterranean basin.

There are also a large number of reservoirs and wells, the latter of which are groundwater springs. The hydrographic network is completed with the tributaries of the main rivers, 'Tajo' and 'Guadiana', and numerous reservoirs that are in operation, both for irrigation and hydroelectric use.

## 5. Flora

'La Mancha' is a vast region where the mountains and the plains coexist, making it practically impossible to find areas that are not used in some way for the grazing of Manchego sheep. The cultivated lands provide crop residues; in the cereal fields, the sheep graze on the straw and grain stalks left after the harvest. Worth noting are the stubble fields of legumes with their high-protein straws, such as vetch, chickpeas, and especially lentils. The autumn use of the abundant vine shoots is also of significant importance.



The uncultivated lands designated for grazing consist of substrates rich in limestone or marl, with potential vegetation of evergreen oak forests or holm oaks (*Quercus ilex*). On the slopes, there are low shrubs such as kermes oak (*Quercus coccifera*) and blackthorn (*Rhamnus lycioides*), and along the watercourses, poplar groves and elm groves represent the vegetation of the riverbanks from 'La Mancha'.

As regards sheepfarming, mention should be made of the pastures that occupy the clearings in the scrub. This annual pasture is composed of *Medicago minima*, *Scorpiurus subvillosa*, *Astragalus stella*, *Astragalus sesamus*, etc.

The so-called 'madajales' are the most valuable pasture for sheep. These are composed of bulbous meadow grass and significant quantities of legumes, such as *Medicago rigidula*, *Medicago lupulina*, *Medicago trunculata*, *Trigonella polyderata*, *Coronilla scorpioides*, etc.

Deep, cooler soils can produce 'fenelares', dense pasture with a predominance of perennial and biennial plants, the appearance of which is dominated by the grass *Brachypodium phoenicoides*.

## c) Production and processing systems

### 1. Production

Manchega breed is one of the sheep breeds that has managed to maintain its purity, free from crossbreeding, adapting over time to grazing in arid areas.

The Manchega sheep is grazed throughout the year, using natural resources; in pens, it is supplemented with concentrated feed, hay, and by-products. Its weight ranges from 65 to 80 kg, and its body appearance varies depending on the farming conditions.

Its ovarian cycle is continuous, so lambs can be obtained throughout the year, with the first pregnancy occurring between ten and thirteen months of age. Fertility is 100%.

### 2. Manufacture

The use of milk in the production of cheese has been a common practice in the area's farms. In the production phase, the use of 'pleita', which was originally made of esparto grass, is particularly noteworthy. It was undoubtedly the Romans who brought this peculiar characteristic to the cheese, which has been preserved over the years, since according to some bibliographical references, 'La Mancha' was considered to be the ancient Roman esparto field. Nowadays, more hygienic molds (made of plastic) are used, imitating the design.

The fact that it is a pressed cheese is a characteristic that contributes to the cheese's better preservation in this type of climate.

### 3. Control organization

Fundación Consejo Regulador de la Denominación de Origen Queso Manchego - Regulatory Council of 'Queso Manchego' Designation of Origin.  
Avenida del Vino, s/n. 13300 Valdepeñas. Ciudad Real. España.  
Teléfono 926 32 26 66 – Fax 926 32 27 12.  
E-mail. [certificacion@quesomanchego.es](mailto:certificacion@quesomanchego.es)

It is an organisation authorised by the competent authority and accredited to UNE-EN 45011.

### 4. Labelling

The following words must appear on the label: 'Denominación de Origen Queso Manchego'. If the cheese is made with raw milk, this fact may be stated on the label with the words 'Artesano' (artisan).

The product intended for consumption must bear numbered counter labels issued by the Regulatory Board, which must be affixed at the registered cheese factory in such a way as to prevent them from being reused. In addition, each piece of Manchego cheese must bear a serially numbered casein plate on one side, which is affixed during the moulding and pressing of the pieces.



Cheeses protected by the 'Queso Manchego' Designation of Origin can only be circulated and dispatched by registered cheese dairies and facilities, in packaging that does not harm their quality.

'Queso Manchego' will always be accompanied by its rind, which may have been previously washed.

It is also permitted for 'Queso Manchego' to be waxed or covered with legally authorized inactive transparent substances or smeared with olive oil, as long as the rind retains its natural appearance and colour and allows the casein plaque to be read.

In no case shall substances that give the rind a black colour be used.

'Queso Manchego' can be marketed in portions, sliced, and grated as long as it is packaged and its origin can be identified. This operation can be carried out outside the zone of origin by companies that have accepted and comply with the established protocol, ensuring the traceability and operations of Manchego Cheese.

All packaging used must comply with current legislation.

#### 4.1. Law Requirements

Council Regulation (EC) No 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs.

Real Decreto 1069/2007 of 27 July, which regulates the procedure for processing applications for registration in the Community Register of Protected Designations of Origin and Protected Geographical Indications, and opposition to them.

Ley 7/2007 of 15 March, on Agri-Food Quality of Castilla-La Mancha.

Orden 11/05/2009, from the Ministry of Agriculture and Rural Development, which regulates the procedure for processing applications for registration in the Community Register of Protected Designations of Origin and Protected Geographical Indications and the procedure for opposition to them.

Orden 01-09-2003, from the Ministry of Agriculture, which authorizes the Foundation of the Regulatory Council of 'Queso Manchego' Designation of Origin to carry out the certification of products covered by this protected designation of origin.