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Publication of an application for registration of a name pursuant to Article 50(2)(a) of Regulation (EU) No 1151/2012 of the European Parliament and of the Council on quality schemes for agricultural products and foodstuffs

(C/2024/1497)

This publication confers the right to oppose the application pursuant to Article 51 of Regulation (EU) No 1151/2012 of the European Parliament and of the Council [1] within three months from the date of this publication.

SINGLE DOCUMENT

'Batata-Doce da Madeira'

EU No: PDO-PT-02801 — 23.8.2021

PDO (X) PGI ( )

1. **Name(s) [of PDO]**

'Batata-Doce da Madeira'

2. **Member State or Third Country**

Portugal

3. **Description of the agricultural product or foodstuff**

3.1. *Type of product*

Class 1.6. Fruit, vegetables and cereals, fresh or processed

3.2. *Description of the product to which the name in (1) applies*

'Batata-Doce da Madeira' is the edible tuberous root of the traditional varieties of Ipomoea batatas (L.) Noir sweet potato, grown on the inhabited islands of the Madeira archipelago, namely the varieties: 'Brasileira'; '5-Bicos'; 'Cenoura regional'; 'Inglesa'; 'Cabeiras'; 'Amarelinha' and 'Cabreira Branca do Porto Santo', produced in line with the traditional practices of the islands of Madeira and Porto Santo.

Morphological and physico-chemical characteristics:

Depending on the traditional variety, 'Batata-Doce da Madeira' tuberous roots may have:

— an irregular shape varying from ellipse to wide ellipse, oblong to elongated oblong, or ovoid to oval;

— an average size varying between 13 cm and 20 cm in length, 6 cm and 10 cm in width, and 200 g and 800 g in weight;

— fine to very fine skin, which may be smooth or have vertical or horizontal wrinkles that may be on or below the surface; cream, yellow, golden, red, purplish, or rosy shades of colour, which may be homogeneous or include secondary pigmentation varying from light to dark brown;

— white, cream, yellow or red flesh, occasionally also with secondary colouring (white, cream, yellow or pink) as a ring in the cortex or as random spots in the flesh. Purplish filaments may also be visible between the skin and the flesh.

The sweet potatoes are distinguished by the high moisture content of their flesh (on average more than 68 g/100g of fresh matter), their generally high carbohydrate content (on average more than 60 % of their dry matter) and their high protein and ash content (on average more than 4 % and 3 % of dry matter respectively).

[1] OJ L 343, 14.12.2012, p. 1.

Organoleptic characteristics:

When raw, 'Batata-Doce da Madeira' has a typical tuber smell, with earthy, vegetal or herbaceous notes and clear hints of chestnut or green walnut husk. Its sweet and floury taste, occasionally slightly savoury or mildly acidic and mineral, intensifies with chewing, presenting hints of chestnut flesh. Its texture is always moist, tender and soft or crunchy and somewhat fibrous, which makes the 'Inglesa', 'Cabeiras', 'Brasileira' and '5 Bicos' varieties particularly suitable for producing flour.

When boiled or roasted, the colour of the flesh changes from yellowish to greenish or from golden to orange tones. The aromas intensify and become sweeter and more complex, presenting slightly herbaceous (straw-like), metallic (ferrous) or earthy hints when boiled, or with hints of roasted chestnut, caramel or burnt wood when roasted. The flavours also become more intense, while remaining succulent and becoming somewhat sweet on the attack, with a short finish and notes of dried fruit and chestnut when boiled or hints of caramel when roasted. Its texture is usually soft and creamy, and it is easy to chew, but it can be slightly fibrous or stringy when roasted.

3.3. *Feed (for products of animal origin only) and raw materials (for processed products only)*

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3.4. *Specific steps in production that must take place in the identified geographical area*

All stages of production, from obtaining the 'slips' (cuttings used to propagate the plant), to cultivating, harvesting and preparation for sale, must take place in the identified geographical area.

3.5. *Specific rules concerning slicing, grating, packaging, etc. of the product the registered name refers to*

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3.6. *Specific rules concerning labelling of the product the registered name refers to*

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4. Concise definition of the geographical area

Agricultural areas on the islands of Madeira and Porto Santo.

5. Link with the geographical area

The characteristics of 'Batata-Doce da Madeira' derive exclusively from the natural and human factors of the geographical area of production. Its tuberous roots are distinguished by:

— the morphological characteristics of each traditional regional variety, easily identifiable on the market;

— the succulence of its flesh; and

— their high carbohydrate, protein and ash content.

They also result from the intrinsic genetic conditions of each of the traditional varieties, of diverse origins, preserved and maintained by the local farmers; the soil and climate conditions specific to the geographical area and, above all, the traditional practices the farmers of Madeira and Porto Santo have always used to grow them.

Specificity of the geographical area:

Natural factors

The archipelago's location in the sub-tropical part of the North Atlantic means that the islands of Madeira and Porto Santo have a predominantly temperate climate, with mild temperatures in both winter and summer, prevailing north-east winds (trade winds) and good exposure (with more than 2 200 hours of full sunshine each year).

The sea's moderating effect leads to a reduced temperature range. Madeira's higher altitude means its climate varies from dry to humid and moderately to exceedingly rainy (average annual rainfall above 1 500 m). Porto Santo's lower average altitude means its climate is drier, with average annual rainfall of less than 400 mm.

The islands' volcanic origin means that their predominant soils are made up of uniformly basaltic rocks, with a small proportion of other igneous, intermediate-acidic rocks (trachytes and rhyolites) and sedimentary rocks. The soils on Porto Santo are almost exclusively composed of calcareous sands and sandstone.

The islands' soils have been strongly influenced by the cultivation practices employed since 1425, when the first settlers used man-made techniques to prepare the land for agriculture . On the island of Madeira, the hilly terrain, steep slopes and the scarcity of flat areas led to the widespread construction of 'poios' or terraces supported by dry stone walls, surrounded by 'levadas' (irrigation channels). This, together with the continuous use of the land and the generations of deep ploughing and intensive organic fertilisation, has given Madeiran soils characteristics such as Phaeozems, saturated (chromic) and unsaturated (dystric) and Andosols in the most humid areas (above 400 m altitude). In Porto Santo, where for centuries agricultural land was mainly used for growing cereals, Calcisol soil types predominate.

Generally speaking, the soils on the island of Madeira are medium to very deep, have a generally fine texture and a high percentage of silt, with a medium to high content of organic matter, and a slightly acidic to neutral reaction, which is more acidic in the case of the Andosols. On the island of Porto Santo the sandy and loamy soils that predominate are quite permeable, with lower organic matter content and a more alkaline profile, although the biological origin of most of the sands and sandstones gives them a pH (between 7 and 9) that is favourable to growing crops. On both islands, the soils are low in phosphorus, moderately high in potassium and high in magnesium and calcium.

Human factors

Historical records indicate that this crop was introduced into the archipelago in the 17th century. However, given the importance of the port of Funchal, as a stopover for Portuguese inter-continental ships in the 16th century and Madeiran settlers' significant involvement in settling the new colonies, it is believed that the first 'cuttings of slips' of the digitata varieties came from Brazil later in that century, whereas the cordifolia varieties were only introduced from Demerara (Dutch Guiana) in the 19th century. Other varieties cultivated were also introduced up until the end of the first half of the 20th century from places to which Madeirans had emigrated (South Africa, Venezuela, etc.).

Reports of foreigners who inhabited or visited the islands in the 18th and 19th centuries mentioned the high yield and ease of conservation of this edible root, the production of which was very important for local farmers. In addition to growing it in rotation with other traditional crops, it formed the basis of their diet and was used as a 'currency' for obtaining fish from fishing communities. Later it made its way onto the tables of the wealthier classes and urban populations.

Local farmers gave the rhizomes of the traditional varieties of 'Batata-Doce da Madeira' common names emphasising their origin, shape, characteristics of the mother plant or the colour of their flesh, making them easy to identify on the local market. The varieties have different values for local consumers depending on the length of their growing cycle and their recognised organoleptic properties, which determine their different culinary uses and suitability for making flour.

The tourists who visit the islands also appreciate this sweet potato, which is part of the regional cuisine, in the traditional 'cozido à madeirense' (Madeiran stew), in various types of traditional bread and other convent pastry specialities, such as 'batata-doce-caramelizada' (caramelised sweet potato), 'bolo frito' (fried cake), 'batatada' (sweet potato cake), 'fartes de batata-doce' (sweet potato sugar and almond cake) and 'malassadas de batata-doce' (fried sweet potato doughnuts).

'Batata-Doce da Madeira' is also linked to a number of popular Madeiran traditions, featuring prominently in the traditional 'charolas', which are spherical structures to which products grown by local farmers are tied. Appearing mainly in religious celebrations (of the Popular Saints and of the Holy Spirit) and agricultural festivals, they symbolise the farmers' 'sincere gratitude for the fertility of their land and the blessings received in the farming year'. At the end of the events, the 'charolas' are auctioned off or shared out in order to help those in need. The 'Festa' promoting and celebrating 'Batata-Doce da Madeira' in July will in future be held in São Jorge-Santana because of the size of its total regional production.

Causal link between the geographical area and the characteristics of the product:

'Batata-Doce da Madeira' can be grown on the island of Madeira from the coast up to an altitude of 700 metres above sea level on its southern slope and 400 metres on its northern slope and throughout the entire farmed area of Porto Santo, where it has the moisture content (between 60 % and 80 %), high levels of solar radiation (above 2 200 hours per year) and annual average air temperature (between 20 °C and 30 °C) necessary for its development. This includes, for a large part of the year, mild night temperatures (above 13 °C) which promote the growth of reserve roots (which represents their edible part) and the accumulation of starch (which on average accounts for almost 70 % of its total carbohydrates) and also reducing sugars and dietary fibre, which contributes to its good organoleptic and technological characteristics.

The current traditional varieties of 'Batata-Doce da Madeira', resulting from the digitata and cordifolia varieties of different origins introduced into the islands between the middle of the 16th and 20th centuries, are the result of centuries-old and constant selection, propagation and sharing of 'cuttings of slips' harvested from adult plants that produce the rhizomes with the best characteristics. The plants have been propagated in companion planting or monoculture on family farms, which have preserved and propagated the 'slips' of the tuberous roots with the most appreciated organoleptic characteristics, and which are best adapted to the agro-ecological conditions of the different farming areas.

The traditional varieties of 'Batata-Doce da Madeira' correspond to the cultivated varieties whose propagating material is conserved in the communities of Madeira and Porto Santo.

The use of propagating material exclusively from local production, adapted to the agro-climatic conditions, the characteristics of the soils of Madeira and Porto Santo and the cultivation practices, give the tuberous roots of 'Batata-Doce da Madeira' the morphological, organoleptic and nutritional characteristics that make them special.

The introduction of the crop from a number of geographical origins has made it possible to preserve crop varieties with growth cycle ranging from average (6 to 8 months) to long (over 10 months). These factors, linked to the specific genetic characteristics of each variety, the environmental conditions of its production and the cultivation of 'Batata-Doce da Madeira', mean that 'Batata-Doce da Madeira' has a carbohydrate composition (with a high percentage of starch) and protein content and mineral salts with average values (as a percentage of dry matter) above the reference values.

On both islands, the frequency and type of irrigation is adjusted to local soil and climate conditions and the needs of traditional varieties. In the areas of Madeira with average annual rainfall of between 750 and 1 000 mm, irrigation is necessary in summer and in lower-altitude localities and is carried out using overflow or sprinklers. On Porto Santo, localised (drip) irrigation is used to offset the island's low annual rainfall (less than 400 mm). Farmers' knowledge of the crop water needs makes it possible to plan the most abundant irrigation at the growing stages of the mother plant and the formation of the rhizomes. The intervals between irrigation are longer during the pre-harvest period to encourage the proper 'fixation' (tuberisation) of the rhizomes, enhancing their capacity for storage, while maintaining a degree of moisture that gives the flesh of the raw tubers their typical succulence.

To meet the nitrogen needs of the crops introduced and to compensate for the natural dearth of phosphorus and occasionally potassium, organic matter or other nutrients in the islands' soils, local farmers use dried matter harvested in Madeira's mountains (mainly bracken – Pteridium aquilinum L. Kuhn and broom – Cytisus scoparius, L.) or cereal straw, sugar cane or other vegetation growing on their holdings, which, after composting with cow, goat or chicken manure, make it possible to obtain a balanced organic fertiliser. In addition to fertilising the crop, this ensures soil aeration and decay, which promotes good rhizome development and slow nutrient release, boosting the proper development of the mother plant and its edible reserve roots. When there is no local dry matter or organic matter available, deep fertilisation is carried out using organic soil improvers and chemical fertilisers suited to the conditions of the islands' soils.

This traditional practice of incorporating organic matter into the deep fertiliser ensures an abundance of nitrogen, phosphorus and potassium and provides high levels of protein, while the mineral nutrients and micronutrients resulting from this fertilisation provide a high ash content.

These particular characteristics mean that the traditional varieties of 'Batata-Doce da Madeira' belong to the Ipomoea batatas (L.) Noir, 'potato' gene pool, making it the world's third genetic reserve of that species, originating predominantly in South America. The cultivated varieties identified are conserved ex situ at the germplasm bank in Madeira (ISOPlexis/Germobanco).

Reference to publication of the specification

https://tradicional.dgadr.gov.pt/pt/cat/horticolas-e-cereais/1108-batata-doce-da-madeira