

The status of Chestnut cultivation and utilization in the Canary Islands

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Abstract: Chestnut was introduced to the Canary Islands at the beginning of the 16th century during the time of the Spanish Conquest. It was utilised by the conquerors as a means of claiming property for communal lands. From that time until today, chestnut has been an important crop in the Canary Islands. It is important both as a source of food and timber and has contributed to the subsistence of the population, particularly at times when both resources were scarce. Nowadays it is mainly cultivated on the Islands of Tenerife (around 1300 ha) and La Palma. On other islands, such as Gran Canaria, La Gomera and El Hierro, semi-wild chestnut forests and small plots where farmers collect fruit still exist. Morphological and molecular marker (SSRs) studies have shown a great variability within the local population of chestnut trees in the Canaries. The main use for chestnut is fruit consumption, but it was also utilised in the past as an exchange commodity to obtain fish and other food. The fruit is consumed in many different ways, mainly toasted or roasted, but also cooked in soups, fish or meat dishes and even as an ingredient for the typical Canary Islands' sweet 'morcillas' (a type of sausage). The wood of the tree has been used for furniture, with some shoots being utilised for basket making, and also as cattle food. The trunk of the chestnut has also been used to obtain cork or as a bee hive. Recent efforts to add value to chestnut cultivation in the Canary Islands have included the creation of a Chestnut Farmers Association in Tenerife that commercializes their products under a brand name.

1. Historical background

According to recent studies, chestnut was first introduced to the Canary Islands on El Hierro and Gomera and then on Gran Canaria, La Palma and finally the Island of Tenerife, shortly after the process of conquest and colonization of the islands. In the case of La Palma, it was most likely introduced around 1493 and quickly expanded and used both for its fruit and wood (Ríos Mesa, 2004). In fact, there is evidence that 5 'arobas' (a measure of weight, 1 arroba = 11.502 kg) of fruits were sent from La Palma to the island of El Hierro in 1546 (Hernández-Martín, 1999), which seems to indicate the presence of numerous chestnut trees to allow for surplus production. By 1590 Frutuoso (2004) had mentioned the existence of chestnuts in the region of Puntallana, and there are also many other reports about the presence of chestnut early after the conquest of the islands (Hernández-Rodríguez, 1983; Browne, 2005).

Many ancient trees are still alive on La Palma at present. Two are especially important: one located in Puntallana with circumference of more than 7 m, and another even larger one with a perimeter of 10 m in the Municipality of Breña Alta. According to the information gathered from the local population, both of them seem to be of the denomination known as "*Temprano*", one of the few varietal denominations identical to those of Spain's mainland cultivars, which might be a clear indication of its early introduction.

The great relevance of the chestnut tree on La Palma is reflected in the information given by Bandini (1816) in 1813, indicating that 46% of the total production of chestnuts in the Canary Islands (CI) came from that island. Information provided by Von Fritsch (2006) on exports of chestnut fruits in 1862 from different areas of La Palma also confirms the importance of this crop for the island. The role of this tree as part of the landscape of La Palma was also highlighted in school texts used at the end of the 19th century (de Las Casas Pestana, 1894). It is also important to mention that the first reference to grafting of chestnuts on La Palma was

made during the last quarter of the 18th century (Rodríguez-Benítez, 2004).

There are also historical references to the presence of chestnut trees on Tenerife as early as 1517 (Pereira-Lorenzo *et al.*, 2007), soon after the Conquest. Many historical chestnut trees reported previously still survive on this island, such as the ‘Castaño de Las Siete Pernadas’, in the area of Aguamansa (Fig. 1), La Orotava county (Mendez Pérez, 2002), which may be around 500 years old. There is an interesting description of this tree given by Rodríguez (2001) in which he indicates that the trunk had a circumference of more than 12 m and that the seven branches of its trunk (siete pernadas) had been reduced to five by wind action. According to Ríos-Mesa (2004) it is possible that this tree was one of the chestnut trees planted by El Adelantado (name given to the first Governor of the island), D. Alonso Fernández de Lugo, in the Valley of La Orotava in the first decades of the 16th century.

Many well known visitors and naturalists, among them Mac-Gregor (2005), Verneau (2003), Von Humboldt (2005), Du Cane (1993), Glass (1982), Von Fritsch (2006) and Berthelot (2005), mentioned the presence of chestnut forests as part of the natural landscape of Tenerife in their Canary Island trip reports during 18th and 19th centuries.



Fig. 1 - Ancient chestnut tree with 7 main branches named castaño del las 7 pernada.

2. Economic importance, cultivated area and geographical distribution

Chestnut seems to have been an important crop in the middle of the 19th century according to the great number of localities in the Canary Islands producing chestnuts by 1852 (De Leon y Falcón, 2005).

On Tenerife: Arafo, Candelaria, La Matanza, La Orotava, El Rosario, Santa Ursula.

On Gran Canaria: Galdar, Moya, San Mateo, Telde, Teror.

On La Palma: Barlovento, Punta Gorda, Punta Llana, San Andres y Sauces, Santa Cruz de la Palma.

On Lanzarote: Tinajo.

On La Gomera: Vallehermoso.

There are no updated figures on the economic importance of chestnut cultivation at a regional level at present. A thorough sampling done by Pereira-Lorenzo *et al.* (2001) indicated that chestnut could be introduced in the Archipelago as a crop with a double use (fruit and wood) following the example of the Spanish mainland from where it was introduced. This study also revealed the presence of isolated, testimonial chestnut trees on the drier eastern islands of Lanzarote and Fuerteventura.

Chestnut fruit is nowadays almost exclusively commercialized in a few areas on Tenerife and La Palma. Recent efforts were made to increase the value of chestnut in the Canary Islands by the creation of a Chestnut Farmers Association on Tenerife to market all their products through a brand name. They even differentiate chestnuts harvested in the south one month earlier than those in the north due to microclimate differences, and which usually obtain the highest prices of the year.

Elorrieta (1949) indicated the presence of chestnut on all the western islands of the Canaries but he did not report it as a crop. A recent detailed study carried out in 2006 and 2007 by Hernández *et al.* (2010) localised chestnut trees in 28 counties on the Island of Tenerife, 23 of them with chestnut orchards. According to this study, the cultivated area of chestnut on Tenerife is 1374 ha, with the biggest cultivated area (280 ha) located in La Orotava County. In addition 2,567 isolated trees were also found on the island of Tenerife. Chestnut trees on Tenerife are found between 400 and 1,800 m altitude in the southern part of the island (Granadilla County). Most of the area (647 ha) is located between 400 and 1000 m above sea level, and diminishes progressively after this altitude. Only some isolated chestnut trees can be found below 400 m above sea level in the northern county of La Laguna.

Chestnut distribution is different in north and south portions of Tenerife. The higher rainfall and humidity on the north slopes due to trade winds, in contrast with a lack of the beneficial influence of them on the south side, explains why chestnut cultivation has been developed at higher altitudes in this latter area than on the north side (Ríos-Mesa, 2004; Hernández *et al.*, 2010).

In northern Tenerife the area covered by chestnut totals 1,121.72 ha (81.6% of total) and increases constantly from 400 m to 1,000 m above sea level, with a minimum area between 1,000 and 1,200 m. Chestnut orchards are located mainly in the Orotava Valley and Tacoronte-Acentejo County. Most of the 112 ha cultivated in the south are located in the Guimar Valley, more favoured by trade winds than other southern

counties, between 800 and 1,000 m and only 5.6 ha are cultivated between 600 and 800 m. Another 118 ha are located between 1,000 and 1,400 m altitude, most of them also in the Guimar Valley, being a merely testimonial presence of chestnuts at higher altitude (Fig. 2).



Fig. 2 - Chestnut trees in The south of Tenerife.

Three different systems of chestnut cultivation can be found on Tenerife. There is a first band at lower altitudes with low density plantings where chestnuts are associated with mixed plantings of vegetables and other fruit trees; a second band with more dense plantings where the lack of light penetration does not allow association with other crops; and the last band occurs at higher altitudes where chestnuts are largely associated with endemic fayal-brezal (*Myrica faya* and *Erica arborea*) or even Pinus (*Pinus canariensis*) populations that, in many instances, constitute a part of the native forest and cannot be considered cultivated trees (Ríos-Mesa, 2004).

Chestnut is more uniformly distributed on the Island of La Palma with the maximum concentration of chestnut trees being on the west side of the Cumbre Nueva area in Santa Cruz de La Palma and Breña Alta counties, where there is more humidity, also in this case, due to an influence of trade wind; on the north and east sides of the island chestnut is more important at middle altitudes. On the drier south and west sides of the island, chestnut as well as other temperate fruit crops is less present and located at higher altitudes. As in the case of Tenerife, chestnut is associated with the native vegetation at higher elevations, with laurisilva and fayal-brezal in the north and east and pine forest in the west. Frequent fires, the most serious of which occurred in August 2009, have caused the death of many chestnut trees or, on occasion, destruction of the grafted portion of the tree and regrowth of the rootstock (Pereira-Lorenzo *et al.*, 2007).

Cultivation of chestnut on Gran Canaria was important years ago but is now only testimonial with isolated plots in the counties of Arucas, Firgas, Valleseco and Teror (Naranjo-Rodríguez and Escobio-García, 2002). Most chestnut trees on the island of El Hierro are located in the most humid and cooler areas of El Golfo, Tiñor, Asofa and Honduras. Chestnut trees are also found on La Gomera in the higher parts of the valleys of the north where they are cultivated on mountain slopes. Scarce, isolated trees on Lanzarote are found in the area affected by the Timanfaya volcanic eruptions (1730-1736) which may suggest a later introduction on this island and, as in the case of the other dry island of Fuerteventura, a lack of appropriate climatic conditions for chestnut development (Pereira-Lorenzo *et al.*, 2007).

3. Horticultural aspects

Around 1852, De León y Falcón (2005) indicated that chestnuts showed excellent growth on the CI at middle and higher altitudes in soils with a predominant clay, propagated either by seeds or from shoots emerging from their roots, with grafting seldom being practiced.

In the case of Tenerife, chestnuts are located in highly fertile acid soils, in most cases andisoles and alfisoles, and cultivated, whenever orography and planting density allow, together with other crops such as potato, rye, corn or others (Ríos-Mesa, 2004).

Only around 430 ha (31%) of the total surface covered by chestnut on the island of Tenerife can be considered to be under good conditions of cultivation and 138 of these, distributed in different counties of the island, can be considered well managed. About 670 ha (48.7% of the total), concentrated mostly on the south side, are in a clear state of abandonment (Hernández *et al.*, 2010).

In Tenerife, extensive areas previously devoted to chestnut cultivation have been abandoned in recent years, although in many cases new trees have grown from seeds among the old grafted trees. These new plants are called chestnut machos or ladrones (males or thieves). The only cultivation practice carried out in these places consists of possible cleaning of the soil surface to facilitate harvesting of early chestnut fruits, perhaps being the only regular horticultural practice undertaken for chestnut cultivation in the different cultivated areas of the Islands.

Plant spacing differs greatly from place to place but it is possible to consider three main systems (Ríos-Mesa, 2004; Hernandez *et al.*, 2010).

1 - Trees planted at high density (30-50 trees/ha) in places where chestnuts were planted for fruit and that correspond with the areas now in a state of abandonment.

2 - Planted at lower density (15-30 trees/ha) allow-

ing intercropping with associated crops.

3 - Chestnut trees (10-15 trees/ha) planted only along the edges of plots used for cultivation of other crops such as potatoes, grapes, corn, cabbage, lupines or other vegetables (Figs. 3 and. 4).

All chestnuts are cultivated without irrigation and no fertilisers are applied, but in cases 2 and 3 above they benefit from the fertilisers applied to the main associated crop. Grafting on Tenerife (Fig. 5) was done in a similar way to that on the Spanish mainland, where seedling rootstocks were grafted with two scions placed at 0.5 m height. However peculiarly shaped shrubby chestnuts found in the volcanic south of the island with large pendulous branches touching the soil indicate that this practice was not always carried out.

Maintenance pruning is seldom practiced except in the case of planting system 3 indicated above. Even in this case pruning is scarce and rudimentary, mostly limited to the removal of dead wood or wood that



Fig. 3 - Chestnut-corn association.



Fig. 4 - Chestnut-grape Association.

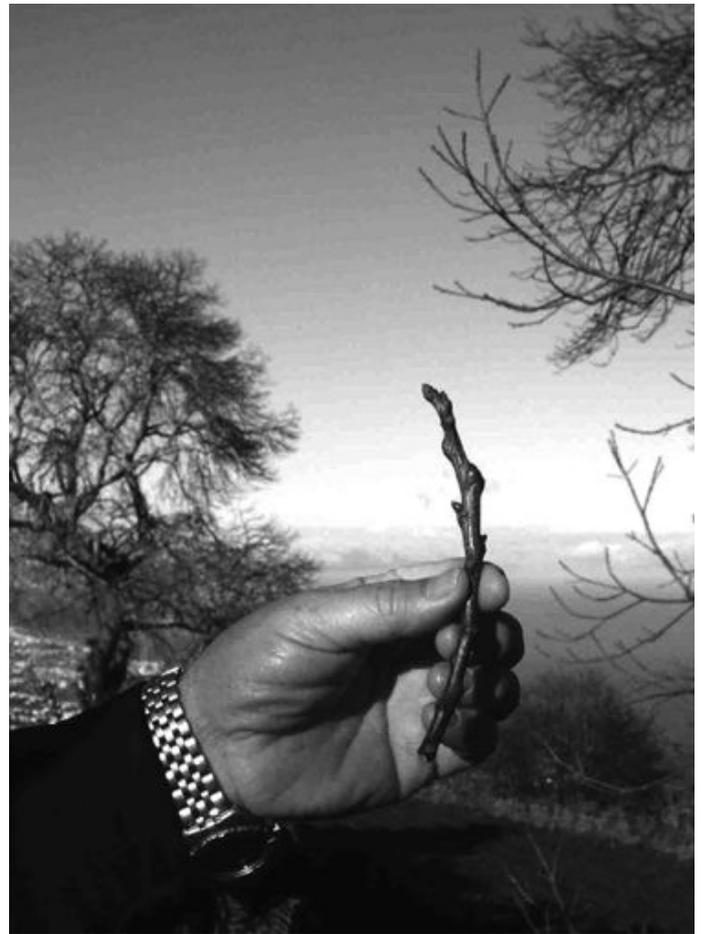


Fig. 5 - Scionwood for grafting.

makes the cultivation of the rest of the plot more difficult. There is, however, an important exception in the case of the trees cultivated on volcanic lapilli soils in the counties of Arafo (Tenerife) and El Paso (La Palma). In both places, grafting is practiced closer to the soil with a training process orientated at keeping branches as close to the soil as possible to facilitate harvest and to obtain wind protection. Trees are also protected against wind on the Island of El Hierro where a circular wall of rocks, locally called gorona, is built to protect the tree from wind and animals. Chestnuts on the CI are in good phytosanitary condition, with no reports of the serious diseases which usually affect this plant on the Spanish mainland, such as *Phytophthora cambivora* and *Phytophthora cinnamomi*. This is most likely due to the isolation of the islands from other chestnut areas and no introduction of new plant material for new plantings. Several arthropods, such as *Cydia splendana* and *Balaninus elephas* that attack chestnut fruits in the Archipelago, are being studied (Pereira-Lorenzo *et al.*, 2007).

4. Plant material

Efforts made to localise and identify the plant material of chestnuts on the Canary Islands have only

recently been made through extensive samplings and collecting of material during field visits to interview farmers in the producing areas: on Tenerife this was carried out between 2000 and 2004; on La Palma between 2001 and 2004; on El Hierro in 2001; and on La Gomera and Gran Canaria in 2003. The main objectives of these surveys were to finalise the Chestnut Cultivar Spanish Inventory, realise the morphological and molecular characterization of CI chestnut plant material, to propose the material to be kept in a germplasm bank and to define the most interesting cultivars for commercial cultivation (Pereira-Lorenzo *et al.*, 2007). A total of 47 different varietal nominations, according to the names given by farmers, with one or several accessions, were found on the CI (21 on Tenerife, 17 on La Palma, six on Gran Canaria, two on El Hierro and one on La Gomera) coinciding on many occasions with the same names on different islands like 'Blanco' (White) on La Palma and El Hierro, 'Mollar' (free-stone) on Tenerife, La Palma, Gran Canaria, Gomera and El Hierro, and 'Negro' (white), 'Picudo' (Pointed), 'Manso' (Tame) and 'Temprano' (early) on Tenerife and La Palma.

Some new plant materials have been found in recent investigations carried out by the same authors (unpublished data): 'Piñuda' (with the shape of a pine-cone), 'Menuda' (small) and 'Merina' (as the sheep race) on Tenerife; 'Colorado' (Red) and 'Arrancado' (pulled out) on La Palma; and 'Chabetudo' (unknown meaning) on Gran Canaria.

The 39 accessions found on Tenerife correspond to 21 varietal nominations (Fig. 6), 'Mulato' (Mulatto) with seven accessions being the most common. The 34 accessions of La Palma correspond to 17 varietal nominations, 'Jabudo' (unknown meaning) with six accessions being the most common. From all the varietal nominations of these two islands, only 'Redondo' (Round) and 'Temprano' coincided with names of cultivars from the Spanish mainland, the former in Galicia and the latter in Andalucía and Extremadura.



Fig. 6 - Fruits of Castagrande cultivar.

Only the plant material from Tenerife and La Palma has been characterised morphologically and phonologically, using the same methodology as for previous studies of the cultivars of Galicia on mainland Spain and allowing a comparison among them (Pereira-Lorenzo *et al.*, 1996 a, b, c; Pereira-Lorenzo and Fernández-López, 1997 b, c; Pereira-Lorenzo *et al.*, 2006).

Analogous molecular characterizations of plant material from Tenerife and La Palma have also been made following the same methodology as for the cultivars of Galicia, comprising the results obtained from 10 microsatellites being utilised in the research Project "Evaluation, analyses and biodiversity management of *Castanea sativa* Mill. (European chestnut) in the Atlantic regions (CASTANEAREG)", INTERREG IIB, ESPACIO ATLANTICO, FEDER, 2004-2006. To further allow comparison among cultivars, the four most discriminating morphological characteristics previously studied for the cultivars of Galicia (Pereira-Lorenzo, 1994 and Pereira-Lorenzo *et al.*, 1996 a), favourably tested later for cultivars of different origin (Pereira-Lorenzo *et al.*, 2006 and 2007) and also utilised under the framework of this same project, have been employed: i) fruit size; ii) fruit shape; iii) type of male flowering; and iv) length of burr spines.

From the results obtained through this molecular characterization, it has been possible to group the 74 accessions of Tenerife and La Palma into 57 different genotypes. It is worth mentioning that, as in the case of the cultivars of Galicia (Pereira-Lorenzo *et al.*, 1996 b), Andalucía (Pereira-Lorenzo and Ramos-Cabrer, 2003), León (Ramos-Cabrer *et al.*, 2003) and Asturias (Pereira-Lorenzo *et al.*, 2005; 2006), the cultivars from the CI are all polyclones. The few cases in which more than one genotype was found under the same name seem to indicate that more than one clone of a cultivar might have been propagated. Most of the genotypes found were singulars and only 10 groups of coincidence by microsatellites have been detected. When the CI genotypes were compared with those of the Spanish mainland (data unpublished), no synonyms were found. All the cases of varietal denominations with only one accession found in the CI have been found to be of a single genotype different from all the others (Pereira-Lorenzo *et al.*, 2007).

5. Tradition and uses

Chestnuts were traditionally used as an important source of food in times of scarcity and also for wood of important value (Pereira-Lorenzo *et al.*, 2007). Among the different uses of this plant on Tenerife, Ríos-Mesa (2004) specifies the following:

The fruits

Larger ones used for fresh food, for family consumption, exchange or sale, the smaller ones as cattle

feed. Chestnut fruits are important for traditional cooking on the islands. They are consumed either boiled or roasted, or even fried in oil alone or accompanying salty fish (a very traditional dish on the islands), in purees or, more recently, in desserts.

The wood

Used for house building, furniture, wine presses, staves for wine barrels and for the bottom of boats, it is also used for making boxes to store various local units of weight, *cuartillas*, and sowing quantities, *almudes* (Fig. 7). The wood has also served to build small tools such as those used to blow cereals or to fan the grain. Ungrafted trees have been preferred, generally, for wood purposes as they are straighter and present fewer nodes than grafted plants. It should be mentioned that the wood has always been cut when the moon is in “its last quarter”.

Despite early introduction of the tree to the CI chestnut wood was not used, at least on Tenerife, for building wine barrels until the middle of the 17th century, as there are reports of imports of wood for that purpose from Galicia and Portugal (Méndez Pérez, 2002).

Chestnut suckers were also utilised to make baskets (Fig. 8) of different sizes, such as hand baskets or bigger ones for transporting rocks and even those known as *raposas* placed on the sides of donkeys to carry various items. Suckers also served to make *horquetas*, long wood sticks ending in a ‘v’ shape which first served to raise and hold the grapevines away from the soil and later in the 20th century for banana cultivation, both to keep the bunch separated from the pseudostem (small *horquetas*) or to give support to the whole plant in case of wind (bigger *horquetas* called *horquetones*).

- The dry leaves have been used as cattle beds and the green ones as cattle food.

Ríos-Mesa (2004) indicates that chestnut is closely related to cultural aspects of CI life. Chestnuts are an important element of the gastronomy linked to popular celebrations. Special mention should be given to:

- the “All the Saints Feast” when the early chestnut fruits are roasted and consumed together with the “*aguapié*” (the first liquid extracted from the grapes after the men performed the traditional stomping of the grapes).
- the “Saint Andrews Feast”, when chestnuts are eaten together with the new wine of the year when the cellars are first opened.
- at Christmas time when chestnuts are considered important Christmas symbols, like the Spanish *turrones* (hard almond cakes). It is tradition in some villages to give a small basket full of chestnuts to children as a present.
- during Carnival in some localities in the north of Tenerife dry chestnuts are also consumed accompanying wine.
- for the “Saint Anthony Feast” in the county of Acen-



Fig. 7 - Box for sowing the grain made of chestnut.



Fig. 8 - Traditional harvesting basket made with chestnut wood.

tejo, in the north of Tenerife, it is customary to use chestnuts as rosaries to be placed over domestic animals.

Chestnut wood has been used on the island of La Palma for wine barrels and also for making receptacles to export fruits preserved in syrup, made with the sugar coming from the sugar cane industry, or to keep salty meat. They were also used as support poles for grape cultivation (Pereira-Lorenzo *et al.*, 2007). Peeled chestnut wood skin bands were used for building the structure and handles of baskets. Several types of baskets, including bread baskets are also made, like those on Tenerife (Santos-Cabrera, 2002). The wood is also appreciated for smoking cheese, a very traditional and delicious dish of the gastronomy of this island. The tender young shoots coming from the main trunks have been traditionally used as cattle feed.

Unifloral chestnut honey is produced in Tenerife and La Palma where sometimes bee hives are made of chestnut wood. In the past chestnuts were preserved

buried in volcanic lapilli, but it was more common to cover them with sand or to dry them in the sun (Pereira-Lorenzo *et al.*, 2007).

It is worth mentioning the historical use of chestnut trees as a means of claiming property for communal lands. It is indicated by Rodríguez-Brito (1982) that the planting of a chestnut tree in a deforested plot constituted the first step toward claiming it.

The “feast of Saint Martín” (11 November) is the day chosen to drink the new wine and on Tenerife it is accompanied by the consumption of chestnut fruits. The night before this feast, children dragged empty oil tins, “cacharros”, in the air which are open at the top and filled with chestnuts and coals.

With an evident sense of humour, the Old People’s Association in the village of San Juan de Puntallana organise a contest a few days after “Saint Martín”, coinciding with the time of the chestnut harvest, to nominate the Queen of Chestnuts, the Big Chestnut, the Small Chestnut and the Nice Chestnut. Women participate in the contest by bringing chestnuts collected by themselves or by their husbands. The woman that presents the biggest one is nominated as the Queen of Chestnuts, and similarly for the smaller or nicer fruits. In addition, the chestnut has erotic relevance on this island as it is used to refer to the female sexual organ (Pereira-Lorenzo *et al.*, 2007).

On the Island of El Hierro chestnuts have lost their traditional importance as food during autumn and winter except at the “Feast of All Saints”, when chestnut fruits are used as tafeñas (local chestnut grill) and consumed with new wine. In the past chestnuts were dried in the sun and used as ingredients for the preparation of “morcillas” (blood sausages), a local product still prepared on other islands. These morcillas were used by the inhabitants of the “El Golfo” county as exchange for dry figs or potatoes coming from other counties of the island (Gil-González 1998).

The use of chestnuts on the island of La Gomera must have been similar to that of other islands, but in addition chestnut wood is used for making chácaras, a musical percussion instrument similar to the Spanish castañuelas (Perera-López, 2005) (Note that chestnut in Spanish is castaño.)

As indicated above, the consumption of chestnut fruits is very common on the CI where they have been an important source of calories since soon after the Spanish conquest of the islands. They are not normally consumed raw, except occasionally when they are very soft, but generally boiled or roasted (Fig. 9). Boiling is generally done after making a cut in the external shell or after eliminating it. They are cooked for half an hour in plenty of water to which anise, vanilla sticks or cinnamon is added, particularly when used for desserts (Iglesias García, 2004). They are usually roasted in homes by putting them (after making a cut in the external shell) in a perforated biscuit tin which is then put directly on the kitchen fire. Chestnuts are traditionally

cooked in small metal boilers placed above charcoal fires on many street corners. In both cases, coarse salt is added during cooking.

While roasted chestnuts are directly consumed, boiled chestnuts may be incorporated into typical dishes of the Canary Island gastronomy, such as roasted sardines, meat compositions or salty fish dressed with oil and vinegar or with the typical “mojo” (a sauce made with *Capsicum annun*) to which they give a sweeter taste. They are also smashed into a puree, either to accompany a dish or as a filling for dishes prepared in the oven mixed with dry fruits (crushed pine nuts or almonds), spices and herbs or even previously fried giblets, adding a special flavour. In addition, they are a typical side dish for wild game (Iglesias García, 2004), or as an ingredient in sweet CI bloody sausages.

Chestnuts may be consumed in a broth in the typical “caldo de castañas” (chestnut soup), cooked with potatoes or sweet potatoes, offering consistency and nutritive value which is much appreciated on cold winter days (Ríos-Mesa, 2004; Pereira-Lorenzo *et al.*, 2007).



Fig. 9 - Traditional chestnut roaster.

Chestnuts boiled with vanilla sticks are mixed, after removing all the skin, with syrup and eaten or ground as a filling for various sweets and cakes. One of the older recipes for these fillings includes ground chestnuts in addition to sugar, milk and beaten egg yolks. The mixture is cooked on a very slow fire for a few minutes, without allowing it to boil. Chestnuts are also used as ingredients in stewed fruit preserves. For this use chestnuts are boiled in abundant water, well cleaned to eliminate any remaining skin and then plenty of sugar is added along with anise, mint or hortelana (*Mentha spicata*) and a glass of orange liquor or brandy. When the chestnuts become soft and thick, a syrup is formed; they are kept well covered in the syrup in sealed jars in a dry place (Iglesias, 2004).

6. Future prospects

Technical meetings have been organised since 2003 at La Matanza Municipality on the Island of Tenerife with the assistance of the Centre for Conservation of Crop Biodiversity of Tenerife (CCBAT) and the Extension Service. Lectures by national and international experts have been given to include horticultural aspects such as pruning and training, marketing and preparation of chestnut products as well as economical and structural aspects and many other subjects dealing with chestnut cultivation on Tenerife.

Special mention should be made of the process of recovery and adding of value to chestnut cultivation initiated in 2004 by the Cabildo (local government) of the Island of Tenerife. This project was developed by the Extension Service and the CCBAT have initiated “ex situ” and “in situ” conservation programmes and aims to create, in connection with the Chestnut Farmers Association of Tenerife, a quality label for chestnuts produced on Tenerife. This initiative, if continued and extended to other islands, may make a great contribution toward the recovery of commercial cultivation of chestnuts on the Canary Islands.

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