

THE MALVASIA WINE OF BOSA AS AN EXAMPLE OF SARDINIAN TERROIR THROUGH ITS HISTORY, ECONOMY, TRADITIONS AND EXPLOITATION

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RESUMEN

Cerdeña está entre las regiones italianas que producen más vino, pero también en la isla la cultura de la vid y del vino constituyen un bien inestimable, íntimamente ligado a su civilización y a sus tradiciones. Parte de este contexto es la producción de la *Malvasia di Bosa*, que ha contribuido desde siempre al desarrollo del sector vitivinícola de la isla, y aún ahora continúa haciéndolo. La profundización en un *terroir* específico, como este de la *Malvasia de Bosa*, requiere una amplia panorámica sobre otros campos: misteriosos orígenes del viñedo, diferentes tipologías que de esta última se pueden obtener hasta llegar a las características que residen en uno de los *terroir* de producción como por ejemplo la región de la Planargia. Así, las informaciones obtenidas a través de los datos estadísticos han permitido elaborar las dinámicas económicas relativas al *terroir* de la *Malvasia de Bosa*.

Palabras claves: vino, *terroir*, Malvasia de Bosa, Cerdeña, Italia.

SUMMARY

Sardinia is not one among the major wine producing regions in Italy, yet the culture of the grapevine and of wine constitute invaluable goods for the island as they are intimately tied up to its

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heritage and traditions. Part of this context is the production of the Malvasia wine of Bosa, which has long and significantly contributed to the development of the wine sector of the island. A close examination of a specific *terroir* such as that of the Malvasia of Bosa extends to different fields including the mysterious origins of the vine, the different types of it which can be developed in order to attain the characteristics that reside in one of the *terroirs* of the production of this Planargia wine. All of these aspects contribute to the patrimony of the territory, and can play a significant role in the economic development of the whole of Planargia, an area that strives to keep pace with the tourist and economic development of north-west Sardinia if compared to the northern territory of Alghero town. The information gathered through the statistic data has, finally, allowed for a reflection on the economic dynamics in relation to the *terroir* of the Malvasia wine of Bosa.

Keywords: wine, *terroir*, Malvasia Wine of Bosa, Sardinia, Italy.

RIASSUNTO

La Sardegna è fra le regioni italiane che producono più vino, ma, anche nell'isola, la cultura della vite e del vino, costituisce un bene inestimabile, intimamente legato alla sua civiltà e alle sue tradizioni. Parte di questo contesto, è la produzione della Malvasia di Bosa, che ha da sempre contribuito allo sviluppo del settore vitivinicolo dell'isola, e tuttora continua a farlo. L'approfondimento di un *terroir* specifico, come quello della Malvasia di Bosa, richiede una panoramica su più campi: misteriose origini del vitigno, differenti tipologie che di quest'ultima si possono ottenere fino ad arrivare alle caratteristiche che risiedono in uno dei *terroir* di produzione come per esempio la Planargia. Infine, le informazioni ottenute attraverso i dati statistici hanno permesso di elaborare le dinamiche economiche relative al *terroir* della Malvasia di Bosa.

Parole chiave: vino, *terroir*, Malvasia di Bosa, Sardegna, Italia.

HISTORICAL OUTLINE

In Italy the name of “Malvasia” designates the cultivation of white berry vines of a simple taste, such as the Malvasia di Candia of the Castelli Romani in Lazio, of Chianti (Tuscany), of Istria (Friuli Venezia Giulia) and of Sardinia, as well as types of an aromatic taste, such as, for instance the Malvasia of Candia near Piacenza and Parma and the Malvasia of the island of Lipari. In addition, there is the black berry Malvasia with its simple taste, including the Malvasia of Asti and of Casorzo and the Malvasia of Lecce, and the aromatic one, such as the Malvasia of Brindisi (G.Nieddu, P.Deidda, Chessa I., s.a).

Over the past two centuries numerous experts have studied the Malvasia wines. Them, Molon, Viala and Vermorel have affirmed that the names of “Malvasia”, “Malvasier”, “Malvoise”, etc., are used to refer to a great variety of genotypes, with different colours, forms of the bunches of grapes, and taste, varying from the neuter to the aromatic one (V. Vermorel, 1906; G. Molon, 1906; P. Viala, V. Vermorel, 1909; E. Biondo, 1984; G.Nieddu, P.Deidda, I.Chessa, s.a) (Fig. 1).

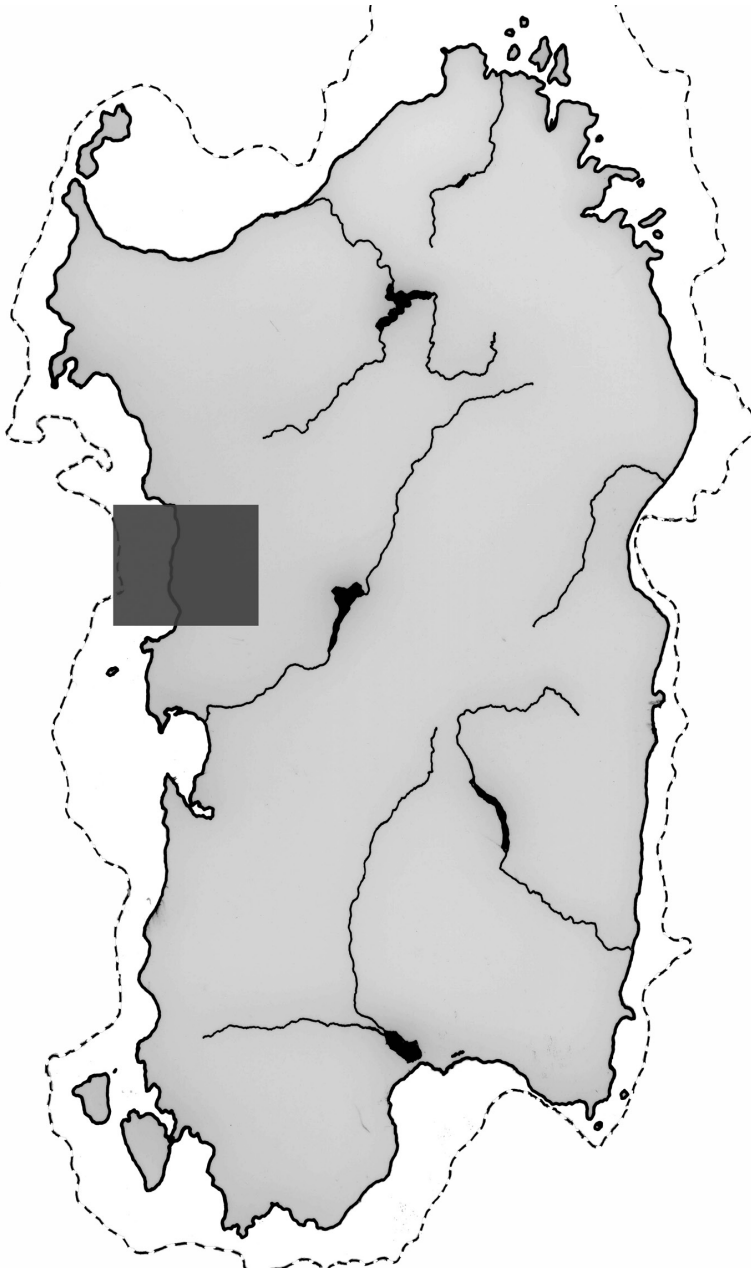


Fig. 1 – The area studied.

Malvasia is one of the most common vines in the Mediterranean area; its name can be traced back to the Greek harbour of a city in the south eastern coast of the Peloponnese called, in antiquity, Monembasia or Monemvasia. In the XIII century, this ancient maritime place, whose name means “city with only one harbour” was famous in the whole of Greece for its wine called “of Monobasia” (A. Ravegnani, 1976; E. Biondo, 1984; A. Agabbio, 1994; G. Meloni, 2000; Comunità Montana Marghine Planargia, 2006). The harbour of the city, protected from a high seacliff, had a narrow entrance and therefore it was difficult to conquer. A powerful Greek prince, in order to gain the stronghold, asked the Venetians for their help, and these remained in that territory after the conquest. During that period, the Venetians sailed across the whole of the Mediterranean sea with their ships, with a predilection for the eastern basin where their exchanges and trade flourished. They discovered that wine, they appreciated it, they took some grapevines with them and transplanted them on the island of Crete, which was their possession, and from there, they introduced the wine in the Italian region of Veneto (E. Biondo, 1984).

In Italy, early mention to this vine is found in documents of the Venetian Republic from the XIV century, at a time when the Venetians had already activated a considerable production and an intense commerce of the Malvasia wine, so much so that in 1600 the name of “Malvasie” designated the places in which the “vino navigato” or “Greek wine” was sold (Comunità Montana Marghine Planargia, 2006). Though the purchase and sale of the wine were disciplined by the law, the Malvasia wine enjoyed a greater liberty because of its prestige alongside the Greek and the Vernaccia wines (U. Tucci, 1998). In this respect, Cettolini reports that “*The consumption of the Malvasia wine was notable at break times; Venice imported it from Candia, and its name distinguished the inns that sold it. The ‘Malvasia ascitutta’ (garda) was consumed in the morning, and the sweet Malvasia (tonda) was consumed after midday*” (S. Cettolini, 1933, p. 20).

Through commercial exchanges the vine was subsequently introduced to southern Europe and the Canary Islands, and almost certainly it reached Sardinia too through the harbours of Kalaris and Bosa during the same period. The vine, in fact, has its greater diffusion in the Campidano area of Cagliari and in the hills of the Planargia district, and yet it cannot be affirmed that the cultivated vine in these areas derives from one single clone that arrived in one of those two harbours (E. Biondo, 1984; A. Vodret, F. Nuvoli, G. Benedetto, 1999). Its probable Greek origin can also be inferred by the synonym in the dialect language of “Alvaréga” or “Arvaréga”, or rather Greek white grape, possibly a corruption of “Albagreca”, with which it is defined in some areas of the island, mainly in the Nuorese district.

The vines from which this wine was produced were found also in other Mediterranean areas, where they sometimes acquired local names, or else were generically denominated as Greek, which led to present difficulties in the classification of the different varieties (M. Serra, 1990).

There is a possibility, however, that things may have gone differently, and that the Malvasia reached Sardinia at an earlier stage – we ought to remember, in fact, that in the phase of decadence of the Roman Empire, around the V century, the island of Sardinia was ruled by the Emperors of the East, or at least it was under their sphere of influence. It cannot be excluded, therefore, that the Byzantines were the first to introduce this vine to the island (E. Biondo, 1984; A. Vodret, F. Nuvoli, G. Benedetto, 1999; A. Vodret, 2003) through commerce with the harbours of Karalis and Bosa harbours (Fig. 2). With the Byzantines, in fact, the Basiliani monks came too; close to their monasteries they cultivated the vineyards necessary for the production of wine, which was essential in the liturgy of the Christian religion. The monks introduced other vines including Malvasia, and so they contributed to spread the wine culture locally. This is confirmed by the fact that the vine has a great diffusion in the Campidano area of Cagliari and in the hills of Planargia facing the mouth of the Temo river. This hypothesis however contrasts with the fact that the diffusion of Malvasia is limited to the hinterland of the two harbours, and that its presence is rather sporadic in other districts of the island. This may suggest that the vine was introduced to these areas in less ancient times. After all, the differences between the Malvasia wines of Campidano and of Bosa cannot be ascribed exclusively to the different pedological and weather conditions, and this would further confirm the possible existence of two different clones of the same variety (E. Biondo, 1984; The wine of Sardinia, 2000; A. Vodret, 2003).

Regardless of what actually happened, the Malvasia vine has been cultivated in Sardinia for many centuries, and the wine here produced has taken different names including “Malvasia”, “Malvagia”, “Mamarsia”, “Malmazia”, “Marmusia”, “Manusia”, “Marmaxia”, “Uva malvatica”, “Malvasia of Sardinia”, “Alvarega” (J. Moris, 1837; B. Bruni, 1966; M. Agabbio, 1994; A. Vodret, F. Nuvoli, G. Benedetto, 1999). Despite its scarce diffusion and the few cultivated surfaces, about less than 1% of the whole regional wine patrimony, the Malvasia vine has been for centuries one among the most representative varieties of Sardinia vine cultures, and as such it has been quoted by numerous sources (Nieddu G., Deidda P., Chessa I., s.a).

The writings of Gemelli and Moris confirm this information: in the XVIII century, the Malvasia vine was well known from the point of view of its



Fig. 2. Probable importation route of the Malvasia di Sardegna. Source: modified by A. Vodret, 2003.

characteristics and it was already diffused across the island. In this respect, Gemelli observes that “We distinguish three categories of wines in Sardinia: the ‘*abbocati*’, the ‘powerful’, and the ‘dry and light’. Among the first, the Moscato of Cagliari deserves the 1st place, its *Girò* and its *Cannonau*; the Moscato of Alghero and, probably, the Malvasia of Sorso too. Among the powerful we include the Malvasia of Cagliari, the most powerful of all, the famous Malvasia of Bosa, that of Sorso, and that of Alghero ...” (F. Gemelli, 1776, p. 301). Moris describes the characteristics of Malvasia with the following words: “*Vitis... malvatica, acinis bulletin-board-flavescentibus, parvis, inaequalibus, sapidis; racemis mediocribus, laxis, longis longeque pedunculatis, basic attenuatis; foliis quinquelobis, acute dentatis, firmis, baseos sinu amplo, nervis subtus subhirsutis; sarmentis gracilibus, longissimis, prostratis, decoloribus, internodiis longis. Vern. Malvasia-Egregium ejusdem nominis vinum jucunde amarum austerunque praebet...*” (J. Moris, 1837, p. 330).

There are much earlier sources which certainly help us to reconstruct the history of the vine in Sardinia. To this aim, it is useful to remember that the first testimonies date back to the *Aduanas Sarda*, the register of the harbour of Cagliari, in which, according to an entry for 29 September 1351 “44 botes and 2 caratell de vi sardesch (nuragus?), 2 botes de vi grech (Malvasia) e una bot e un caratel de vi vermey (red wine)” were shipped from that very harbour (A. Vodret, 2003, p.41).

About three hundred years later, the envoy of King Philip I, Martin Carrillo, wrote that in 1612, in Sardinia there were “*Hubas y wine muy bueno. Y agora se dan tanto a plantar viñas y coger tanto vino, que se saca de Reyno en grande abundancia... . Los vinos son tintos y blancos, y cañonates de color como rubi muy sano, y muy bueno; el blanco es de Moscate, y Malvasia, y de otros muy buenos. ...*” (M. Carrillo, 1612, pp. 247-248).

A number of dispositions dating back to that same period concern the rights of production and commerce of the wine. In 1639, the Council of Sassari established in 33 Sardinian Liras the price of a barrel of Malvasia wine. But already in 1687 the same Council had deliberated upon some new prices: the Malvasia wine had to be sold at a price of 16 Ls. (Sardinian Liras) per barrel (*the ‘cuba’*), the *‘passado’* wine (passito) was priced 15 Ls., the ordinary white wine 10 Ls., same as vinegar, and it was specified that a *‘cuba’* corresponded to 11 *‘cargas’* (loads), while every load corresponded to 66 *‘pintas’* (E. Costa, 1885, p. 1489).

For a more detailed knowledge of the history of this vine it is necessary to refer to Manca dell’Arca who, in his 1780 work *Agriculture of Sardinia* wrote: “*The vine can be classified according to three different colours of its fruit: white, black and red. Each of them can be further and abundantly divided into classes, but only the common grapes in Sardinia will be noticed, and these are found mainly in the district of Sassari and in the nearby villages where they are given the same and usual name so as to facilitate their identification ... The Malvasia of long wheats gives a rather gentile wine ... The sandy soil gives stronger wines, as those produced in areas by the sea where the grapes ripe better and the wine is sweet, and so they are perfect for Malvasie – the red or white clayey soils won’t give much, and so it is better to to plant grapevines there rather than fodders*”. In the sixth chapter, Manca dell’Arca deals with the grape harvest, the making and the preserving of wine. In particular, as regards the Malvasia, the author writes: “*In order to make sweet wines like Malvasia, mainly of the white grapes, you need to harvest them when they are ripe and in fine weather. You then need to leave them in heaps of about half a foot above the ground, exposed to the sun for five or six days, and cover them in case of rain. The grapes will then have to be gathered from the heaps, and placed in a vat, they will have to be crushed, and the must and dregs covered with fresh grapes, and boiled for twenty-four hours, squeezing the dregs to extract the must, then everything will be mixed*” (A. Manca dell’Arca, 1780, pp. 95-97; p. 123).

Another interesting contribution is the work of Prince Francis of Austria-Este, written in 1812. In his *Description of Sardinia* the Prince observes

that: *“Sardinia abounds of vineyards,... and good wine is made there. ... The gentlemen, all the well-off people drink it, and so do the women who consume table wine with no water, and more or less all peasants, who are not poor people, they drink wine too”*. The author reports that common wine is priced at 10 Sardinian soldo for a ‘quartaro’ – about 4 jugs or 2 German ‘mosse’ (two pints) – while a good Malvasia wine will cost 4 liras and 10 soldo (F. D’Austria - Este, 1934, p. 221; p. 231, p. 238).

In the first half of the XIX century, Casalis, in his geographical, historical, statistic and commercial *Dictionary of the States of H.M. the King of Sardinia* and through his Sardinian correspondent Angius, produced a detailed description of the *communes* of Sardinia. Among various aspects he considered wine-growing and oenology: *“There are two varieties of wine: ordinary wine, commonly named black wine, because its colour is not particularly intense, and mild wine, also called white wine, though some white wines are of a different colour. ... These wines can be distinguished in three kinds: the simple ones, made from the same quality of grapes; the ‘is genias’, made from different grapes; and the so-called wines ‘de passadùra’, or tanned wines, which are made from a certain kind of grape but are said to be made from a different one. Simple wines include the Malvagia, the Varnaccia, the Nascolo, the Monica, the Nuraghus, the Cannonao, the Moscato, and the Girone.... Both mild and ‘is genias’ are characterised by excellent essences – these are the liqueurs of spontaneous straining ... The Malvagia is a prestigious wine especially when aged, and according to the experts this is not an imagined quality but rather a quality which one can appreciate in its pure, delicate and tar-like taste”* (G. Casalis, 1836, pp. 45-46).

On the eve of the grape phylloxera epidemics, Anthonio Lolli in a work dedicated to the grapevines and wines of Sardinia affirmed that: *“Among the fertile plants that are cultivated in Sardinia, the grapevine is undoubtedly one of the most important, both because of the quantity and of the quality its fruits. ... In the vine-growing regions of this island the grapevine is currently cultivated only near the populated centers: from there it extends in relation to the size of the rural population. ... Many varieties of vines are cultivated in Sardinia, but the most common are: ... among the whites, the Malvasia, the Moscato, the Vernaccia, the Grape of Cagliari, the Bariadorgia and the Razzola”* (A. Lolli, 1882).

At the end of 1800, other authors testified to the importance of this type of vine in the Island. Seletti wrote: *“In Sardinia, besides a large quantity of table wines, there are prestigious wines which are produced and exported to the north of Europe. The wines named Girò, Nasco, Malvasia, Monaca and*

Garnaccia, etc., are the most aromatic and witty. The Malvasia of Sorso is sweet, perfumed and more tasty; it is made from selected grapes in which the aqueous part is made to evaporate, then the must is extracted and fermented as with the other Italian wines mentioned before”(P. Seletti, 1877; A. Vodret, 2003).

In those same years, G.B. Cerletti of the General Society of Italian Wine-growers compiled a list of the best Sardinian wines: “*Sardinia produces some special wines such as Vernaccia, Moscato, and Malvasia ... since antiquity, these have contributed to make the Sardinian wine production famous*” (G.B. Cerletti, 1889).

Sante Cettolini, Manager of the School of Wine-growing and Oenology of Cagliari, can be considered as the first researcher to write accurately about Sardinian wines; his opinions are based upon a good knowledge of the Sardinian wine-making reality rather than unsubstantial information as has often be the case. According to him, the typical Sardinian wines can be distinguished in two categories: the dry white wines and the strong sweet wines, of the white and coloured varieties. Among the strong sweet wines we ought to remember Moscato and Nasco. Malvasia, the most famous among the strong dry sweet wines, can be found in good quantities, but its commerce did not go beyond the places where it was produced, nor the nearby areas or the major centres of the island. On rare occasions, this wine was imported to the Peninsula. Of Malvasia Cettolini writes: “*It may be said to be diffused in the whole Peninsula; however the most famous qualities of this vine are found in Sardinia (dry wine) and the Lipari island (sweet wine), two types of a Greek origin. ... The best Sardinian Malvasia wine is produced in Cagliari, Elmas, Quartu, Sinnai and Bosa, in the Province of Nuoro. From the Malvasia grape, the R. School of Vine-growing and Oenology of Cagliari obtained two types of wine; one is called dry Cagliari, and the other bears the classical name of the vine itself. A third variety could also be obtained, which would be similar to sweet Madeira because this famous wine too is made from the Malvasia on the island of that very name The dry Malvasia was made ... from ripe grapes which were perfectly or slightly faded, so that the whole sweet substance could turn into the produce of the alcoholic fermentation. It is a dainty wine to be served in between meals or before them it is excellent, after an intense mental work or a tiring game of hunting; it is perfect for people with a flu or convalescents. Its aroma and austere taste recall the almond or the toasted nut, it is more pleasant for connoisseurs than sweet wine. Its pale yellow colour, sometimes veiled of green, and other times almost golden, adds to its seductiveness. The Malvasia of Bosa has a strong and delicate perfume; that of Quartu S. Elena and of Sinnai are softer, almost*

velvety; that of Cagliari is not as delicate and tasty, its colour is often not as bright as that of the other wines, but they will all leave a nice perfume in your mouth..." (S. Cettolini, 1933, p. 20; p. 32).

Therefore, the Malvasia of Sardinia belongs to the group of the great dessert dry wines we may define as "ordinary", because they take their valuable characteristics not from a sophisticated processing of some sort but rather from the vine, the climate, the nature of the soil, the state of maturation of the grape and from ageing. *"The aged Malvasia wine has a beautiful bright golden or amber color, it has a sweet perfume that seduces the palate. It is dry, generous, velvety, pleasantly sourish, with an aftertaste of slightly toasted almond or hazelnut. ... The Dry White Cagliari is ... an excellent table wine, obtained through a slow fermentation process in small stems, the must of the Malvasia grape, which is harvested before it reaches complete maturation. The Dry Cagliari has a pale yellow to green colour, its aroma is not particularly strong; it has a fresh, pleasant and sourish taste. This new type of fish wine has ranked among the best of its kind in several national and international oenologic exhibitions"* (L. Mameli, 1928, p. 355).

Besides, it is worth remembering that many of the numerous vines cultivated in 1800 and present in the different vine-growing areas of Sardinia disappeared due to a restructuring process of vineyards which took place in America at the beginning of the last century. In fact, during this phase, and in the same areas, some vines were replaced with more productive ones or else with vines that were more resistant to the cryptogams. As a consequence, at the beginning of the past century, the vine of Malvasia almost disappeared from the zones of Sorso and Alghero.

The history of oenology in Sardinia is essentially and surely tied up to the uniqueness of its wines and to their fame, which owes much to the naturally elevated alcoholic strength of these wines and gives them their peculiar characteristics. International exhibitions, already frequent after the second part of the XIX century, allowed the Sardinian oenologic produce to emerge from the narrow market to which they had been forced due to geo-political causes. The traditional Sardinian wines thus found an opportunity to reach qualified, yet extremely demanding customers. It is worth remembering the 1861 General Exhibition in Florence which was intended as a display of the best and most representative national produce. Among the winners were Paolo Floris Cojana, with two bottles of black wine and two of Malvasia wine produced in his vineyards in Selargius, and according to the list of participants, Raffaele Prunas of Bosa, with his Malvasia, Moscato and other white wines (M. Ferrai Coccu-Ortu., 1995; A. Vodret, 2003).

In 1933, for the first Fair of typical Italian wines, Sardinia participated with a vine surface of 31,886 hectares and a wine production of 756,910 hls. The province of Cagliari produced 7,000 hls of Malvasia wine on a total production of 510,000 hls of wine. This was third among the most diffused vines, while in the province of Nuoro, the Malvasia of Bosa represented 200 hls of the total 119,000. The province of Sassari did not have this type of vine among its produced wines (A. Vodret, 2003).

Comprehensive picture of the wine-growing activity in Sardinia and, therefore, of the presence and importance of the Malvasia vine in the territory, can also be found in the papers presented on the occasion of three “Tornate dell’Accademia della Wine-making e del Vino” held in Sardinia in 1953, 1972, and 1986.

In 1953, the regional vine-growing surface was of little more than 45,000 hectares, with a production of 1,014,270 q of grapes. The Wine Cooperatives were six at the time, the greatest concentration of vineyards was in the province of Cagliari (58.8%) and the majority of the wine produced was imported as mass wine (Á. Vodret, 2003). In 1963, 40% of the wine produced on the island was exported, with a relatively small quantity destined to the production of the traditional Sardinian strong sweet wines such as the Vernaccia, the Malvasia and the Nasco wines (Associazione Direttori Aziende Vitivinicole Sarde, 1965; A. Vodret, 2003). The slow increase of the wine-making surface was not followed by a qualitative improvement of the wines, and in particular of table wines, which continued to be produced generally, and maintained their high alcoholic strength and short life. Thanks to a 1978 Report on Food and Agricultural Plan – Wine Sector by the Assessorato dell’Agricoltura Regionale (*The Regional Council for Agriculture*) we know that the cultivated surface at the time was of 73,000 ha, divided between 81,000 firms. The year before, the production had been of 2,450,000 hls, 5% of which was represented by the varieties of Vernaccia, Malvasia, Moscato, Nasco and Girò wines (A. Vodret, 2003).

In short, then, the main characteristics of the Malvasia vine in Sardinia are as follows: its bunch of grapes is of an average size, demi-sparse for light straining, of a cylinder-conic shape, often alate, with a relatively long peduncle, its grapes are sub-oval and of a medium size, with a gilded-yellow peel, fairly pruinose, thin and consistent, the pulp is soft with a simple taste or slightly aromatic when ripe.

The Malvasia vine matures in III epoch; it is significantly sensitive to the crytogams and it has a constant and abundant production. It does not require any specific pedo-climatic conditions, even if it has a preference

for calcareous soils. From Sardinian Malvasia vines two DOC wines are produced: the 'Malvasia of Cagliari' and the 'Malvasia of Bosa', each of them with completely different characteristics and of different types. In the Planargia district, some prestigious Malvasia wines are also marketed. These are not aged wines, and a good demi-sec sparkling wine is made out of them (B. Bruni, 1966; A. Vodret, 2003).

THE LABEL AS A MEANS TO KNOW, EXPLOIT AND PROMOTE THE MALVASIA WINE

The label for the Malvasia wine was created to meet the producers' need to identify this type of bottled wine and its year of production.

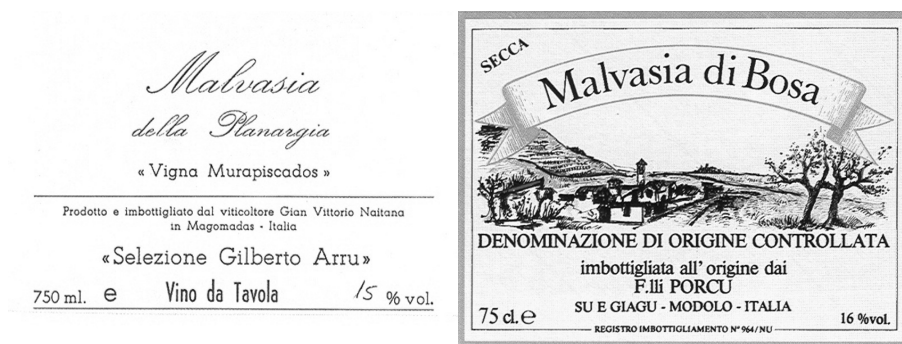


Fig. 3 - Source: A. Vodret, 1993.

In the beginning, the label was simply a handwritten piece of paper on which the main information was reported (this may be still the case today especially among small producers). Later on, a decisive push in creative terms occurred thanks to the increasingly numerous oenologic contests and shows (towards the end of the XIX century). But, the majority of labels reported the name of the producer, generally written in simple typographic characters and often in colours (Fig. 3). In more recent times, the graphics has become more elegant so as to attract the attention of the consumer; designers have become more creative in their expression of the wines' characteristics including graphic representations and precise references to the embottled product, to the vine or the production area. Some interesting labels display images of vineyards and wine making activities as they took place in Sardinia in recent times (Fig. 4).



Fig. 4- Source: A. Vodret, 1993.

THE MALVASIA WINES OF SARDINIA

The Malvasia wines of Sardinia are unique and they differ from other regional varieties of the Peninsula both in taste and for their aroma. Currently, the Malvasia wine is one of the most famous and appreciated Sardinian wines. It is produced in every sub-region of Sardinia, yet only two D.O.C. (*Denomination of Checked Origin*) dessert wines of this kind actually exist: one bears the denomination of Malvasia di Cagliari and the other bears the checked name of Malvasia di Bosa.

The former is known for its perceptible, delicate, characteristic but rather immediate aroma, the latter is a light wine, with a light-bitter taste and pleasant aftertaste (Comunità Montana Marghine Planargia, 2006). In addition, it is worth noting the Murapiscados Amabile Planargia IGT wine, made in 2003. It differs from the Malvasia wines mentioned above, and is classed as an IGT wine, that is a wine with a certified geographical specification (*Typical Geographical Indication*).

THE TERRITORY OF THE MALVASIA OF BOSA: LANDSCAPES AND BORDERS OF ITS CLASSICAL PRODUCTION ZONE

The landscape

The landscape in this area is significantly marked by the lithological difference of volcanic rocks of the Tertiary, belonging to the Oligo-miocenic effusive cycle that outcrop diffusely on the right side of the Temo river. These are present also on the left bank of the river, which is characterised by reliefs and outcrops of particular interest. The southern sector, south of the Temo river, presents marine sediments of the Miocenic sea which has progressively submerged the Oligo-miocenic volcanic rocks of the area, hence determining a wide transgression in most parts of Planargia. Today, these sediments are represented by limestones, marbles and sandstones that constitute one of the fundamental sub-layers on which the vineyards of the zone are cultivated. The towns of Suni, Tinnura, Flussio and Modolo are situated on these types of rock. Such a peculiar landscape is characterised by the incidence of basaltic lava flows from volcanic events which, towards the end of the Tertiary, during the Pliocene, flowed on the extant morphologies of calcareous and volcanic rocks originating in the eastern sector of Planargia and connecting with the effusive system of the grand relief of Montiferru.

In the Planargia area, these basalts define a tabular landscape constituted by structural surfaces concordant with the direction of the lava flow. Their particular resistance to erosion has prevented the formation of fertile soils for agricultural use; therefore, these lands are generally regarded as inhospitable and marginal and may be good for pasture. The southern sector of the Tresnuraghes village is dominated by the same morphologies, with additional instances in other parts of this territory. Special attention should be given to Monte Nieddu, the etymology of whose name recalls the colour of the basalt present in this part of the territory of Modolo, at the back of the Temo river, which flows at a drop of 300 meters. The Monte Nieddu lava flow overlooks the basin of Muris, in the direction of the Temo plain and near the church of Sant'Antonio, exposing its basaltic face for about 10 meters, at a height of c.a. 200 meters. Its form, peculiarly elongated for about a kilometer, follows the reliefs that close the imposing valley of the Temo river on the south border. It is thus separate from the current morphology of the valley, located along the river Temo and on the fossil morphology of the Modolo territory and the southern area of Monte Nieddu, where a hydrographic network system is found on which the Abba Mala river has not modelled the inside part of its basin yet. This basin is situated in the

Palaeo-valley where the towns of Modolo, Tinnura, Flussio and Magomadas are found. The study of the evolution of this portion of territory is of special significance as it shows a substantial difference in the inversion of the relief process due to the presence of the Monte Nieddu lava flow. The evident lithologic difference among the Pliocene basalts and the sedimentary rocks of the Miocene that constituted the substratum has considerably modified the physiognomy of the landscape of the entire Planargia over the last two million years. The notable erosive ability of the Temo river has contributed to alter its course and form canions or gorges in some parts of its course. This is particularly noticeable in the northern part of the river, near the town of Bosa and among the crests of Punta di Minerva, on the right bank of the river, of Monte Cabalza and of Monte Nieddu on the opposite bank. The peculiar form of the basaltic plateau of Suni, in its northern part and near the town of Suni, testifies to an extraordinary erosive activity in the area prior to the lava flow. Observing the limits of the same lava flow in the areas of San Narciso and of Nuraghe Lighedu the existence of a hilly morphological condition appears evident. This has disappeared today due to the uplift of this territory over a short period. The limits of the lava flow mark two different circles: one, with a diameter of about 1.8 km, forms an arc of c.a. 280-300 degrees with a gradient of over 180 meters. The second circle, found immediately south-west of the first, presents a diameter of little more than 1 km and an arc of about 250 degrees with a gradient of c.a. 150 meters. At present, two left tributaries of the Temo river flow along these two morphologies. In the case of the morphology near San Narciso, the Riu Badu de Mola river presents a greater hydrographic basin in comparison to the water course of the Riu Crabalza that flows along the morphology of Nuraghe Lighedu, and is of a smaller dimension. Nevertheless, the process of inversion of the relief has had the same result in both sites, thus underlining the important role of the uplift of this territory in the formation of the present landscape (Fig.5).

The Planargia area is characterized by the presence of the Temo river, which is the most important watercourse in the north-west coast of the island and whose springs are situated in the Campeda plateau. This important river, however, does not contribute to the construction of a morphological model that is fit for vineyards and for the type of soils that characterize them. The Temo valley is, in fact, mostly narrow and hollow; only in its final part it forms a plain which, however small, represents a proper debris which flows towards the sea. The local terraces, always cultivated, are found along its course where the *thalweg* runs as with the area facing the Malaspina castle and in the Prammas-San Martino zone. For a long time, both locations



Fig. 5 – Panoramic view of Temo coastal plain and the surrounding territory.

were subject to constant floods because of the particular condition of the Temo hydrographic basin, which is predominantly of volcanic rocks from the Cenozoic, and is therefore impermeable, with short corrivation time and ensuing flooding. The north portion of the river shows tabular surfaces due to the explosive events of the Oligo-miocenic volcanism, while near the town of Bosa, on the reliefs situated east of the town, the old emission points of volcanic activity are diffused today, as testified by the presence of important *necks*. The southern portion shows these tabular morphologies also in Monte Ferru, dominating the urban area of Bosa Marina. This relief is characterised by a '*cuestas*' morphology, marked mainly by two notable thick scarps that testify to pulsation in the local uplift process. Such evidence confirms the discontinuity of the recent tectonic activity in the area and is analogous to morphologies and concomitant situations observed in other territories of the island, particularly in the Sassarese, the Logudoro and the Mejlogu districts (S. Sias, 1994; P. R. Federici, S. Ginesu, 1995; S. Ginesu, S. Sias, 1997; S. Sias, 2001; S. Sias, 2002).

The zone of production and the “Disciplinare”

In relation to the Malvasia wine of Bosa the 3rd article of the ‘Disciplinare’ (*Specifications*) states that the grapes must be produced in the zone of cultivation of the following territories: Bosa, Suni, Tinnura, Flussio, Magomadas, Tresnuraghes and Modolo (Fig. 6).

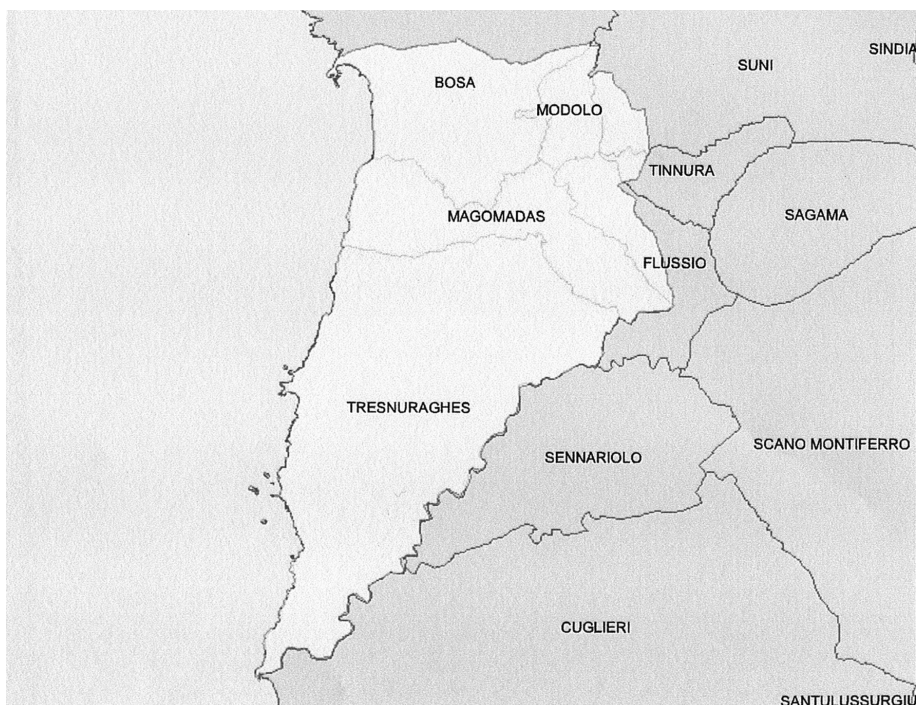


Fig. 6 – The production zone of the Malvasia di Bosa D.O.C. wine.

Such zone is so delimited: it ‘starts at Bosa Marina (on the Sardinian west coast; the border runs along the SS129bis until the crossroads to Suni, where, following a country road that takes you to the church of S. Pietro di Bosa, it reaches the altitude of 23 meters in C. Calameda. From this point, it heads west along a straight route, crossing the border between the borough councils of Bosa and Suni, and continues southward to an altitude of 102 meters and along the border between Modolo and Suni. It then crosses the SS129bis (km 81,300); and proceeding along that road, the line of delimitation reaches the town of Suni and the junction with Road 292, in the direction of Oristano until km 35. At this point, the road continues at the altitudes of 319 m, 312 m, 283 m,

310 m, as far as the border between the towns of Flussio and Magomadas, in a rural area called Serrainas; it continues westward until the border between Tresnuraghes and Flussio, up to the Mannu bridge. From here, coming down to the Rio Mannu river, the line of delimitation reaches the sea near Punta Foghe, and along the Sardinian west coast, towards north, through Porto Alabe and Punta Luminara. It finally reaches back to the starting point in Bosa Marina' (D.P.R. 21 July, 1972-G. U. no. 255 off 28.09.72).

The quality of the Malvasia wine is guaranteed by the certificate of Denomination of Checked Origin (DOC) obtained with the D.P.R. in 21 July 1972 - G.U. n° 255 of 20.09.72 on the basis of which we can define its qualities as follows:

- o Principal vine Malvasia >95%;
- o Grape produce 80 q/ha – wine produced 70%;
- o Types of wine: natural and dessert dry, strong sweet wines and dry strong sweet wines;
- o Colour: pale to gilded yellow;
- o Taste: dessert and to dry, alcoholic with a bitterish aftertaste;
- o Aroma: intense, delicate, distinctive;
- o Lowest alcoholic strength: 15.5° for the natural and dry sweet wines; 17.5° for the strong sweet and the dry strong sweet wines;
- o Ageing: 2 years starting from December, 1 after harvest;
- o Area: borough councils of Bosa, Flussio, Magomadas, Modolo, Suni, Tinnura and Tresnuraghes; sunny plots of land at no more than 325 meters above sea level.

In compliance with the 'Disciplinare', no specification may be added to those reported above including 'extra', 'fine', 'select', 'selected' and related terms. Nevertheless, the use of indications is allowed for names, businesses, private brands provided they are not self-congratulating and deceiving for buyers. Geographical references and toponyms may likewise be used if related to the borough councils, territories, areas, farms, and other places situated within the production zone. Bottles and other containers can specify the year when the grapes are grown, provided the information is true and can be documented.

The quality of the *terroir* of the Malvasia of Bosa

The term *terroir* comes from a Latin word meaning “soil” or “land”; for the Romans it indicated a “locus” or “loci”, that is a place gifted with “genius” for the production of wines of a sublime quality.

The Malvasia wine is the main variety produced in the coastal areas of the Planargia district. The zone of production covers a surface of about 200 hectares which are distributed across some small valleys and calcareous hills not far from the sea and beginning in the towns of Bosa, Suni, Tinnura, Flussio, Modolo and Magomadas (Nieddu G., Deidda P., Chessa I., s.a).

The vineyards are situated both along the valleys and the hill faces, at altitudes comprised between c.a. ten meters a.s.l. and up to the 300 meters.

However, in order to comply with the “Disciplinare” the vines of the Malvasia of Bosa D.O.C. have to be cultivated at an altitude of maximum 325 meters a.s.l. Within this limit, the vineyards can be situated at various altitudes, but the band of greater diffusion is found between 70 and 170 meters a.s.l.

The terrains where the vines are cultivated are mostly of the Miocene; they are constituted partly from pomiceous tuffs and pomiceous fluvio-lacustrine deposits, sometimes siliceous, and partly from organogenic or arenaceous limestones, molasses, marbles, sandstones and transgressive conglomerates. They are well sunlit, mainly hilly, sometimes flat, or with gentle slopes and their altitude is rarely above 300 m a.s.l.

Grapes reach complete maturation during the first ten days of October, though the vine has a rather precocious vegetative awakening. Usually the white wine-making is carried out with a brief maceration process (6-10 hrs), so as to allow the aromatic substances to infuse the must (M. Budroni, S. Zara, G. Pirino, G. Pinna, G. A. Farris, s.a.).

These privileged zones often fit in with the surrounding fossil landscape that characterizes the area south of the Temo river and interests, in particular, that part of the territory around the towns and villages where the wine is produced. Thanks to the morphological condition of this area, some portions of territory near the sea are also involved. Their drain system forms little valley networks directed westwards towards the sea through a morphological step of about fifty meters, allowing for an evolution of the surface of the Miocenic landscape, which is often enriched by the sands coming from the inclined Palaeo dunes in the hinterland, formed during the cold arid climatic phases that interested the coasts of the island.

These aeolic deposits eroded in little time and then removed; today, they constitute the major components of these soils. A combination of the local geomorphological evolution, the genesis of these pedological coverages and the particular local weather conditions contribute to the high environmental value of this area.

The soils where the Malvasia of Bosa finds greater diffusion and where its best grapes are grown are well drained, they are calcareous-clayey, distinctively thin and dry; generally of a whitish colour and with a high level of potassium, low fertility and good permeability. But what is exceptional about the Malvasia of Bosa is fundamentally the peculiar geographical and microclimatic condition of the Planargia territory, the orientation of the valleys and their proximity to the sea. The climate of Sardinia, in fact, is already extremely mild compared to the rest of Europe and the north-westerly wind that blows from the sea gives the grapes their unmistakable aroma. The ordinary production is constant and benefits most from an arid warm coastal climate, with mild winters, summer temperatures above 30° C in the months of July and August and an average annual temperature between 17°/18° (higher temperature) and 12°/13° (lower temperature), which is higher than the average temperature in the midlands.

The environmental characteristics and the prevailing climatic factors of the area, such as the mild temperatures and the constant sunny conditions during the whole year, the presence of few precipitations during the summer season, the range of temperatures in late summer, the sea breeze, the calcareous hills that reflect the solar radiations, are all conditions which play a decisive role in terms of air and breeziness, and they also have a significant impact on the quantitative and qualitative characteristics of wine production since they allow for the regular maturation of the grapes and the exaltation of their aroma (Fig. 7).

In these hills, the small vineyards do not extend for more than one hectare, and contribute to preserve the presence of men in marginal areas such as this. The hills represent a fundamental component of the landscape, landscape, which perfectly integrates with the Mediterranean vegetation and contributes to exalt the touristic value of the territory.

In Planargia the Malvasia vines are generally cultivated in pure environments, in the oldest vineyards, where they grow alongside other varieties of Sardinian vines, such as the cannonau, the vermentino, the pascale, the moscati, the bovali, the retagliadu, the torbato and the nasco vines. (Nieddu G., Deidda P., Chessa I., s.a; www.marghine-planargia.it, 2007).

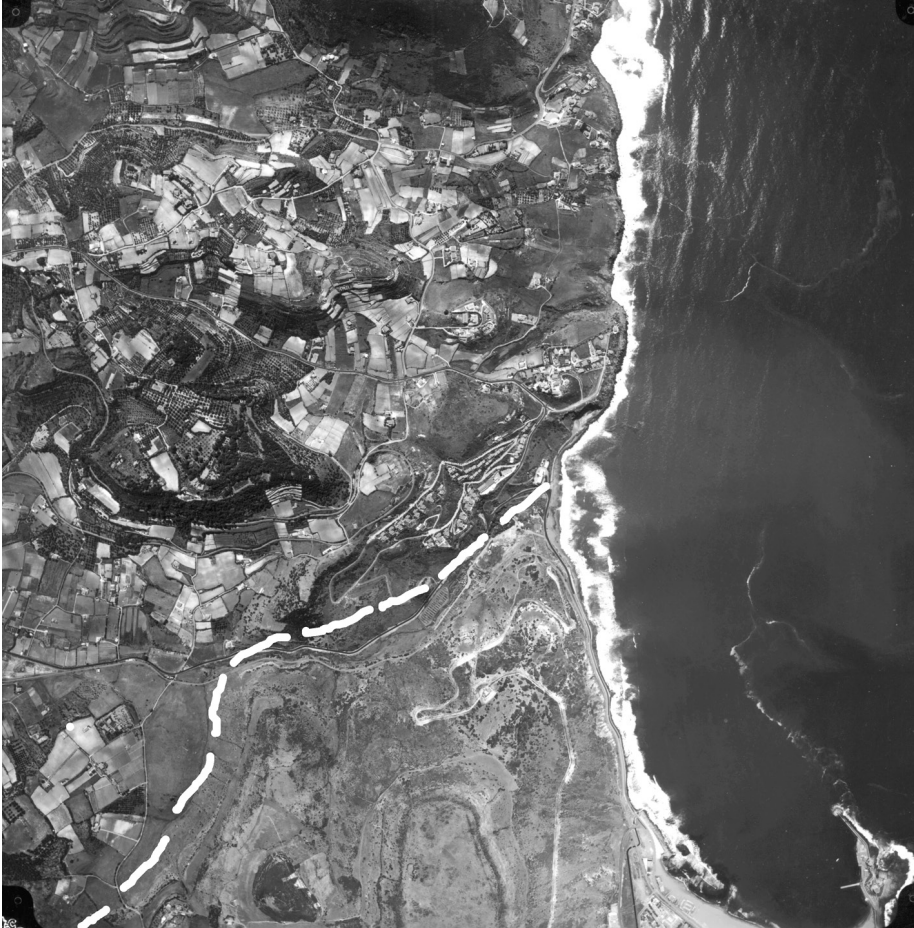


Fig. 7 – Aerial photograph of the southern part of the Temo river in Planargia. The volcanic area with no cultivations is seen at the bottom of the image; on the opposite side (beyond the white line, and corresponding to the bay of Turas) the calcareous-arenaceous outcrops of Miocene are found.

ANALYSIS OF THE MALVASIA OF BOSA THROUGH STATISTIC DATA

Sardinia has an extension of 24,090 km² and a population of about 1,650,000 with a small local market but a general wide availability of fertile agricultural land. According to the 2008 data, the vine growing sector

occupies an important place in the agricultural economy of Sardinia: with its 31,000 vine-growing firms, a total of 25,000 hectares, but with an average business surface of 0,8 hectares only. Clearly, given such a peculiar economic profile, the local firms are faced with several problems, though the adhesion of many wine-growers to one of the 25 existing Wine Cooperatives has helped them with the production costs. Today, the total production in Sardinia is estimated at little less than a million of quintals of grapes, with a production of wine of about 900,000 hectoliters. Quality wines (i.e. DOC and DOCG) represent approximately 30% of the general production. From this data, as reported in synthesis below, it results that the suitable conditions exist (i.e. agricultural, pedological, productive and transformation) for the cultivation of prestigious varieties of vine, and, accordingly, for the production of quality wines which may be enhanced also in quantitative terms, as it has already occurred due to the market demands. Naturally, this may not take place in the short term given the EU limitations on the matter of vine growing surfaces, according to which re-implantations but not 'new' implantations may be allowed, which represents an advantage for the qualitative aspect only (R. Bertolotti, 2009).

A 2007 report on the vine growing sector in Italy highlights that from 1995 to 2005 this sector suffered deep transformations both in productive terms and in consumer habits. The production rate has gone down of 4.5% and the local consumption has decreased of 10.4%. In economic terms, however, the sector has had an income of € 10 million, 3 million of which from the export market. With its export quota, Italy is the second country in the world for exports in this sector. Over the past few years, the customers' attention has increasingly turned towards the quality of the produce, a clear sign of a selective approach on the part of the consumers for whom wine is no longer and simply a foodtype but rather a source of taste and pleasure.

Tab. 1 - Hectoliters of quality wines produced in Sardinia (period 2000-2005)

	DOC		DOCG		IGT	
	2005	annual average 2005/2000	2005	annual average 2005/2000	2005	annual average 2005/2000
Sardinia	289,562	8.5	38,942	0.4	140,022	1.6
Italy	10,991,979	2.9	2,191,712	4.2	12,068,228	3.0

Source: modified by M. R. Longhitano, 2007.

At the end of 2005 in Italy 320 DOC wines, 34 DOCGs and 123 IGTs wines were listed. Sardinia is the third region in Italy with its 35 certified wines, twelfth with its 289,562 hectoliters of DOC wines, and fifth with 38,942 hectoliters of DOCG wines, which represent, respectively 2.63% and 1.78% of the national production (Tab. 1). The IGT wines (*Indication of Typical Origin*) for which Sardinia, together with Calabria and Lombardy, holds the highest number of certifications, are to be considered separately. Their production in 2005 is estimated at c.a. 140,022 hectoliters, corresponding to 1.16% of the national total produce. Yet, in order to lead the market, good quality is not enough: good marketing skills and the ability to sell the produce are also important, as well as knowledge of good production techniques.

Tab. 2 - Local enterprises and units classed for region (period 2000-2005)

region and areas	active enterprises	local unity	active enterprises	local unity
	Enterprises		diff. 2005/2000 (%)	
Northwest Italy	21,536	22,795	-10.4	-8.1
Northeast Italy	38,841	39,956	-17.0	-15.9
Center Italy	19,669	20,749	-19.2	-17.3
South Italy	98,745	99,923	-7.3	-6.9
Sardinia	3,317	3,399	12.3	12.9
Italy	179,791	183,423	-11.4	4.2

Source: modified by M. R. Longhitano, 2007.

In general, the vine growing sector suffers the limitations of a parcelled system of production, with a low average age and which is strongly attached to a traditional organizational model of the firm. Figures for the 2000-2005 period confirm that in Sardinia there has been an increase of 12.3% of its active enterprises; 36.3% of these are enterprises born after the year 2000 (Tab. 2). During the same period, there was a 85.2% increase in the number of business corporations on the island, and a significant willingness to evolve in terms of technical, organizational, financial, legal and fiscal solutions to suit the market's global challenges (M. R. Longhitano, 2007).

The time gap between the last two censuses (Tab. 3) underlines a reduction in the number of firms as well as of the Malvasia vine-growing surface.

Tab. 3 - Surface cultivated with the Malvasia vine in Sardinia (in hectares)

1990	
For DOC & DOCG wines	84.14
For other wines	507.96
2000	
For DOC & DOCG wines	59.39
For other wines	241.65

Source: ISTAT, Agriculture Census 1990 and 2000.

Tab. 4 – Percentages of wines produced in Sardinia

D.O.C.G. wines	3.02%
D.O.C. wines	17.42%
I.G.T. wines	2.97%
table wines	76.59%

Source: Regione Autonoma della Sardegna, Assessorato Agricoltura e Riforma Agropastorale, 2004.

Based on the data provided by the Chambers of Commerce of Cagliari, Oristano, Nuoro and Sassari, Tab.4 above shows that in 2004 (most recent data) the production of wines in Sardinia was thus constituted: 3.02% were D.O.C.G. wines, 17.42% D.O.C. wines, 2.97% I.G.T. wines, and 76.59% table wines.

Tab. 5 - Production rate

Red wines	White wines
55%	45%

Source: Regione Autonoma della Sardegna, Assessorato Agricoltura e Riforma Agropastorale, 2004.

Tab. 5 shows that red wines amount to about 55% of the total regional wine production, while the production of white wines represents the remaining 45%, with a distinctive increase in the production of bottled wines and consequent decrease in the consumption of cask wines.

Tab. 6 - Evolution of the Malvasia wine of Bosa production from 1991 to 2005

Production		
Province	Season	volume in ha
Nuoro	1991/92	41.4
	1992/93	88.27
	1993/94	128.04
	1994/95	128.04
	1995/96	115.29
	1996/97	112.0
	2001	133
	2002	95
	2003	-
	2004	179
	2005	-
Province	Season	volume in ha
Oristano	1992/93	7.0
	1993/94	7.07
	1995/96	1.68
	2001	-
	2002	-
	2003	-
	2004	-

Source: Camera di Commercio, Sassari, 2006.

Observing Tab.6, it can be noticed that according to the most recent data the production of the Malvasia of Bosa DOC wine in the province of Nuoro amounts to 179 hls. Besides, data from 1991, shows an increase in the production rate of Malvasia. Note, for instance, that 179 hls were produced in 2004, as opposed to 95 hls in 2002 (data for 2003 is not available). Data referring to the Province of Oristano confirms a considerable reduction of the Malvasia DOC wine production: the production between 1992 and 1993 amounts to 7.0 hls, as opposed to 1.68 hl in 1995/1996. Data for the 2001-2004 period is not available.

Tab. 7 - Production of DOC Wines DOC (in ha)

	2006	2007	2008
Province of Sassari			
Alghero white DOC	895	829	886
Alghero Carbenet DOC	4,157	4,149	3,232
Alghero Cagnulari DOC	3,933	3,186	3,646
Alghero Chardonnay DOC	1,624	1,570	1,269
Alghero Rosso DOC	12,846	11,806	10,401
Alghero Sangiovese DOC	164	162	98
Alghero Sauvignon DOC	1,568	1,244	1,066
Alghero Torbato DOC	10,245	8,238	4,398
Alghero Vermentino DOC	-	-	2,709
Cannonau di Sardegna DOC	13,263	13,997	12,421
Monica di Sardegna DOC	2,486	2,854	2,720
Moscato di Sardegna DOC	1,860	1,445	1,562
Moscato di Sennori DOC	74	74	53
Vermentino di Gallura DOC	36,367	39,327	36,322
Vermentino di Sardegna DOC	42,434	45,296	39,135
Total production	131,916	134,177	119,918

	2006	2007	2008
Province of Nuoro			
Cannonau di Sardegna DOC	28,048	32,443	52,334
Malvasia di Bosa DOC	309	242	193
Mandrolisai DOC	247	302	342
Monica di Sardegna DOC	95	183	198
Vermentino di Sardegna DOC	298	686	1,265
Total production	28,997	33,856	54,332

	2006	2007	2008
Province of Cagliari			
Campidano di Terralba DOC	73	48	94
Cannonau di Sardegna DOC	24,094	24,935	23,694
Carignano del Sulcis DOC	24,368	15,906	19,607

	2006	2007	2008
Province of Cagliari			
Girò di Cagliari DOC	159	-	89
Malvasia di Cagliari DOC	319	67	156
Monica di Sardegna DOC	19,447	18,624	16,961
Moscato di Cagliari DOC	742	606	593
Moscato di Sardegna DOC	114	113	168
Nasco di Cagliari DOC	439	206	278
Nuragus di Cagliari DOC	19,634	19,927	16,534
Sardinia Semidano DOC	447	265	300
Vermentino di Sardegna DOC	30,212	32,810	31,303
Total production	30,212	32,810	31,303

	2006	2007	2008
Province of Oristano			
Arborea Sangiovese DOC	917	679	449
Arborea Trebbiano DOC	151	91	87
Campidano di Terralba DOC	5,568	4,378	5,243
Cannonau di Sardegna DOC	1,934	2,462	2,529
Malvasia di Cagliari DOC	33	16	-
Monica di Sardegna DOC	3,326	2,213	2,544
Nasco di Cagliari DOC	-	-	10
Moscato di Cagliari DOC	172	48	131
Nuragus di Cagliari DOC	1,700	957	1,003
Sardegna Semidano DOC	1,005	594	528
Vermentino di Sardegna DOC	2,934	2,871	3,675
Vernaccia di Oristano DOC	1,236	1,216	710
Total production	18,976	15,525	16,909

Source: Camera di Commercio, Sassari, 2009.

As evidenced in Tab. 7, it is interesting to note that in 2008 the Malvasia vine does not feature in the old provincial subdivision; the information available for that year refers exclusively to the provinces of Nuoro and Cagliari. These produced, respectively, 193 hlt of Malvasia DOC of Bosa, and 156 hlt for the Malvasia DOC of Cagliari. Within the regional general production, the province of Oristano is little representative.

Tab. 8 – Wine-making Sector in Planargia

Number and denomination of the wine-producing firms in Planargia (affiliates to the commercial register)	
Bosa	1 Columbu Giovanni Battista
	2 Marras Annunziata
	3 Mastino Antonietta
	4 Oggianu Emidio
	5 Mocci Giovanni
	6 Motzo Giovanni Maria
	7 Manconi Mariangela
	8 Madeddu Antonio
	9 Brigas Augusto
	10 Masia Luigi
	11 Silattari s.r.l. - Society agricultural place Silattari
	12 Barraccu Roberta
Magomadas	1 Oggianu Riccardo
	2 Agricultural firm Naitana Gianvittorio and Naitana Maria Antonietta
	3 Zarelli Roberto
	4 Lai Antonio place: Sa Lumenera
	5 Angioi Angelo
	6 Oggianu Pier Paolo
Modolo	1 Porcu Mario Carlo place On and Giagu
	2 Simula Mariano
Total	20

Source: Camera di Commercio, Sassari, Registro delle imprese, 2006.

The firms named above are affiliates of the Companies' Register at the "Camera di Commercio" (*Chamber of Commerce*) of Sassari. In it, a small number of enterprises are listed; more specifically, only those firms that have entered the the Companies' Register over the past few years. At present, they appear to be 20, though, in reality, there are about 450 so-called small firms in Planargia. As a consequence, the market is dominated by loose products (see www.mondodelgusto.it, 2006). This is evidenced in Tab. 9 below, which shows a sample of the production by some local firms in relation to the quantity of wine produced, the surface of cultivated land, the average profit and market sales for the Malvasia di Bosa in Planargia.

Tab. 9 – Sample production data for the Malvasia of Bosa. Period: 2006

	Wine-making firm: G. Battista Columbu Bosa
Cultivated surface	3.80 ha
Yield per ha	60 q
Production	230 q of grape (50% for the 'Malvasia DOC' wine, 2-year ageing, and 50% for the <i>amabile</i> Malvasia IGT)
Bottle production	4,000 bottles (2,000 of 'Malvasia DOC' and 2,000 of <i>amabile</i> Malvasia IGT; the remainder goes to the Wine Cooperative)
Market of sale	Local, regional, national and foreign

	Wine Cooperative of Planargia-Flussio
Cultivated surface	80 ha (2.4 for manufacturing)
Yield per ha	40 q
Produce sent to the Wine Cooperative	500 q of grapes (400 q for sparkling wines, and 100 q for Malvasia DOC)
Total production	40,000 bottles (30,000 for sparkling wines, and 10,000 q for Malvasia DOC)
Market of sale	Regional market only

	Wine-making firm Raimondo Zarelli – Magomadas
Cultivated surface	3,5 ha
Yield per ha	50 q
Produce sent to the Wine Cooperative	175 q (50% for sparkling wines, and 50% for <i>amabile</i> Malvasia)
Total production	23,200 bottles (11,600 demi-sec sparkling wines and 11,600 for <i>amabile</i> Malvasia IGT)
Market of sale	Local; regional and foreign

Source: www.mondodelgusto.it, 2006.

Tab. 10 – Characteristics of the grape and of the Malvasia of Bosa vite, 2006

Vineyards total surface	400 ha
Malvasia vine total surface	180/200 ha
Malvasia wine-growers	400
Average surface	3,000/5,000 sqm
Vineyard type	alberello/gujot

Source: Comunità Montana Margine-Planargia, 2006.

To conclude, the information detailed in Tabs. 10 and 11 is surely interesting as it give us access to the data (updated to 2006) relating to the production, the cultivation, the actual produce and the vine-growing surface for the Malvasia di Bosa.

Tab. 11 – Characteristics of the total production of the Malvasia di Bosa wine in 2006

Wine production	c.a 7,000 ha
Average grape yield per ha	35/40 q
Wine produce per grape q	60%
Litres produced	400,000
Bottles (period 2001/2002)	91,750
Estimated no of bottles (period 2006/2007)	105,000
Vine type	Private / Cooperative
Bottling	c/o Zarelli Wine Cooperative / other
Sale	Cask / bottled wine
Associations	FlussioWineCooperative, winemakers' association
DOC vineyards	2-3%
Price per bottle (0.75l)	Sparkling €7.00-7.50; IGT €2.00-18.00; DOC € 9.00-18.00

Source: Comunità Montana Margine-Planargia, 2006.

Tab. 12 – Comparison between the wine-making situation in Sardinia and the Malvasia of Bosa vines. Period: year 2000.

Sardinia		Malvasia of Bosa	
Wine-making firms	44,375	Wine-growers Malvasia	400
Surface	26,356,47 ha	Surface	180/200 ha
Surface for DOC and DOCG wines	8,290.46 ha	n/a	n/a
Wine produced	127,720.67 hls	Wine produced	7,000 hls
Production	185.775,26 q	Production	45/40 q

Source: Comunità Montana Marghine-Planargia, 2006.

Finally, Tab. 12 above compares the situation of the the wine-making sector in Sardinia with the production of the Malvasia of Bosa vines in the year 2000.

THE IMPACT OF THE MALVASIA OF BOSA WINE-MAKING INDUSTRY AND OF GEOMORPHISTS IN THE AREA FOR THE ECONOMY AND THE PROFILE OF SARDINIA.

It is often the case that local institutions in the Mediterranean area seek to promote their resources and to preserve the environment through the development of projects dedicated to the local territorial and cultural specificities.

The sub-region of Planargia provides a fine example of a place that has managed to launch significant initiatives aimed at the promotion of a developmental policy in the interest of the historical, cultural and environmental peculiarities of its territory. The local administration has been able to combine a quality wine-making sector with the promotion of the local vine-growing heritage. In this respect, it is interesting to name the Vinest project, and “The Route of the Malvasia of Bosa” project, yet it is important to remember that the promotion of a place’s heritage relies also on its natural resources, the awareness of its environmental potential and its geo-morphosites, of which the Planargia district is particularly rich. A lot has been accomplished so far, yet a lot remains to be done.

The “Vinest” project in Planargia

With the aid of the Comunità Montana Marghine-Planargia (the *Consortium of the Municipalities in the mountain area of Marghine-Planargia*), Planargia has joined the EU-funded “Vinest” project (Fig. 8). The project regards the promotion of business and business partnerships for a network of DOC wine producers across Europe. The aim is to protect and to promote the different varieties of wine and their peculiarities together with the territories and cultures of production. In 1998, six partners from different EU Countries, representatives of small zones of quality vine-growing production gathered to define a project for the development of the oenologic and oeno-turistic local sectors.

The starting point was a reflection on the impact of current EU Agricultural Policy and market evolution on the communitarian vine-growing production, which entails, for instance, a smaller production but of a superior quality, and the always changing consumer taste. These factors have made it necessary to devise a project that guarantees small firms the necessary tools to carry out their businesses, maintain their own specificity while also becoming more competitive.

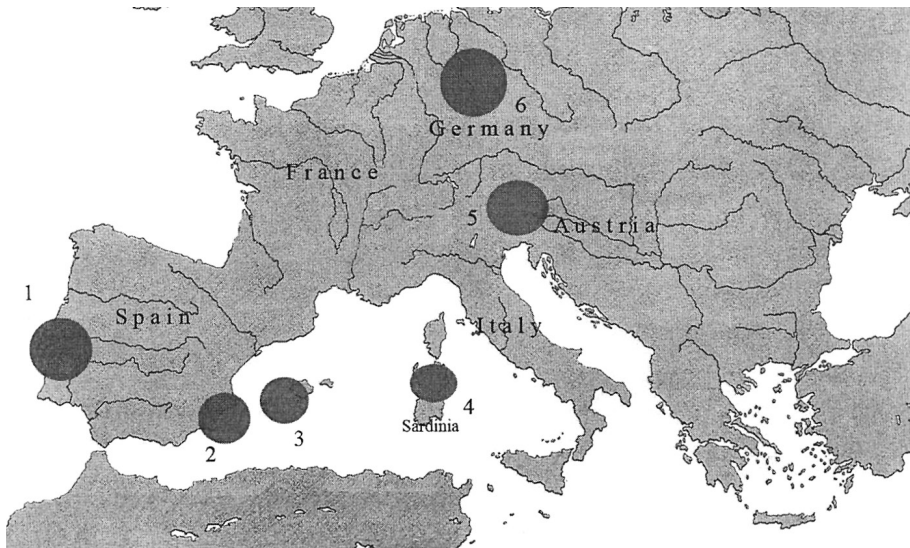


Fig. 8 – The partners of the Vinest project are from EU late-development areas (Objective I) and they represent the peripheral areas of the wine-growing sector in the continent. These include: 1. Lisbon/Valle del Tago-Portugal; 2. Bullas (Murcia-Spain); 3. Gran Canaria (Gran Canaria-Spain); 4. Marghine-Planargia (Sardinia-Italy); 5. Moschendorf (Burgenland-Austria); 6. Saale-Unstrut-Triasland (Saxony-Anhalt-Germany).

The project has the objective to promote the quality vine-growing sector for small EU D.O.Cs. In particular, it aims to:

(I) transfer and exchange knowledge as well as technical-scientific innovation among the partners in relation to the vine-growing production sector (thanks to the collaboration of departments and university centers, experimental Wine Cooperatives and oenologic laboratories);

(II) improve competitiveness of the market through the identification of necessary technical, economic and financial aspects concerning the firms working in this sector (access to modern practices of marketing and marketing of quality vine-growing production);

(III) improve services for enterprises working in this sector;

(IV) the cooperation and creation of a European network of small areas of production of quality wines (collaboration for the introduction of technological innovations and coordination of advertising strategies);

(V) develop the sector of “wine tourism” (exploitation of the oeno-gastronomic and historical-cultural heritages of the vine-growing production zones).

The Partners

1. Consortium of the Municipalities in the mountain area of Marghine-Planargia (Sardinia – Italy) – Leading Partner;
2. Municipality of Bullas (Murcia-Spain);
3. Association of the Museum of Wine, Moschendorf (Burgenland-Austria);
4. Association of Natural Park Saale-Unstrut-Triasland (Saxony-Anhalt – Germany);
5. Regional Vineyards Commission of Bucelas, Colares & Carcavelos (Lisbon/Valle del Tago-Portugal);
6. Administrative authority of Gran Canaria (Gran Canaria-Spain).

In Planargia the project has led to:

1. The creation of the “Vinst” Agency in Modolo;
2. The creation of an active Museum of the Wine of Planargia, with an annexed Wine House of the “Malvasia di Magomadas”;
3. The realization of the “Route of the *Malvasia di Bosa* wine” itinerary within the territory of the Consortium of Municipalities n. 8 Marghine-Planargia (municipalities of Bosa, Magomadas, Modolo, Flussio, Tinnura and Suni);
4. The Wine Cooperative of Flussio.

The Route of the *Malvasia di Bosa* wine

The “Routes of the Wine” are itineraries within territories known for their high wine-making vocation, as well as their vineyards and Wine Cooperatives, agricultural firms, and their naturalistic, cultural and historical attractions. These contribute to an area’s potential for an integrated oeno-turistic offer. The “Routes of the Wine” are an important means of promotion of rural development and of the territory, and they are intended to support and promote oeno-tourism, that is a kind tourism that places the vine-growing industry within a specific cultural, environmental, historical and social context.

These itineraries are fine instances of unity, social cohesion, cultural, scientific and above all “human communication” (www.stradevinoditoscana.it, 2007).

In Sardinia there are seven such Routes; they are all very important and cover the entire regional territory. Each route is named after the wine of major prestige and relevance for the area. Four of these routes depart from the city of Cagliari and reach Nuoro and Oristano. They are the Cannonau, the Monica, the Carignano del Sulcis and the Nuragus routes. One itinerary concerns the Oristano area exclusively (the Vernaccia Route); then there is the Vermentino Route (in the area between Olbia, Sassari and Alghero), and the Malvasia of Bosa Route.

The wine *Malvasia di Bosa* is produced in a distinctively small area in the sub-region of Planargia. The presence of such an exquisite wine in this part of Sardinia represents a good opportunity for the realization of oeno-gastronomic tours. The “Route of the Malvasia of Bosa” wine, in fact, has been the first itinerary of this kind to be created in Sardinia. Local wine-making firms, “agriturismi” (family-run holiday farms), hotels, restaurants, the Consortium of the Municipalities of the Marghine-Planargia mountain area (Bosa, Modolo, Magomadas, Flussio, Tinnura and Suni) are all actively involved in the itinerary to which they contribute by promoting and preserving their specificities. Through their representatives, they have founded the Association of the Route of the Malvasia of Bosa, an organization in charge of the management of this itinerary (E. Biondo, 1980; www.stradadellaMalvasiadibosa.it, 2007).

The geomorphosites

The morphological context of this area is enriched by the presence of sites that testify to the geologic history of its landscape. The geologic events occurred here have shaped the structure and petrographic condition of this area as well as leaving clear signs of the nature and peculiarity of these events. Both for their rarity and spectacularity these events are classed as world heritage. The zone is particularly rich in testimonies of this kind, not to mention the presence of fossiliferous places of great interest, whose maintenance however depends on the efforts of the local administrations and authorities. It is worth noting in this context the important rests of the echinoderms fauna, a truly rich patrimony for these communities, and their role in the reconstruction of the evolution of the Miocenic sea in a low-depth condition (common to the entire territory).

The rocks of this area are of marvellous forms and bear the signs of their genesis and evolution. In this respect, we ought to recall the surfacing volcanic conducts found not far from the town of Bosa, some of which are

of extraordinary dimensions, as those seen in the areas of Rocca Pischinale and Punta di Minerva. Along the coast, formations of particular interest can also be observed as, for instance, near the coastline of Santa Maria del Mare, where the sedimentary structures of the last phases of the Pleistocene climatic change are well preserved. In the southern area, the morphologies and the structures belonging to the diffused basaltic episodes ought not to be neglected. Among them is the important site of Nuraghe Salisarda, near the town of Suni. Here, an abandoned quarry is found whose basalt face is exposed for about 8-10 meters, and which presents a spectacular pillar structure. The dimension of these pillars is exceptional for the island, and this suggests that the cave may have been used primarily for the manufacturing of the single columns for ornamental purposes. The state of precarious maintenance of this site underlines the scarce knowledge of the physical peculiarities of this area, which could represent an important and additional element in the promotion of the economic system based both on the culture and the culture of Malvasia. Not far from the town of Tresnuraghes, along the basalt lava coastline of Sos Pischinales ending in the mouth of the Rio di Foghe canyon, numerous testimonies of earlier volcanic activities in the area are found. The numerous rock-cliffs and islets in the zone of Corona Niedda and Torre Columbargia enrich the coastal landscape – some of these rocks are *necks* which testify to the intense volcanic activity in the area. Along the same coastline the volcanic rocks have been covered during the Pleistocene following episodes of volcanic eruption which confirm the impact of the weather change on the buried and re-exhumed forms of ancient and recent landscapes. The morphology changes rapidly as we move from sites of ancient terraces to Palaeo-beaches and Palaeo-dunes which diversify the continuity of the cliff along these effusive rocks.

CONCLUSIONS

The production of quality wines plays a fundamental role for Oenology. In fact, the market appears to be affected by the constantly growing competition costs, by the higher production rates and the contraction of consumption. Wine has changed its status: it is no longer a simple accompaniment to meals but has become a quality product which consumers choose with care and competence. The global market production adds to a production context geared towards the cultivation of few vine-growing varieties and product homologation.

Such market policy may impact on the already weak wine-growing sector which is characterized by low production rates and limited production contexts as is the case with the Malvasia wines of Sardinia.

However, it should also be noted that consumers have become more demanding, and are less and less prepared to accept wines of a scarce origin specificity. This confirms the great difference between the countries of the Mediterranean area and, therefore, of Sardinia too, in relation to the vine-growing sector.

Since the 1980s, the Comunità Montana del Marghine Planargia (the *Consortium of the Municipalities of the Marghine-Planargia mountain area*) has used its agricultural produce as an efficient tool for the development of the whole economy of Planargia. In 1996, the Consortium decided to participate to the EU-funded Vinest project with the objective to promote the Malvasia of Bosa DOC wine, which was already widely appreciated for its qualities locally.

The Malvasia vine was certainly adequate for the role of promotion tool for the entire territory and therefore fit to become its symbol. To confirm this, the malvasia vine-growing sector is today increasingly capable of attracting tourist groups as well as financial resources. The traditions, the culture, the landscape peculiarities, the history of the whole area of production and the good quality of the product are worth discovering; they can surely win the interest and presence of a growing public.

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