Working group on terroirs viticoles

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Spaces, environments and landscapes of terroirs

Espaces, environnements et paysages des terroirs

Spazi, ambienti e paesaggi dei terroir

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Oenology and mountain in the Torino province

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ABSTRACT: The Alps all around Turin are characterised by a small quantity of viticulture (only 4% of Piedmont production) but very interesting for their autochthonous wine grape and the peculiar climate. The Canavese, Susa and Pinerolo Valley are the most interesting wine-producing areas of Piedmont for their viticultural characteristics and in fact all have the Brand Denomination. From 1996 to 2001 much research was carried out with the aim to describe the local wine grapes (Avanà, Becouet, Neretto di Barò, Bourglini etc.) and improved winemaking techniques. The obtained results allowed the economic revival of mountain wine-producing areas in Piedmont.

In his foreword to a short book published in 1988 by the Torino Province, the unforgettable master Prof. Italo Eynard wrote: «Despite the presence on the market of wines that are more renowned among the public, the Torino province carries an inheritance of its own, perhaps of secondary relevance under many aspects, but with some precious jewels and a lot of wines that need to be rediscovered, wines where sometimes genuineness becomes roughness, but each of them with a pleasantly familiar taste, one that a more refined oenological technique might purify, but never taking away the characteristics impressed on them by the peculiar environment, since their vines have been granted the most sunny slopes of the Alps enclosing in their circle Piedmont’s capital, Torino».

Thanks to his input and the good will of managers and manufacturers, many steps ahead have been made in exploiting and renewing this land’s wine production. In addition to the already appraised reality of Caluso’s wines (DOC since 1967), other realities that can be more directly connected to Piedmontese territories, like Canavese (DOC since 1996), Pinerolese (DOC since 1996) and Valsusa (DOC since 1997) are currently starting to grow.

«Few grape-growing provinces display as much variety in the vine cultivation systems, as Torino’s does» wrote Chieff Camacchio, director of the itinerant Chair and technical office of agriculture, in 1991. «In this Province, vine is in fact cultivated in many different ways, whose origins are connected firstly to the great spread of this plant, and later to the uneven and variable configuration of its territory and the mutable nature of its climate».

For instance, vertical props for the vine, usually wooden poles, at the mouth of the Aosta Valley are instead small brick pillars with a cylindrical-conical shape, covered by a round stone slab. Near Quincinetto, the fence where the vine rests becomes irregular in order to cover some scattered boulders, so as to rationally exploit available space and benefit from the rocks’ reflected heat. In those cases, even more than others, the vineyard actually becomes architecture, in itself a part of a specific landscape, where nature and man’s work merge in harmony.

In the Caluso area, the growing system is a rather extended bower. It’s a very complex system, justified by the remarkable vigour of the Erbaluce vineyard and its scarce fertility in the buds at the basis of the vine branch.

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In all the other areas the simple row system is increasingly popular, with a structure made of vertical poles, once kept together by horizontal rods and now by iron wire.

**Productive reality of the Piedmontese grape-growing division**

Piedmontese grape-growing surface adds up to more than HA. 1983 of which belong to the Torino province (5th General Agricultural Census - 2000 - preliminary results).

With more than 635 HA of vineyard surface, Mountain Communities represent 32% of Torino’s territory occupied by this cultivation. There’s 1921 businesses cultivating vines in these areas, 35.5% of Torino’s businesses.

As evidenced by the diagram in picture 1, wine production in Piedmont almost reaches 3 millions HL, 4.38% of which concern the area around Torino. The most representative provinces are Asti, Cuneo, and Alessandria, together covering about 93.5% of the entire regional production. (Pic. 2)

![Diagram of wine production in Piedmont provinces](image)

**Picture 1 - Percentage of incidence of wine production in the Torino province on the overall Piedmontese production (vintage 2000). Source: ISTAT data elaboration.**

**Picture 2 - Distribution of oenological production in Piedmontese provinces (vintage 2000). Source: ISTAT data elaboration.**

At the moment in the Torino province there are seven DOC acknowledged by production Disciplines, the majority of which introduced quite recently (second half of the 90’s).

The incidence of DOC on total production is pretty low (Pic. 3), even though in recent years re-evaluation of wines such as Chiari’s Freisa and Caluso’s Erbaluce (Pic. 4) has led to an increase in the percentage of DOC production.

![Diagram of DOC production in Torino](image)

**Picture 3 - Percentage of incidence of DOC on Torino's oenological production (vintage 2000). Source: CCIAA. Torino data elaboration.**

**Picture 4 - Torino's province seven DOC (production 2000). Source: CCIAA, Torino data elaboration.**
Many laws dictate the guidelines to be followed in order to use vineyards on the UE territory. Only the varieties listed among those recommended or authorized can be planted, re-planted and grafted according to REG. 3800/81 in specific administrative units of the European Community, hence, in the Torino province at present there are 16 recommended cultivations, while just 3 are authorized (Tab. 1).

Recommended vineyards are those whose cultivation is thought of as important, at least at a local level, in order for a qualitative enhancement of production to occur (Reg. CE n. 2389/89). Authorized are defined those vineyards that produce wines that are acceptable, but are considered of a lower quality than the ones in the former category. Authorized vineyards, as long as they are since before 1974 or they have been allowed to cultivation since at least 5 years in any province, can become recommended should the quality of their production turn out to be superior to the level of their category.

<table>
<thead>
<tr>
<th>VITIGNO</th>
<th>SINONIEMI</th>
<th>PROV. TO</th>
<th>PRINCIPAL ZONE DI COLTURA IN PROVINCIA DI Torino</th>
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<tr>
<td>Avena</td>
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<td>Averengo</td>
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<td>Bonarda Piemontese</td>
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<td>Pinerolese, Val di Susa, altrove sporadico</td>
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<td>Colline Torinesi, Canavese, Pinerolese</td>
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<td>Lambrusco di Alessandria</td>
<td>Moretto, Crova, Neretta d'Al.</td>
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<td>Val di Susa, Pinerolese, Canavese (sporadica)</td>
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<td>Malvasia di Schierano</td>
<td>Malvasia di Castelnovo Don Bosco</td>
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<td>Colline Torinesi</td>
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<td>Merlot</td>
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<td>Nebbiolo</td>
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<td>Canavese, altrove sporadico</td>
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<td>Neretta cuneese</td>
<td>Fresa grossa, Freisa di Nizza</td>
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<td>Pinerolese, ma ovunque presente</td>
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<td>Neretto di San Giorgio</td>
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<td>Plassa</td>
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<td>Sangiovesse</td>
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Table 1 - List of authorized (A) or recommended (R) vineyards in the Torino province and their main cultivation areas.

Research and experimentation in the Torino Province

The Piedmont Region, accepting the guidelines contained in the national grape-growing plan, a few years ago, in collaboration with Scientific Institutes on the territory, started several projects for the characterization of Piedmontese grape-growing production. The first important results, both due to the way it was conducted (multi-subject surveys) and to the high quality of its scientific content, allowed to characterize the production territories and the DOCG Barolo and DOC Barbera d’Asti wines, pride and joy of Piedmontese oenology.

However, the financial commitment of the Piedmont Region and the Torino Province, through specifically focused Projects and INTERREG Projects, did not overlook more marginal areas, such as canavese, pinerolese and the Susa valley.

Thanks to the commitment of many Unions for protection and development that operate in the area and are gathered in FEDALPI (Federation among Unions for the Protection of DOC Wines in High Piedmont), to concerned Mountain Communities and to field technicians working on the sites, in the 1996-2001 period there have been led many research experiments focusing on grape-growing in the area at the foot of mountains in the Torino province, set to characterize and develop existing oenological productions, to acknowledge new origin denomination productions, to introduce alternative wine-making techniques, and also to save, protect and evaluate the oenological power of autochthonous or rare wines.
Divided by area of interest are hereby briefly related the main surveys that have been performed and some of the results obtained.

To get more information on the tests performed and the whole results, see the works mentioned in the essential bibliography.

**Susa Valley**

Favourable pedological and climatic conditions, especially in the middle and low Valley, have fostered the development of a valley agriculture that has in cereal, fruit, and grape cultivations its leading features. Thanks to its East-West exposure and a mediterranean climate with xericity characteristics, the growth of plants such as olive tree, almond tree and helm-oak is possible.

Grape-growing, already existing in the Valley in the roman era, has always represented an income factor for local inhabitants and a landscape characterizing feature, for values reaching and at times surpassing 1100 m asl. Decreased during the last 50 years due to the expensiveness of the cultivations and currently involving about 200 Ha, it has always been found on a wide and peculiar diversification.

An important research program was therefore started in order to study wine-growing characteristics and oenological talents of Susa Valley's autochthonus vineyards, especially Avanà, still the most wide-spread of autochthonous cultivations.

These studies along with a strong political will on the part of local management, made it possible to reach the prominent goal of DOC recognition (DM October, 31st, 1997).

Table 2 shows the analytic composition of bottled wines meant to become Valsusa DOC (vintage 1996), as obtained by pure blenders of wine. From the analysis of the results, good oenological characteristics can be appraised as they are present in all types of this product, especially those obtained from a 40% Avanà, 30% Barbera, 30% Neretta blending, that turned out to be the one tasters appreciated the most.

Despite the fact that pure Avanà is currently selling well on the market, its lack of colour, due to a low overall anthocyan content (150-180 mg/L), along with its stability in time, make the production of this wine fairly difficult.

During experimental tests, the use of pectolitic enzymatic preparations was suggested in order to increase, during maceration, the extraction from peels and grape-seeds of phenolic substances responsible for wine's chromatic characteristics.

As briefly depicted in picture 5, the use of these preparations made it possible to obtain more coloured wines and wines with a by and large more stable colour.

An accurate enzymic treating can therefore compensate prospective deficiencies of a vineyard or allow to diversify the supply by producing wines that aged for a longer or shorter time.

*Picture 5 - The trend of Avanà from racking off to six months of bottled aging (vintage 2000).*
Further studies performed in Susa Valley that are worthy of mention in this work have concerned the development of a Grisa Roussa vineyard through its likely usage as table grape, the employment of tannin preparations in the wine-making of Griso Nera and experiments performed in collaboration with CNR-Study Center for Genetic Development and Vine Biology of Torino for the documentation concerning the application for registration on the national record for vine qualities and the inclusion in the list of recommended varieties for Torino province of the grape-growing cultivation Becouet.

**Canavese**

Canavese and High Eporediese are without a doubt the best known grape-growing areas in Torino province. In fact, in a Piedmontese environment featuring mostly the presence of red wines, Canavese sets itself apart because of the prevalent presence of Erbaluce autochthonous vineyard, from which the renowned Erbaluce di Caluso DOC, Caluso Passito DOC and Erbaluce di Caluso Sparkling DOC wines are produced.

The only weak spots, as it were, of Erbaluce vineyard, are its distinct acidity that often leads to producing slightly disharmonic wines that are less liked by the customers (currently focusing on softer products) and a certain lack of primary fragrance.

Given the interesting results obtained through cryo-maceration of grapes from other vineyards, with an increase in the fragrance and a reduction of acidity because of the greater salification of tartaric acid, this technique has been tested experimentally on Erbaluce wine-making as well. During tests performed by the social winery of Cucuglio during vintage 1999 and 2000, satisfactory results have been reached, making it possible to obtain more scented, less acid wines which are also richer in polyphenols, but more deeply coloured.

During the 1998-2000 three-year period, a detailed survey to develop Caluso Passito DOC, one of the jewels of Italian oenology along with Tuscany’s Vin Santo, Pantelleria’s Passito and Cinque Terre’s Schiaccetrà and a badge of honour of Piedmont Region, has been taken.

The first phase of this survey concerned some analysis of production technologies in order to improve the most controversial issues concerning wine-making: low returns and fermentation difficulties.
Through the employment of pectolitic enzymic preparations during pre-fermentation phases, production returns have increased by 5-6% in comparison to traditional techniques, without affecting compositional characteristics of the end product. A selection of autochthonous stocks of yeast and comparative tests on all the stocks currently produced have provided the manufacturers with useful tools to increase the end quality of their product.

Chemical-physical, and most of all sensorial characterization made it possible to define the specific features of this kind of product.

Lastly, a research on the withering phases of grapes in order to investigate the influence of Botrytis cinerea on the final compositional characteristics of the product is currently in progress.

Only of late it was reached the acknowledgment of Canavese origin denomination (GU n. 227, 27/9/1996) that allowed for a development of black berry grape-growing. Multi-variety vineyards are still the norm, and at the same time the limit, of Canavese grape-growing industry.

Red Canavese is in fact the product of a mix of vineyards, as stated by Art.2 of its production Discipline: «The Canavese controlled origin denomination without further specification is limited to red and rosé wines obtained from grapes originally from vineyards with the following wine-growing composition: Nebbiolo, Barbera, Bonarda, Freisa, Neretto (Di Bairo) alone or together minimum 60%. Other non-aromatic vineyards, authorized or recommended by Torino, Biella and Vercelli province, can take part in the production of the aforementioned wines up to a maximum of 40%».

In order to turn manufacturers to the installation or re-installation of vineyards with best performances for the production of Red Canavese, 8 types of possible DOC wines have been produced during vintage 1998 by blendings of wine obtained by wine-making in purity from the main vineyards grown in Canavese: Nebbiolo, Vernassa, Barbera, Freisa, Neretto di Bairo, Uva Rara, Croatina.

The results of chemical analyses and the opinions expressed by tasters in a customer test performed during Vinitaly in Verona, have rewarded Barbera and Freisa-based wines, whenever the destination is that of a quick consumption, while the presence of Nebbiolo and/or Croatina turned out to be necessary for wines meant to be aged longer.

**Pinerolese**

Pinerolese grape-growing situation is spread on a territory that stretches from low Val Pellice (Bibiana and Luserna S.Giovanni districts) up to Frossasco and Cumiana districts, and is made almost in its entirety of multi-variety vineyards, with more or less meaningful occurrences of many minor autochthonous vineyards (Neiret pinerolese or Bourgnin, Barbera d’Olivari, Cardin, Balau) along with authorize vineyards (Barbera, Bonarda, Freisa, Dolcetto, Doux d’Henry).

The recent institution of Pinerolese DOC, providing for a number of sub-denominations, was undoubtedly a prominent and essential stage in this field’s development.

The sub-denomination Red is quantitatively prevalent when compared to the one referring to just one vineyard and, according to the settings provided by the production Discipline, it can be produced with at least 50% of grapes from Barbera, Bonarda, Nebbiolo (however very scarcely present in pinerolese), Neretto (di Bairo, the only one authorized for cultivation) vineyards, while the rest is still preminently made by cuneese, Bourgnin (even though authorization papers are still in progress), Freisa and other authorized and/or recommended vineyards for Torino province.

The survey performed in 2001 and still in progress focused, as mentioned before in regards to Red Canavese, on defining and fostering a Red Pinerolese DOC model, through micro-winemaking of vineyards in purity and the creation of the product by different types of blending.

Sensorial validation through sample desks open to the public will allow to identify the most liked wines.
Table 3 – Main analytical parameters for Red Canavese DOC bottled wines produced by blending (vintage 1999).

From the survey on the diffusion of vineyards in the Pinerolese area, taking into consideration the production Discipline of the different wines in Pinerolese DOC area, five selections have been arranged, obviously using only vineyards already authorized to cultivation by the Torino province (Tab. 5). Blending number 2 should be thought of as a proposal since is not provided for in the regulations.

Table 4 – Main analytical parameters for Pinerolese bottled wines produced in purity (vintage 2001).
Table 5 – Per cent composition on five arranged Red Pinerolese blends.

As can be seen by analytical results shown in table 6, the blends of wines uniformed the composition of products decreasing the number of differences between pure wines. This compositional “standardization” is responsible for the fact that in subsequent discriminating samples it has not been possible for tasters to highlight any sensory difference between the five products.

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<td>Barbera</td>
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<td>Neretta Cuneese</td>
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<td>Croatina</td>
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<td>Bonarda</td>
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Table 6 – Values of the main compositional parameters determined on Red Pinerolese blends after tartaric stabilization.

At the moment these blends are therefore not different from one another on a sensory level, but they might become in the long run due to the different resistance to aging of each wine that was part of the blending.

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