# *Toscana IGT – Vintage 2009 - Soldera 100% Sangiovese*

The wine history on the basis of the studies carried out at the University of Florence (Prof. Massimo Vincenzini)

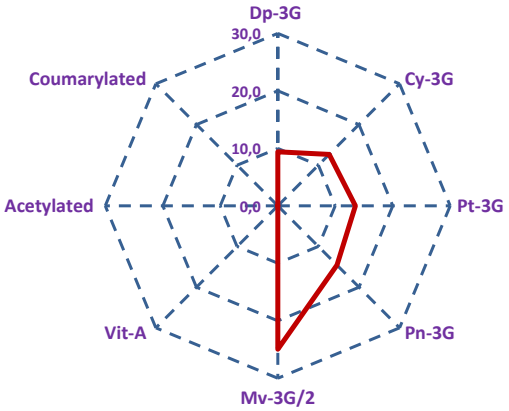
**The bottle of wine Toscana IGT - Soldera 100% Sangiovese – Vintage 2009**

Bottle bordelaise, special series 15 Soldera - Case Basse, designed in the early 80s by researchers and by the President of the factory Nord Vetri, Mr. Franco Marchini, in order to obtain:

1. Weight of 750 grams, for maximum insulation.
2. Antique green color, more resistant to ultraviolet rays.
3. Accentuated punt, for a better sedimentation (unfiltered wine).
4. Internal neck of the bottles made as suggested by Prof. Antonio Pes: *Ratio between weight of the cork and the bottle neck volume to be saturated, this translates into the formula Vd-P <5 mL, where Vd = cork volume in the bottle neck in mL; (where ml = volume to be saturated in the bottle neck, expressed as thousandths of a liter) and P = weight in grams of the cork; the specific gravity of the cell wall is, of course, about 1 (from: ""Il sughero in cantina" by Antonio Pes – ed. LA Nuovissima Edizioni Tempio Pausania).*

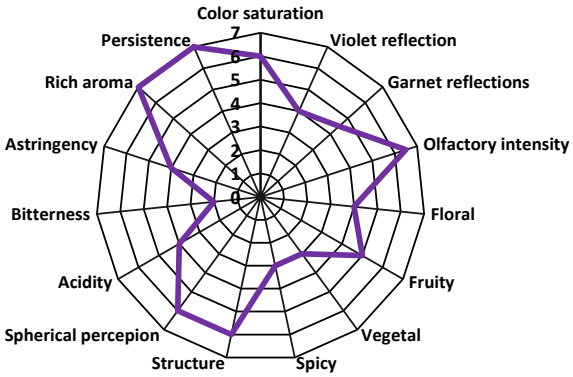
**The wine Sangiovese 100 % and its sensory profile**

The anthocyanin profile of the wine is consistent with the profile of a wine produced only with Sangiovese grape variety, being characterized by the absence of acetylated and cumarylated anthocyanins (Mangani *et al*., Am. J. Enol. Vitic., 62: 487-494, 2011.




Dp-3G= delphinidin-3-glucoside; Cy-3G= cyanidin-3-glucoside; Pt-3G= petunidin-3-glucoside; Pn-3G= peonidin-3-glucoside; Mv-3G= malvidin-3-glucoside; VitA = Vitisin A; Acetylates = sums of acetylated anthocyanins; Cumarylates = sums of cumarylated anthocyanins].

The sensory profile of the wine was assessed with TrialTest by the *Centro Studi Assaggiatori di Brescia* (Prof. Luigi Odello).




The profile demonstrates a high structure and spherical perception; in the mouth, floral and fruity notes dominated (red and blacks fruits); other marked notes are wood and spicy.

**The history of the wine**

**Meteorological characteristics of 2009 vintage:** during the period between flowering and harvest, of a total duration of 142 days, the weather station in the farm recorded the data shown in the graph below (the longitudinal dotted line represents the ' beginning of the ripening of the grapes). It was a year in which the Bloom-Veraison phase, lasting 71 days, was characterized by minimum temperatures mainly lesser than 16°C and rainfall value higher than the company's historical average, whereas the Veraison-Harvest phase, of a duration of 71 days, was characterized by high temperatures and restricted rainfall.

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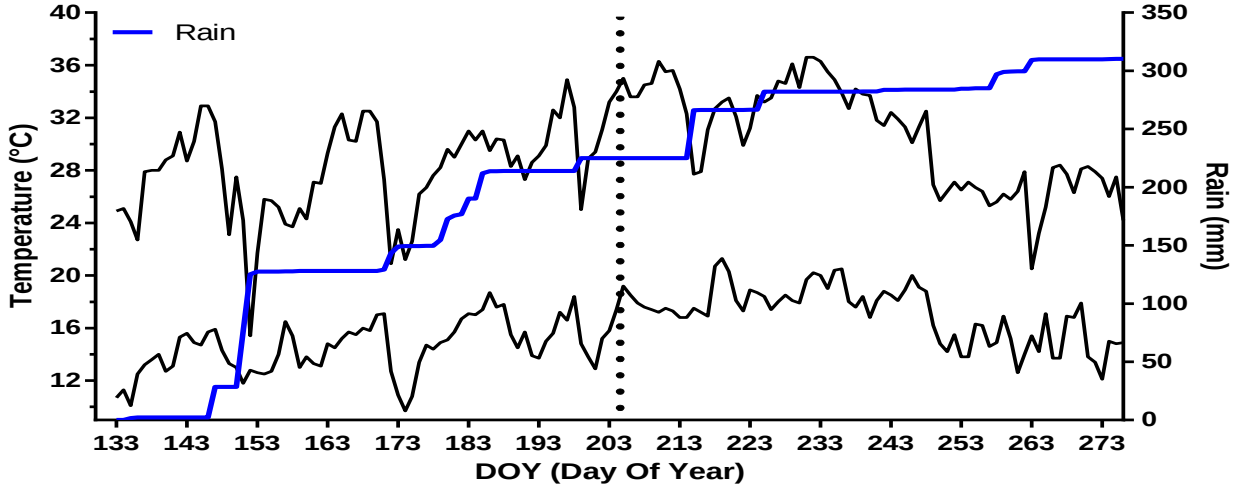


**Harvest:** carried out on October 3rd, on the basis of organoleptic evaluations and physical-chemical indicators of technological and phenolic ripeness of the grapes. Indeed, since the last week of August, the grapes of the vineyards have been analyzed with regard to the parameters of technological (sugars, acidity and pH) as well as phenol maturities (potential and extractable anthocyanins, polyphenol index etc.).

**Grapes**: exclusively of the Sangiovese variety and with high quality, as pointed out by the results of chemical and microbiological analysis weekly performed on grapes from August to harvesting.

**Alcoholic fermentation:** spontaneous fermentation was carried out in truncated cone-shaped Slavonian oak vats. During the early stages of the fermentation process, the non-*Saccharomyces* yeast populations (*Kloeckera apiculata* and *Candida zemplinina*) reached maximum values of 60 millions of cells per millilitre. On the fourth day of fermentation (alcohol = 5-6% v/v), the wine yeast *Saccharomyces cerevisiae* became the predominant species, growing up to 33 millions of cells per millilitre and, hence, it continued regularly the wine fermentation until its completion. Racking occurred 30 days after the grape crushing.

**Malolactic fermentation:** spontaneous fermentation occurred after the end of the alcoholic fermentation and was completed within about 3 weeks. The dominant microbial species was *Oenococcus oeni*.

**Ageing:** 70 months long; during this period, monthly performed chemical and microbiological analyses never found activities or microbial populations able to induce the onset of detectable defects.

**Bottling:** the wine, possessing chemical and microbiological stability, was bottled without any chemico-physical treatment (clarification and/or filtration).

**Wine:** at bottling, the wine contained sulphites amounting to: free $SO_2$ = 19 mg/L; Total $SO_2$ = 38 mg/L (lower than allowed - the maximum legal limit = 150 mg/L); Glucose and Fructose were absent, demonstrating a complete alcoholic fermentation; Glycerol, molecule which confers body and softness to the wine, was detected at a concentration of 11.5 g/L. Color quite ruby red with hints of garnet, perfectly consistent with that expected for a wine produced exclusively with Sangiovese grapes and subjected to a long period of aging.

**Authentication** of the varietal composition of the wine, its genetic identity and its close link with the winery's vineyards are assessed by the studies on molecular traceability (characterization of the vine biodiversity by analysis of genomic DNA) carried out at the University of Siena (Dott.ssa Rita Vignani)**.**