

**The 2011 vintage at the beginning of ageing:
the strange case of an early-maturing vintage when summer was in spring
by Professor Denis Dubourdieu**

The 2008, 2009, and 2010 vintages, the culmination of a highly unusual decade including only good and great years, constitute an admirable trilogy. Wine enthusiasts the world over will compare their relative qualities for many years to come.

Thanks to several factors – summerlike weather in spring, a growing season ahead of schedule from beginning to end, less than usual sunshine in July, a month of August with above-average precipitation, and the return of summer weather in early autumn – conditions in 2011 were indeed strange, with unpredictable consequences.

Leaving aside the way I usually begin my vintage report, by recapitulating the parameters that account for great years in Bordeaux, I prefer to explain the unusual weather in 2011 stage by stage and its effects on wine quality according to soil and grape variety.

I hope to show why, because of this unaccustomed weather: the dry white wines are astonishingly good, there are numerous magnificent red wines on both banks from all grape varieties despite unquestionable unevenness, and the wines of Sauternes and Barsac are great.

Exceptionally early flowering in mid-May, induced by summerlike temperatures in spring

Other than an especially cold month of December (table I), the winter of 2010-2011 was not at all harsh. Temperatures were close to normal in January and slightly above average in February. The winter was also dry, and prefigured drought conditions that had a strong influence on the 2011 vintage. March was warmer and drier than average and reinforced the impression of a mild winter (charts II and IV).

**Table I: Average minimum and maximum temperatures (°C)
during the 2010-2011 meteorological winter
(Météo France Bordeaux Mérignac)**

	Average min. temp.		Average max. temp.	
	Winter 2010-2011	Average 1971-2000	Winter 2010-2011	Average 1971-2000
December	1.4	3.8	8.3	10.7
January	2.8	2.8	9.3	10
February	4.1	3.4	13.1	11.7

Bud break occurred during the last few days of March. Instead of spring, true summer weather set in for the next three months. April was exceptionally hot, dry, and sunny (figure 1, tables II to IV). In fact, this was the second hottest month of April since 1900. Maximum temperatures were close to 30°C from the 7th to the 9th of April, and stayed around 25°C from the 18th to the 30th. Drought conditions continued, with just 10 mm of rain as compared to an average of 80. A hailstorm hit the Sauternes region on the 25th of April, causing considerable damage to approximately 500 hectares of vines.

Table II: Average minimum and maximum temperatures from March to June in 2011, 2010, and 2009 (Météo France Bordeaux Mérignac)

	Average minimum temperatures				Average maximum temperatures			
	2011	2010	2009	1971-2000	2011	2010	2009	1971-2000
March	6.2	4.3	4.9	4.6	15.9	14.4	15.3	14.5
April	10.1	8.3	7.4	6.6	22.7	19.8	13.4	16.5
May	12	10.4	12.3	10.3	24.9	19.9	22.2	20.5
June	13.6	14.3	15	13	24.8	24.5	25.6	23.5

Table III: Rainfall (mm) from March to June in 2011, 2010, and 2009 (Météo France Bordeaux Mérignac)

	2011	2010	2009	Average 1971-2000
March	34	68	31	70
April	11	27	16	80
May	8	41	78	83
June	20	102	75	63
March-June	141	238	200	296

Table IV: Sunshine (hours) from March to June in 2011, 2010, and 2009 (Météo France Bordeaux Mérignac)

	2011	2010	2009	Average 1971-2000
March	173	187	221	180
April	279	250	160	177
May	304	193	235	222
June	207	102	293	225
March-June	963	732	909	804

A few days later, on the 1st and 2nd of May, another hailstorm hit the commune of Podensac as well as the Entre-Deux-Mers and Blaye regions. May was as hot and dry as April. The average maximum temperature, nearly 25°C, was 4.5°C higher than usual. Only May 1922 was hotter. The weather stayed dry, with just 10 mm of precipitation in the Médoc and less than 5 mm in Saint Emilion. This was close to the absolute record dating back to May 1945 (0 mm). Vine growth was very rapid in this summer-like spring. Flowering took place on the 10th of May (15 days earlier than average) and within a remarkably short time span, finishing on the 20th. Obviously, with such weather, there were no incidences of *coulure* (shot berries) or *millerandage* (hens and chicks), and even particularly sensitive, old, virus-infected Merlot vines had good fruit set.

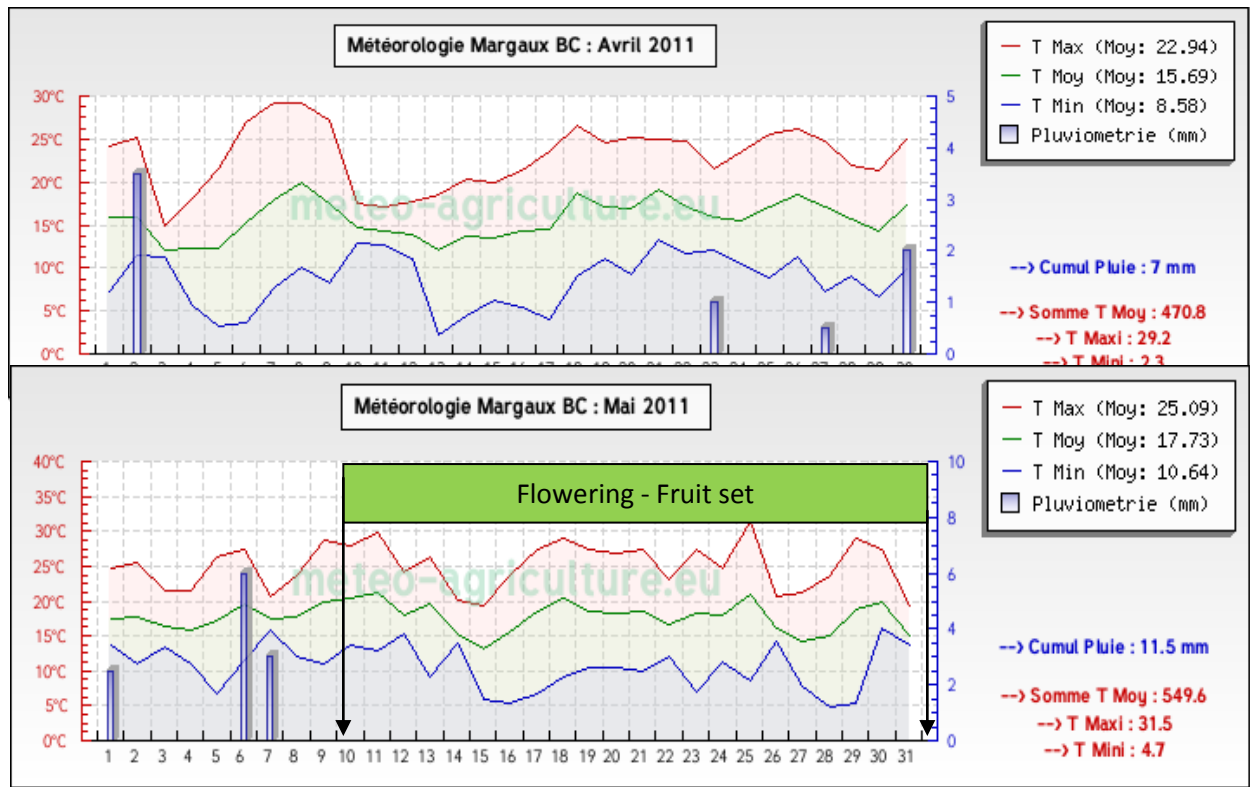


Figure 1: Daytime temperatures and precipitation (mm) in April and May 2011 in Margaux

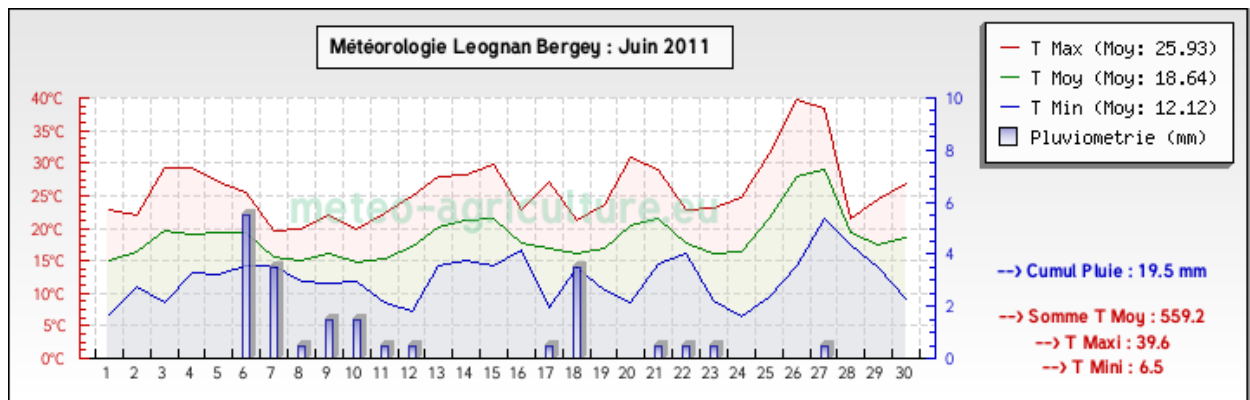


Figure 2: Daytime temperatures and precipitation (mm) in June 2011 in Léognan

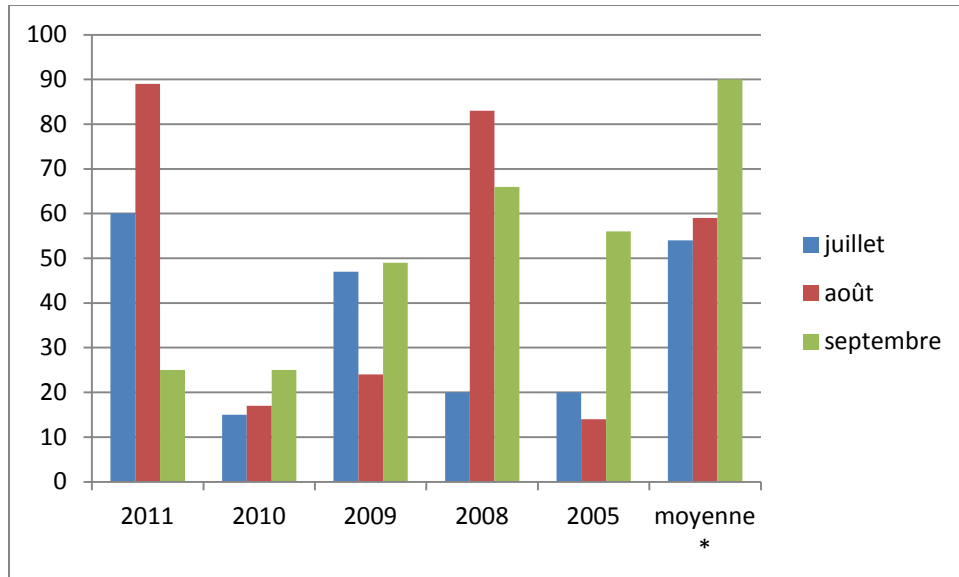


Figure 3: Rainfall from July to September in 2011, 2010, 2009, and 2005 (Météo France Bordeaux Mérignac)
 (*) 1997-2000 average

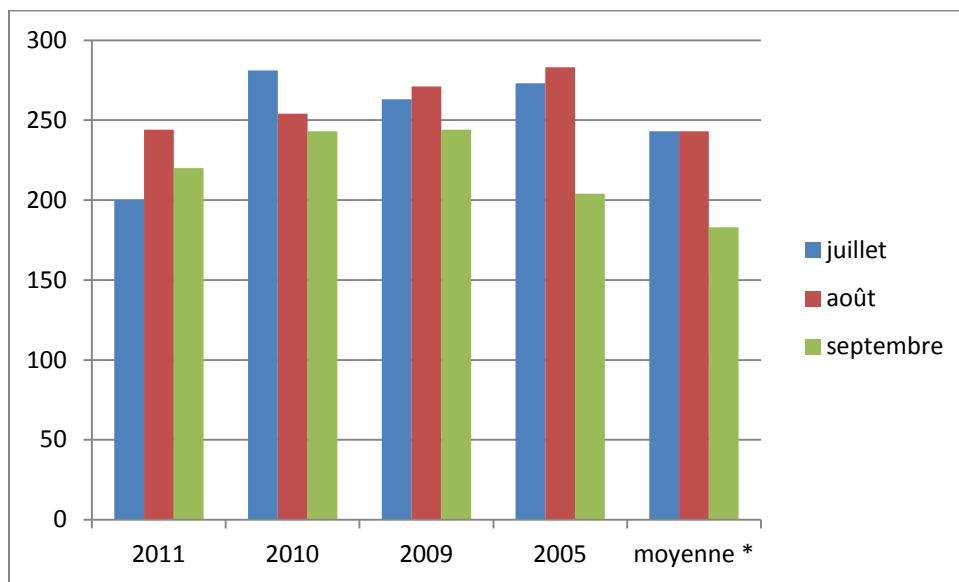


Figure 4: Sunshine (hours) from July to October in 2011, 2010, 2009, and 2005 (Météo France Bordeaux Mérignac)
 (*) 1997-2000 average

The month of June was warmer than average, but less so than in either 2009 or 2005, and remained dry. Vine growth slowed down starting with fruit set due to early water stress.

Therefore, the first two conditions that determine the quality of a good red wine vintage in Bordeaux, i.e. quick, early flowering and the beginning of water stress at fruit set thanks to hot, dry weather, were fully met by mid-June.

However, persistent drought conditions on gravel soils with low water reserves remained worrying. How would the vines be able to cope with summer heat? The growth cycle's remarkable head start gave grounds for concern. Were things not headed towards another 2003?

An unusual phenomenon then seemed to confirm this year's reputation for very strange weather. The thermometer went up to 40°C on the 26th and 27th of June. Whole grape bunches or those parts exposed to the afternoon sun were literally burnt. Cabernet Sauvignon on the driest soils suffered the heaviest losses, sometimes in excess of 20%. This was compounded by harvest time because the partially burnt bunches underwent uneven *véraison* (colour change) and thus had to be removed during green harvesting. Curiously, Merlot grapes, normally more sensitive to drought conditions than the Cabernets, were less damaged by these two tremendously hot afternoons in late June. The Merlot's wide leaves probably protected the berries from the sun's unrelenting rays.

Early *véraison* as well, in July, accompanied by major water stress

During a "normal" year in Bordeaux (with a relatively wet winter and spring), a hot, dry month of July is conducive to both a certain degree of water stress and a halt to vine growth at *véraison*. This is the third most important factor for a great vintage. However, by early July it was clear that the weather in 2011 had been anything but "normal" since late winter. Earnestly hoped for as a general rule, the prospect of a "usual" month of July raised fears in 2011, due to doubts concerning the vines' ability to cope, in light of the extreme drought conditions they had already experienced.

As it turned out, other than the first week of July when temperatures exceeded 30°C, the rest of the month was not hot (figure 6 and table V). Maximum temperatures were 1.6°C below average and respectively 3.4 and 2.3°C less than in 2010 and 2009. Total sunshine ended up being below average: 200 hours as compared to 281 in 2010, 271 in 2009, and an average of 243 from 1971-2001. July 2011 was cooler and less sunny than usual, with slightly above average precipitation, but much more than in July 2008 and 2005. The Pessac-Léognan, Graves, and Sauternes regions received much more rainfall than the Médoc and Saint-Emilion (figure 6).

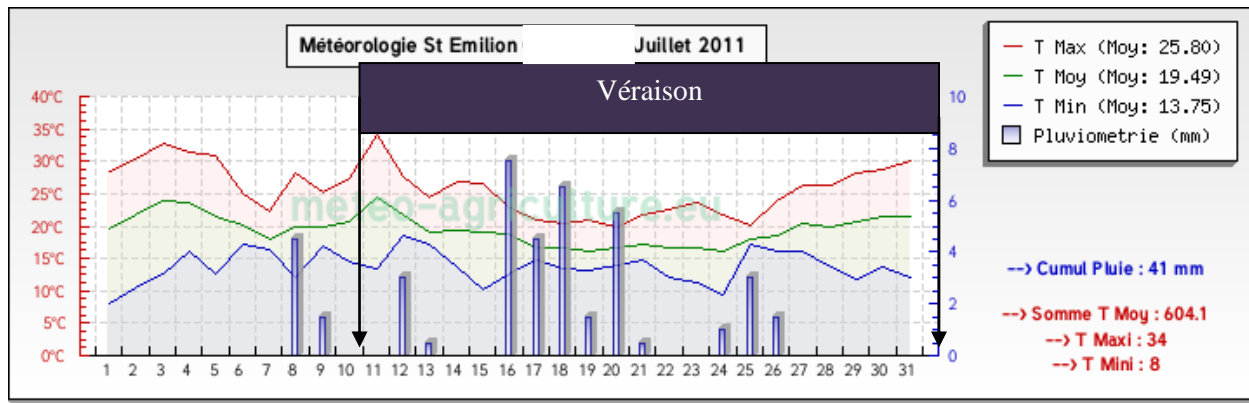


Figure 5: Daytime temperatures and precipitation (mm) in July 2011 in Saint-Emilion

Colour change started on about the 10th of July under somewhat cooler conditions, due to light showers on the 8th and 9th.

On all good terroirs, vine growth had already come to a halt about two weeks earlier due to considerable water stress. This stress was unquestionably excessive for Merlot on the driest soils (gravel and sand) as well as young vines, which suffered from defoliation and blocked growth. With these notable exceptions, the third condition for a good red wine vintage in Bordeaux was thus satisfied.

Mid-véraison occurred two weeks ahead of time, just like flowering, on about the 23rd of July. The former was nevertheless much more spread out, and lasted until the 10th of August. Véraison in bunches that had been burned in late June did not go well and many berries remained green or pink. During green harvesting, it was essential to remove these "harlequin bunches" at all costs.

Slow, uneven ripening of red wine grapes during a slightly warmer than average, but much more rainy month of August than usual, followed by a particularly hot, dry September

The month of August was somewhat warmer than average (table V), but with relatively low minimum temperatures during the second week. August was also much wetter than usual, especially during the first week and on the 23rd and 26th (figure 7). With approximately 80 mm compared to 17 mm in 2010, 24 mm in 2009, 14 mm in 2005, and an average of 60 mm from 1971 to 2000, precipitation in August 2011 was close to that in August 2008. Thunder showers in early August at the end of véraison came too late to give new impetus to ripening on certain young vines partly defoliated because of the drought. Their grapes ripened incompletely and with difficulty. August rain on deep, sandy and silty soils swelled the berries and diluted their flavours. This phenomenon was most prevalent in Merlot.

September was hot (table V) and dry (figures 6). A violent hail storm on the 1st of September seriously damaged grapes in part of the Saint-Estèphe appellation. Some 80 mm of rain fell on this "black Thursday". Consequently, the harvest was moved up in the worst hit plots of Merlot. The rest of the month of September was singularly dry. The cumulative monthly rainfall recorded in Bordeaux-Mérignac was 25 mm compared to the average of 90 mm. **Therefore, the fourth**

condition for a good red wine vintage, i.e., full ripening of the various varieties thanks to sufficiently dry months of August and September, but without excessive heat, was only partially satisfied.

Table V: Average minimum and maximum temperatures from July to September in 2011, 2010, and 2009 (Météo France Bordeaux Mérignac)

	Average minimum temperatures				Average maximum temperatures			
	2011	2010	2009	1971-2000	2011	2010	2009	1971-2000
July	14.8	16.6	15.9	15.1	24.8	28.2	27.1	26.4
August	16.3	14.9	16.2	15.2	27.4	26.8	28.5	26.6
September	14.9	12.3	13.2	12.5	25.5	24.4	25.1	23.7

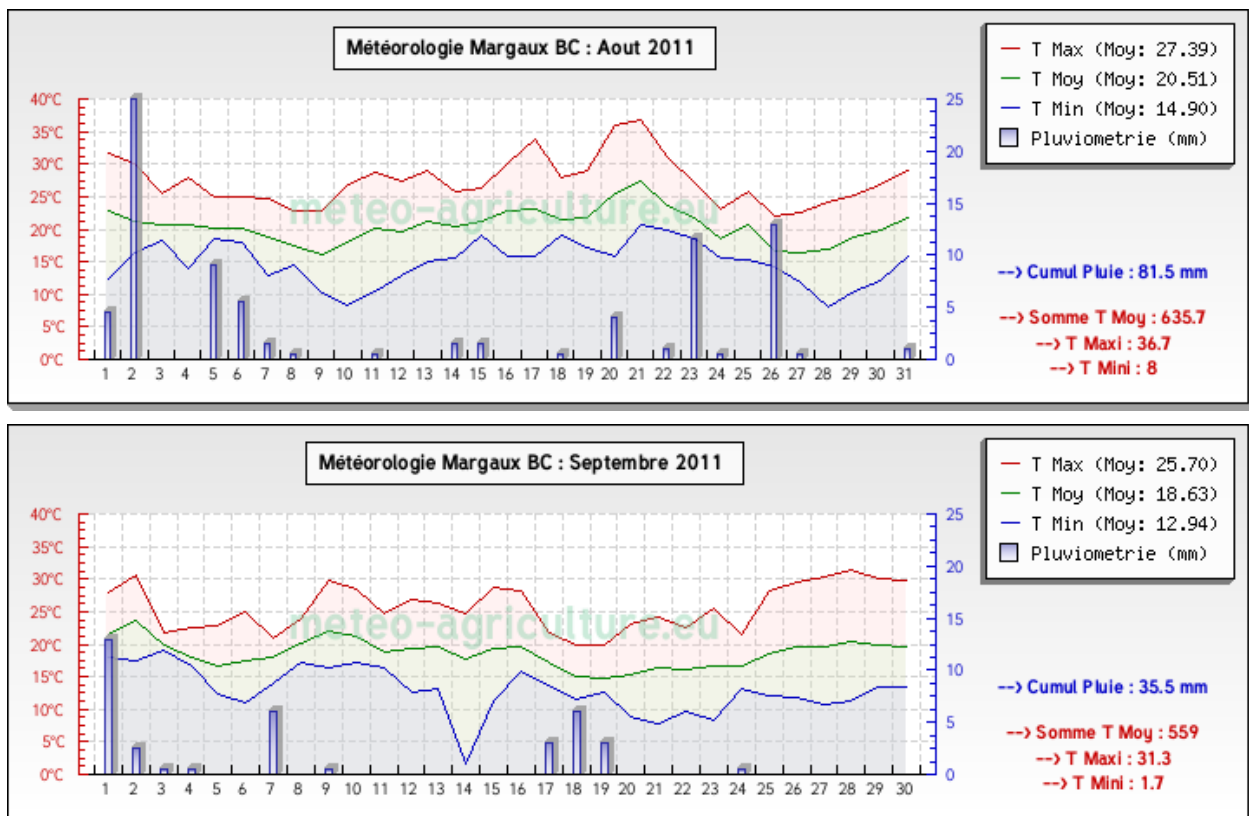


Figure 6: Temperatures and precipitation (mm) in August and September 2011 in Margaux

An early but extended harvest, with a risk of grey rot

The picking of grapes for dry white wine began on the 17th of August and finished in early September, i.e. 2 weeks early – in keeping with earliness of flowering and véraison. August weather was conducive to the development of *Botrytis cinerea*, calling for careful sorting during the harvest. The 2001 white wine must had slightly lower sugar levels, higher acidity, and lower pH than 2010 or

2009. Vibrant, well-integrated acidity, typical of a year with a cool summer, is unusual for an early vintage. In other words, the hottest summers, such as 2003, usually result in early-ripening vintages for dry white wines. These generally do not have good acidity or aromatic expression. In the 2011 vintage, however, the grapes owed their early ripening to a warm spring rather than a hot summer. The relatively cool ripening period made for beautiful acidity and bright aromatics in both Sauvignon Blanc and Sémillon on the most suitable terroirs (limestone and clay).

Accompanied by similar worries about the condition of the grapes, the Merlot harvest began on the 5th of September and that of the Cabernets on around the 12th. Fortunately, the warm, dry weather that set in on the 10th of September put a stop to the spread of grey rot, without entirely eliminating the risk of later development. The last Cabernets were picked in the last week of September and the first few days of October. The berries were small and had a high concentration of anthocyanins. Their weight was comparable to 2010 or slightly higher, but lower than in 2009 (figure 8). While the total amount of anthocyanins did not reach the record 2010 levels, it was appreciably higher than in 2009 (figure 9). It is difficult to generalise concerning sugar and acidity levels, as they depended on when the grapes were picked. Sugar levels in Merlot were generally more moderate than in 2009, and especially 2010, whereas those of the Cabernets were comparable to 2010 and slightly higher than in 2009. The acidity in Merlot, similar to 2010, was higher than in 2009, with a lower pH, whereas both acidity and pH were extremely variable in the Cabernets depending on when the grapes were picked. Cabernets picked at the very end of September or the first days of October were harvested more than 70 days after mid-véraison. This "hang time", as the Californians call it, is usual in the New World, but has never been as long in Bordeaux as it was in 2011. Emile Peynaud castigated estates that, in his opinion, picked too soon, based on the assumption that 50-55 days after mid-véraison should be the maximum in Bordeaux. Past that time, it was generally believed that the grapes underwent a negative transformation that worked against attractive aromas and proper ageing. Other days, other ways... It will nevertheless be interesting to follow the ageing of the 2011s picked at different times.

The taste of the berries, which cannot unfortunately be measured objectively, was the decisive factor in terms of quality. I remember tasting delicious Merlot grapes from clay and limestone soils. However, Merlot grapes from gravel soils were not nearly as good and those from sandy or silty soil were downright disappointing. Most of the Cabernets from gravel or clay-gravel soil were also delicious, as long as the vines had not been defoliated by the spring drought. The Petit Verdot grapes, while not exceptional, were rather good.

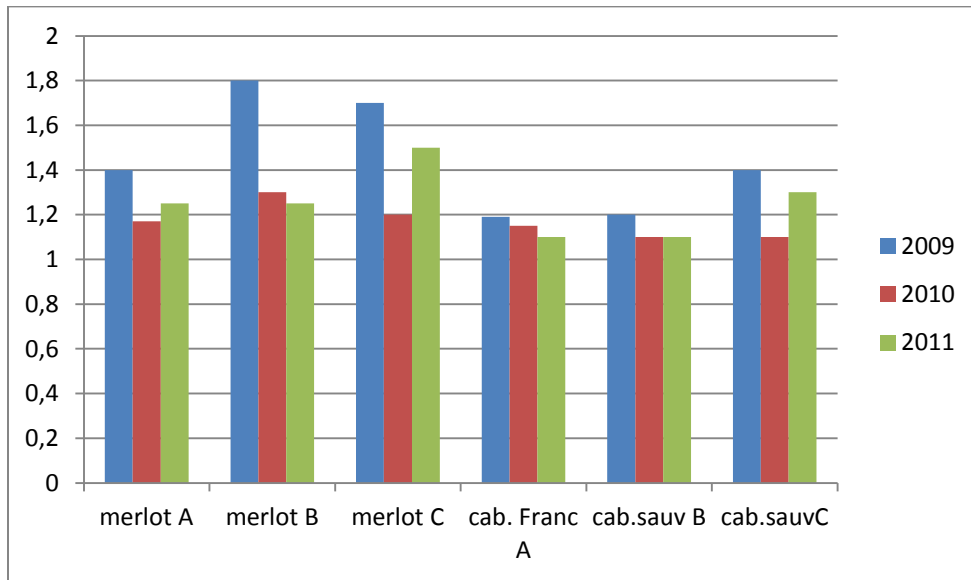


Figure 7: Weight of Merlot, Cabernet Franc, and Cabernet Sauvignon grapes in 2009, 2010, and 2011 in plots of great growth vineyards in Saint Emilion (A), Léognan (B), and Pauillac (C)

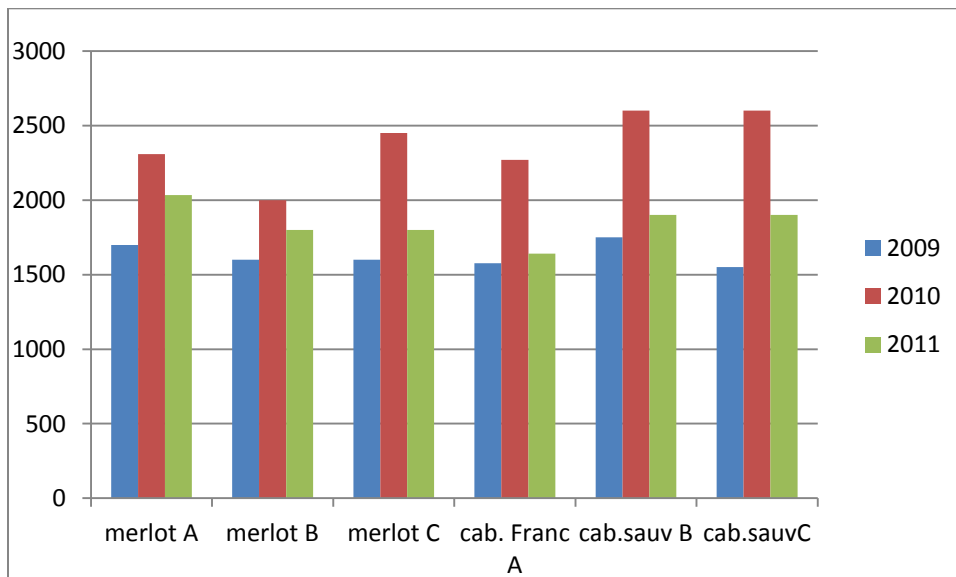


Figure 8: Total anthocyanin content (mg/L) of Merlot, Cabernet Franc, and Cabernet Sauvignon berries in 2009, 2010, and 2011 in plots of classified growth vineyards in Saint Emilion (A), Léognan (B), and Pauillac (C)

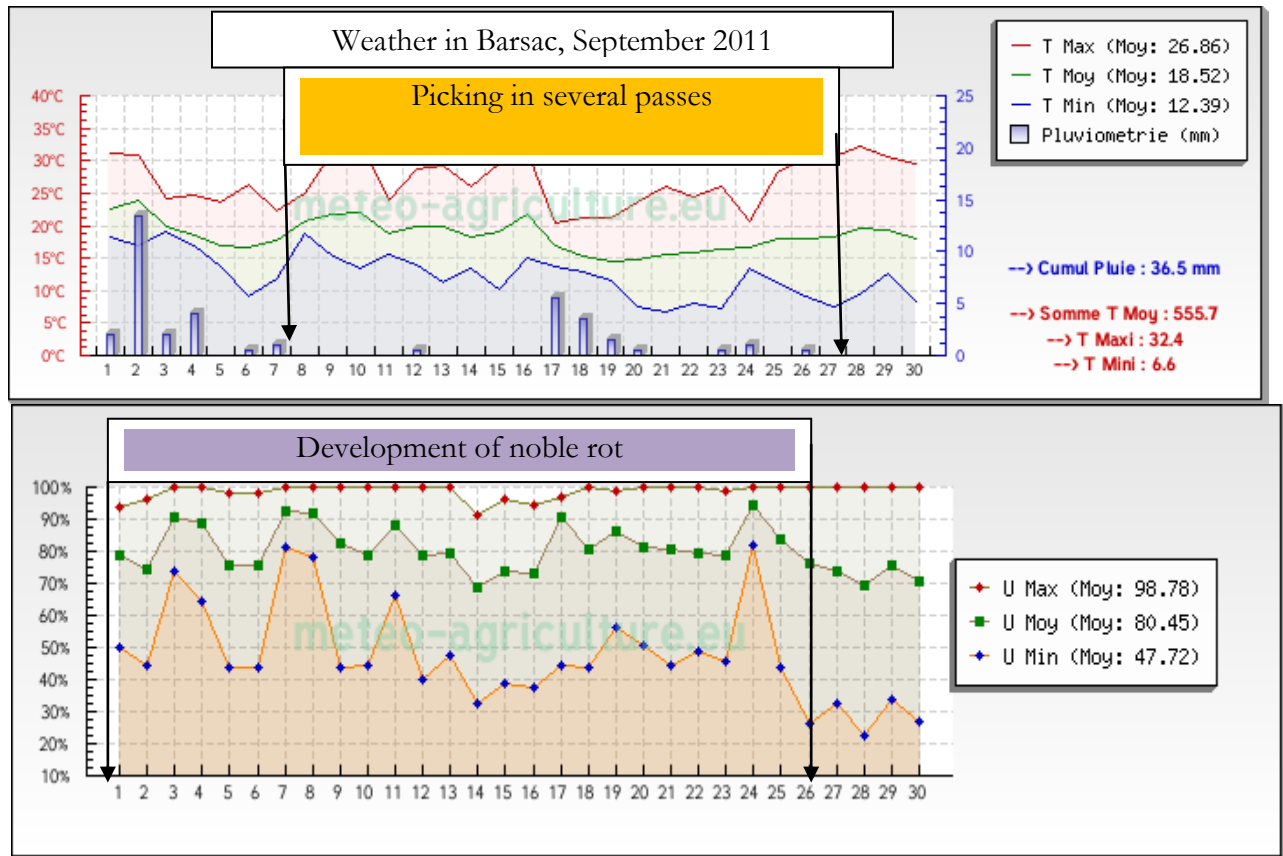


Figure 9: Daily temperatures, rainfall, and humidity during the harvest in Barsac in September 2011

The vintage in Sauternes began at the very end of August with a short "cleaning-up" pass in mid-August to remove grapes affected by rot at a time, however, when they were not entirely ripe. There was also a risk of sour rot on light soils and it was necessary to intervene in time to prevent it from spreading. A full-blown wave of very pure noble rot arrived following showers in early September and morning mists during the first ten days of that month that veiled the vineyards in Barsac and Sauternes. Starting on the 8th of September, temperatures remained at 30°C and above for several days. This brought about extremely rapid concentration, particularly in Barsac. Under these conditions, only a few passes (generally two in Barsac) were necessary to bring in the entire crop from the 5th to the 28th of September, coinciding with particularly hot, dry weather. Such a vigorous burst of noble rot is rare. In forty years of making wine in the region, I have only seen this phenomenon twice, in 2009 and 2011.

Astonishing dry white wines, less even quality for red wines than in 2009 or 2010, but many excellent and great Sauternes and Barsac

The dry white wines have good acidity, concentration, and a long aftertaste, typical of years with a cool summer.

It is more difficult to make an overall appraisal of the red wines, which are not homogeneous. Merlot wines from limestone and clay soils are deeply-coloured, concentrated, and beautifully fresh. Certain magnificent Cabernet Francs from the Right Bank provide a perfect counterpoint. 2011 Left Bank wines have good structure thanks to remarkable Cabernet Sauvignon, but volumes were unfortunately low.

The 2011 Sauternes and Barsac are great.