

**The 2012 vintage at the beginning of barrel ageing
Weather: the antithesis of 2011
and rather successful on great terroirs**

by Professor Denis Dubourdieu

It is once again the time of year when there is much speculation about the future of the new vintage (quality and commercial prospects). As usual, rumours and conjecture have preceded actual tastings. It is already being said that 2012 is not outstanding, and people are wondering: is it, in fact, good? How does it compare with 2011? What vintage does it most resemble?

Even if conditions were not ideal in spring and autumn, the weather in 2012 was conducive to the production of good to very good wines. However, this was not the case everywhere, and quality required considerable effort and sacrifices. It would be risky, as always, to equate 2012 with another year, since the Bordeaux region's climate makes it extremely unlikely for two successful vintages to be very similar. Every good vintage is unique. Only the poor ones are alike...

2012 was a relatively late-ripening year, featuring a hopelessly wet spring, exceptionally dry summer and unsettled autumn weather, necessitating quick picking. It was, therefore, the polar opposite of 2011, an early-maturing year in which summer occurred in spring, disappeared in July and August, and only came back, in a big way, at the beginning of autumn... So, everything sets 2012 and 2011 apart, and both years are also different from the admirable 08, 09 and 10 vintages, where weather patterns were more in keeping with great years – but each with its own specific characteristics.

Late, very spread-out flowering at the end of an exceptionally wet spring

The winter of 2011-2012 was fairly mild in December and January and only seasonably harsh in February (Table I).

**Table I: Average minimum and maximum temperatures (°C)
during the 2011-2012 meteorological winter
(Météo France Bordeaux Mérignac)**

	Average min. temp.		Average max. temp.	
	Winter 2011-2012	Average 1981-2010	Winter 2011-2012	Average 1981-2010
December	6.3	3.8	12.9	10.5
January	4.4	3.1	10.1	10.1
February	-1.6	3.3	7.3	11.7

April 2012 was cool, very wet, and not very sunny, with 18 rainy days. Cumulative precipitation was 178 mm, or over double the monthly average (tables II, III and IV).

Bud break began relatively late, during the first ten days of April, and was slowed down by poor weather. May and June had below-average and average rainfall, respectively. Temperatures were normal during this time, promoting vine growth.

Unfortunately, flowering in the first week of June was accompanied by cool, wet weather not conducive to fertilization (figure 1). Grape varieties sensitive to shot berries (Merlot, Sauvignon Blanc and Cabernet Franc) therefore suffered to varying degrees. As usual, old and, consequently, frequently virus-infected vines suffered the greatest crop losses. The midway point for flowering occurred on about 12 June i.e. ten days later than the average for 1999-2009 (2 June). Fruit set took place without the slightest water stress.

During this abnormally rainy spring, mildew stuck with extreme virulence. The first symptoms were to be found on leaves and also, unfortunately, on flower heads, as soon as flowering started. This vine disease was generally eliminated using synthetic fungicides. However, organic producers, who only use copper salts, experienced significant and sometimes heavy crop loss, especially for Merlot.

Therefore, the first two prerequisites for a "perfect vintage" – i.e. early, quick flowering and fruit set during dry, relatively warm weather to ensure good fertilisation, even ripening, and berries that are not oversize – were not met. Spread-out véraison (colour change) and the uneven ripening of the relatively large berries typical of this vintage were mainly due to wet weather during flowering and fruit set.

Table II: Average minimum and maximum temperatures(°C) from March to June in 2012, 2011, and 2010 (Météo France Bordeaux Méridoc)

	Average minimum temperatures				Average minimum temperatures			
	2012	2011	2010	1981-2010	2012	2011	2010	1981-2010
March	5.0	6.2	4.3	5.4	18.1	15.9	14.4	15.1
April	6.9	10.1	8.3	7.4	15.1	22.7	19.8	17.3
May	12.0	12.0	10.4	11.7	22.5	24.9	19.9	21.2
June	15.0	13.6	14.3	14.1	24.6	24.8	24.5	24.5

Table III: Rainfall (mm) from March to June in 2012, 2011, and 2010

	2012	2011	2010	Average 1981-2000
March	31	34	68	65
April	178	11	27	78
May	28	8	41	80
June	64	20	102	63
March-June	301	141	238	286

Table IV: Sunshine (hours) from March to June in 2012, 2011, and 2010

	2012	2011	2010	Average 1981-2000
March	255	173	187	170
April	120	279	250	182
May	259	304	193	217
June	221	207	102	239
March-June	855	963	732	808

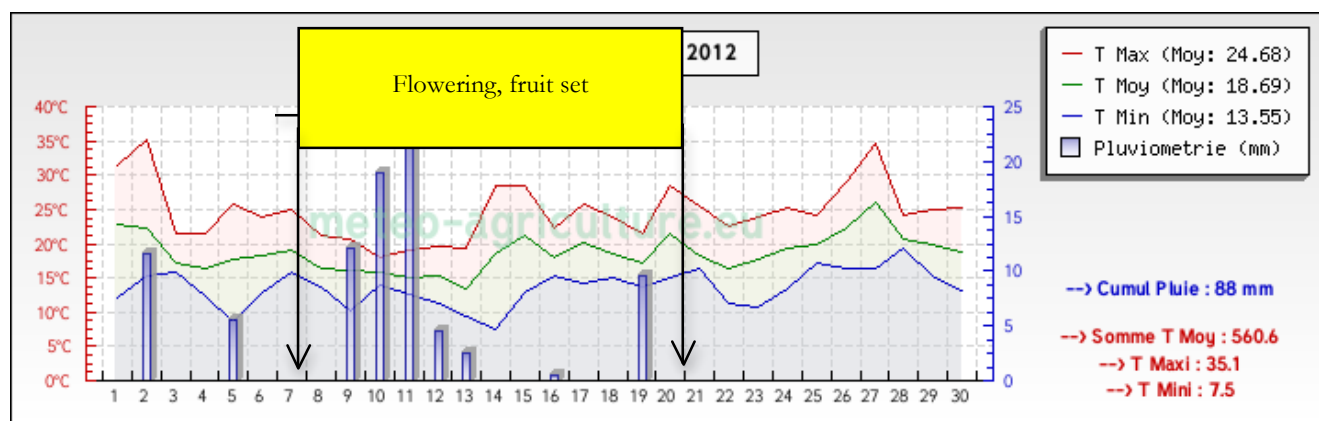


Figure 1: Daytime temperatures and precipitation (mm) in June 2012 in Margaux

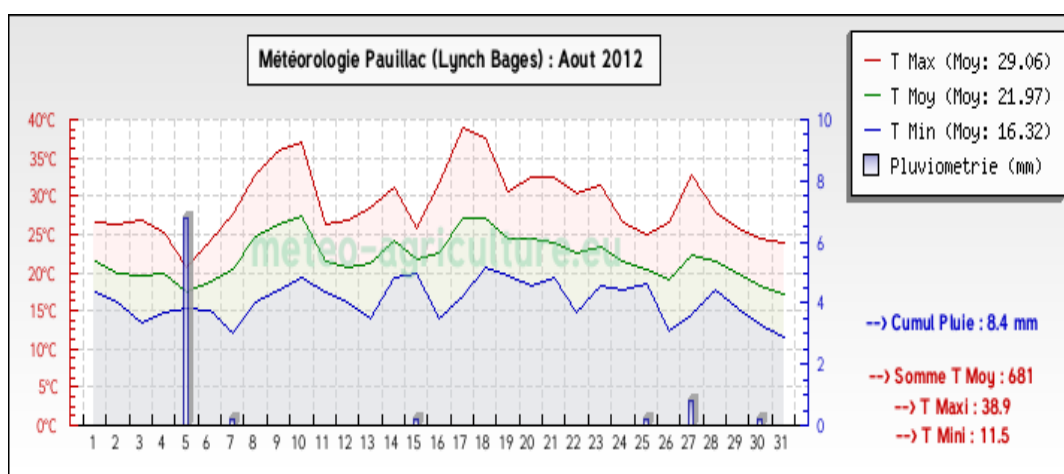
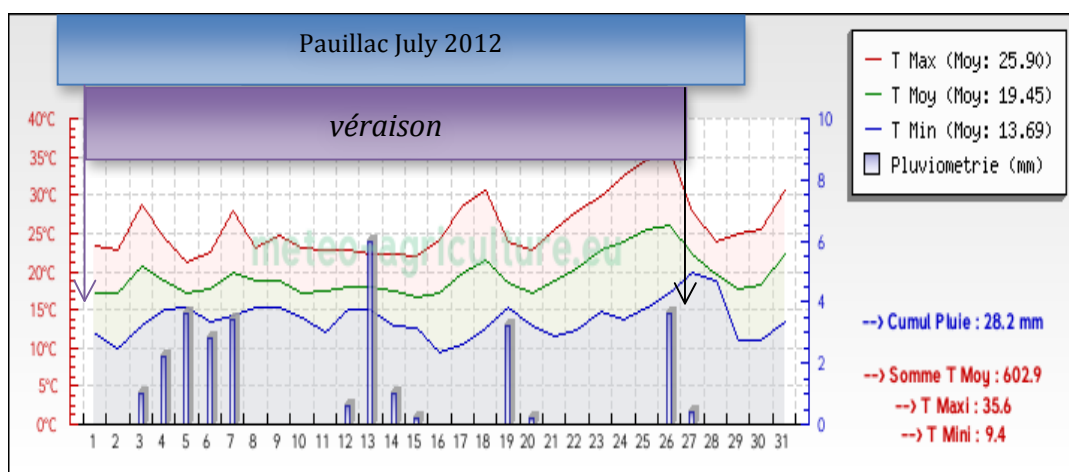


Figure 2: Temperatures and precipitation in July/August 2012 in Pauillac

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			
	2012	2011	2010	1981-2010	2012	2011	2010	1981-2010
July	14.4	14.8	16.6	15.8	25.6	24.8	28.2	26.9
August	17.1	16.3	14.9	15.7	28.5	27.4	26.8	27.1
September	13.6	14.9	12.3	12.9	24.9	25.5	24.4	24.0

Véraison occurred during dry weather that slowed, and then stopped, vine growth

The first two weeks of July were normally sunny, not very rainy and relatively cool. Seasonal hot dry weather really only set in after the 15th. Vine growth slowed down in early August and came to a halt towards the 10th of that month.

Véraison for white wine varieties began in late July, was relatively even, and was completed in early August. Colour change in Merlot and both Cabernets began in the first few days of August and took place over a 3-week period. Half-véraison occurred in the middle of August even though many Cabernet vines still had green bunches at the end of the month. Véraison for Petit Verdot was later

(early September), but quicker. The colour change was mostly slow and laborious, especially for the Cabernets, and the resulting uneven ripening was one of the main characteristics of the 2012 vintage. Once again, this was due to the cold, wet weather during flowering in early June. Obviously, vineyard managers could not remain passive when faced with such heterogeneous ripening, and many made sure to cut off green or insufficiently red bunches after 15 August. This sacrifice was especially painful because the crop already promised to be small. However, those managers who did not take this courageous step at the right time ran the risk of picking some late-ripening grapes impossible to eliminate during the harvest, likely to give a herbaceous flavour to the wine.

Above and beyond these reservations, the third prerequisite for a good red wine vintage – i.e. limited water supply before and during véraison to bring vine growth to a complete halt – was practically satisfied. Ideally, the vines would have stopped growing one week earlier, at the beginning of véraison, as they did in 2010.

Slow ripening in the hot, dry months of August and September

August was hot, dry and sunny (Table V, figures 2, 3 and 5). Minimum temperatures were above the thirty-year average and both minimum and maximum temperatures were higher than in 2011 and 2010. The thermometer went above 30°C on 12 days in August 2012, compared to just 5 in August 2011.

Rainfall in August 2012 was barely 20 mm, as compared to nearly 90 mm in 2011 and an average of 60 mm. Precipitation was thus similar to the same month in 2010, 2009 and 2005, which were all particularly dry (figure 5).

September was also warmer and drier than average (Table V, figures 2, 3 and 5) and water stress became increasingly severe. Shallow-rooted young vines as well as heavily-laden vines suffered. Some plots temporarily experienced blocked ripening in late August/early September. Vines with deep roots and those planted on limestone or clay soil coped more successfully with the persistent drought in the summer of 2012 and ripened normally.

Therefore, the fourth prerequisite for a good red wine vintage, i.e. slow, complete ripening thanks to hot, dry weather in August and September, but without excessive heat, was satisfied in 2012.

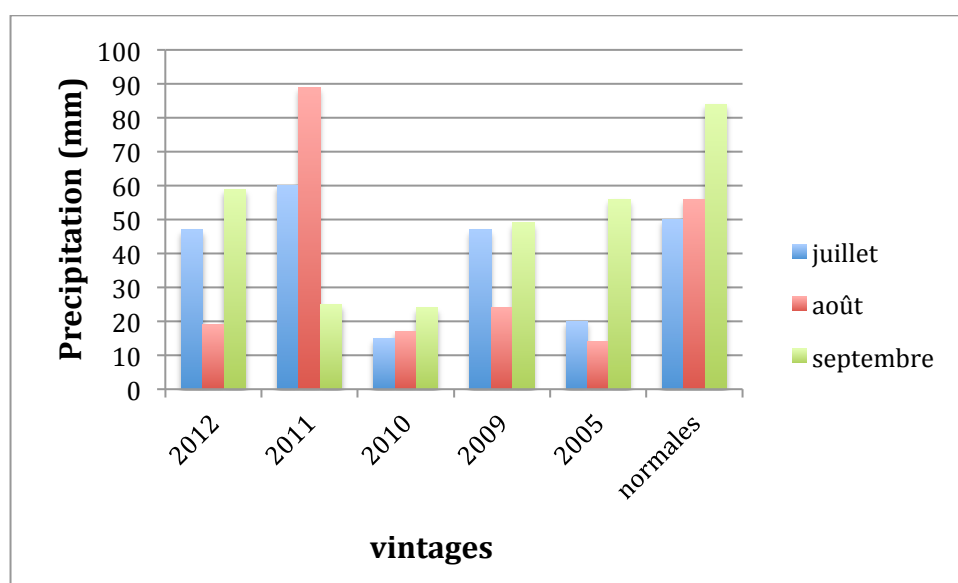


Figure 3: Precipitation from July to September in 2012, 2011, 2010, 2009 and 2005
Normal: 1981-2010 averages
(Météo France Bordeaux Mérignac)

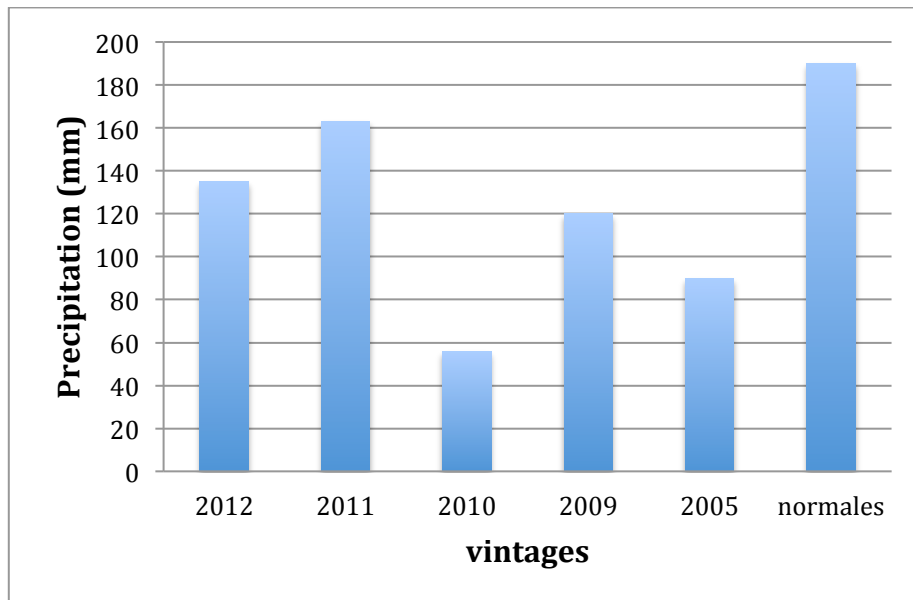


Figure 4: Rainfall from July to September in 2012, 2011, 2010, 2009, and 2005
 Normal: 1981-2010 average
 (Météo France Bordeaux Mérignac)

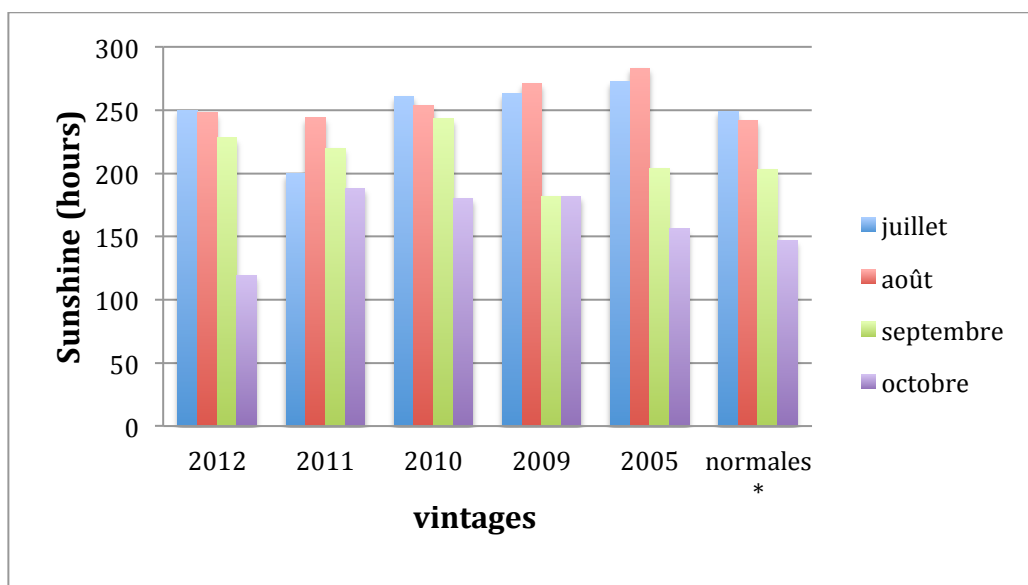


Figure 5: Sunshine (hours) from July to October 2012
 * normal: 1981-2010 average
 (Météo France Bordeaux Mérignac)

Later harvest than in recent years, with a rush to pick at the end due to inclement weather

The dry white wine harvest in Pessac-Léognan and the Graves lasted from the 2nd to the 18th of September, i.e. 2 weeks later than in 2011 (Table VI). The weather during this period was sunny and dry during the day and cool at night, which helped to lock in aromas and acidity (figure 6). The grapes were in perfect condition, without any traces of grey rot. They could be picked quickly and required practically no sorting. Yields were lower than average for Sauvignon Blanc, but relatively satisfactory for Sémillon.

Freshly picked Sauvignon Blanc grapes had higher sugar levels in 2012 than in 2011 – comparable to those in 2010. Total acidity was slightly higher than in 2010 and similar to 2011 (Table VII). The

balance between sugar and acidity in berries from suitable terroirs, combined with fruit in impeccable condition – essential criteria for white grapes – gave rise to great hopes for a very good dry white wine vintage in 2012. However, it was important to pick fairly quickly before the acidity dropped.

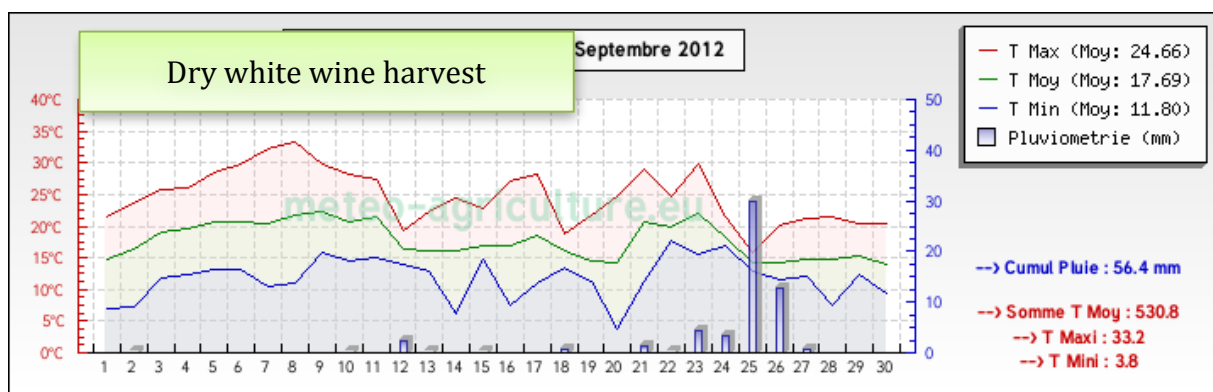


Figure 6: Temperatures and precipitation in September 2012 in Léognan

Table VI: Harvest dates for dry white wine grapes in the Graves region in 2010, 2011 and 2012

	Sauvignon Blanc	Sémillon
2010	2 - 15 September	15 - 20 September
2011	22 - 31 August	1 - 5 September
2012	3 - 10 September	10 - 18 September

Table VII: Example of the composition Sauvignon Blanc grapes from a plot with limestone soil in the Graves region in 2010, 2011, 2012

	Potential alcohol (%)	Total acidity (g/L)	pH
2010	12.6	4.6	3.15
2011	11.6	5.6	3.05
2012	12.9	5.3	3.05

The weather changed abruptly starting on 25 September, when the beautiful summer gave way to an early, wet autumn. October 2012 was rainier and less sunny than usual (figures 7 and 8). The heaviest showers fell on the 18th, 19th and 20th of that month.

Picking of the earliest-ripening Merlot grapes began on 24 September and became widespread on 1 October. The harvest for the Cabernets and Petit Verdot started on the 8th. However, there was a risk of grey rot, and it became urgent to finish picking as soon as possible. Most estates brought in their last grapes before the 18th.

The least productive plots, i.e. those that best resisted drought conditions and, above all, those that underwent green harvesting in late August to eliminate late-maturing bunches, ripened in a satisfactory way. However, many of the Cabernets would have needed another good week of fine weather to achieve full maturity.

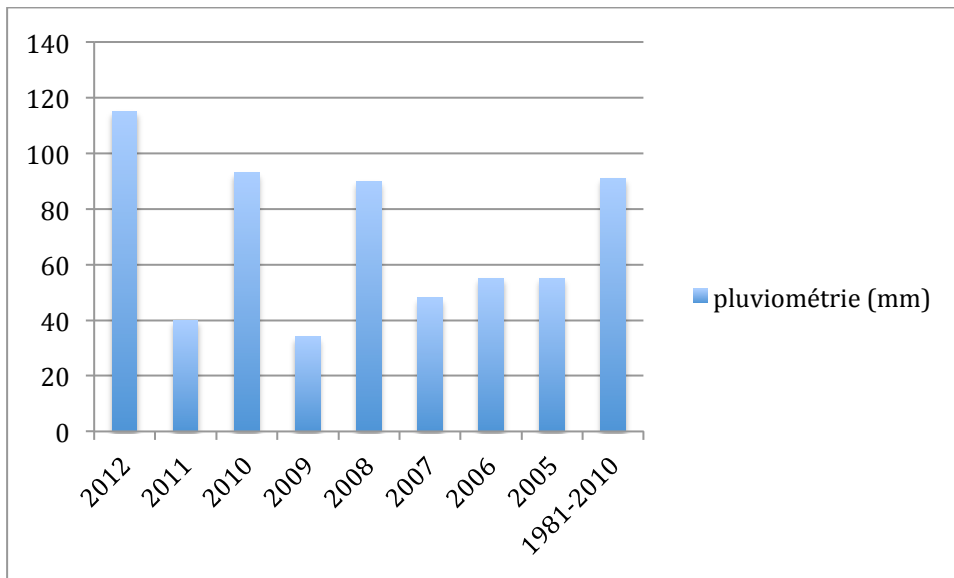


Figure 7: Precipitation (mm) in the month of October since 2005

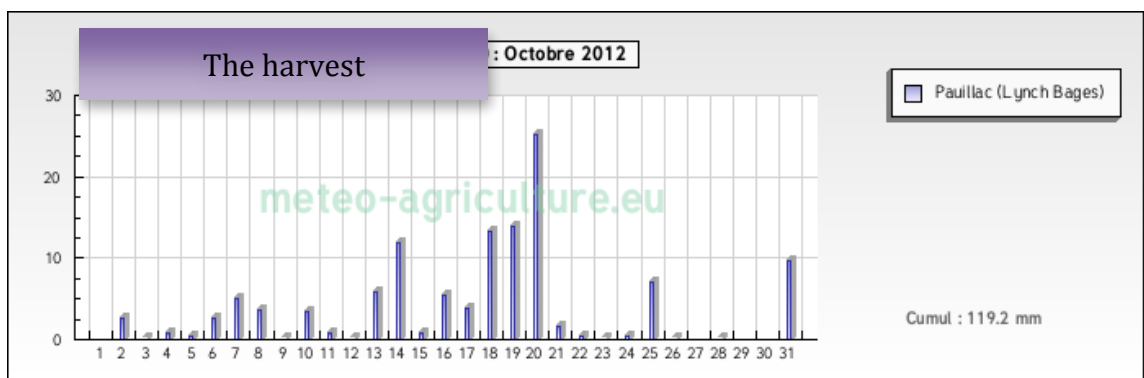
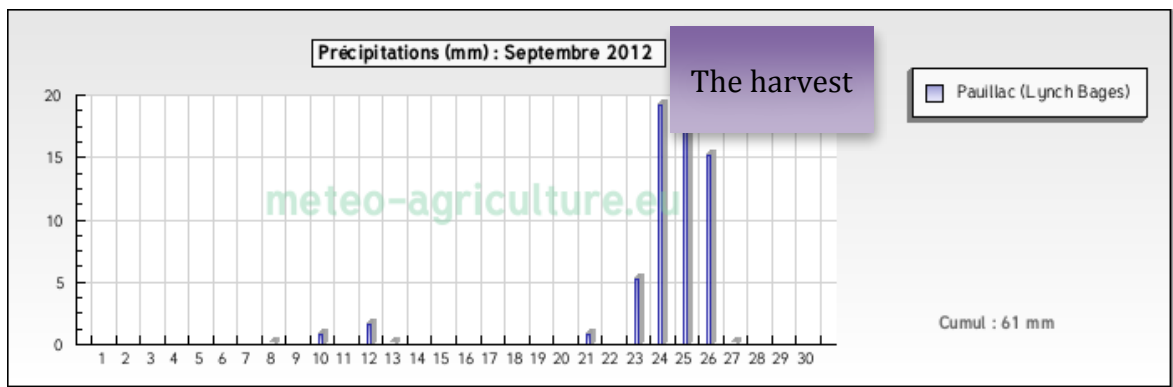


Figure 8: Precipitation in Pauillac in September and October 2012

Freshly picked Merlot grapes in 2012 were heavier than in 2011 and 2010, and close in weight to those in 2009. Sugar levels were higher than in 2011 and comparable to 2010. Total acidity was slightly lower than in 2011, 2010 and 2009. Malic acid content was similar to or a little lower than in 2011, with marginally higher pH. Anthocyanin content in Merlot was close to that in 2011 and 2009, but lower than in 2010.

The 2012 Cabernet berries were comparable in size to 2009, but larger than in 2010 and 2011. Their sugar content, similar to 2010, was also higher than in 2011. However, there was a significantly

higher malic acid content in the 2012 Cabernets compared to other recent vintages. Their anthocyanin content was similar to 2009, but lower than 2010 (figure 10). Some 2012 Cabernet grapes (Sauvignon and Franc) exhibited herbaceous character to varying degrees as their isobutyl methoxypyrazine content was above the perception threshold. This was due to : long, spread-out flowering and véraison during a wet spring, blocked ripening due to prolonged summer drought, too heavy a crop load, late or inadequate leaf thinning, and insufficient green harvesting to eliminate late-ripening grapes at the right time. However, it would be wrong to consider that all the 2012 Cabernets were herbaceous. In fact, many of them were untouched by this olfactory defect.

Once again, the quality of the Petit Verdot grapes was a pleasant surprise. Threatened with grey rot following a late colour-change, they were picked between the Merlot and Cabernets. They were deeply-coloured, sweet, and fruity, with low acidity and no herbaceous character.

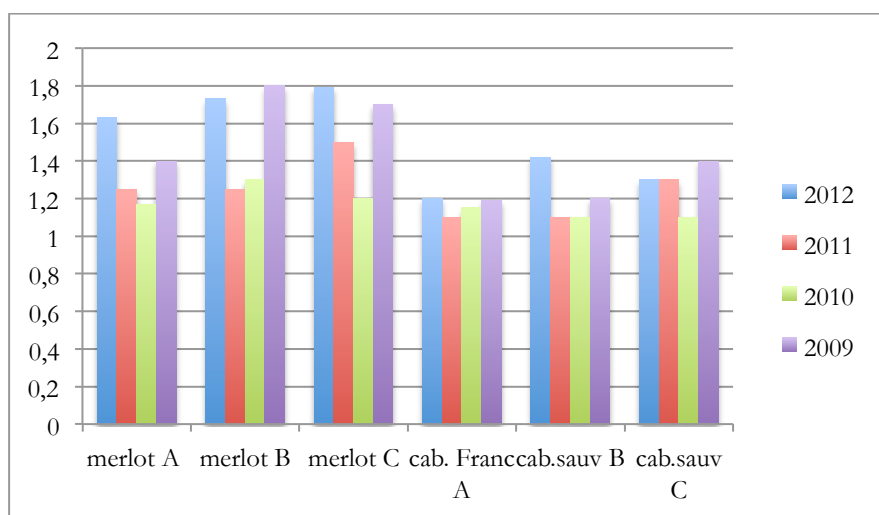


Figure 9: Weight (g/L) of Merlot, Cabernet Franc, and Cabernet Sauvignon berries in 2009, 2010 and 2011 in plots of classified growth vineyards in Saint Emilion (A), Léognan (B) and Pauillac (C)

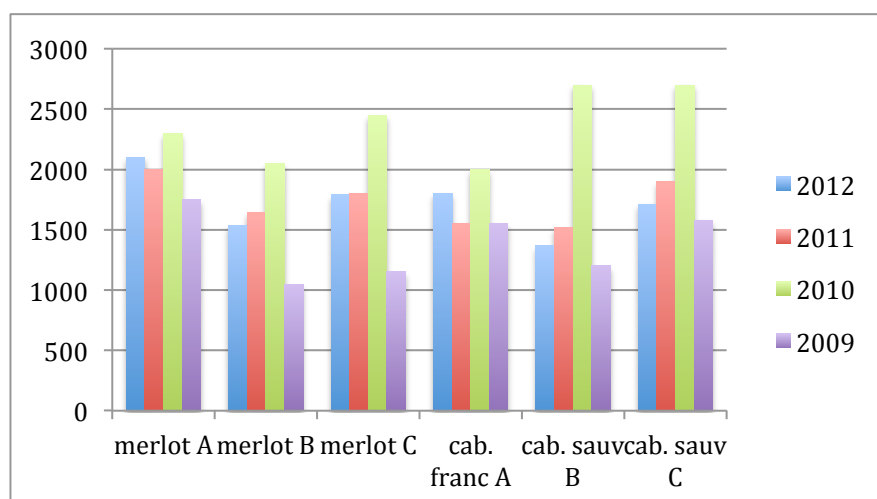


Figure 10: Total anthocyanin content (mg/L) of Merlot, Cabernet Franc, and Cabernet Sauvignon berries in 2009, 2010, 2011 and 2012 in plots of classified growth vineyards in Saint Emilion (A), Léognan (B), and Pauillac (C)

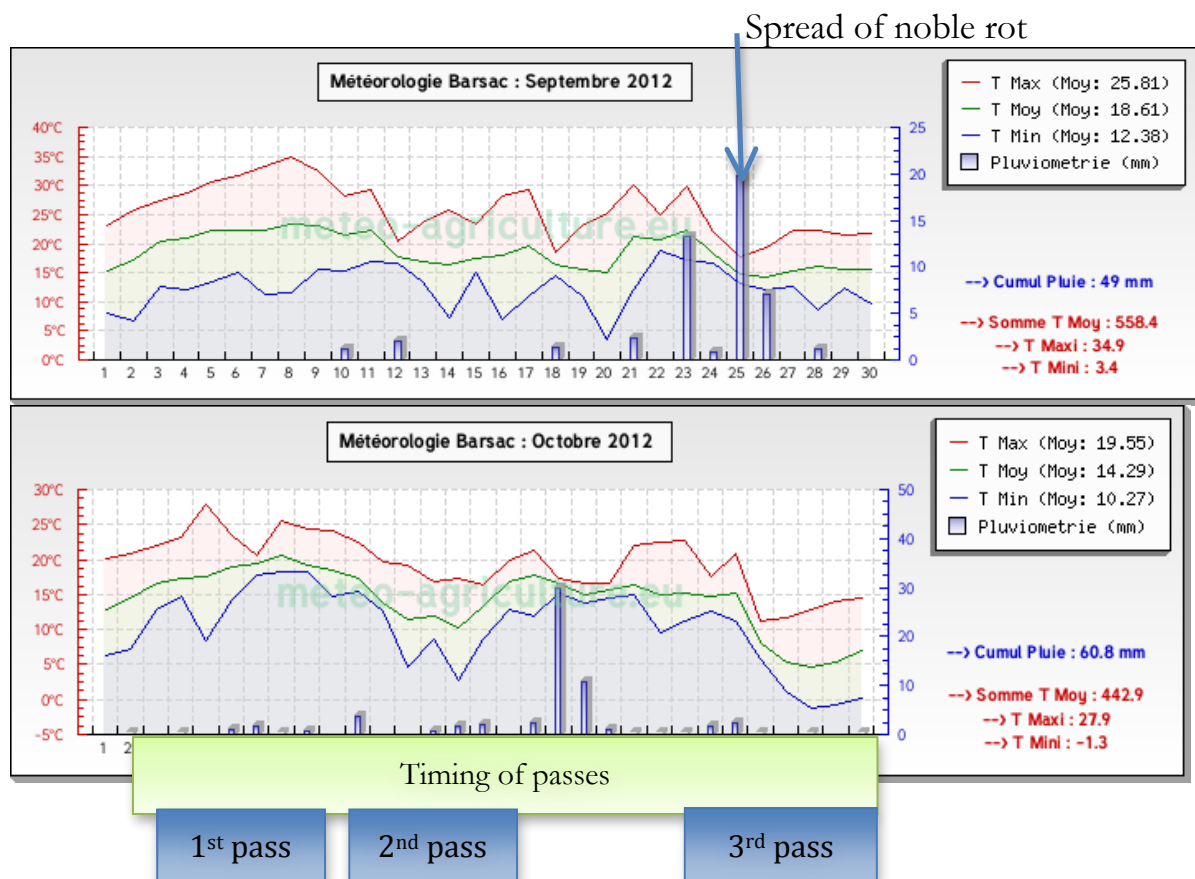


Figure 11: Precipitation and temperatures in Barsac in September-October: spread and progression of noble rot, and an example from an estate in Barsac.

The 5th prerequisite for a great vintage in Bordeaux – fine, moderately warm weather with little rainfall during the harvest to attain optimum ripeness in each plot without dilution or rot – was only completely satisfied for dry white and Merlot wines. Not all plots of Cabernet were able to benefit from these conditions.

The harvest in the Sauternes region was complicated for two reasons: summer drought and autumn showers. The extremely dry weather from mid-July to August caused considerable water stress, except on limestone soils where groundwater reserves are always more plentiful. There was still no sign of noble rot in the Sauternes region on 22 September, by which time the dry white wine harvest had finished. The first outbreak of botrytis followed showers totalling approximately 40 mm (figure 10) on 23, 25 and 26 September. The fungus subsequently developed to varying degrees according to the vineyard. Noble rot spread most quickly on Barsac's limestone plateau, where the harvest started in the first week of October. On terroirs where summer water stress was most severe, this late developing botrytis reduced the time frame for weather propitious to concentration. The spread of noble rot became slower and slower as the autumn went on. Interrupted by rain on 19 and 20 October, picking continued until the end of the month. Some 50 mm rain in the first week of November marked the end of the harvest. Any grapes not picked by then were lost. Despite these difficulties, it was possible to harvest a small quantity of promising grapes with very pure noble rot on limestone soils. These produced very good wine with sugar levels close to 2008, but lower than in 2009 and 2011.

Very good dry white wines, great Merlot on the best-suited terroirs, heterogeneous Cabernets, and small quantities of Sauternes, including some delicious wines

Not all five prerequisites for a great vintage in Bordeaux were satisfied in 2012. Spring weather made it impossible to fulfil the first two requirements. Flowering and véraison did not go well. The third prerequisite was partially satisfied in 2012, but vine growth just slowed down (rather than stopping) prior to véraison, and only finally came to a halt at mid-véraison. The fourth prerequisite (slow ripening during a hot, dry month of August) was satisfied in 2012. However, only white wine grapes and Merlot fully satisfied the fifth and last requirement. They took advantage of fine, sunny weather with limited rainfall and were able to be picked at complete oenological maturity without any fear of rot. Many Cabernet grapes deserved to ripen longer to lose their herbaceous flavour, but were prevented from doing so by October showers. Furthermore, the late arrival of noble rot on certain terroirs and rain in mid-October also complicated the harvest in Sauternes.

The 2012 dry white wines, both Sauvignon Blanc and Sémillon, are very good : elegant, with beautiful acidity. Merlot grapes from limestone or clay and gravel terroirs are truly great: deeply-coloured, fruity, concentrated and silky. They will play a key role in the final blend. Certain Cabernet wines from the best terroirs that resisted summer drought conditions are also successful. Those from other terroirs lacked a further week of ripening. The Petit Verdot wines are good, but not outstanding. The small quantities of sweet white wines produced are pure and well-balanced.