The 2012 vintage in Bordeaux

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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 called for considerable efforts and sacrifices. It would be risky, as always, to assimilate 2012 with another year since the climate of the Bordeaux region is such that it is extremely unlikely for two successful vintages to be extremely 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 disturbed autumn weather necessitating quick picking. It is therefore the polar opposite of 2011, an early-maturing year in which summer occurred in spring, went away 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 with weather patterns more in keeping with great years – but each with its own specific characteristics.

Winter weather in spring slowed down vine growth and brought on the beginning of a homogeneous crop.

After a wet, mild month of December, early 2012 was dry and cold. With 15 morning frosts and an average temperature 4.9°C lower than usual, February was a particularly cold month. It was also very dry with a 65 mm water deficit (Table I). March featured mild periods in the middle and at the end of the month alternating with cool, but not significantly rainy periods. The water deficit grew in a way reminiscent of the 2011 vintage. Bud break was delayed due to a very wet (+101 mm more rain than usual in April) and cool (2.3°C lower than average in April) early spring (Figure 1). Buds first appeared in late March in the most early-ripening plots and in mid-April in our reference vineyards i.e. three weeks later than in 2011. The beginning of vine growth was slowed down by poor weather. There were two incidences of spring frost in 2012, on the night of 16 April in the Libourne and Entre-Deux-Mers regions, and on that of 9 May in the Graves area. The uneven growth observed during bud break was confirmed at this time.

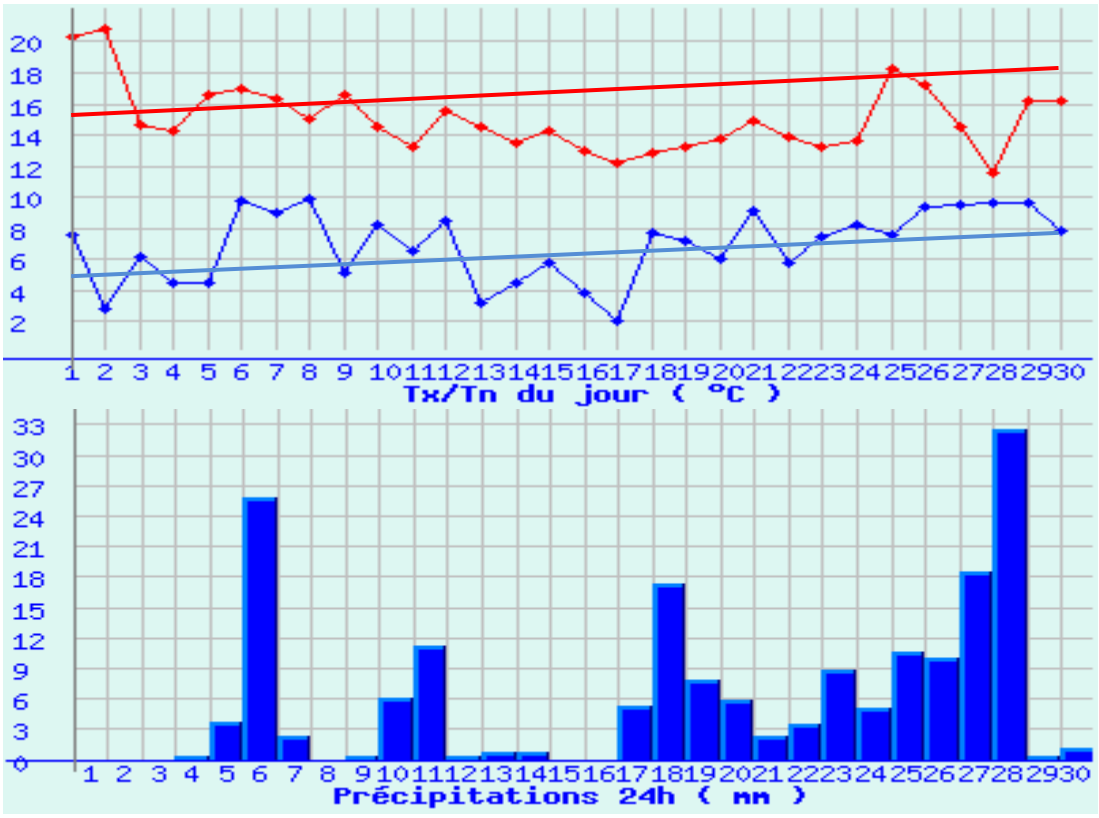

Figure 1

Daily variations in temperature and precipitation in April 2012
Data from Mérignac (Météo France)

The month of May was more conducive to vine growth, with close to average (Table I) temperatures, but variable weather during the first 20 days did not make up for the delay. The first flowers appeared later than usual, during a spell of dry weather, at the very end of May – almost a month later than 2011, but only a few days later than 2010. Unfortunately, the weather was dull and wet in early June during flowering, with cool temperatures from the 6th to the 13th (Figure 2). Mid-flowering was reached on 11 June (Table II) and, much like bud break, was spread out and accompanied by coulure (shot berries) and millerandage (abnormal fruit set). Grape varieties sensitive to shot berries (Merlot, Sauvignon Blanc and Cabernet Franc) therefore suffered to varying degrees. As usual, old vines, frequently virus-infected, suffered the greatest crop losses. The rain stopped in mid-June. More summerlike high pressure conditions arrived starting on the 22nd and temperatures were close to 30°C on the 26th and 27th.
Mildew struck with extreme virulence during this abnormally rainy spring. 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 suppressed with synthetic fungicides. However, organic producers, who only allow themselves the use copper salts, experienced significant and sometimes heavy crop loss, especially for Merlot.

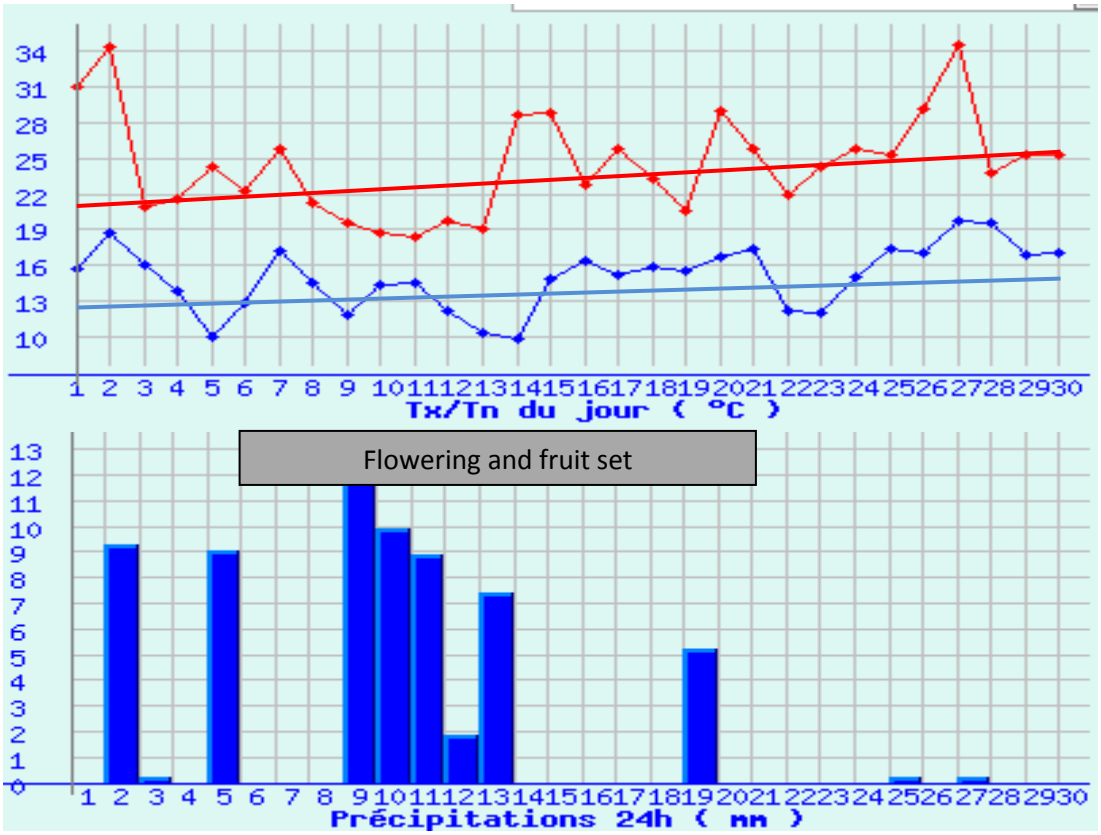

Figure 2
Temperatures and precipitation in June 2012
Data from Mérignac (Météo France)

Table I
Weather indicators for 2012: rainfall and temperature (compared to the 1971-2000 average) and hours of sunshine (compared to the 1991-2000 average)
Data from Mérignac (Météo France)

	Hours of sunshine (h)		Precipitation (mm)		T°C average minimum (°C)		T°C. average maximum (°C)	
	2012	*Average 1991-2010*	2012	*Average 1981-2010*	2012	*Average 1981-2010*	2012	*Average 1981-2010*
January	58	*95*	53	*87*	4.4	*3.1*	10.1	*10.0*
February	173	*115*	6	*71*	-1.6	*3.3*	7.3	*11.7*
March	255	*170*	31	*65*	5	*5.4*	18.1	*15.1*
April	120	*182*	179	*78*	6.9	*7.4*	15.1	*17.3*
May	259	*217*	28	*80*	12	*11.0*	22.5	*21.2*
June	221	*239*	65	*62*	15	*14.1*	24.6	*24.5*
July	250	*249*	47	*50*	14.4	*15.8*	25.6	*26.9*
August	248	*241*	19	*56*	17.1	*15.7*	28.5	*21.7*
September	228	*203*	59	*84*	13.6	*12.9*	24.9	*24.0*
October	119	*147*	115	*93*	11.2	*10.4*	18.8	*19.4*

Table II

Mid-flowering and mid-véraison dates in 2012 compared to 2011, 2010, 2009, 2008, 2007, 2006, 2005, and the average of the last 10 years

Period	Mid-flowering	Mid-véraison
2001-2011	2 June	4 August
2005	30 May	3 August
2006	4 June	6 August
2007	26 May	3 August
2008	11 June	15 August
2009	5 June	3 August
2010	9 June	9 August
2011	17 May	21 July
2012	**11 June**	**12 August**

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

The late summer was not truly hot until mid-August, but the weather was sufficiently dry to stop vine growth and enhance ripening.

The month of July featured record low maximum temperatures (3 to 5°C less than the norm). With an average temperature 1.4°C lower than usual (Table I), July 2012 was the 5th coolest month of July in the past 30 years. Fortunately, an anticyclone from the Azores grew in strength and a period of fine, dry and very sunny, but relatively cool weather set in. Rainfall was less than in a normal year, and a water deficit appeared. Vine growth slowed down in early August and came to a halt towards the 10th of that month.

Despite major showers in spring and a cool early summer, overall rainfall in 2012 was less than in 2009 (Figure 3). The water balance in 2012 was comparable to 2010 (Figure 4). The water deficit grew to be significant when the grape bunches became compact, and was accentuated during véraison and much of ripening. Less early and less sudden than in 2011, water stress was nevertheless marked during véraison, comparable to 2010 and greater than 2009.

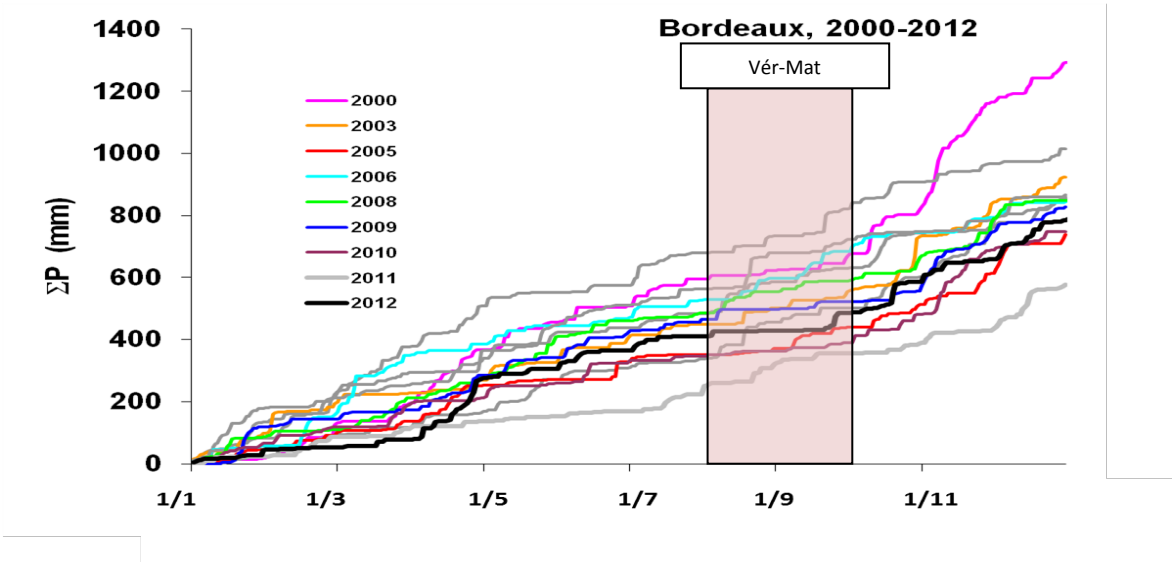

Figure 3
Accumulated rainfall (in mm) in 2012
Data from INRA (Philippe PIERI).

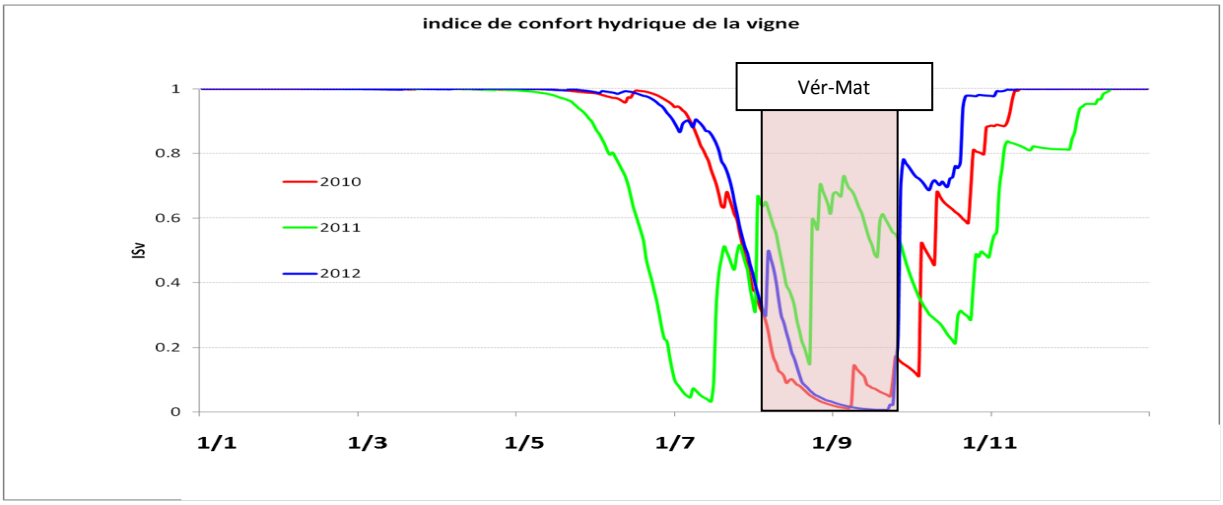

Figure 4
Variation in the water stress index in 2012 compared to 2011 and 2010
Data from INRA (Philippe PIERI).

August was remarkably dry, hot and sunny (Figure 5). Maximum temperatures were especially high in the latter half of August, just after mid-flowering. This occurred on 12 August, or three weeks later than in 2011 (Table II). These conditions enabled the vines to catch up somewhat with delayed growth. However, periods of extreme heat caused slight burning damage or blocked véraison of the most-exposed bunches in certain locations. This increased the impression of unevenness already observed at the beginning of the growth cycle, and véraison lasted until late August like in 2010.

Colour change was slow and laborious, especially for the Cabernets, and the resulting uneven ripening is one of the main characteristics of the 2012 vintage. Once again, this was caused by the cold, wet weather during flowering in early June. Obviously, vineyard managers could not remain

idle when faced with such heterogeneous ripening, and they 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 sort out during the harvest. These had a herbaceous flavour that was conveyed to the wine.

Above and beyond these reservations, the third prerequisite for a good red wine vintage – 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, like in 2010.

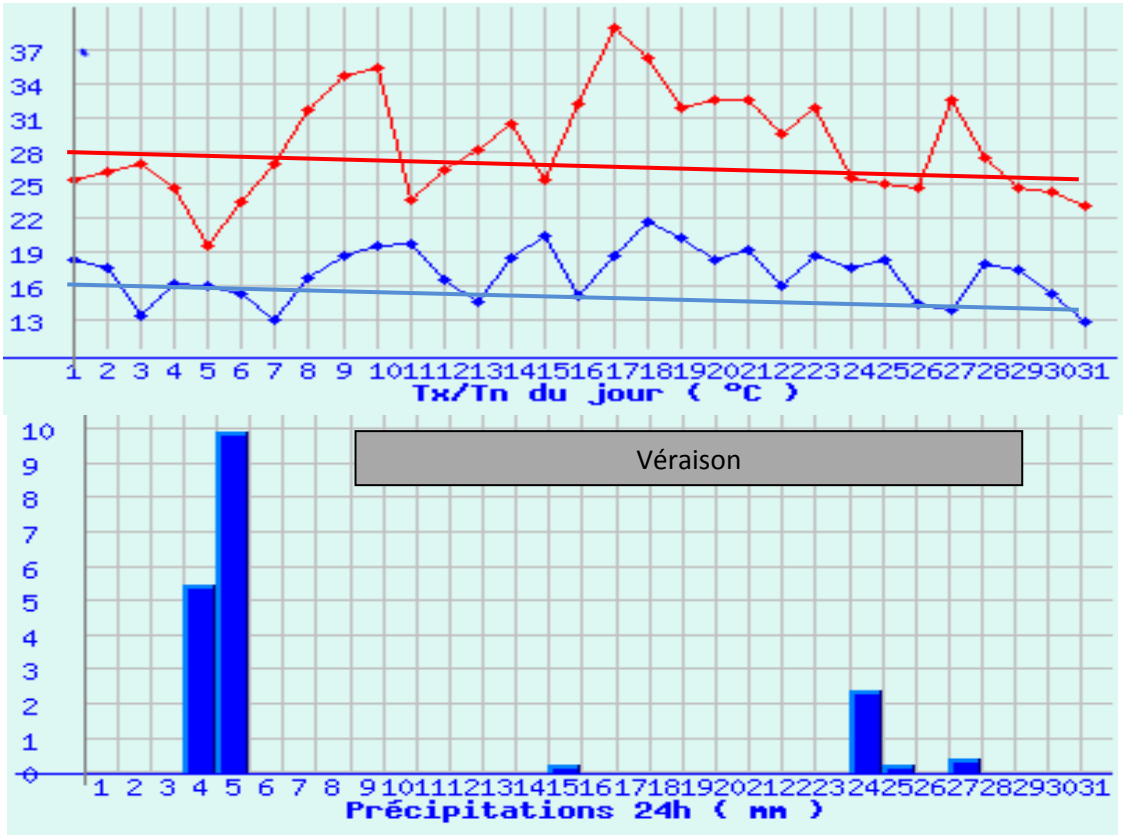

Figure 5
Daily variations in temperature and precipitation in August 2012
Data from Mérignac (Météo France)

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

After véraison, the weather was conducive to ripening for the first twenty days of September thanks to little rain, maximum temperatures 1-2°C above average, and a diurnal and nocturnal temperature range propitious to aromatic expression and the synthesis of anthocyanins.
Changes in temperature in base 10 in 2012 (Figure 6) show the vintage to be in keeping with the average over the past 10 years. Readings (Figure 7) show that 2012 was sunnier than the thirty-

year average, with an extremely dry month of August (Figure 8). This was also the case for the first two weeks in September. Water stress thus gradually increased (Figure 4). Shallow-rooted young vines, as well as heavily-laden ones, suffered as a result of this. Some plots temporarily experienced blocked ripening in late August/early September. Vines with deep roots and ones on limestone or clay soil coped more successfully with the persistent drought in the summer of 2012, and ripened normally.

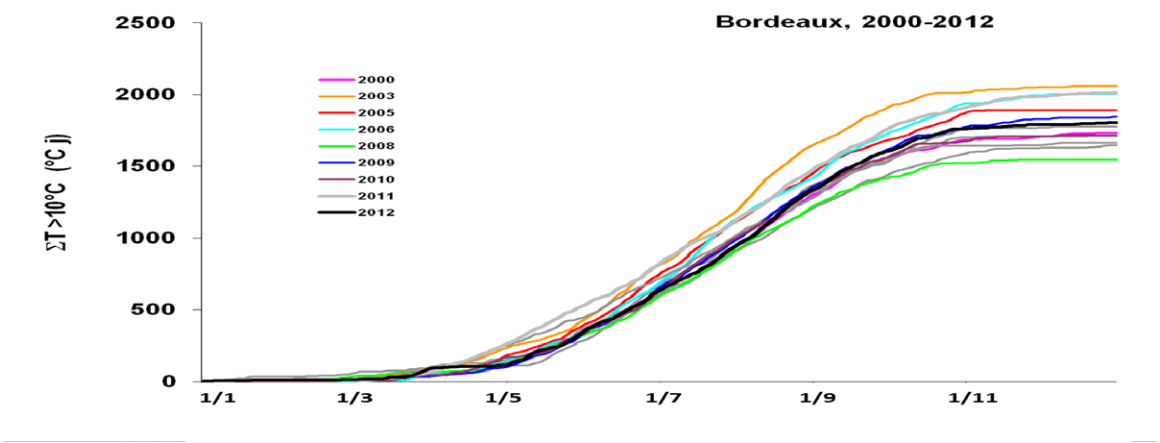

Figure 6

Variation in the sum of temperatures in base 10 in 2012 compared to the 10 previous vintages
Data from INRA (Philippe PIERI).

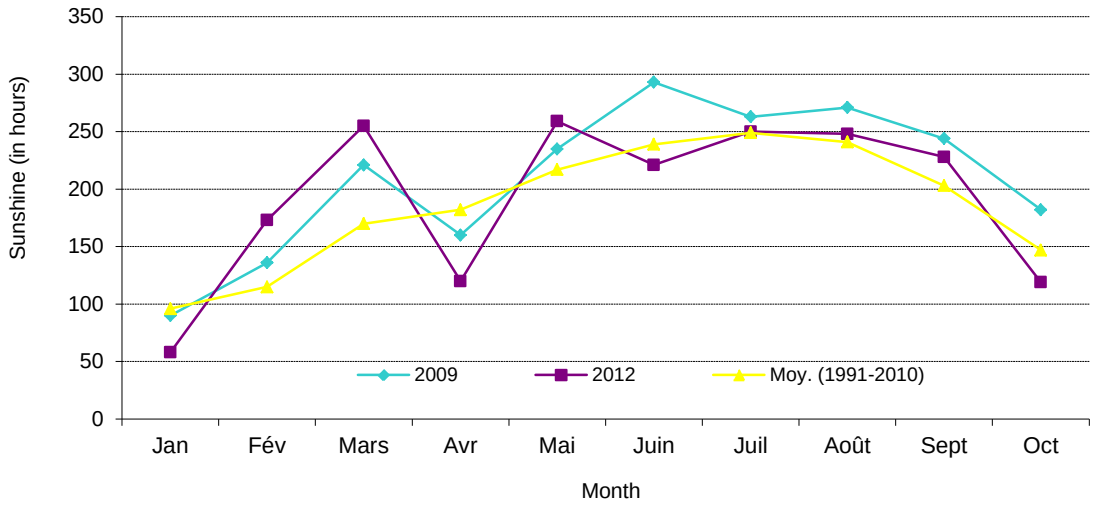

Figure 7

Variation in the hours of sunshine in 2012 compared to 2009 and the 1991-2010 average
Data from Mérignac (Météo France)

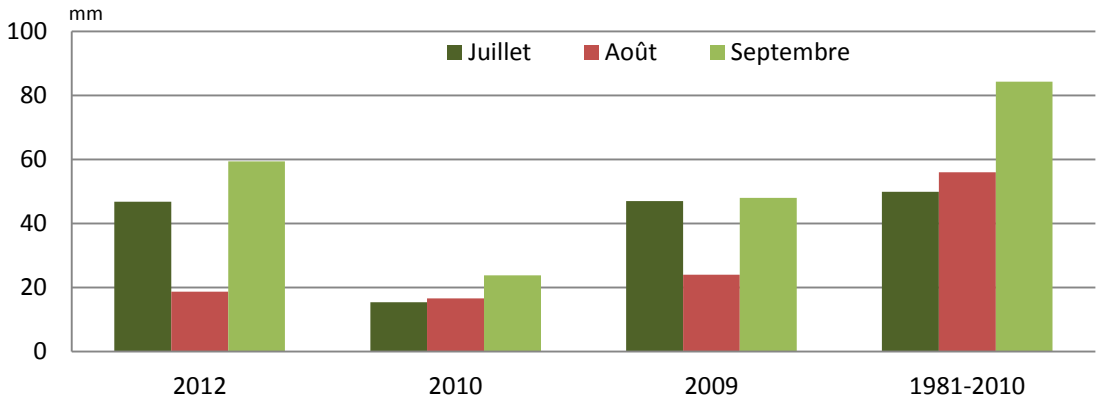

Figure 8
Rainfall (mm) from July to September in 2012, 2010, and 2009 compared to the 1981-2010 average
Data from Mérignac (Météo France)

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 a heat wave, was satisfied in 2012.

A later harvest than in previous years, with a rush to pick at the end due to inclement weather

The dry white wine harvest in Pessac-Léognan and the Graves took place from 2 September to 18 September, i.e. 2 weeks later than in 2011 (Table VI). The weather during this time was sunny and dry during the day and cool at night, which helped to lock in aromas and acidity (figure 9). The grapes were in perfect condition, without a trace 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.

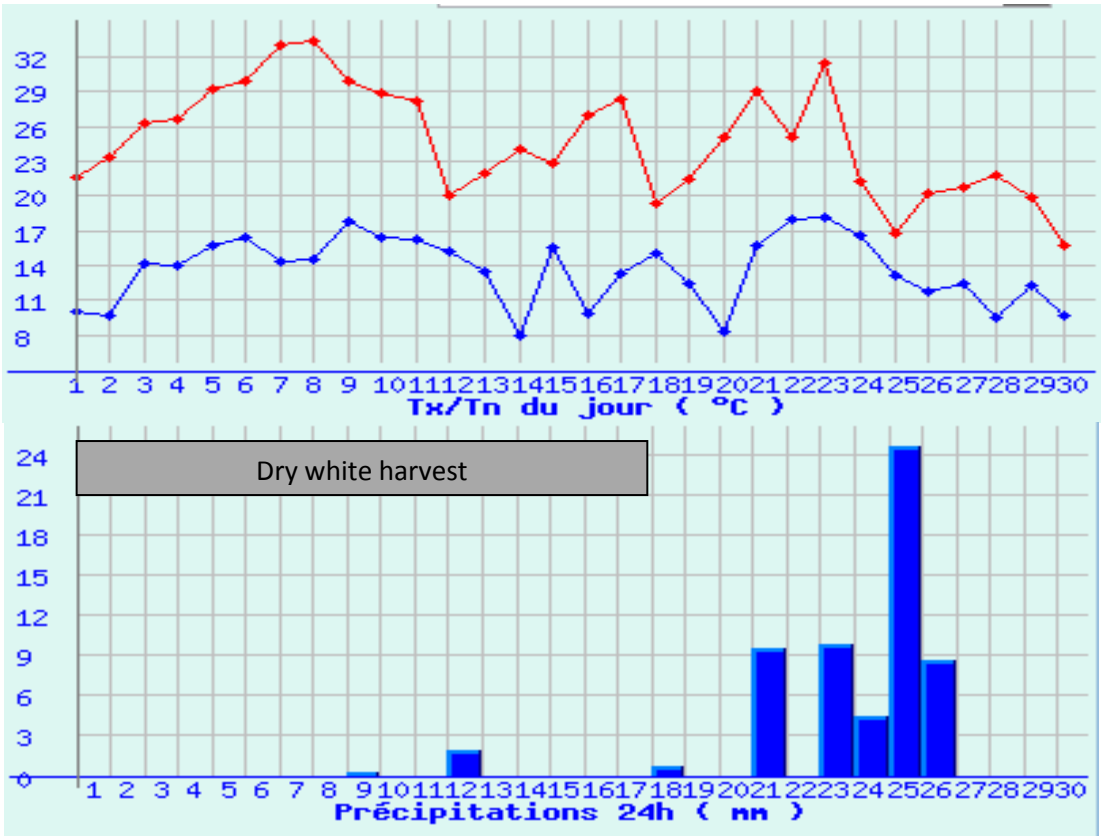

Figure 9
Daily variations in temperature and precipitation in September 2012
Data from Mérignac (Météo France)

Table III:
Dates of the dry white wine harvest in the Graves region in 2010, 2011 and 2012

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

Freshly picked Sauvignon Blanc grapes had higher sugar levels in 2012 than in 2011, comparable to 2010. Total acidity was slightly higher than in 2010 and similar to 2011 (Table IV). The balance between sugar and acidity in berries from suitable terroirs, combined with fruit in impeccable condition – essential criteria for white wine 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.

Table IV:

Example of the composition of Sauvignon Blanc grapes from 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 less sunny than average and also wetter (Figure 10) with major showers on the 18th, 19th and 20th.

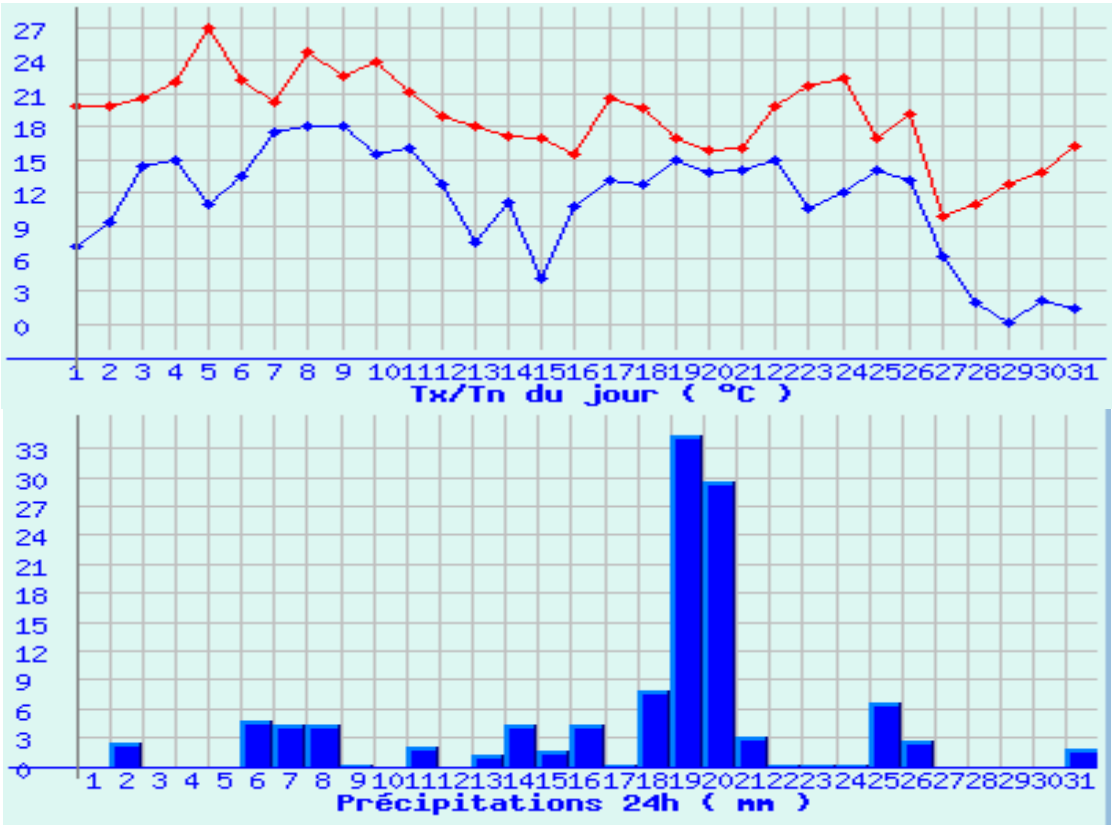

Figure 10

Daily variations in temperature and precipitation in October 2012
Data from Mérignac (Météo France)

The Merlot harvest began on 25 September and picking of the Cabernets started two weeks later. The red wine harvest was already over by the same date in 2011.

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, a good week of fine weather was missing for many of the Cabernets in order to achieve full maturity.

The weight of the berries (Table V) and their anthocyanin content were similar to 2009 (Figures 11 and 12), but the skins were thicker with less extractability in 2012 (Figure 13).

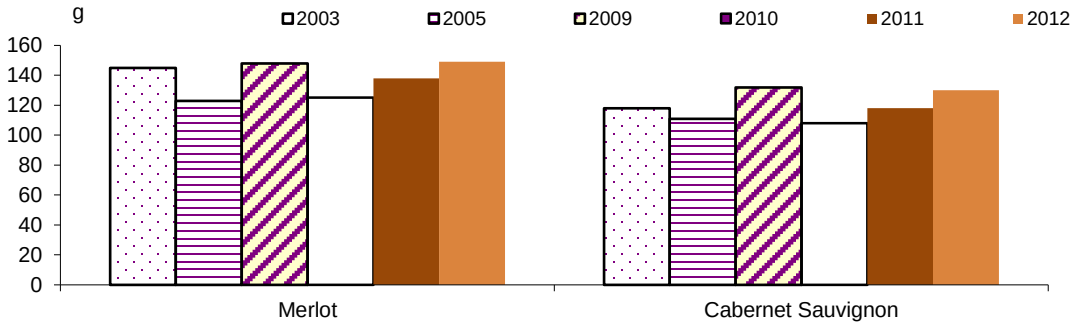

Figure 11
Average weight of 100 ripe berries in 2012 compared to 2011, 2010, 2009, 2005 and 2003

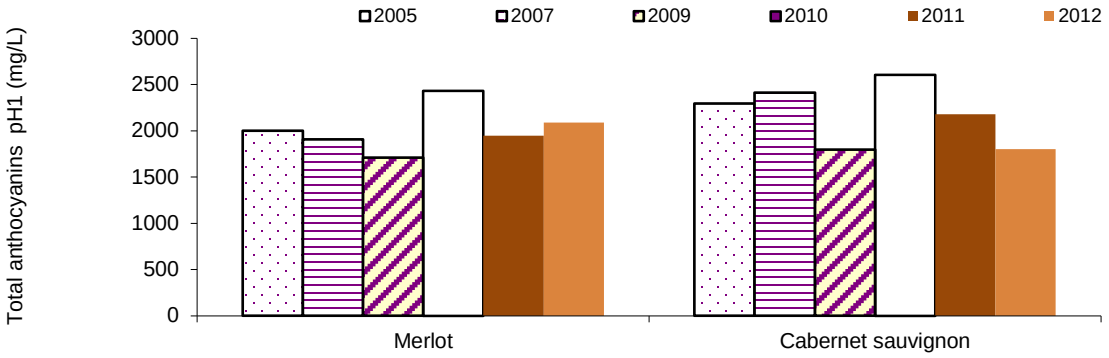

Figure 12
Total anthocyanin content (Aph1) of the 2012 vintage compared to 2011, 2010, 2009, 2007 and 2005

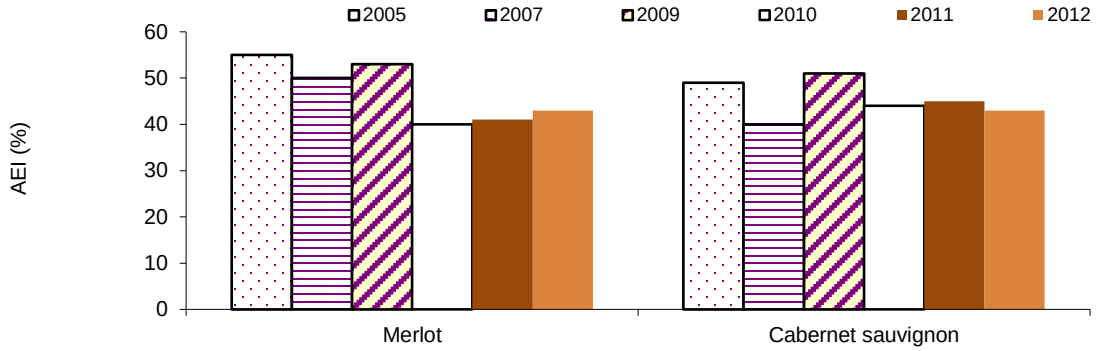

Figure 13
Anthocyanin Extractability Index (%) of the 2012 vintage compared to 2011, 2010, 2009, 2007 and 2005

Table V

Variations in grape sugar content and acidity during ripening

	Weight per 100 berries (g)	Sugars (g/l)	TA (g/L H_2SO_4)
2012			
3/9 Merlot	155	203	4.3
Cabernet Sauvignon	149	178	5.7
24/9 Merlot	113	249	2.4
Cabernet Sauvignon	130	226	3.5
2010			
30/8 Merlot	120	198	4.3
Cabernet Sauvignon	101	171	6.1
22/9 Merlot	125	242	3
27/9 Cabernet sauvignon	108	225	3.6
2009			
31/8 Merlot	148	231	3.8
Cabernet Sauvignon	126	202	5.7
22/9 Merlot	148	253	3.1
Cabernet Sauvignon	132	216	3.8

Sugar levels in Merlot were generally comparable to 2010 and slightly less than 2009, whereas the Cabernets were comparable in this respect to 2010 and slightly higher than in 2009. Acidity levels, on the other hand, were lower.

Certain 2012 Cabernet grapes (Sauvignon and Franc) displayed varying degrees of herbaceousness because of an isobutylmethoxypyrazine content above the detection 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 badly-adapted leaf thinning, and insufficient green harvesting to eliminate late-ripening grapes at the right time. However, it would be a mistake to consider the 2012 Cabernets herbaceous because many of them did not suffer whatsoever from this olfactory defect. Concentrations of these compounds were relatively low in our reference vineyards (Figure 14) and below the olfactory detection threshold (15ng/l) because of their rapid breakdown starting in late August due to well-managed green pruning.

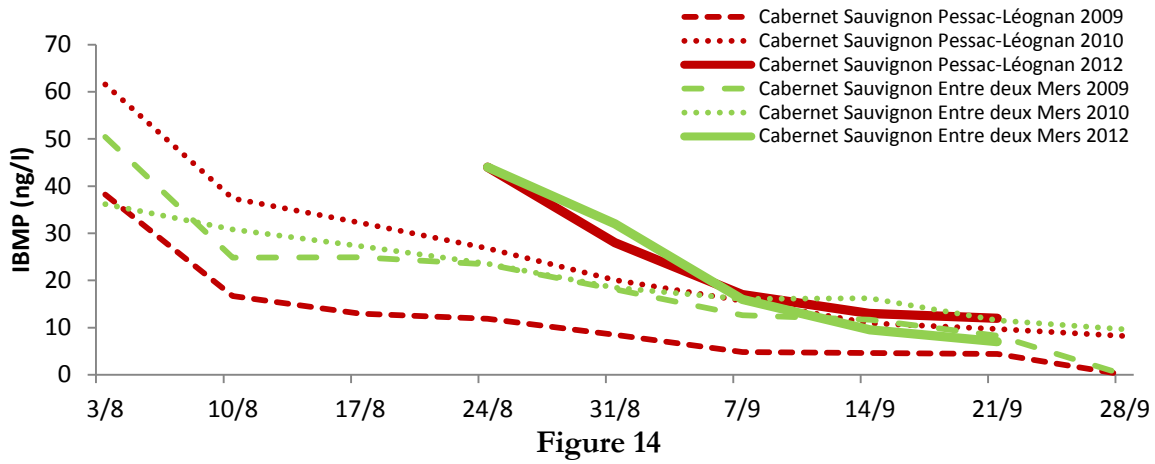

Figure 14

Variations in levels of IBMP during ripening of Cabernet Sauvignon grapes in 2009 and 2010

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 thus perfectly satisfied only for dry white and Merlot wines. All plots of Cabernet were not able to take advantage of such 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 greater. On 22 September, by which time the dry white wine harvest had finished, there was still no sign of noble rot in the Sauternes region. The first outbreak of *botrytis* came about as a result of showers on 23, 25 and 26 September, totalling approximately 40 mm (figure 15). The fungus spread to varying degrees from that point on depending on the vineyard. Noble rot progressed most quickly on Barsac's limestone plateau, where the harvest started in the first week of October. The late development of botrytis reduced the time frame for weather propitious to concentration on terroirs where summer water stress was most severe. The spread of noble rot became slower and slower as the autumn went on. Interrupted by rain on 19 and 20 October, picking continued thereafter until the end of the month. Some 50 mm of rain in the first week of November marked the end of the harvest. Anything not picked by then was lost. Despite these difficulties, it was possible to pick a small quantity of promising grapes with very pure noble rot on limestone soils. These produced very good lots of wine with sugar levels close to 2008, but less than 2009 and 2011.

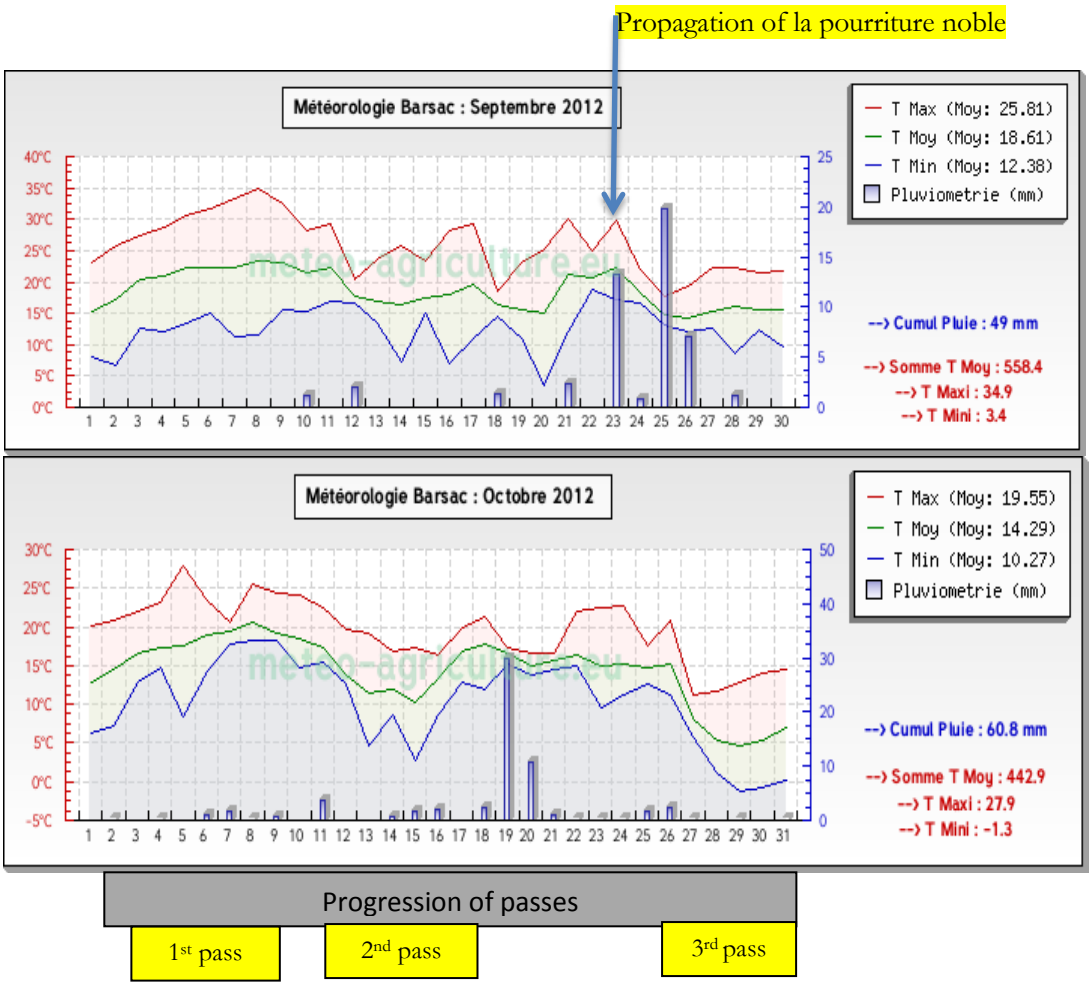

Figure 15

Daily variations in temperature and precipitation in September and October 2012 during the harvest in Barsac

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

The five prerequisites for a great vintage in Bordeaux were not all satisfied in 2012. Spring weather was responsible for not fulfilling the two first requirements. Flowering and véraison did not go well. The third prerequisite was partially satisfied in 2012, but vine growth only slowed down (rather than stopping) prior to véraison, and definitively came to a halt at mid-véraison. The fourth prerequisite (slow ripening during a hot, dry month of August) was also satisfied in 2012. However, only white wine grapes and Merlot fully met the fifth and last requirement. Fine, sunny weather with limited rainfall meant that grapes could be picked at complete oenological maturity without any fear of rot. Many Cabernet grapes deserved to ripen longer to lose their herbaceous flavour, but October showers did not allow for this. And 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 are very good: elegant, and with beautiful acidity for both Sauvignon Blanc and Sémillon. Merlot grapes from limestone or clay and gravel terroirs are truly great: deeply-coloured, fruity, concentrated and silky. They will have an essential role to play 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. Produced in small quantities, the sweet white wines are pure and well-balanced.