

The 2009 Vintage in Bordeaux

Laurence GENY, Bernard DONECHE, and Denis DUBOURDIEU

Bordeaux Faculty of Oenology, Victor Segalen Bordeaux 2 University

Bordeaux Institute of Vineyard and Wine Sciences

in conjunction with: E. GUITTARD, N. DANEDE, G. de REVEL, L. RIQUIER, K. VAN LEEUWEN, P. FRIAND and P. PIERI

The reputation of a new vintage in Bordeaux depends both on the potential quality of the wines and market expectations. For instance, there were no great expectations for the 2006 vintage (overshadowed by 2005), the 2007 vintage suffered from a dismal summer, and the 2008 vintage was released in the midst of a global financial crisis. However, the 2009 vintage, arriving after a lovely summer and a magnificent harvest, at a time when the international economy is convalescing, has attracted considerable interest.

In fact, 2009 met, almost perfectly, the five conditions required for a great red Bordeaux vintage.

- (1) & (2) Early flowering and fruit-set at the beginning of June was accompanied by hot, sunny and relatively dry weather.
- (3) Colour change was early as well – starting in late July – even if this followed a period that was not quite dry enough to stop the vines' vegetative growth in all vineyards.
- (4) Ripening was complete thanks to hot weather with variable rainfall in August and September (and particularly dry weather in the Médoc).
- (5) Finally, a "dream harvest" in late September and October took place during unusually dry conditions.

The excellent 2005 vintage met these five conditions perfectly; the very good 2006 vintage met the first three; the difficult 2007 vintage was only saved by the fifth condition; and, finally, the very good 2008 vintage, met the third and fifth conditions perfectly, but not the fourth. So, will 2009 be a textbook vintage like 2005? It is difficult to answer that question today. This will certainly be the case in many vineyards, but probably not all, for two reasons. First, the stoppage of vine growth before colour-change was less clear-cut and widespread than in 2005 and, second, the vines may have suffered from drought in August in some plots to the point where ripening was adversely affected.

Making dry white wines with ageing potential requires sweet grapes with adequate acidity, low tannins, and high concentrations of aroma precursors. Excessively hot weather and extremely dry soils after colour change are unfavourable factors. The greatest white wines in France come from *terroirs* featuring a limestone subsoil that minimises water stress as well as a continental climate with cool nights. This is why the cool August weather in 2006 and, even more so in 2007 and 2008, produced great vintages for dry white Bordeaux. Seeing as August 2009 was hotter than the previous three years, it was generally less propitious for

retaining fresh acidity and powerful aromas in Sauvignon Blanc. The results are nevertheless very satisfactory thanks to cool nights in August and September. Sémillon grown on the right *terroirs* developed outstanding power and complexity.

Great sweet white wines are dependent on just the right set of conditions for noble rot. These were all there in Sauternes in 2009 thanks to rain lasting from the 18th to the 20th of September followed by a long period with morning mists and warm afternoons. This ideal weather caused the rapid, widespread development of *Botrytis cinerea* on very ripe grapes and record concentration for such a large harvest. Extremely extensive noble rot – the perfect illustration of the Sauternes legend – will certainly be remembered as the key factor in the 2009 vintage.

Especially cold for the first two months, this was the fifth harshest winter in 20 years. Dry, sunny and mild weather in March nevertheless prompted an early start to the growing season.

The fifth coldest winter out of the last twenty was marked by a devastating storm on the 24th of January followed by 7 days of extreme cold between the 3rd and 9th of that same month with hard, widespread frost and occasional subzero maximum temperatures (a high of -1°C in Bordeaux on the 7th and 8th). Although the latter half of February was calm and sunny, this was not the case at the beginning of the month, which was marked by two extreme phenomena: a second major storm on the night of the 9th and very heavy rainfall on soil that was already saturated on the 10th and 11th. Starting on the 10th of March, temperatures were cool in the morning, but very mild in the afternoon. March 2009 was fairly dry (56% less precipitation than average), sunny (23% more hours of sunshine more than usual), and cold at night, but mild during the daytime (+0.8°C compared to average maximum temperatures) (Tables I and II).

As in 2008, bud break started the last week in March, lasting until the 10th of April.

Table I:

Average daily temperatures (average, minimum, and maximum) in March, compared to normal values (1971-2000). Data from the Météo France weather station in Mérignac.

Year	T°C average minimum	Difference	T°C average maximum	Difference
2004	4.2	-0.5	13.4	-1.1
2005	4.5	-0.2	15.1	+0.6
2006	6.7	+2	14.9	+0.4
2007	5.7	+1	14.3	-0.2
2008	6.4	+1.7	13.2	-1.3
2009	4.9	+0.2	15.3	+0.8

Early spring was particularly wet, with violent storms in May followed by a period of summer-like weather providing excellent conditions for flowering during the first half of June.

Weather in the month of April was very changeable, with a significant amount of rainfall (+23% compared to the norm) and high average temperatures for the 8th year in a row, but mediocre sunshine (less than the average for the previous 10 years (Table II). For the above reasons, vegetative growth was relatively uneven and not especially quick. However, the month of May seemed much more like summer than spring. The latter part of the month was often warm, with above average (more than 1.5°C) temperatures for the 7th year in a row. There were showers throughout the month and frequent, often violent storms, including hail on the 9th, 11th, 13th and 25th of May that damaged many vineyards. Some 15,000 hectares of vines lost from 30-100% of their potential harvest.

Table II:

*Weather indicators for 2009: rainfall and hours of sunshine compared to the 1998-2007 average and temperatures compared to the 1971-2000 average
Data from the Météo-France weather station in Mérignac*

	Hours of sunshine		Precipitation (mm)		T°C average minimum (°C)		T°C average maximum (°C)	
	2009	1998-2007	2009	1998-2007	2009	1971-2000	2009	1971-2000
January	90	97	128	78	1.6	2.8	8.8	10.0
February	136	115	33	68	2.6	3.4	11.5	11.7
March	221	185	31	71	4.9	4.7	15.3	14.5
April	160	194	116	94	7.4	6.6	17.4	16.5
May	235	240	78	74	12.3	10.3	22.2	20.5
June	293	264	75	58	15	13.0	25.6	23.5
July	263	270	47	54	15.9	15.1	27.1	26.4
August	271	253	24	63	16.2	14.2	28.5	26.6
September	244	214	48	77	13.2	12.5	25.1	23.7
October	182	154	34	103	10.9	9.5	20.8	18.8
April-September	1466	1435	388	420	13.3	12	24.3	22.9
January-October	2095	1986	614	740	10	9.2	20.2	19.2

The weather was very summer-like in June, which was warm (+1.9°C above average), sunny (30% more hours of sunlight) and virtually untroubled by storms (Figure 1). This was ideal for quick, even flowering that began in the first few days of June and ended towards the middle of the month. It is estimated that the average date of peak flowering in our reference vineyards was on the 5th of June (the 3rd for Merlot and the 8th for the Cabernets) – six days earlier than in 2008, but not significantly different from the 10 year average (Table III).

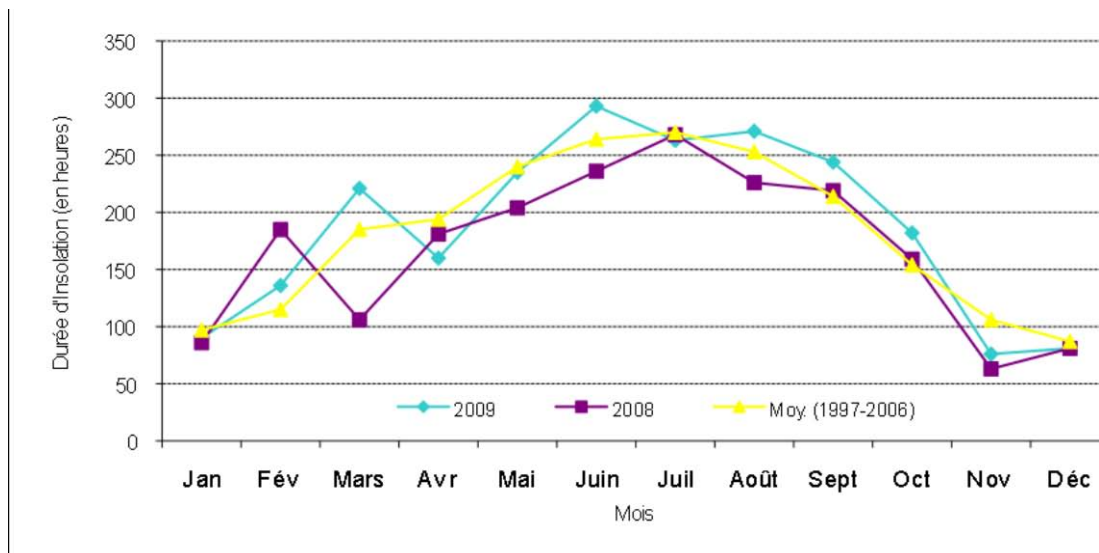


Figure 1:
Hours of sunshine in 2009 compared to 2008 and the 1997-2006 average
 Data from the Météo-France weather station de Mérignac

Table III:
Peak flowering and peak colour change dates in 2009 compared to 2007, 2006, 2005, 2004, and the mean of the last 10 years

Period	Peak flowering	Peak colour change
1999-2008	3 June	3 August
2004	8 June	12 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

A very beautiful summer with warm diurnal temperatures, but nothing approaching a heatwave. Few showers, but these occurred in July and early August, precluding long-term drought conditions.

Dry, sunny weather prevailed from the 11th to the 30th of June and temperatures continued to rise, reaching 30°C by the end of the month. The grapes grew well under such conditions and, thanks to careful crop management techniques, the vineyards were extremely healthy.

Sunshine in July was close to the average of the past ten years (Figure 1), with temperatures 0.7°C above normal and rainfall slightly below the ten-year average, but with a cumulative level twice as high as in 2005 or 2008. (Table II, Figure 2) Furthermore, the weather was changeable, with short warm, sunny periods alternating with stormy ones nearly

every week until the 22nd of July. (Figure 3) The absence of rain in the last ten days of July led to the gradual setting in of water constraint which slowed down vine growth before colour change on soils with the lowest water reserves (mainly gravelly soils) and later on in other types of soil. (Figure 4) What appeared at the time to be a lack of water just before the grapes started changing colour – less dramatic and later-occurring than in 2005, and taking place more quickly than in 2008 (Figure 5) – really only transpired at the end of ripening. Downpours on the 1st and 8th of August triggered a new spurt of vine growth, except in the Médoc, where August was particularly dry (less than 20 mm rainfall). As a result, some grapes grown on gravel *terroirs* did suffer from drought conditions, especially in vineyards with green cover or insufficiently ploughed soils. Peak *véraison* (colour change) took place on the 3rd of August. This was two weeks earlier than 2008, but not markedly different from the average of the past ten years (Table III).

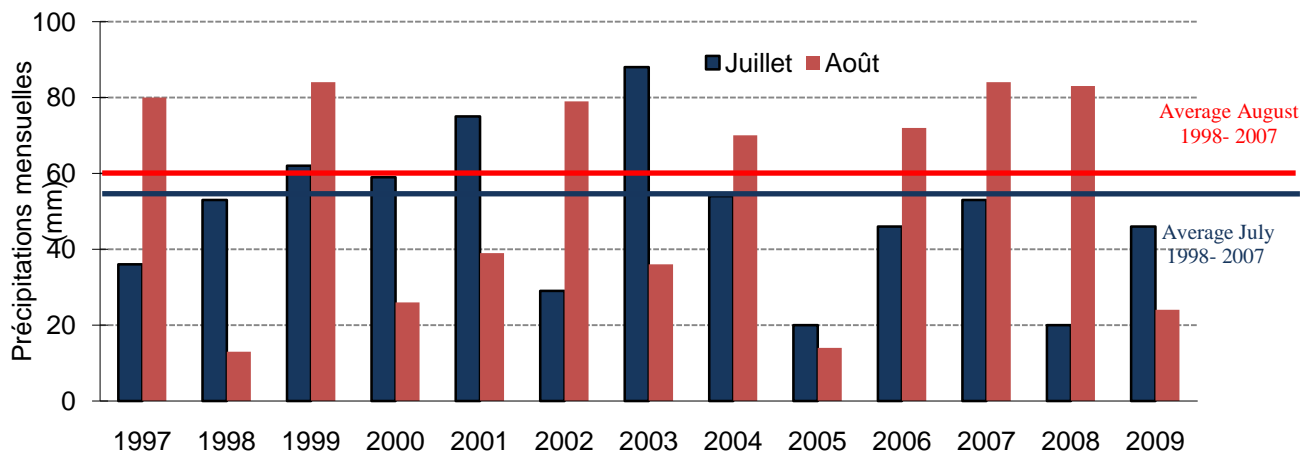


Figure 2:
Cumulative rainfall from July to the end of August for vintages since 1997
 Data from the Météo-France weather station in Mérignac

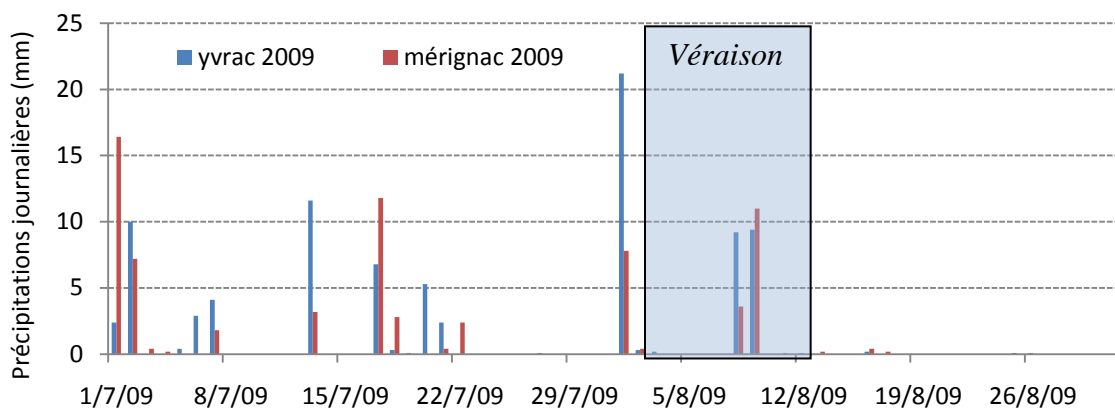


Figure 3:
Breakdown of rainfall from July to the end of August 2009 in two locations
 in the Gironde department (Mérignac et Yvrac)
 Data from Météo-France weather stations in Mérignac and Yvrac

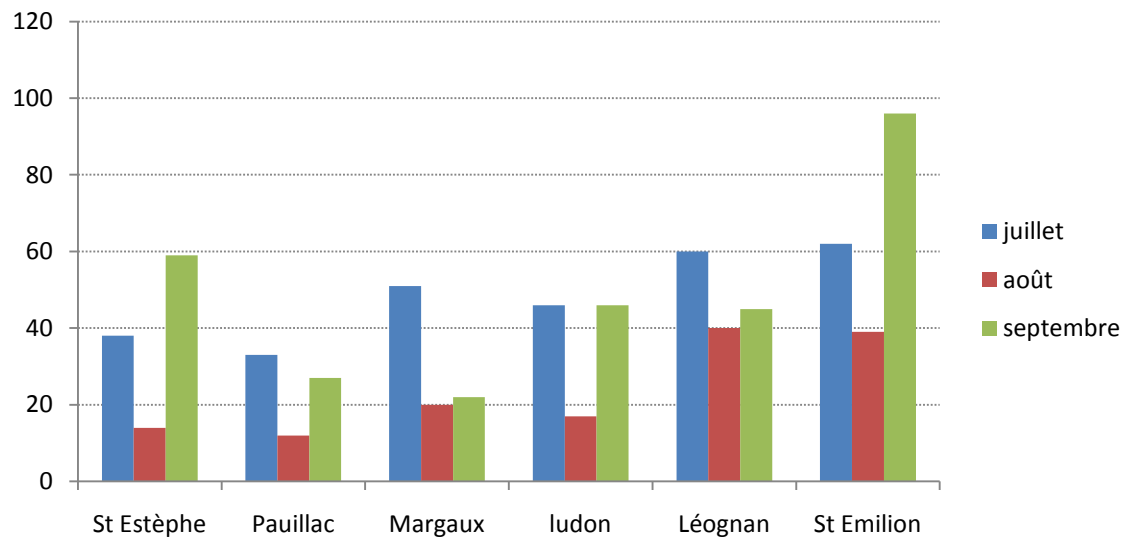


Figure 4:
Rainfall (mm) in several locations in July, August and September 2009

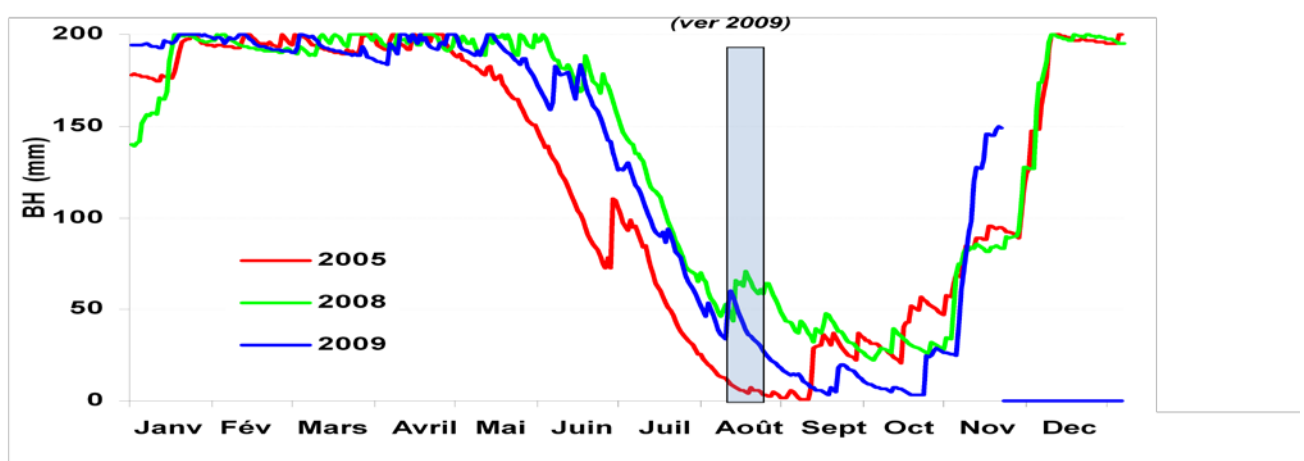


Figure 5:
Water stress index from June to October in various vintages

With an average temperature of 22.3°C (1.4°C above average), the month of August was the 6th hottest, tied with 1973. However, there was no heat wave and the thermometer only went above 20°C on three nights (as opposed to 20 in 2003 and 10 in 2005) and above 35°C on 4 days (Table IV). These cool nights protected the grapes' fruity aromas, acidity and colour. The sunshine was exceptional: 287 hours between the 10th of August and the 10th of September. The water deficit began to make itself felt, but not to a harmful degree, and the grapes began to swell.

Table IV:
Comparison of summertime temperatures over the past ten years

Period	Number of nights >20°C	Number of days >35°C
2000	4	2
2001	5	3
2002	1	1
2003	20	16
2004	7	1
2005	10	6
2006	14	7
2007	3	1
2008	2	0
2009	3	4

Summer-like weather continued throughout September and October: abundant sunshine, warmth and dry weather prevailed, making it possible to wait for ideal ripeness.

The summer-like weather conditions went on and on, with average temperatures 1°C higher than average, accompanied by an impressive amount of sunshine. September and October were respectively the 14th and 13th hottest months on record (and on a par with 1985 and 1990 for the month of October). Despite this, night-time temperatures were cool, promoting the accumulation of pigments, the maintaining of acidity and the development of aromas.

After 1 month of water deficit, the water stress index at the end of ripening was lower than in 2005 (Figure 5), but this deficit also occurred much more gradually and was thus conducive to slow, even ripening. Brief showers in the middle of September (45 mm of rain between the 15th and 20th) were very welcome in order to avoid shrivelling, speed up the breakdown of malic acid and promote the ripeness of tannin, as well as to enable *Botrytis cinerea* to develop in Sauternes and Barsac. In these two regions, low-lying clouds accompanied by mist and fog made way for clear, blue skies in the late morning, followed by sunny afternoons: textbook conditions for the spread of noble rot.

These altogether outstanding weather conditions meant that grapes throughout Bordeaux could be picked without precipitation, at just the desired degree of ripeness. The harvest began in early September for dry white wines.

The analysis of these white wine grapes in 2009 compared to 2008 can be summarised as follows: the weight per grape was lower, PAC (potential alcohol content) was slightly higher (+ 0.5%), acidity was lower (- 0.5 g/L), and pH higher (+0.1).

The harvest in Sauternes was exceptionally early and short. It started, as usual, with a wave of picking to tidy the vines, carried out this year between the 10th and 17th of September. This was followed by a pause to let noble rot develop after the rain that fell from

the 18th to the 20th of September and mist on subsequent days. The sweet white wine harvest started on the 28th of September and was completed on the 20th of October – at which point it started to rain again. The harvest called for surprisingly few rounds of picking: two or three at most. The grapes were so botrytised that they reached unequalled concentration for such a large harvest (23 -25% PAC).

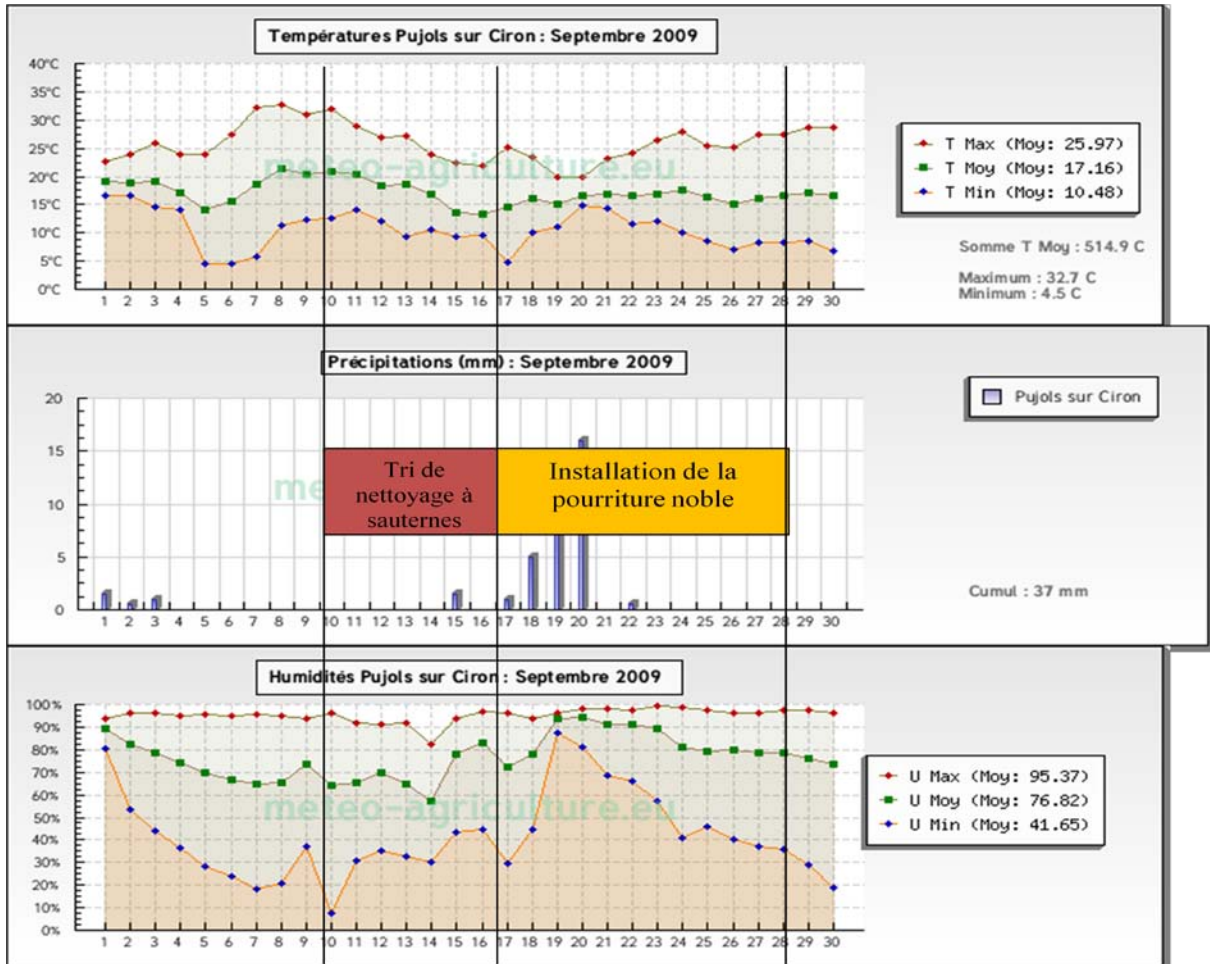


Figure 6:
Temperatures (°C), rainfall (mm) and humidity (%) in September 2009 in Sauternes

The outstandingly healthy grapes and stable anticyclonic weather conditions meant that winegrowers could wait patiently for optimum ripeness in most vineyards. As usual when the weather is fine and the risk of rot is low, the harvest strategy for the reds varied a great deal from one estate to another. Some winemakers are convinced that their wines will be better if the grapes are picked as late as possible, while others feel that they must not pick too late in order to be sure to retain those qualities typical of fine red Bordeaux: freshness, a fine bouquet and ageing potential. As a result, some estates started picking their Merlot when their neighbours had almost finished harvesting their Cabernet... The Merlot harvest started on the 18th of September in the earliest-ripening plots, began by the 23rd in most vineyards, and was not finished until October at some estates. The Cabernet grapes were mainly harvested during the first two weeks in October.

Starting in mid-September, the (already high) sugar levels continued to increase, without a significant drop in the weight of the berries or their acidity. In fact, sugar levels were very high indeed, often greater than in 2003, 2005 and 2006 in many vineyards (Table V).

Table V
Variations in grape sugar content and acidity during ripening

	Weight per 100 grapes (g)	Sugars (g/l)	TA (g/L H ₂ SO ₄)
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
2008			
8/9 Merlot	169	192	5.7
Cabernet Sauvignon	121	173	7.4
29/9 Merlot	167	222	4.2
Cabernet Sauvignon	124	203	4.7
2007			
3/9 Merlot	164	187	4.2
Cabernet Sauvignon	134	177	5.8
24/9 Merlot	159	211	3.4
Cabernet Sauvignon	116	213	4.2
2006			
28/8 Merlot	147	198	4
Cabernet Sauvignon	112	197	6.2
11/9 Merlot	136	249	3.1
Cabernet Sauvignon	124	228	4.9
2005			
29/8 Merlot	124	224	3.2
Cabernet Sauvignon	99	197	4.9
12/9 Merlot	124	243	2.7
Cabernet Sauvignon	112	219	4.1
2003			
30/8 Merlot	172	167	6.1
Cabernet Sauvignon	124	138	6.8
13/9 Merlot	165	208	3.4
Cabernet Sauvignon	136	190	3.9

The dry, sunny weather and cool evenings were ideal for slow, even ripening of the grape skins that were initially not very permeable and slightly behind with regard to the biosynthesis of anthocyanins. The gap between ripeness of the pulp and phenolic maturity was especially great this year. However, because the grapes were able to stay on the vine until late September, phenolic maturity of the skins and seeds was reached. Even if the total amount of anthocyanins is less than the past few vintages, there were quite enough to obtain a beautiful colour (Figure 7).

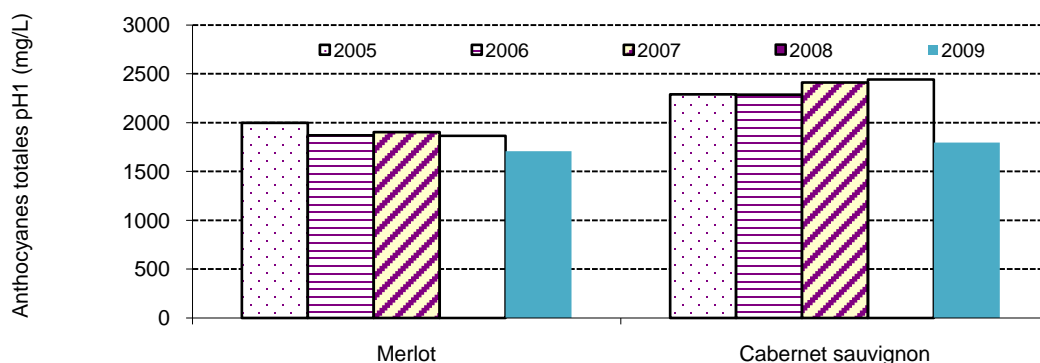


Figure 7:

Phenolic analysis (Glories method) of grapes in our reference vineyards in the last sample taken before the harvest, compared with recent vintages. This index represents the total anthocyanin potential and depends on the synthesis and accumulation of pigments

In late vintages following on the heels of a cool summer, grapes, especially Cabernet, can be affected by "green pepper" aromas associated with perceptible concentrations of isobutylmethoxypyrazine (IBMP). However, in 2009, the warm, sunny weather encouraged the quick breakdown of IBMP, whose concentration dropped beneath the olfactory detection threshold (15 ng/L) as of mid-September (Figure 8).

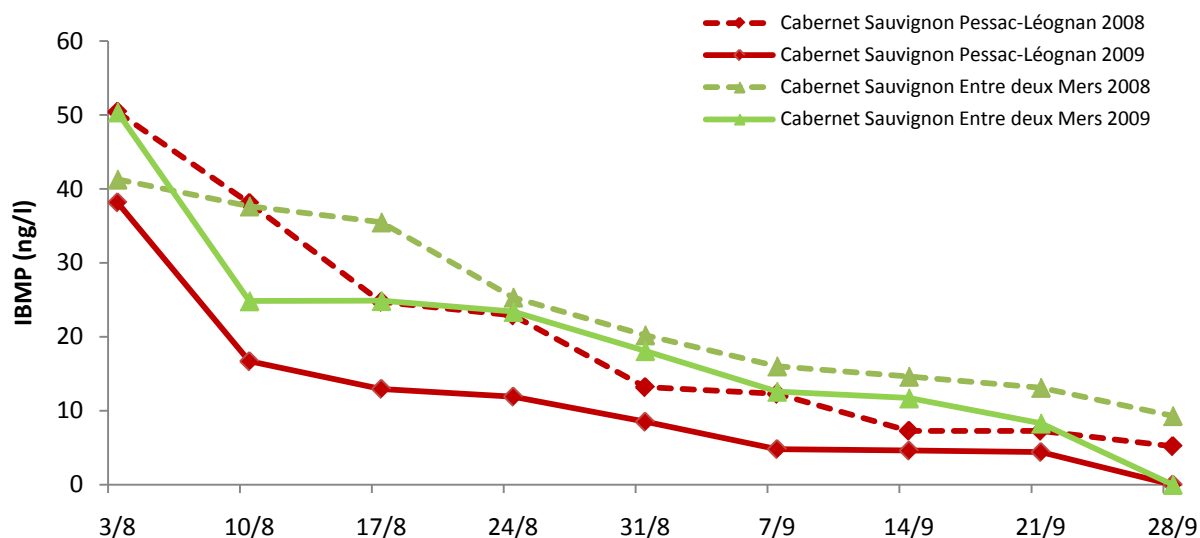


Figure 8:

Variations in IBMP content in Cabernet Sauvignon grapes. Olfactory detection threshold = 15 ng/L in wine, 7 ng/L in must

Powerful dry white wines, great red wines and extraordinary sweet white wines

Certainly, the maximum temperatures in August were slightly too high for the Sauvignon Blanc to develop the same amazingly intense aromas as in 2007 and 2008. However, those wine tasters who find the exuberant character of this grape variety excessive in some instances will be pleased with the powerful, complex, flavourful Bordeaux Sauvignon Blanc in 2009. This year, Sémillon grown on limestone soils developed remarkable powerful and richness.

It is nevertheless too early to accurately describe the young red wines. That having been said, the deep colour and impressive fruit, as well as the quality and smoothness of the tannin of the 2009s are immediately apparent – and indicative of a very good, or even an exceptional year, where the wine expresses the quality of the *terroir* with great clarity.

The sweet white wines of Sauternes and Barsac are impressively rich and powerful, with great purity and depth. They are, without any exaggeration, absolutely fantastic!