

The 2007 Vintage

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With the contribution of

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The principles defining a harvest's quality in Bordeaux are well known, and in 2007 they were essential.

A good vintage for red wine demands, above all else, that hot and dry weather at the start of summer subjects the vine to a degree of water stress sufficient to definitively stop its growth before véraison. Should these conditions occur only at the end of maturation, Cabernet Sauvignon—and even Petit Verdot—will do better than Merlot.

The 2007 growing season was cool and humid from May through August, and thus not particularly favorable to ripening red grapes; still, better results were possible if a soil's water reserves were low and the vines' foliage was sizable enough to encourage sufficient water stress. A fine, warm and relatively dry September offered Cabernet grapes a welcome and unexpected boost at the end of maturation. Nevertheless, the vines which benefitted most received vineyard work such as leaf thinning at the opportune moment—that is to say at the beginning of the summer before grape clusters fully developed.

Successful dry white wines require grapes that are fruity, sugar-rich, sufficiently acid and low in tannins. All this may be easily achieved in limestone-rich areas, for example, where the vines' water stress remains at moderate levels; and also when the summer is not too hot after véraison—such as in 2007.

The ideally-timed appearance of noble rot produced a great vintage in Sauternes and Barsac. September and October must have an alternating sequence of oceanic low-pressure systems bringing moisture to promote Botrytis, and relatively warm periods of high-pressure to concentrate grapes touched by the mold. The 2007 vintage offered these ideal conditions from the middle of September through the end of October.

A brilliant start to the growing season thanks to an exceptionally warm April

The winter of 2007 was not particularly severe. Still, because of a relatively cool March, bud break occurred in early April; as in 2006, this was not especially early.

April has been exceptionally warm during the past two decades. Last year, temperatures hovered around 30°C over several consecutive days from April 20–23. With an average temperature of 16.1°C in Villenave d'Ornon this was the Gironde's warmest April on record in 100 years according to Météo-France. It was around 4°C higher than the norm (during 1976–2005), and 3.3°C

more than the average in the past decade (Table I); these differences were particularly due to very high maximum temperatures (5.2°C greater than normal). The result was a rapid growth of shoots and an early development of foliage.

In addition, at the end of the month total temperature above the 10° base level (no vine growth) reached 266°C, as compared to 236°C in 2003 and only 113°C in 2004; this led to the belief in late April that 2007 would be an “early” year. Indeed, some people worried that 2007 would be another 2003, or worse. It would be nothing of the sort.

Table I
Average daily temperatures (average, minimum and maximum) measured from April,
and their divergence from the norm (1976–2005)
Data from Villenave d’Ornon (INRA)

Year	Temperatures (°C)					
	Average	Difference	Minimum	Difference	Maximum	Difference
2002	12.9	+0.8	7.4	+0.2	18.4	+1.4
2003	14.6	+2.5	8.8	+1.6	20.4	+3.4
2004	11.8	-0.3	7.1	-0.1	16.6	-0.4
2005	13.1	+1	8.2	+1	18.1	+1.1
2006	12.7	+0.6	7.3	+0.1	18.2	+1.2
2007	16.1	+4	10.1	+2.8	22.2	+5.2
Average 1997-2006	12.8	+0.7	7.7	+0.5	17.9	+0.8
Norm (1976-2005)	12.1		7.2		17.0	

An early flowering, but spread out over time and impeded by rain and falling temperatures at the end of May

The first half of May was characterized by moderately warm evenings, and by storms which brought high levels of rain. Maximum temperatures were close to average (Table II).

Table II

Agroclimatic indicators for 2007, compared with the average for the last decade (1997-2006)

Data from Villenave d'Ornon (INRA)

	Length of sunshine (hours)		Average temperature (°C)		Total rainfall (mm)		Total PE* (mm)	
	2007	1997-2006	2007	1997-2006	2007	1997-2006	2007	1997-2006
January	78	97	8.1	6.9	83	78	22	22
February	95	115	10.0	7.7	128	68	36	32
March	145	185	10.1	11.1	80	71	61	66
April	218	194	16.1	12.8	14	94	97	88
May	177	240	16.7	17.0	142	74	102	121
June	225	264	19.5	20.5	65	58	123	141
July	230	270	19.8	21.7	53	54	126	146
August	231	253	20.2	22.3	118	63	118	131
September	250	214	17.5	19.1	38	77	91	87
October	189	154	14.2	15.7	31	103	49	50
November	138	106	8.1	9.8	36	125	24	24
December	100	87	6.5	7.1	77	110	17	17
April - September	1331	1435	18.3	19	428	421	658	714
Year	2077	2178	13.9	14	861	975	866	926

*Potential evapotranspiration (PE) corresponds to the quantity of water from saturated grass-covered soil which passes into the atmosphere. This index is useful in determining water lost by the soil through evaporation and transpiration via vegetation.

Flowering began around May 20th, some 15–20 days early, but was spread out over more than two weeks (Table III). Because of poor weather at the end of the month all grape varieties suffered varying degrees of coulure, although less than in 2002; aged Sauvignon Blanc vines were the most seriously affected. Vineyards also saw mildew develop on leaves and grapes, becoming more pronounced with time. Even if the total amount of rainfall in 2007 did not set records (Figure 1), its frequency—51 days of rain between May and July—explains the severity of mildew and the difficulties in applying treatments efficiently. Merlot was most affected; in certain parcels, notably towards the south of the department, losses were significant.

Table III

Dates for mid-flowering and mid-véraison in 2007 compared with 2006, 2005 and 2002, and the average during the past 10 years

Period	Mid-flowering	Mid-véraison
1995-2004	June 2	August 12
2002	June 7	August 11
2005	May 30	August 3
2006	June 4	August 6
2007	May 26	August 3 (start: 7/29)

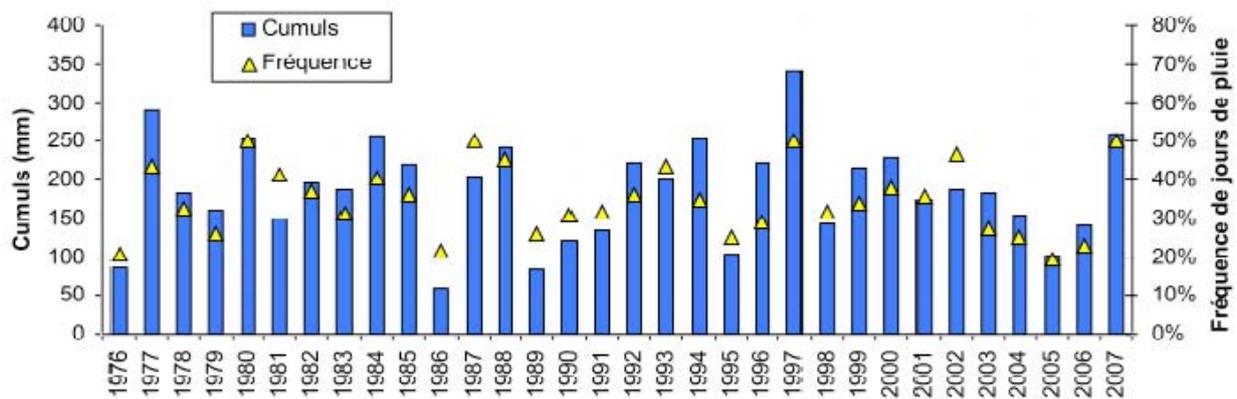


Figure 1

Total precipitation and frequency of rainy days (with a total greater than 0.5 mm) from May to July
Data from Villenave d'Ornon (INRA)

A cool and unstable summer until late August, preventing sufficient water stress to make a great red-wine vintage

Through the middle of June total temperatures were slightly higher than in 2003 because of the weather in April. From July total temperatures were lower than in 2003, while remaining greater than in 2002 and the norm for 1976–2005 (Figure 2).

Average monthly temperatures remained 1.4°C below normal (1976–2005) in July and 1.2°C in August. This summer coolness canceled the considerable advance that the vines developed in April.

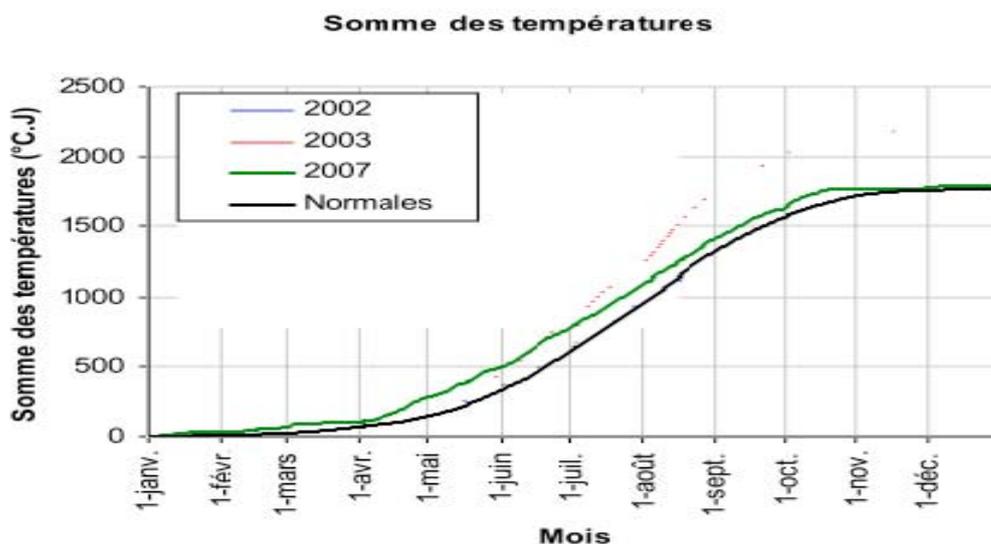


Figure 2

Total temperatures below 10°C

The amount of sunshine from May to August was also inferior to the past decade's average (Figure 3); the duration of sun in August 2007 was similar to that of August 2006, when overcast skies raised fears. From June to late August there were only 12 warm days (with a maximum

temperature equal or above 30°C), as compared with 29, 35 and 17 in 2006, 2005 and 2004, respectively (Table IV).

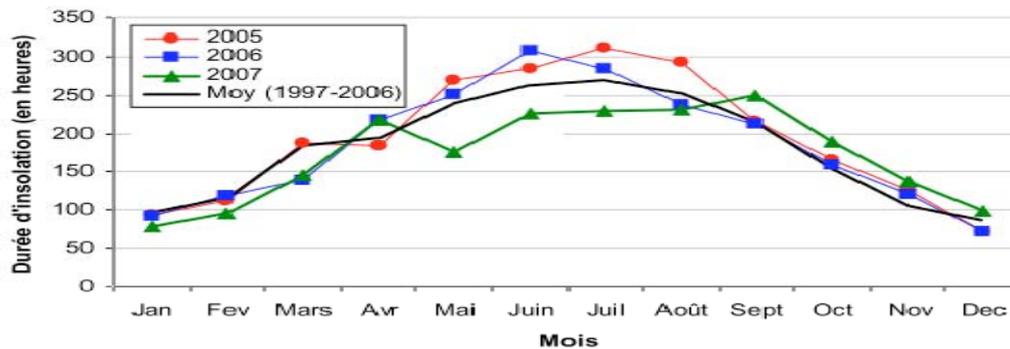


Figure 3
Calculated duration of sunshine
Data from Villenave d'Ornon (INRA)

Table IV
Number of warm days (temperatures greater than 30°C) from June to August
in 2004, 2005, 2006 and 2007
(Meteorological station at Cadillac)

Year	June	July	August	Total
2007	2	3	6	12
2006	8	20	1	29
2005	13	12	10	35
2004	8	5	4	17

Even though the number of rainy days was much greater than in 2002 and 2003 (51 days between May 1st and July 31st as opposed to 32 and 34 days in 2002 and 2000), the level of water stress in 2007 at the end of July was close to these two vintages (Figure 4) and was among the least restrictive in the past eight years. Vines in most terroirs did not experience sufficient water stress to stop growth at the most favorable moment: just before véraison. For the red varieties, particularly Merlot, this was the moment which defined the vintage.

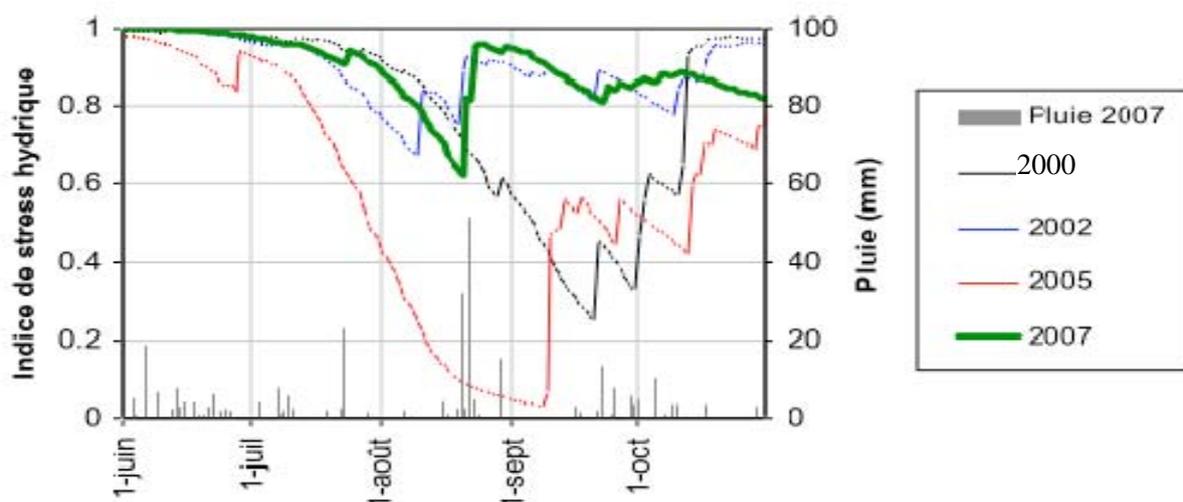


Figure 4

Evolution of vine water stress indices from June to October for different vintages.

A value of 1 indicates an absence of water stress and a value of 0 indicates maximum water stress producing wilting. This index is calculated using a water assessment model developed by INRA (Lebon et al., 2003)

Still, four fundamental vineyard factors could diminish the adverse effects of such weather conditions:

- soils with low water reserves,
- a large leaf canopy,
- meticulous, early work in the vineyard (de-leafing, removal of stems from the base of the vine, elimination of secondary shoots) undertaken right after fruit set,
- low yields.

The first two factors will promote a degree of water stress even under unfavorable weather conditions. The “pre-harvest” work limits both the size of the grapes and their vegetal taste, but to be fully effective these tasks must be done by hand with extreme care, entailing considerable cost. Finally, in such conditions only low yields will produce grapes with sufficient concentration and color at harvest. Obviously, in such difficult vintages, terroir and viticulture play an essential, determining role.

Véraison began in late June; mid-véraison occurred on August 3rd (as in 2005), under sunny skies which prevailed from July 25th to August 5th (Table III).

Until August 20th, 2007 water indicators remained very close to 2000 levels, with a deficiency of sunlight and cool temperatures; water stress, however, was a bit more pronounced than in 2002. On terroirs of better quality a definite end to vine growth could be seen.

Alas, the last dozen days of August (as in 2002) were very rainy, with total precipitation close to 100 mm. Together with storms on the 29th, the month’s total rainfall was excessively abundant (80 to 130 mm depending on the winemaking region, around double the seasonal norm). This precipitation during maturity produced a renewal of vine growth in most terroirs; in several areas this led to larger berries and the development of Botrytis on vigorous vines.

A “heaven-sent” September and October

At the beginning of September summer finally arrived. September and October 2007 were very dry: measurements at Villenave d’Ornon recorded 38 mm in September and 30 mm in October compared to an average of 78 mm and 93 mm during the period of 1976–2005. Both months also had extremely high levels of sunshine (40 to 50 hours greater than normal) (Figure 3).

The return of good weather limited Botrytis, reduced grape volume, and made it possible to wait for sufficient maturity to produce an honorable vintage for red wines and an excellent one for whites.

Thus, in several weeks the grapes’ sugar content increased significantly, reaching levels superior to those of 2004. Cabernets took full advantage of this long period of good weather to develop sugar levels close to those of 2005 (Table V).

Table V
Evolution in levels of sugar and acidity in grapes during September

	Sugars (g/l)	TA (g/l H ₂ SO ₄)
2007		
3/9 Merlot	187	4,2
Cabernet Sauvignon	177	5,8
24/9 Merlot	211	3,4
Cabernet Sauvignon	213	4,2
2006		
28/8 Merlot	198	4
Cabernet Sauvignon	175	6,2
11/9 Merlot	249	3,1
Cabernet Sauvignon	228	4,9
2005		
29/8 Merlot	224	3,2
Cabernet Sauvignon	197	4,9
12/9 Merlot	243	2,7
Cabernet Sauvignon	219	4,1
2004		
30/8 Merlot	167	6,1
Cabernet Sauvignon	138	6,8
13/9 Merlot	208	3,4
Cabernet Sauvignon	190	3,9
2002 (Médoc)		
30/9 Merlot	217	4,2
30/9 Cabernet Sauvignon	202	3,5

Staggered picking to achieve complete maturity

Unexpectedly fine weather and slow maturity explain why harvests were uncommonly prolonged.

Picking for dry white wines began in the first days of September in the earliest-ripening vineyards; grapes for sweet white wine began coming in around September 10th; and the harvest for red wines started towards September 20th.

Generous in both sugar and acidity, such deeply aromatic *Sémillon* and *Sauvignon* had not been seen since 1996. These varieties benefited from the cool summer temperatures, good conditions at maturation's end (rather cold nights with warm afternoons), and ideal weather at harvest. Alas, yields at most properties were lower than in 2006.

Analysis of *Merlot*, with its rich malic acid and larger berries than in 2006, showed disappointing results right from the earliest samples. It was not until late September that the grapes lost their vegetal character and astringent tannins, and began developing fruity flavors. In addition, water loss produced by the weather left berries greatly concentrated, making them unable to store the substances produced by photosynthesis. Naturally, it was on clay soils that the grapes best developed.

Inarguably, the *Cabernets* (*Franc* and *Sauvignon*) as well as *Petit Verdot* (of which the worst was expected in early September) profited most from the good late-season weather. When harvested in early October these varieties displayed concentrated sugar and satisfying acidity. At properties where pre-harvest vineyard work was rigorously done and picking was sufficiently delayed, the harvest did not show vegetal character (Figure 5). Grape weight was close to 2003 levels, and lower than 2002 or 2004; sugar and acid measurements were similar to 2005 (Table VI).

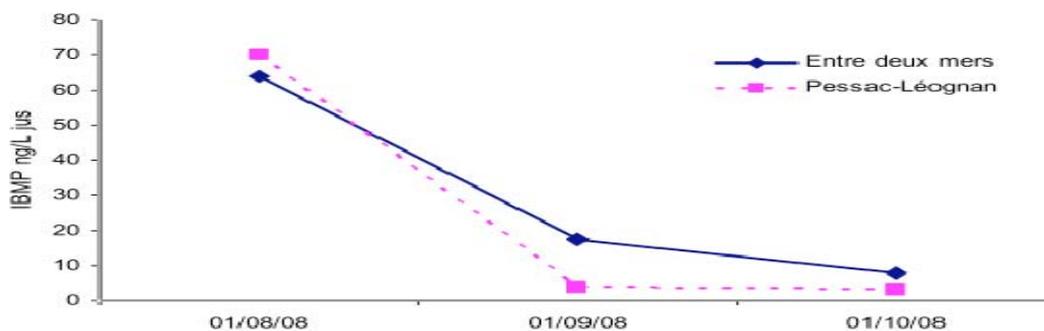


Figure 5
Evolution of IBMP levels in Cabernet Sauvignon berries
(with early leaf-thinning)

Table VI
Balance in grapes at picking based on the last sampling before harvest
(M: Merlot; CS: Cabernet Sauvignon)

	Weight of 100 berries		Sugars (g/l)		TA (g/l H ₂ SO ₄)	
	M	CS	M	CS	M	CS
2000	173	147	245	220	3,5	3,8
2001	182	143	225	202	3,5	4,5
2002	180	140	217	202	3,5	4,2
2003	145	118	238	222	25	3,3
2004	165	136	223	201	3,4	4,2
2005	124	112	244	222	2,9	4,2
2006	136	124	249	201	3,1	4,4
2007	159	116	211	213	3,4	4,2

Alternating cool nights and warm days in September helped promote synthesis of anthocyanins, particularly in the Cabernets (Table VII).

Table VII
Phenolic characteristics (Glories method)* of grapes in our reference vineyards
during the last sampling before harvest

	A1 (mg/l)	PEA (%)	TPR
Médoc			
Merlot	1861	50	44
Cabernet Sauvignon	2546	42	47
Graves			
Merlot	1862	54	52
Cabernet Sauvignon	2524	39	42
Libournais			
Merlot	2038	45	46
Cabernet Sauvignon	2238	43	46
Entre deux mers			
Merlot	1778	56	52
Cabernet Sauvignon	2340	38	45
Right bank			
Merlot	1888	49	44
Cabernet Sauvignon	2343	38	47

*A1 corresponds to the quantity of Total Anthocyanins extracted at pH1. This index represents the total potential in anthocyanins and depends on the synthesis and the accumulation of pigments.

* PEA (%) is the Proportion of Extractable Anthocyanins. PEA (%) increases during maturation, varying from 35 to 70% and corresponds to the ratio of (Extractable Anthocyanins/Total Anthocyanins)*100.

* TPR corresponds to the index of Total Phenolic Richness.

Harvests in Sauternes and Barsac occurred under excellent conditions. A very pure noble rot developed gradually and completely thanks to alternating brief showers and dry periods (Figure 6). Numerous passes through the vineyards resulted in rich must showing good acidity and remarkable fruit.

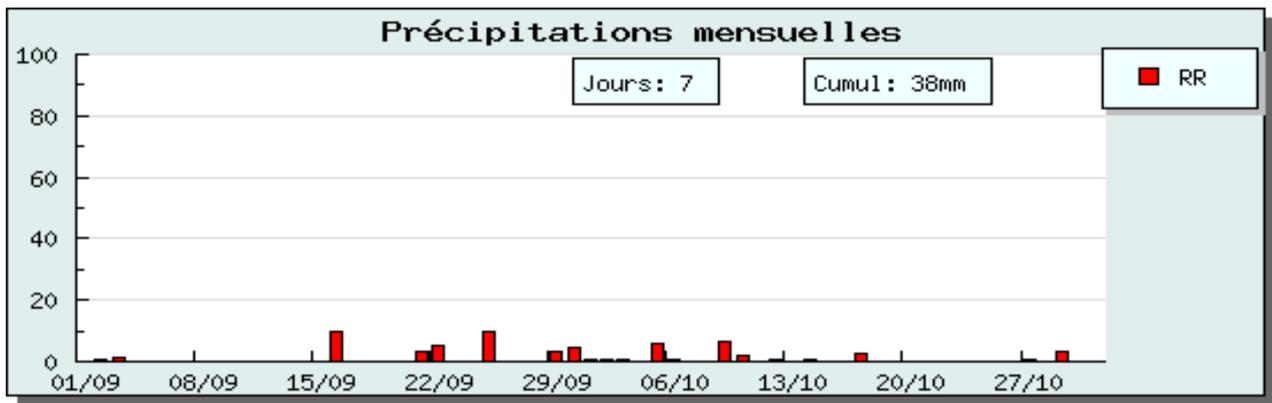


Figure 6
 Precipitation (RR in mm) during September and October 2007
 (Meteorological station at Cadillac)
 “Days” are the number of days with precipitation superior or equal to 1 mm

There were stunning dry white and beautiful sweet wines, while reds were of varying, but often very successful, quality thanks to the Cabernets

As could be expected, dry white wines were exceptional: concentrated, bursting with fruit, flavorful and fine. Just a tad below the delicious 2006s.

Botrytised white wines showed purity, aromatic complexity and richness, with a balance between sweetness and acid worthy of a great vintage. There was remarkable consistency in the excellence of these wines.

Red wines were more varied in quality, with success based on a property’s terroir, its proportion of Cabernets, and the severity of its selections. In any event, it is premature to judge these wines after less than two months of aging. Although they may lack the concentration of the greatest vintages, the most successful still show the freshness, the finesse and the complexity of great Bordeaux.