

## 11 French Wheat Classes

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Besides the major wheat exporting countries USA, Canada, Australia and Argentina, Europe also plays quite a significant role, for like the USA it has an efficient and politically influential agricultural sector and a vigorous processing industry that has no difficulty in absorbing and making optimum use of the very different offers on the market. Within Europe it is France that traditionally leads the field. In no other European country does agriculture enjoy such a privileged position and high social status.

Since 1979 France has felt the need to publish very comprehensive and detailed reports on the condition of each year's grain harvest in order to handle the increasingly difficult situation on the world market and within Europe itself. The reports are concerned with bread wheat, durum wheat and barley and cover three main topics:

- Distribution of varieties
- Comparison of costs with foreign competitors
- Quality analyses.

### Organizations

**ARVALIS:** A merger of ITCF and AGPM-Technique;

**ITCF:** Institut du végétal: L'Institut Technique des Céréales et des Fourrages (French Technical Institute for Cereals and Forage);

**AGPM-Technique:** L'Association Générale des Producteurs de Maïs, Institut Technique (French Corn Growers Association)

**CNERNA:** Centre National d'Études et Recherches en Nutrition Appliquée – Centre National de Recherche Scientifique (CNERNA-CNRS; Food and Nutrition Research Centre – National Research Centre)

**ANMF:** Association Nationale de la Meunerie Française (National Association of French Millers)

**ONIC:** Office National Interprofessionnel des Céréales (France's national grains board)

The survey for the distribution of varieties is carried out in April/May. Samples of the harvest are taken from farms and also from the trade. The analysis is the responsibility of Institut du Végétal ARVALIS, which receives strong support from the milling association ANMF (Association Nationale de la Meunerie Française). The system is organized and the reports made out by ONIC (Office National Interprofessionnel des Céréales).

### 11.1 Distribution of Varieties in the 2003 Harvest

The proportion of high-quality varieties has risen steadily over the past ten years, from 52% in 1996 to 77% in 2003. An overview is given in Tab. 56.

Tab. 56: Distribution of varieties in 2003

Variety	Area	Cumulated	Rank
	%	%	
Apache	23.7	23.7	1
Isengrain	9.5	33.2	2
Charger	8.3	41.5	3
Orvantis	6.1	47.6	4
Soissons	5.5	53.1	5
Sponsor	3.5	56.6	6
Shango	2.8	59.4	7
Cézanne	2.7	62.1	8
Trémie	2.6	64.7	9
Altria	2.6	67.3	10
Caphorn	2.5	69.8	11
PR22R28	2	71.8	12
Vivant	1.8	73.6	13
Aztec	1.7	75.3	14
Autan	1.6	76.9	15

## 11.1 Distribution of Varieties in the 2003 Harvest

The current champion is the variety Apache, which first came onto the market officially in 1999 and now dominates the whole of the south-west (Fig. 33).

The main growing areas are shown in Fig. 34. The diagram reveals that in contrast to Australia and the USA, for example, very large areas of the country quite distant from each other are used for wheat-growing. This is made even clearer by the distribution of the top variety, Apache, and the variety Soissons. Both for domestic use and for export the latter is the "senior French wheat variety" thanks to its remarkable resistance to sprouting. Although neither of the two varieties is grown in all parts of the country, they enjoy similar popularity in very different geographic regions.

But here too, nothing is as constant as change. In the spring of 2004, two new varieties found their way into the "charts": Caphorn and Raspail (Tab. 57), both classified as BPS; the varieties Isengrain and Chargat fell back,

and ANMF regarded that as a success of its own efforts. Soissons remained largely stable, in spite of the general low level of sprouting resulting from the dry harvest of 2004.

Tab. 57: Growing areas of new varieties at their introduction

Variety	Year of registration	Rating ARVALIS <sup>a</sup>	Area % of total
Caphorn	2000	BPS	20
Raspail	2001	BPS	8
PR22R28	2000	BPC	7
Apache	1998	BPS	6
Nirvana	2002	BPS	5
Orvantis	1999	BPS	5
Autan	2000	BPS	4
Aubusson	2002	BPS	2
Lancelot	1988	BPC	2
Others			41

<sup>a</sup> French wheat classes: see page 98

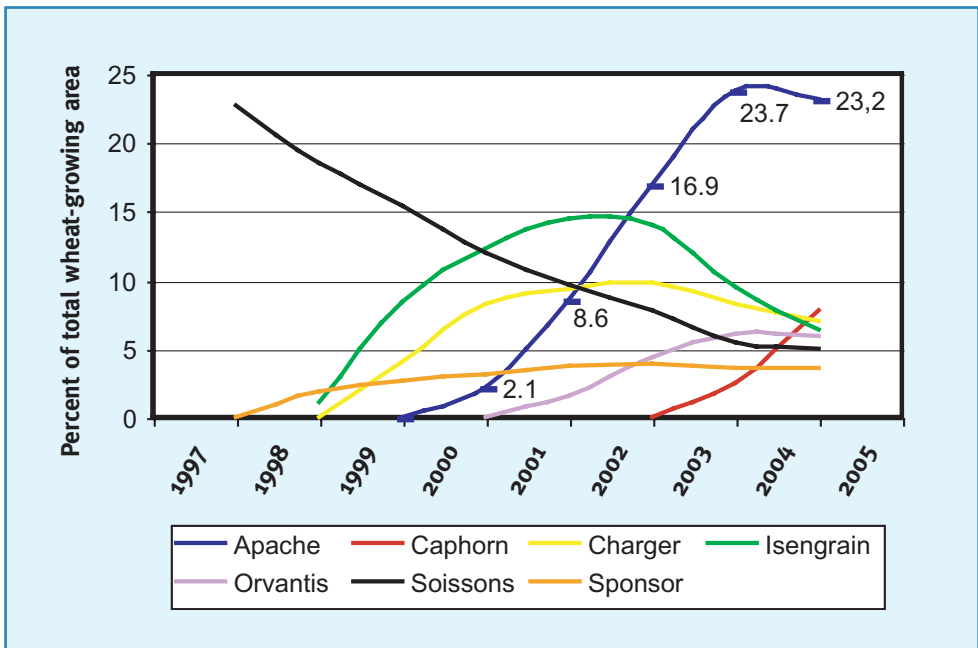


Fig. 33: Share of the wheat varieties in the total growing area in France

## 11.1 Distribution of Varieties in the 2003 Harvest

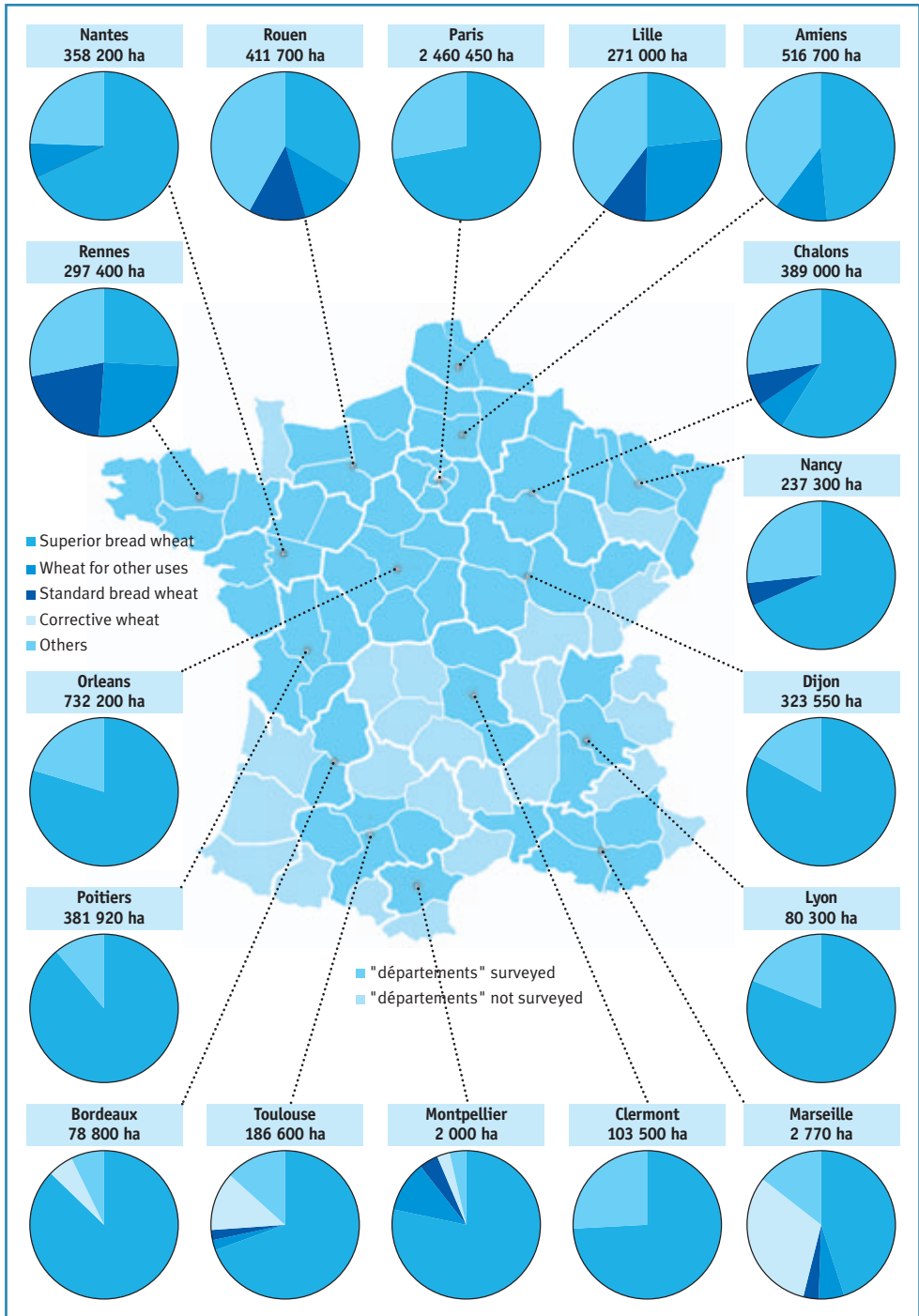


Fig. 34: Geographic distribution of wheat qualities and growing areas

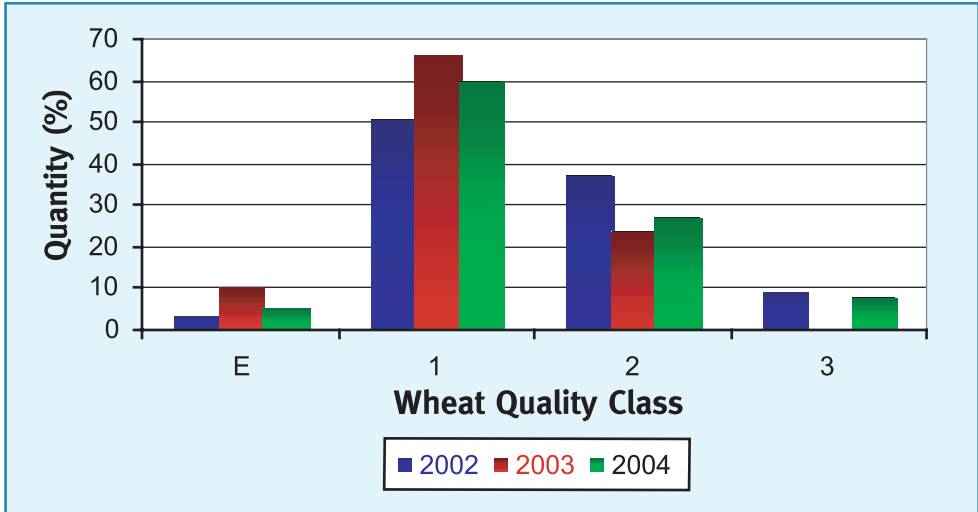


Fig. 35: Distribution of wheat over the four quality classes in the harvests of 2002 to 2004

### 11.2 Quality Classification

French wheats are classified in four quality groups:

**French Wheat Classes**

- BAF – *Blés améliorants ou de force, corrective wheat, also called E*
- BPS – *Blés panifiables supérieurs, superior bread-making wheat*
- BPC – *Blés panifiables courants, standard bread-making wheat*
- BAU – *Blés autres usages, wheat for other uses*

The quality grading is comparatively simple and clear; Fig. 35 and Tab. 58 show the details. In spite of their simple structure (or maybe precisely because of it?) the systems are generally accepted both within France and in the export

Tab. 58: Grading of French wheat

Class	Protein <sup>a</sup> %	Alveogram W J·10 <sup>-4</sup>	Falling Number s	Harvest 2004 %
E	≥ 12	≥ 250	≥ 220	5
1	11-12.5	160-250	≥ 220	60
2	10.5-11.5	As specified in contract	≥ 180	27
3	< 10.5	Unspecified	Unspecified	8

<sup>a</sup> Dry basis

sector. But of course more details are needed to provide valid information, and in fact ONIC’s internal data goes into much more individual and regional detail than the information available to the customer. That becomes clear from Tab. 59, that shows a quality programme for the variety Apache and 15 locations that is understood everywhere in the world. For details of the Alveogram, which is widely used in France, see chapter 13.1.4, page 128. The baking tests are described below:

**11.2.1 French Baking Tests (CNERNA Method)**

Baking quality is assessed using pure flours to which malt has been added, if necessary, to correct amylase activity. Water absorption is the amount of water used in preparing the dough. It is expressed relative to a dough with a water content of 14%. The rating of a flour,

Tab. 59: Quality data for the variety Apache in the 15 different growing regions

Region	Area 1,000 ha	Hardness	Protein <sup>a</sup> %	Zeleny mL	FN <sup>b</sup> s	Alveogram			Bread-making properties		
						W J·10 <sup>-4</sup>	G	P/L	WA <sup>c</sup> %	Volume mL	Score <sup>d</sup>
Amiens	64.4	65	11.5	34	310	205	22.0	0.70	59.1	1,531	271
Bordeaux	49.6	58	11.3	27	375	181	23.0	0.49	57.5	1,593	270
Châlons	43.1	57	11.5	34	319	192	24.8	0.45	57.3	1,523	262
Clermont	18.4	52	11.9	37	324	210	22.4	0.60	56.3	1,595	267
Dijon	99.9	58	11.7	32	350	194	23.2	0.56	58.3	1,636	259
Lyon	17.8	61	12.2	34	361	208	23.1	0.56	58.6	1,736	278
Nancy-Alsace	16.6	64	11.4	32	228	197	23.1	0.56	58.3	1,453	263
Nancy-Lorraine	33.8	60	11.6	33	335	195	25.1	0.46	58.6	1,510	252
Nantes	92.7	60	11.4	33	365	192	23.5	0.50	58.3	1,620	254
Orléans Nord	122.9	62	12.2	40	361	227	23.9	0.54	58.3	1,638	277
Orléans Sud	117.2	57	12.1	38	392	200	22.0	0.59	58.5	1,573	234
Paris	64.6	62	12.0	38	311	230	25.6	0.47	58.3	1,581	269
Poitiers	187.0	63	11.7	33	366	184	22.1	0.56	57.6	1,644	277
Rennes	21.8	52	11.0	32	320	194	23.8	0.49	57.1	1,561	261
Toulouse	88.3	66	11.9	30	378	188	25.3	0.38	57.3	1,858	269

<sup>a</sup> Dry basis    <sup>b</sup> Falling Number    <sup>c</sup> Water absorption    <sup>d</sup> Points out of 300; for description see below.

Tab. 60: ARVALIS scoring system for French bread

Total score	Assessment
Over 211	Perfectly acceptable
211 to 180	Acceptable after correction
Under 180	Not acceptable

Tab. 61: Typical data for French wheat from the 2003 harvest

Property	Value	
Protein in dry matter	%	12.5 (of which 25% > 13)
Falling Number	s	82% > 300
Hectolitre weight	kg/hL	> 77.5
Moisture	g/100 g	12.9
W	J·10 <sup>-4</sup>	210
P/L		0.40

expressed by a score of up to 300, includes volume, the appearance of the bread and its crumb, and also the kneading properties of the dough. In order to assess the final result more easily, most test bakeries generally use a scoring table followed by a qualifier. The scoring system, which is specific to ARVALIS, is summarized in Tab. 60.

In the exceptional year 2003, 30 mio t of quality wheat were produced in France. The average values are shown in Tab. 61.

### 11.3 Exports

Because of the apparent dominance of the "classic" wheat exporting countries USA and Canada it is often overlooked that France still plays an extremely important role in the world market and that it was the second-biggest exporter in 2002/2003. Over half of the

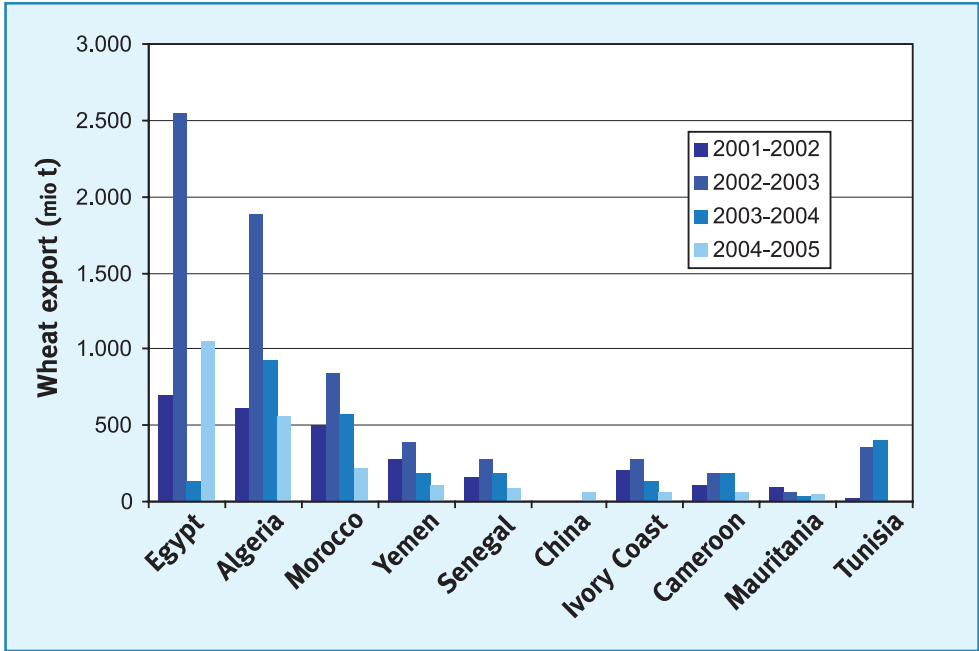


Fig. 36: Major importers for French soft wheat

country's total exports of 15.8 mio t (to be precise: 8.8 mio t) went to countries outside the EU. Fig. 36 shows the major importers of French soft wheat of the last 4 years. Important harbours for wheat exports are Rouen (with Le Havre and Caen), Nantes and La Pallice (outer harbour of La Rochelle) for the south-west and Sète and Port La Nouvelle for the Mediterranean region.

When treating French wheat flours it must be remembered that the average gluten structures of the export lots come very close to the top qualities from other parts of Europe. Their basic characteristics, expressed for example in kernel hardness, lie roughly between the US grades SRW and HRW. However, they do not achieve the best values of the top groups HRS and CWRS.