

ARVALIS
Institut du végétal



FranceAgriMer

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Institut du végétal

Quality of french wheat 2014



2013-2014 campaign



sowing

tilling

ear 1 cm
from crown

1 node

2 nodes

last leaf
just
visible

ligule of last
leaf just
visible

heading

flowering

ripening



Autumn :

→ bad conditions for sowing due to rain,
→ late and long period of sowing
→ soft temperature

Winter :

→ soft temperature
→ early ear 1 cm from crown

Spring : wet and soft

→ Stem elongation in good conditions
→ Good valorization of nitrogen fertilizers

Grain filling and ripening

→ good conditions at the beginning for grain filling
→ 6 or 7 days of heat (>30°C)
→ then lots of rains occurred in several regions from 25th June with cold temperatures damaging specific weight and Hagberg falling number with problem of PHS

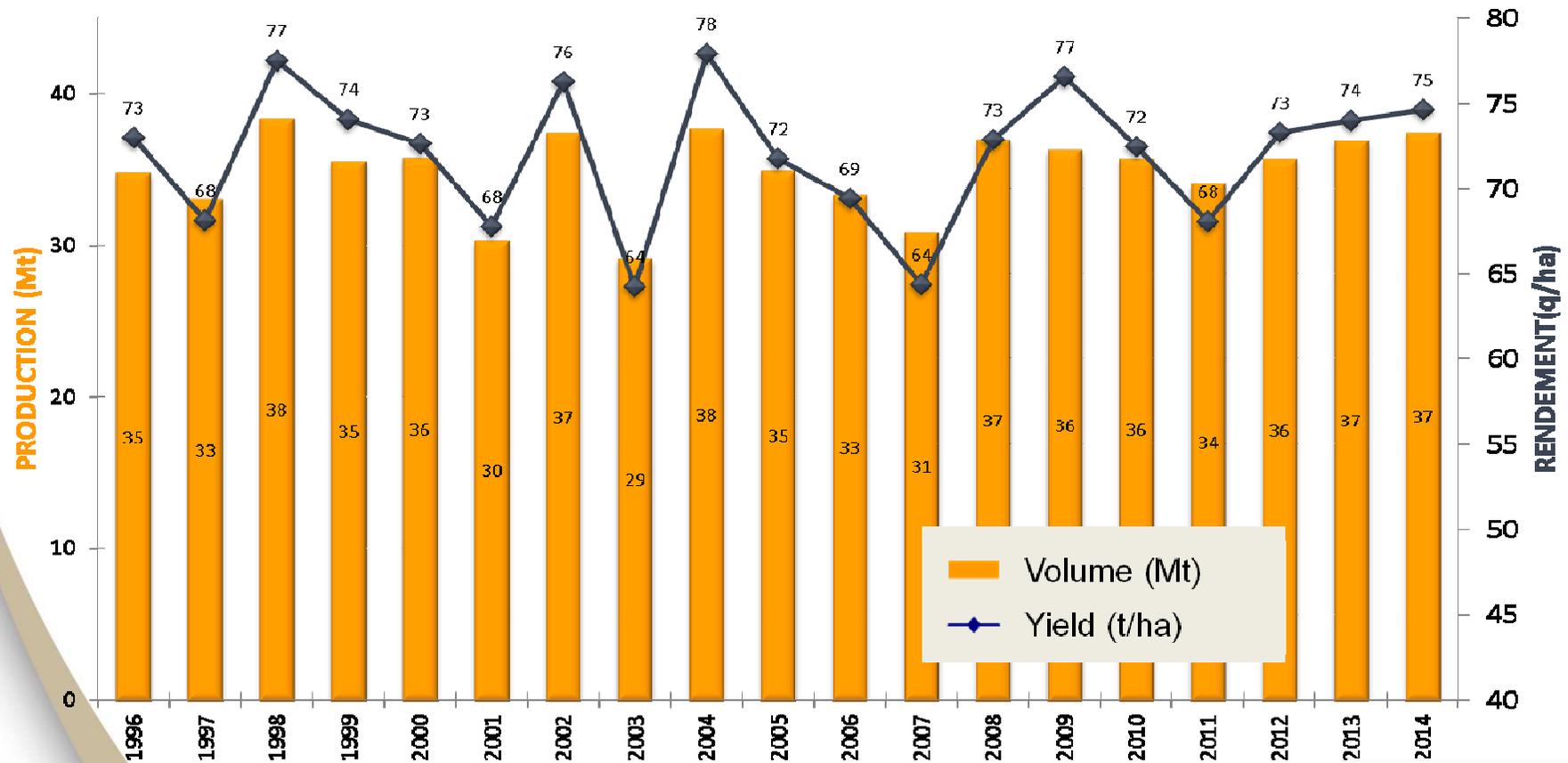
→ Results are very variable from one region to the other and global quality is lower than usual with high yield



High volumes 37,4 Mt

- Stable wheat surfaces : 5 Mha
- A high yield : 7.5 t/ha (+0,1t/ha)

High level of production

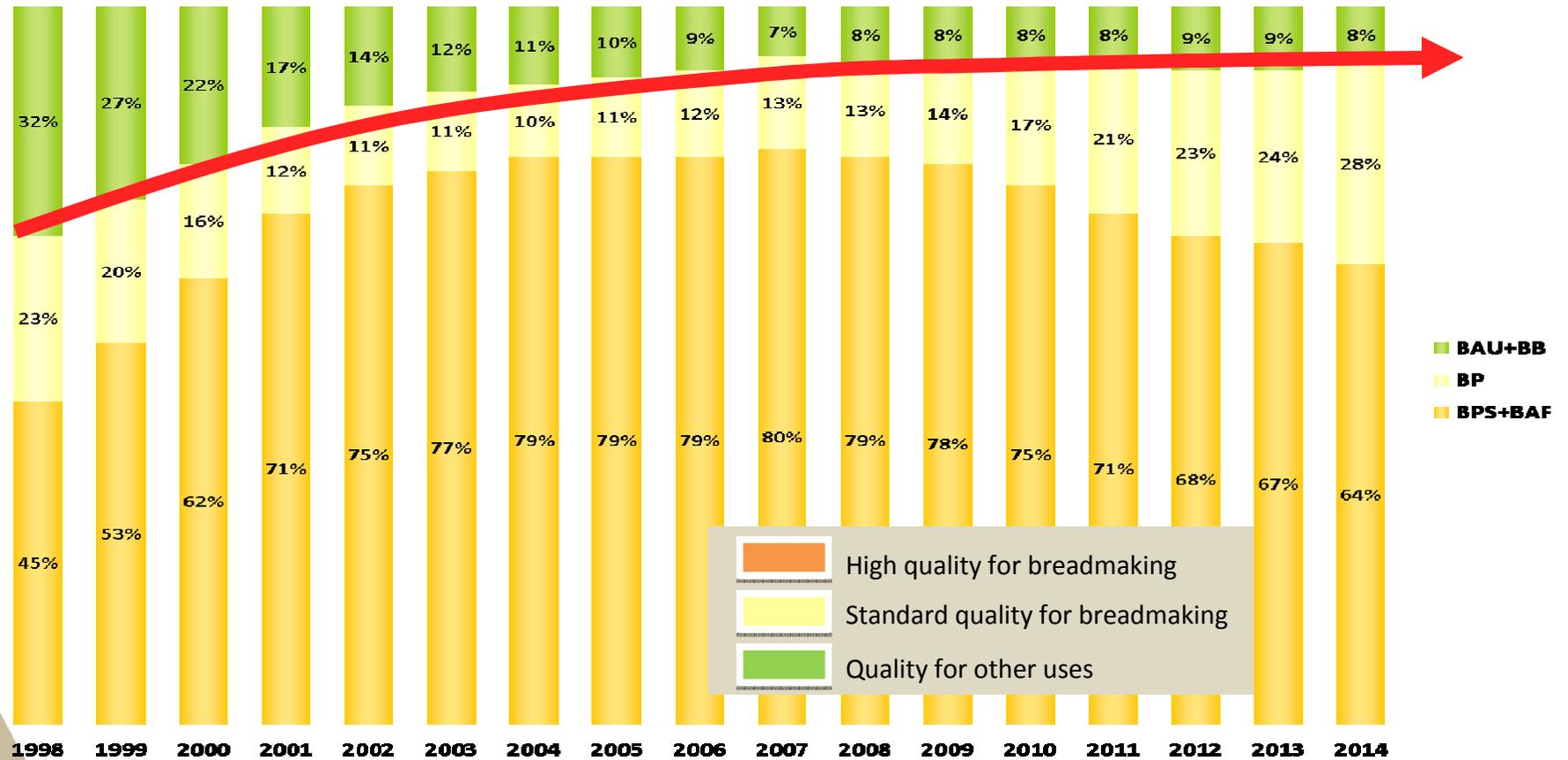


From FranceAgriMer september 10th 2014 / Agreste



French growers sowed 92% bread wheat

Surfaces (%)

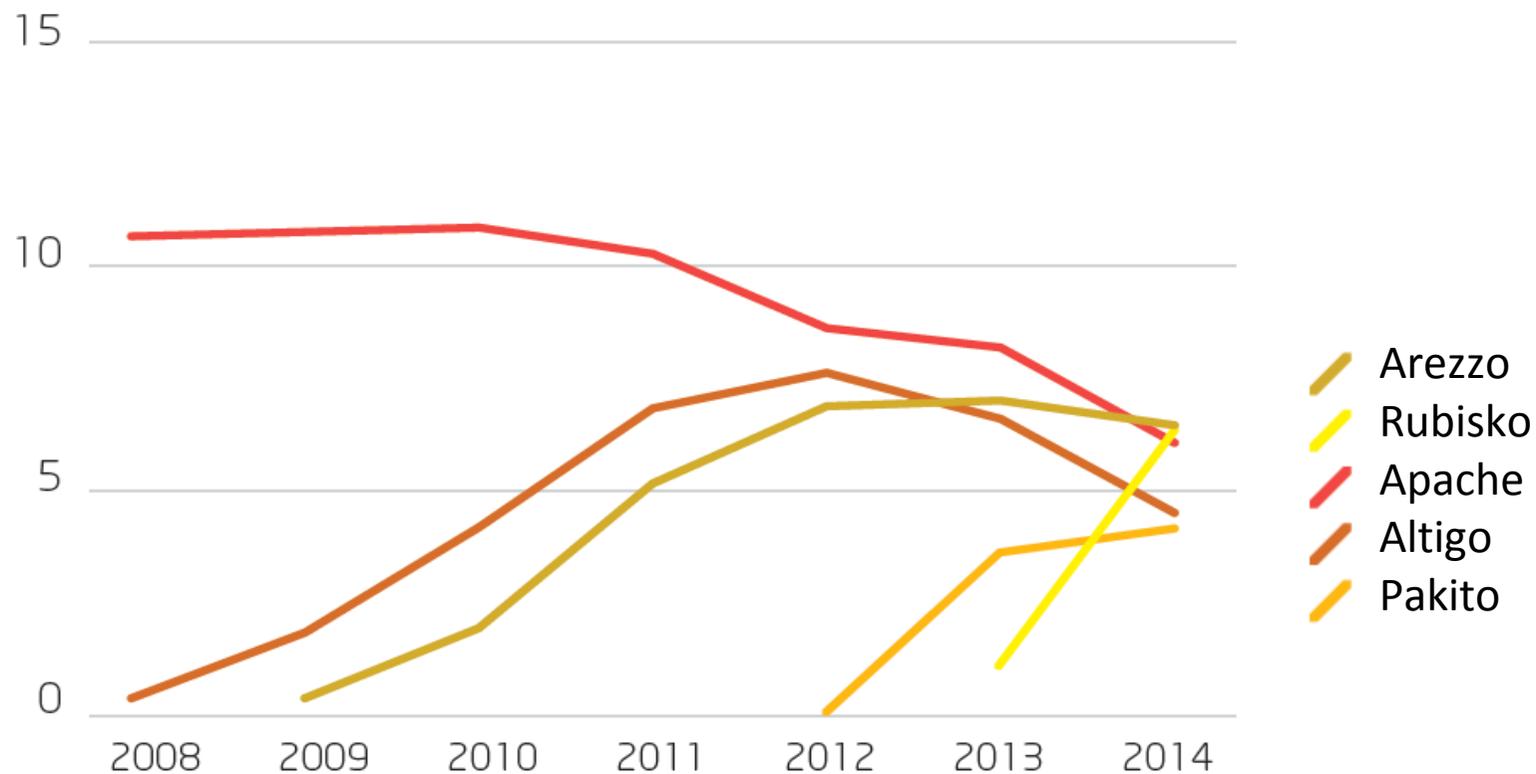


From FranceAgriMer / Varietal survey in the field 2014



The varietal turn-over is very dynamic

Evolution of the 5 main varieties



From FranceAgriMer / Varietal survey in the field 2014



About the results for 2014

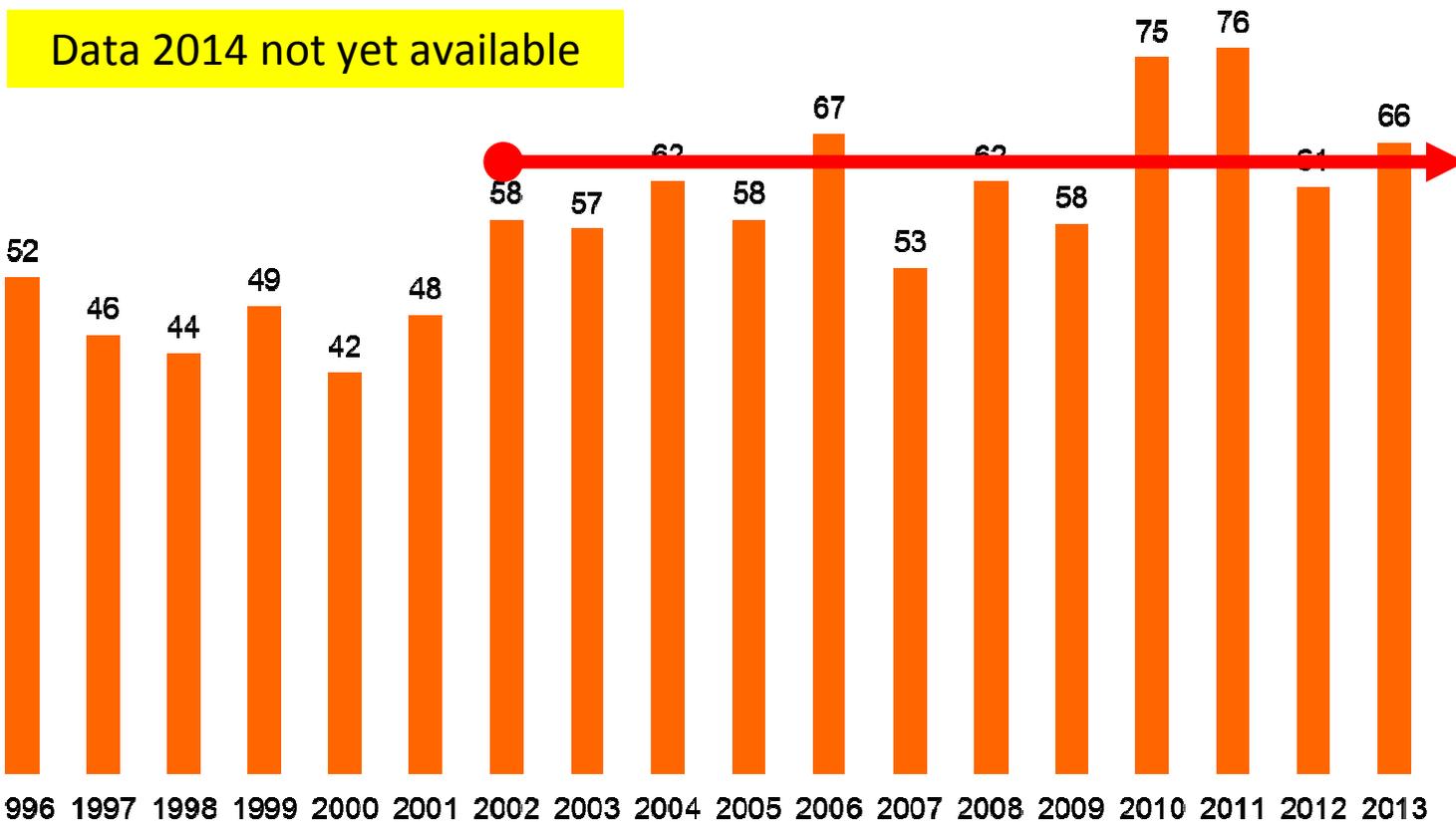
A survey conducted with cooperatives

- **Samples are collected in silos before drying and cleaning operations**
- **Samples = categories existing in silos : mixes of varieties or sometimes isolated varieties**
- **527 samples**
- **Analysis by FranceAgriMer and ARVALIS labs : all the samples or a selection, depending on the analysis**



Kernel hardness

- French wheat is medium-hard

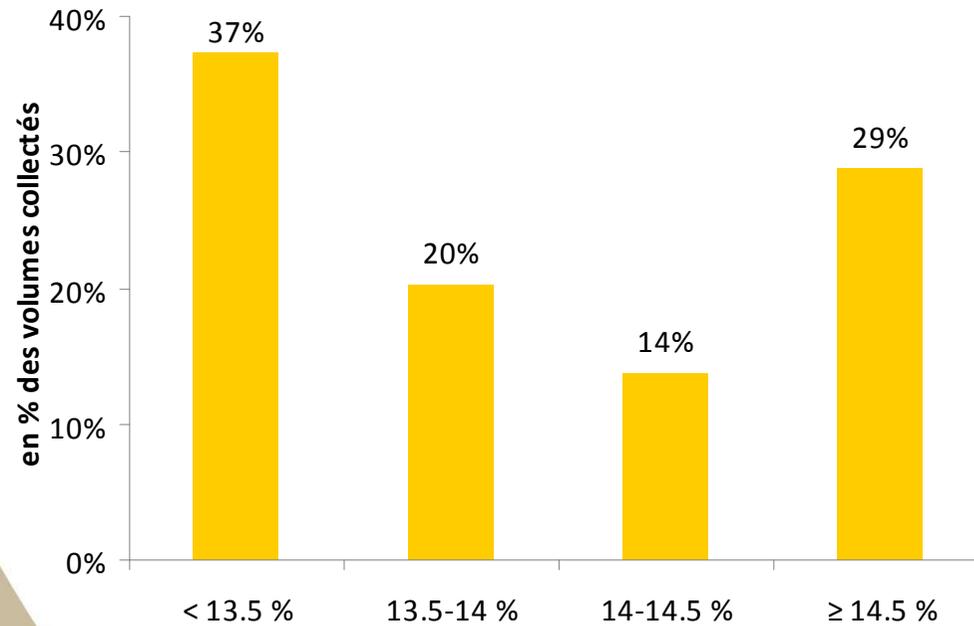
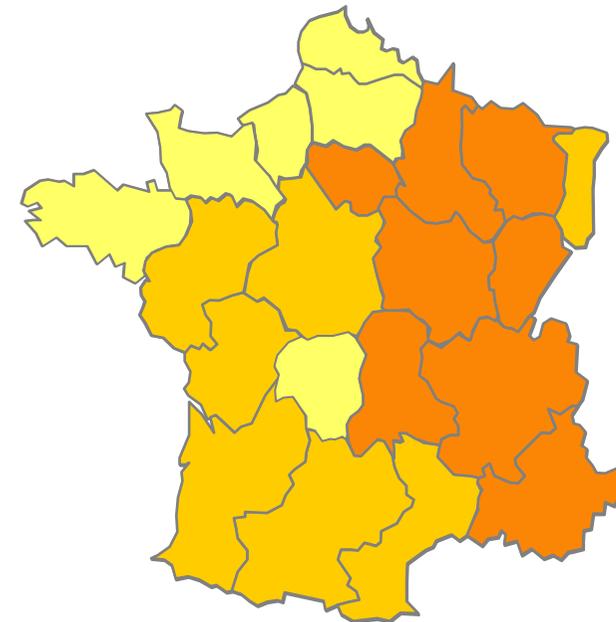


From FranceAgriMer / ARVALIS – Institut du végétal /
Inland silos survey 2013

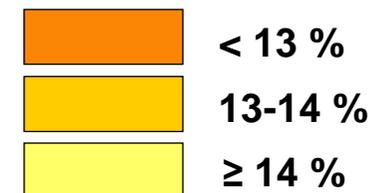


Water content

- **13,8 % on national average, with a range from 12,2 to 15,5% according to region from South-East to North-West**
- **Suitable for grain storage / drying sometimes required**



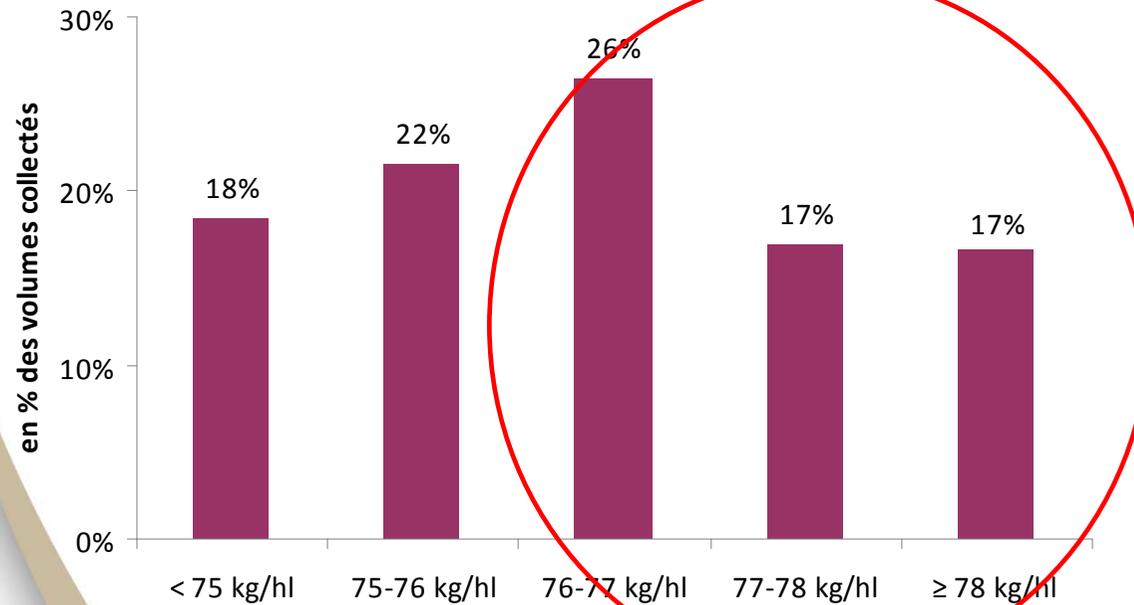
Regional averages



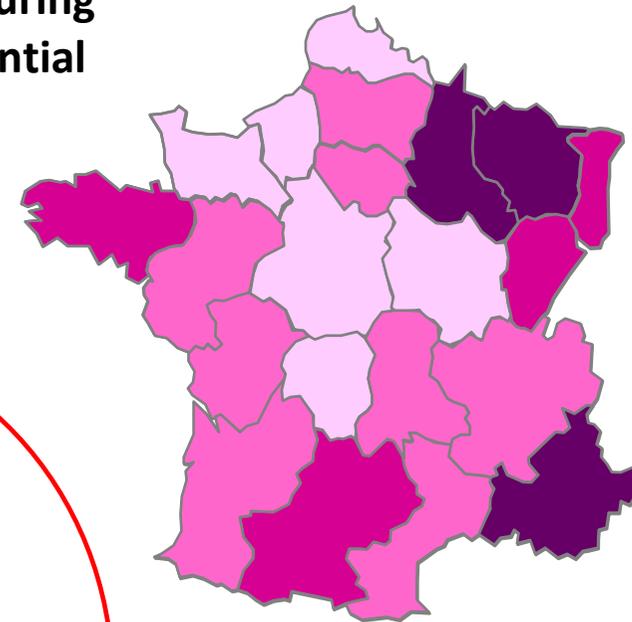


Specific Weight

- Long rainy period at the end of grain filling and during ripening led to a decrease of specific weight potential
- 76,3 kg/hl on average
- 60 % of wheat are up to 76 kg/hl



From FranceAgriMer - Inland silos survey 2014



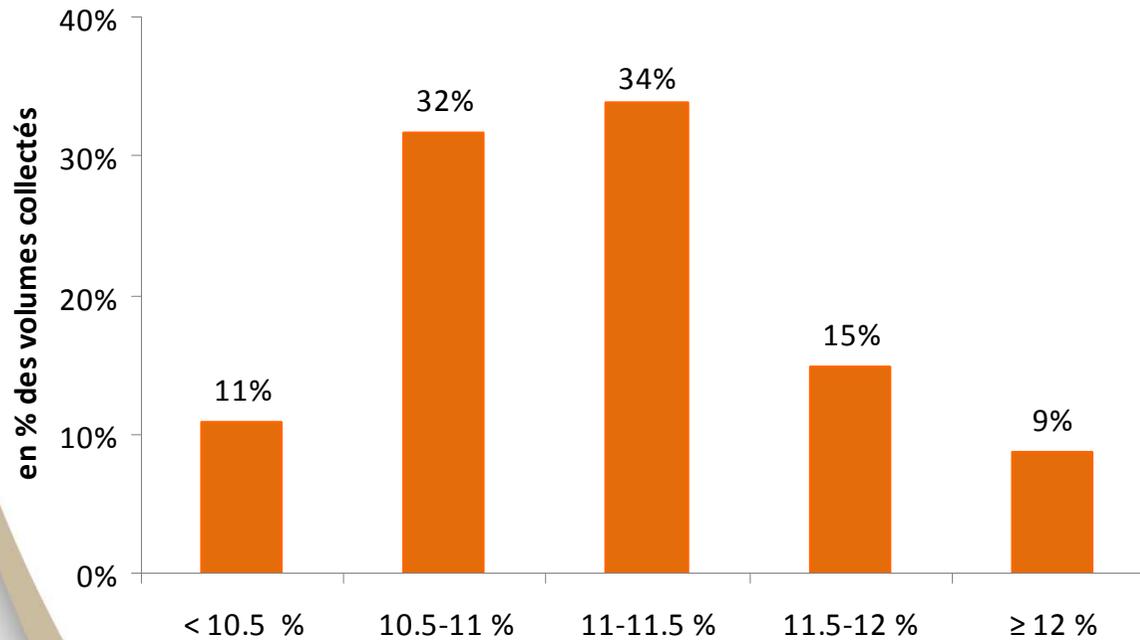
Regional averages



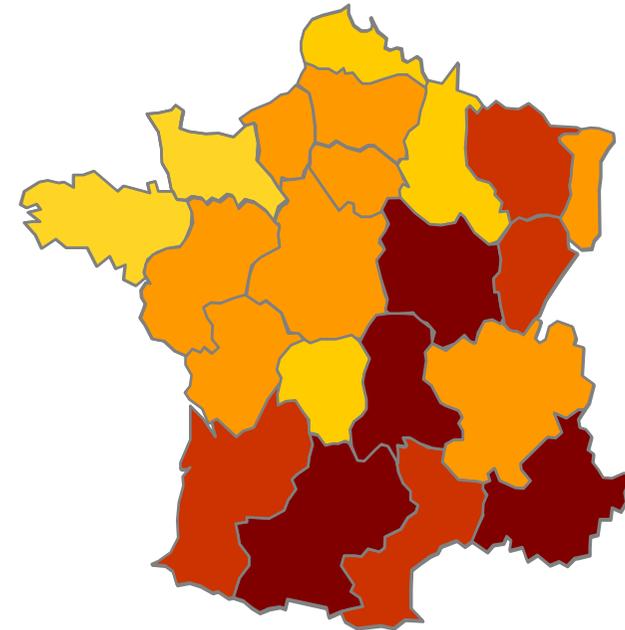


Protein content

- **11,1 % on average, from 10,3 % to 13,3 % according to region**



From FranceAgriMer - Inland silos survey 2014



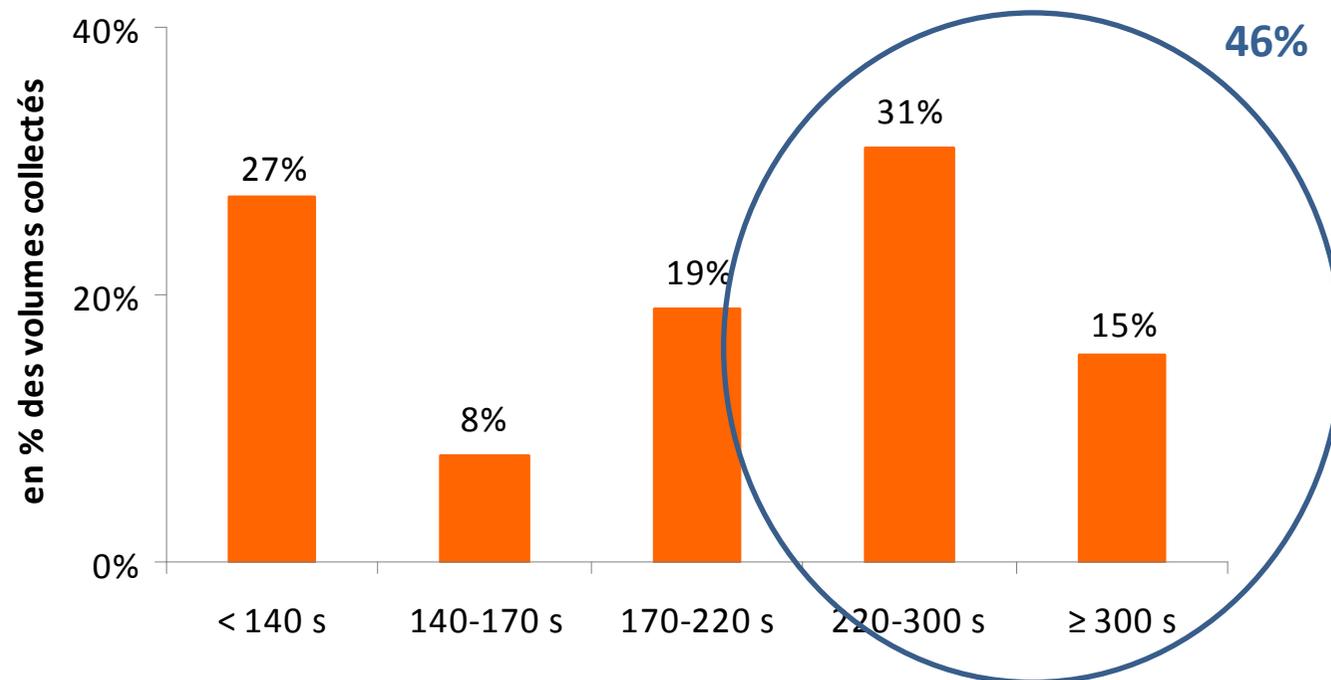
Regional averages





Hagberg Falling Number

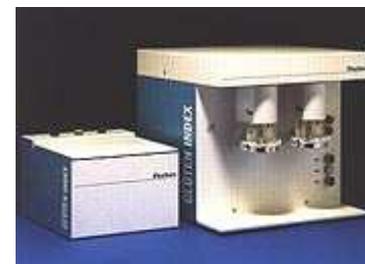
- Long rainy period at the end of grain filling and during ripening
- Combined to cold temperature led to damage HFN with PHS problems in many situations



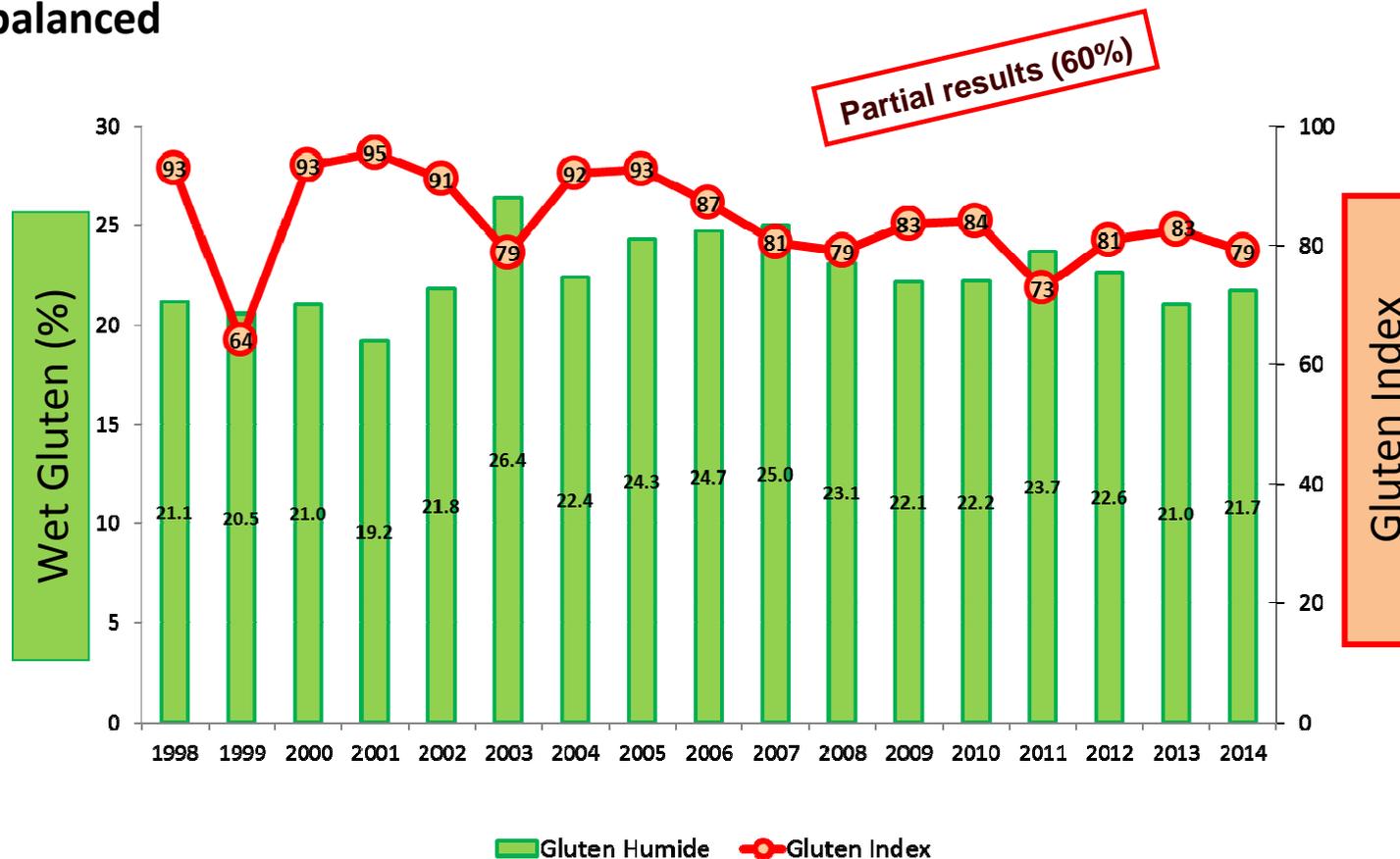
From FranceAgriMer - Inland silos survey 2014



Wet Gluten / Gluten Index



- **Wet Gluten : 21,7 % on average**
- **Gluten Index : 79 on average, dough behaviour is well-balanced**





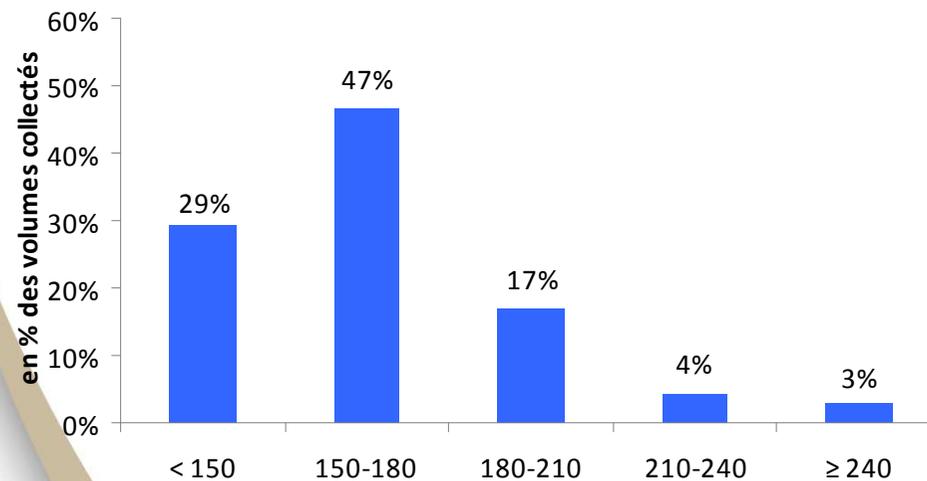
Baking Strength W and P/L ratio at Chopin Alveograph

Analysis made on samples with >140s HFN



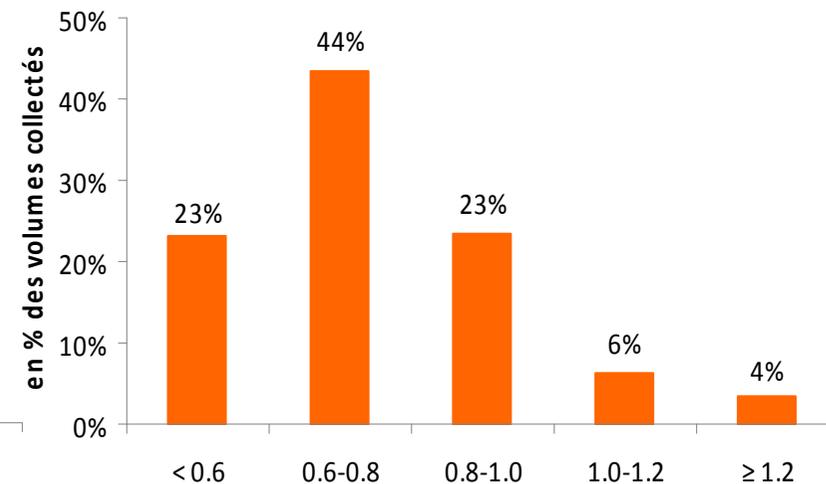
W

- National average is 165 with values in a large range
- Suitable for different end-uses



P/L

- National average is 0,75
- Dough behaviour is well-balanced in many situations so very suitable for different end-uses



From FranceAgriMer - Inland silos survey 2014



The French baking test

Closed to the bakeries practices

Basic recipe: Flour+Water+Salt+Yeast+AA(20ppm)

	Incidences				Excid				
	1	4	7	10	7	4	1		
PETRISSAGE									
LISSAGE									× 8.5 -
COLLANT DE LA PÂTE									× 8.5 -
CONSISTANCE									× 8.5 -
EXTENSIBILITE									× 8.5 -
ELASTICITE									× 8.5 -
RELACHEMENT									× 8.5 -
POINTAGE									
DETENTE: RELACHEMENT									× 1 -
FACONNAGE									
ALLONGEMENT									× 8.5 -
DECHIREMENT									× 8.5 -
ELASTICITE									× 8.5 -
COLLANT DE LA PÂTE									× 1 -
APPRET									
ACTIVITE FERMENTAIRE									× 8.5 -
PÂTE: DECHIREMENT									× 8.5 -
MISE AU FOUR									
COLLANT DE LA PÂTE									× 1 -
TENU DE LA PÂTE									× 2 -
CARACTERISTIQUES DU PAIN									
SECTION									× 1 -
COULEUR									× 2 -
EPAISSEUR									× 8.5 -
CRUSTILLANT									× 8.5 -
COUPS DE LAME									
DEVELOPPEMENT									× 1 -
REGULARITE									× 1 -
DECHIREMENT									× 1 -
VOLUME									
VOLUME MOYEN	1er	2e	3e	4e					× 1 -
MASSE MOYENNE									× 1 -
CARACTERISTIQUES DE LA MIE									
COULEUR									× 1 -
TEXTURE									× 1 -
SOUPLESSE									× 1 -
ELASTICITE									× 1 -
COLLANT									× 1 -
ALVEOLAGE									
REGULARITE									× 1 -
EPAISSEUR									× 1 -
ODEUR									× 4 -
									× 300

NB: La grille doit être remplie avec la lettre 'x'. Ne mettre qu'une seule croix par ligne.

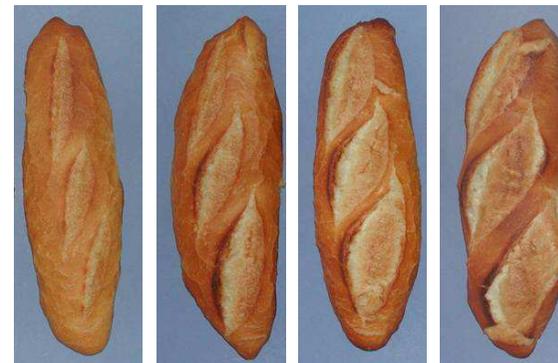
NOTE TOTALE

1. Dough mark/ 100

2. Bread mark/ 100

3. Crumb mark/ 100

1+2+3 = Baking Value (/300)

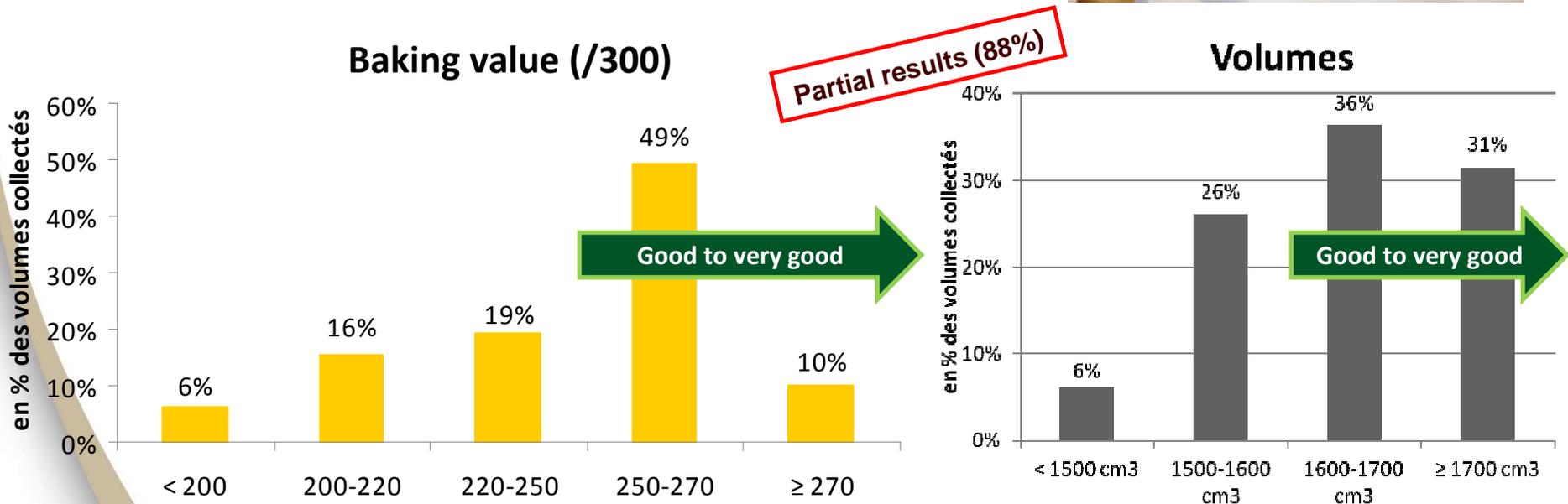




Results at the Baking Test

Analysis made on samples with >140s HFN

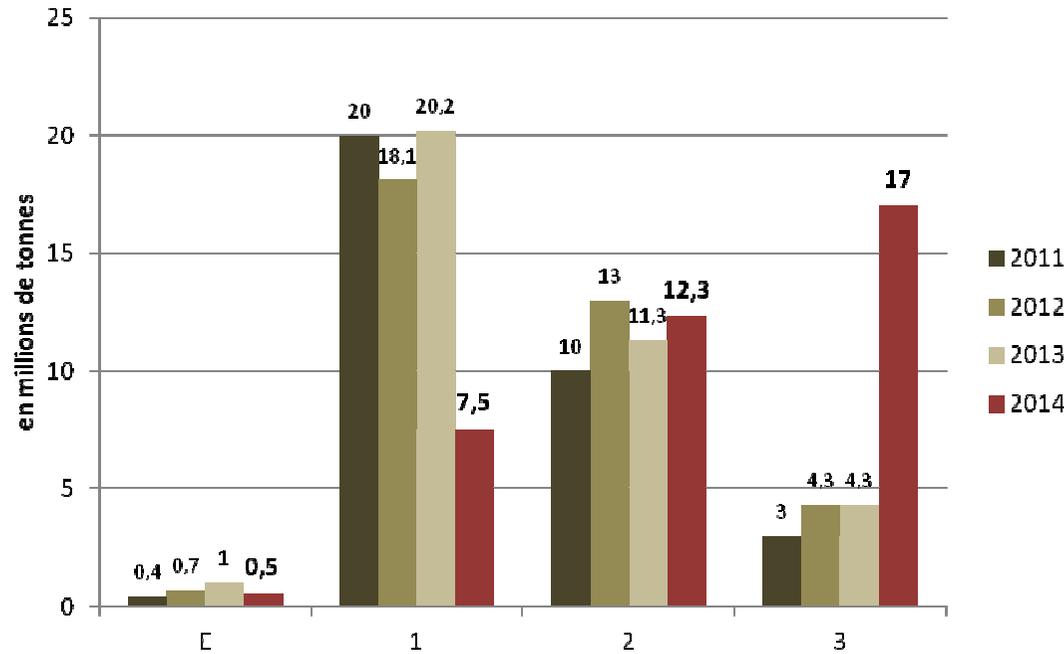
- Results are good to very good for 60% of samples analysed:
 - Water absorption is good with a mean of 59,7 %
 - well-balanced dough behaviour during moulding
 - Loaf volume mean is high at 1660 cm³
 - Bread aspect is very good



Source : FranceAgriMer / ARVALIS – Institut du végétal /
Inland silos survey 2014



To conclude



Classes	Protein	W	Hagberg
E	≥ 12 %	≥ 250	≥ 220
1	11 - 12,5 %	160 - 250	≥ 220
2	10,5 - 11,5 %	contracts	≥ 180
3	< 10,5 %	Not specified	Not specified

From FranceAgriMer - Inland silos survey 2014

An unusual harvest!



**Thank you for
your attention!**