

Paper for recycling Quality Control at SAICA.

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Celulosa Aragonesa)

1. SAICA PRESENTATION.

2. PAPER FOR RECYCLING QUALITY CONTROL:

- Objectives.
- Quality control:
 - Method.
 - Grade characterization.
 - Moisture and no paper component.

3. RESULTS.



SAICA GROUP





SAICA



SAICANATUR
Sustainable Environmental Services



SAICAPAPER
Sustainable High Performance Papers



SAICAPACK
Sustainable Packaging Solutions







SAICA



SAICANATUR



SAICAPAPER



SAICAPACK

Headcount — 1,634
Sales — 436 million €
Production — 2,975,000 tons

Presence — Spain
Portugal
France
United Kingdom





SAICA



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SAICAPAPER

Headcount — 849
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Production — 2,455,000 tons
2,163 Gwh

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SAICAPACK





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 metres

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Headcount — 8,269
Aggregate Sales — 3,009 million €
Presence — Spain
 Portugal
 France
 United Kingdom
 Ireland
 Italy



— SAICANATUR

Espagne
France
Portugal
Royaume Uni



— SAICAPAPER



— SAICAPACK





SAICANATUR



SAICAPAPER

Espagne
France
Royaume Uni



SAICAPACK





SAICANATUR



SAICAPAPER



SAICAPACK

Espagne
France
Portugal
Royaume Uni
Irlande
Italie
Turquie





SAICANATUR



SAICAPAPER



SAICAPACK



Paper, **our DNA.**
Its integration cycle is
the key to our success.





Sustainable High Performance Papers

1. Leaders in the manufacture of high-performance, low basis weight paper
2. 100% Recycled papers
3. Novelty papers distributed worldwide
4. Widest range of papers for corrugated board box-making
5. Guaranteed supply

**849 Full Time Employees (FTE)
2.425 Thousand t.**

SPAIN

649 FTE

SAICA ZARAGOZA

2 Paper Machines

500 Thousand t.

SAICA EL BURGO

3 Paper Machines

1.250 Thousand t.

FRANCE

109 FTE

SAICA VENIZEL

1 Paper Machine

225 Thousand t.

UK

91 FTE

SAICA PARTINGTON

1 Paper Machine

450 Thousand t.



PAPER FOR RECYCLING QUALITY CONTROL



HOW TO MAKE A EFFICIENT PAPER FOR RECYCLING QUALITY CONTROL?





**1-
FOLLOWING THE
EUROPEAN STANDART
OF QUALITY: Grades,
moisture, no-paper
components, ...**



NEW list EN-643-2001:

Code	Title	Description	Non-paper components	Total unwanted material
1.01.00	Ordinary mixed paper and board	A mixture of various grades of paper and board, without restriction on short fibre content, but unwanted material removed.	1,50 %	3.00 %
1.02.00	Mixed paper and board	A mixture of various qualities of paper and board, containing a maximum of 40% newspapers and magazines.	1,50%	2,50%
1.03.00	Boxboard cuttings	Printed and unprinted white lined and unlined grey board or mixed board, free from corrugated material.	1,00%	2,00%
1.04.00	ordinary corrugated paper and board	Used paper and board packaging, containing a minimum of 70 % of corrugated board, the rest being other paper and board products.	1,50%	3,00%

Moisture content in recovered paper and board

In principle, Paper and board for recycling will be supplied with moisture of not more than the naturally occurring level. Where the moisture content is higher than 10% (of air dried weight), the additional weight in excess of 10% may be claimed back – with the method of testing and sampling to be agreed between buyer and seller.



**2-
ADAPTING SYSTEM
ON OUR DIFFERENTS
MILLS (STRUCTURE,
CAPACITY, GRADES,
...)**



**11.000 t/day.
Exw policy**

SPAIN

15 grades

ZARAGOZA – 13 Th m²
8 unloads/h
550 Thousand t.

EL BURGO – 65 Th m²
20 unloads/h
1.450 Thousand t.

FRANCE

6 grades

VENIZEL– 16 Th m²
5 unloads/h
245 Thousand t.

UK

5 grades

PARTINGTON– 20 Th m²
10 unloads/h
550 Thousand t.



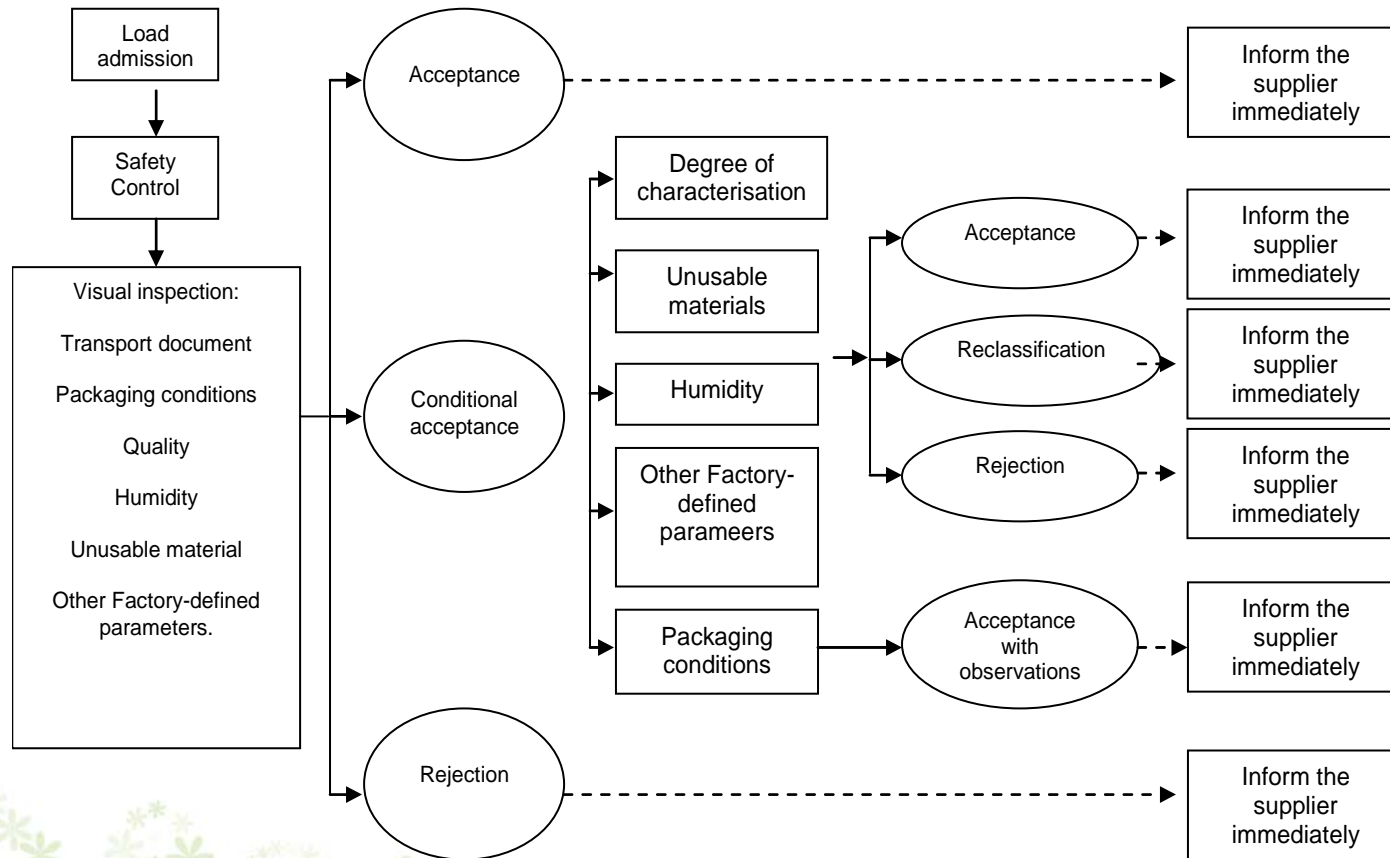
3
COLABORATING
WITH
SUPPLIERS

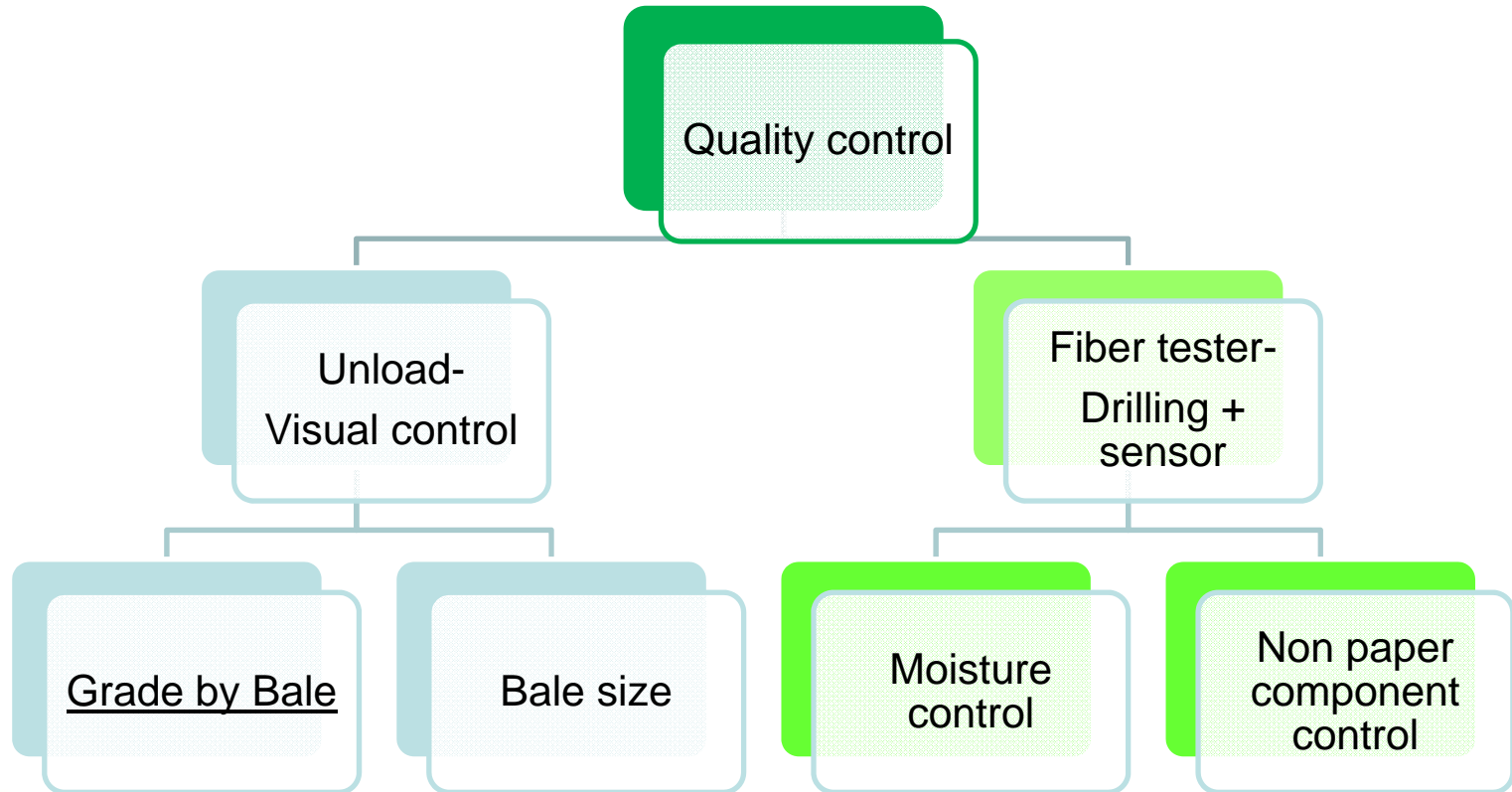




QUALITY CONTROL AT SAICA







Grade characterization



Heterogeneity of PR



Visual control to accept or not the bale, and to determinate the grade of all single bale

Moisture and no-paper components



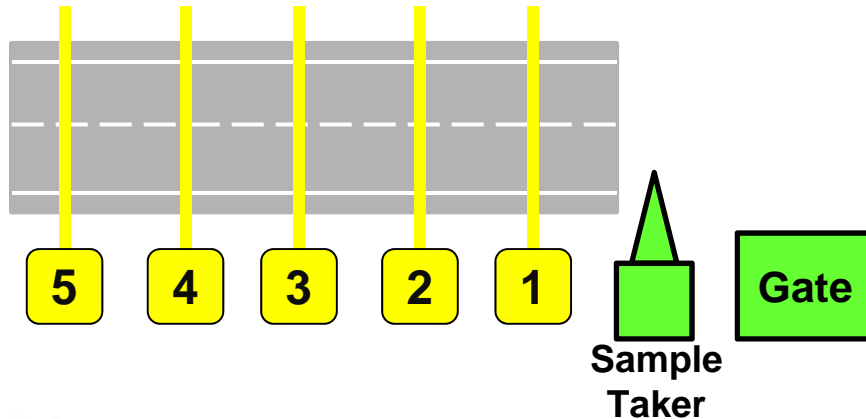
Requirements to control Paper for Recycling

- Randomized system: no selection of bales
- Samples taken from 100% of the trucks
- Drilling System – Fibertester → 250 Gr samples.
- Reliable system: accuracy better than 0,5%
 - a) Weight – dry – weight method (manual system)
 - b) NIR sensor (automatic system)

1.- Mill operator shows a randomized number to driver when curtains are still covering the bales



2.- Randomized intake of samples:



Truck stops at specified randomized number
 Curtains are opened
 Sample is taken, labeled and linked to delivery
 Truck goes to unloading area

3.- Water & Non Paper Content measurement:

By sensor or

By weight-dry-weight method

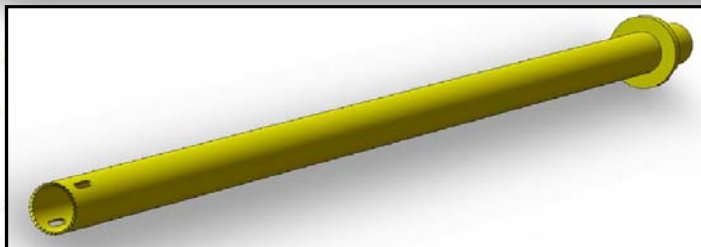


Water content

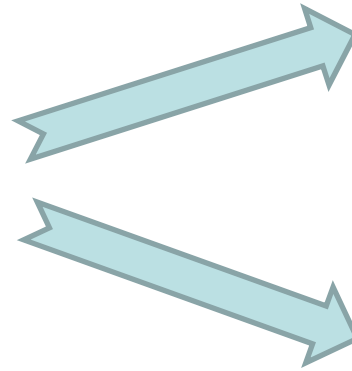
Non Paper content

MAIN FEATURES:

- Direct sampling on the truck: it is not needed to unload bales
- Reaches the entire load of the truck
- High speed of sampling (one minute)
- Adjustable depth of the drill



FIBERTESTER AT WORK



- Vertical
- Horizontal



Recovered Paper Quality control

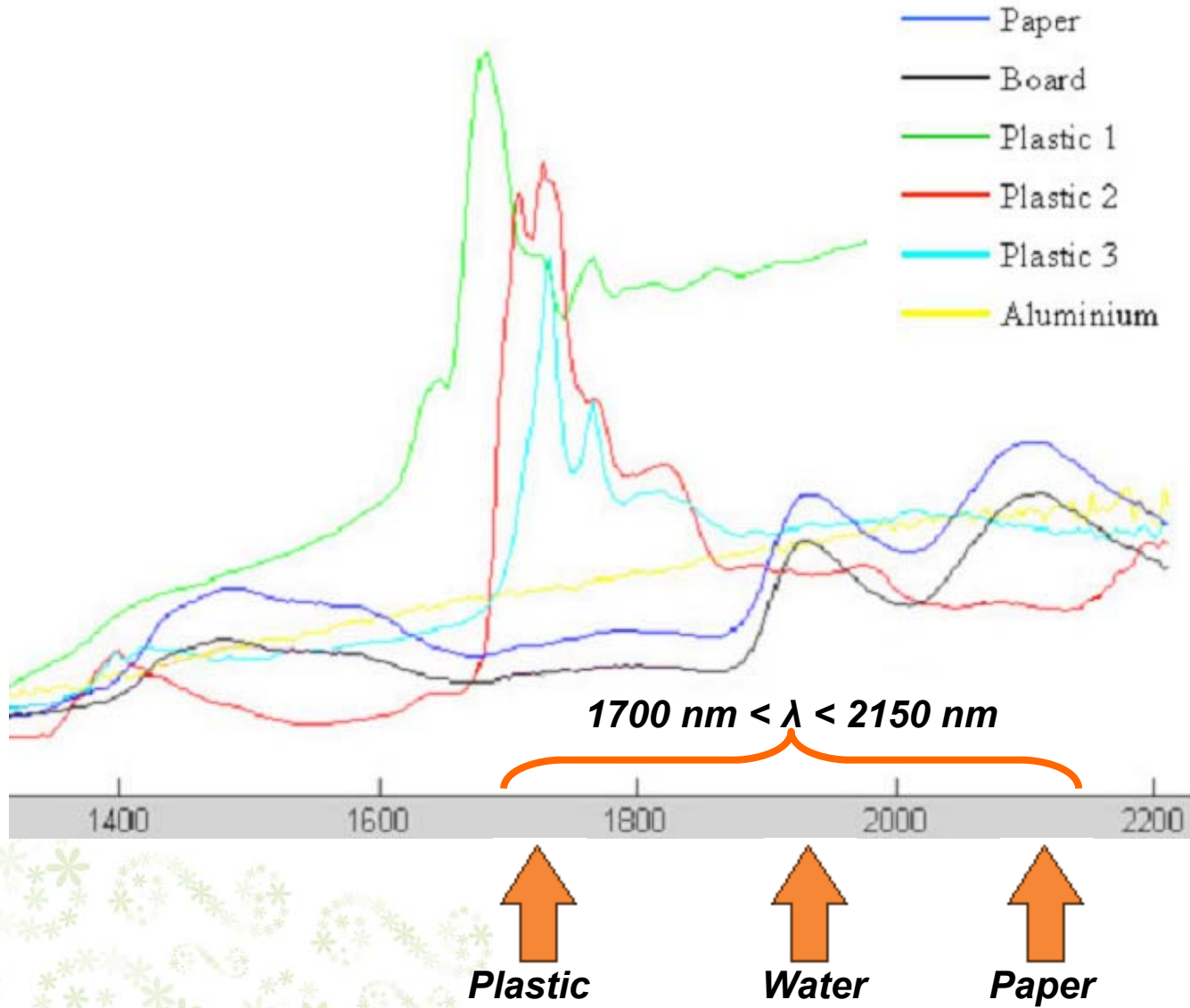


Quality control – Automatic System

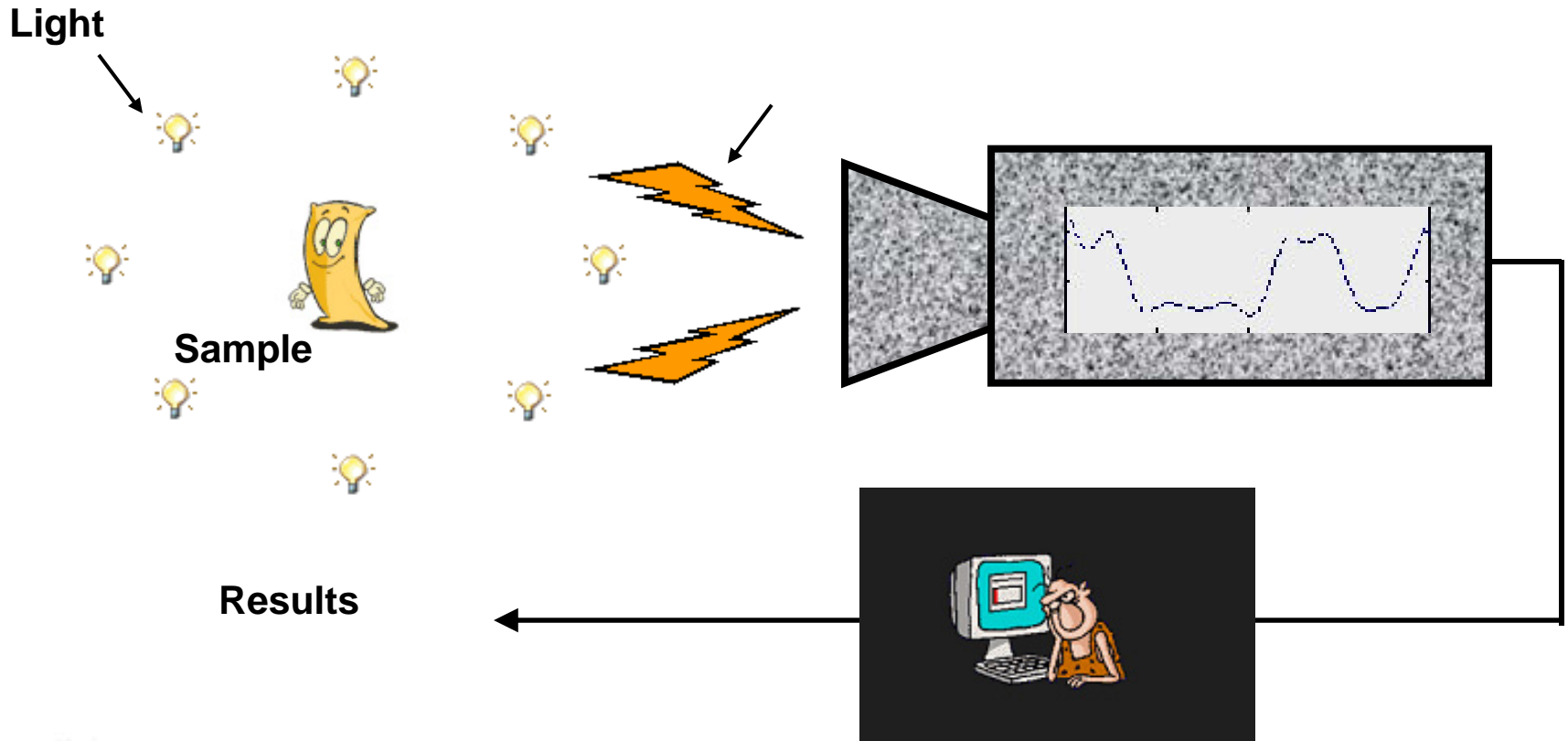


- Near Infra Red (NIR) Spectrometry Technology
- Accuracy of results: +/- 0.5%

Recovered Paper Quality control



Recovered Paper Quality control

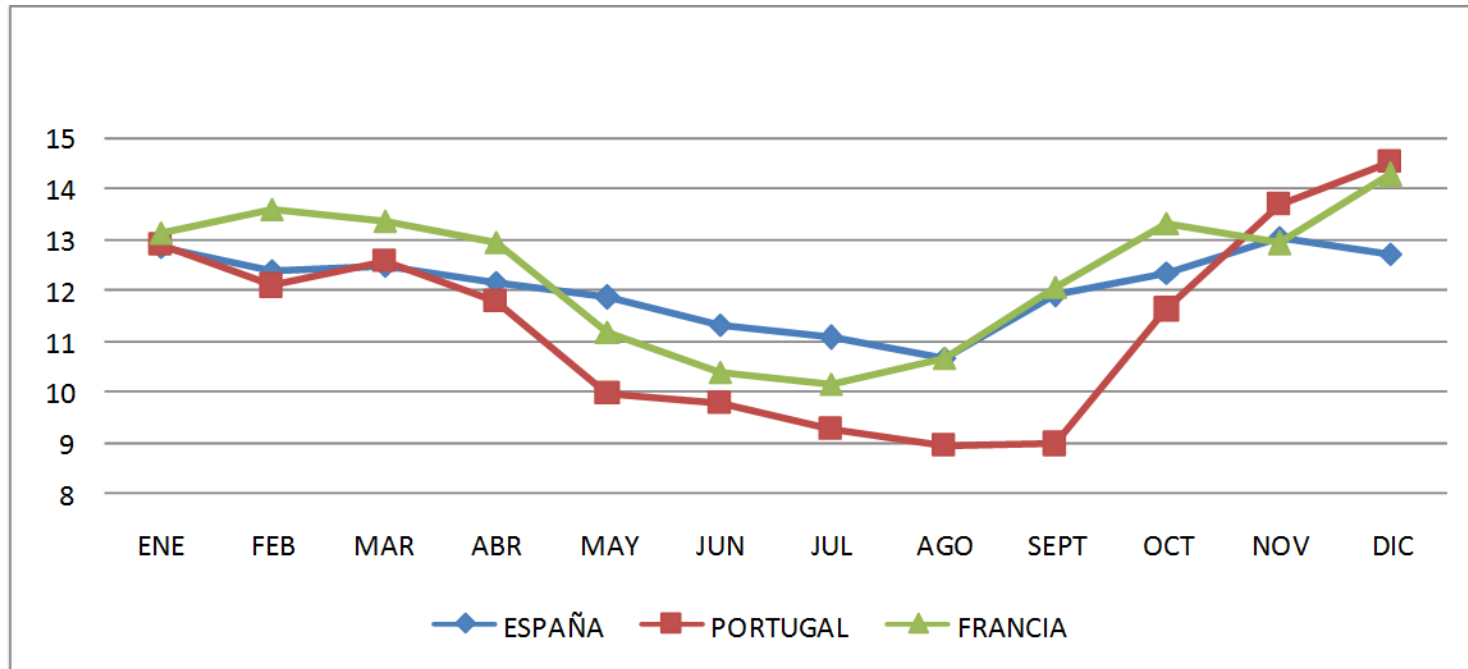




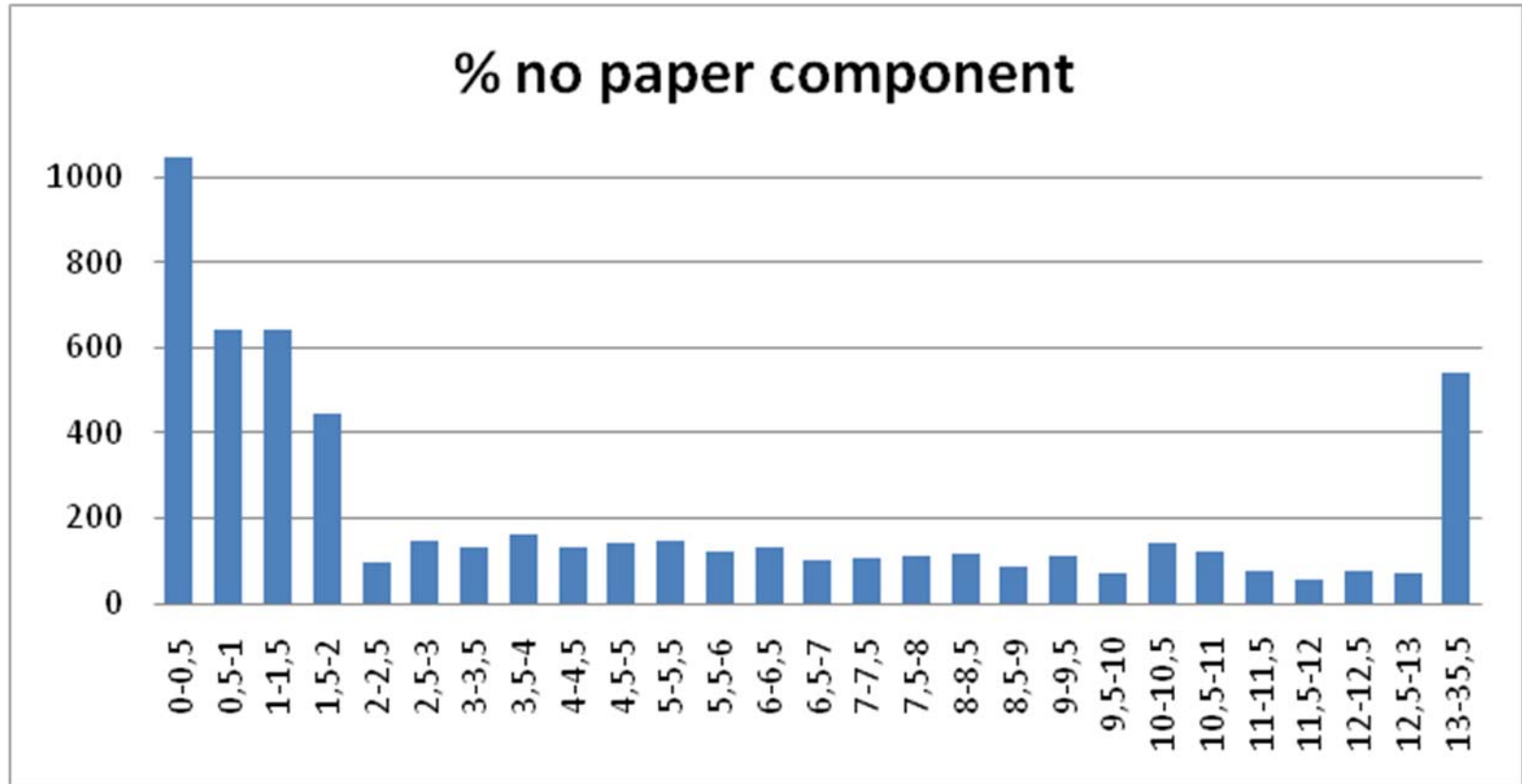
RESULTS

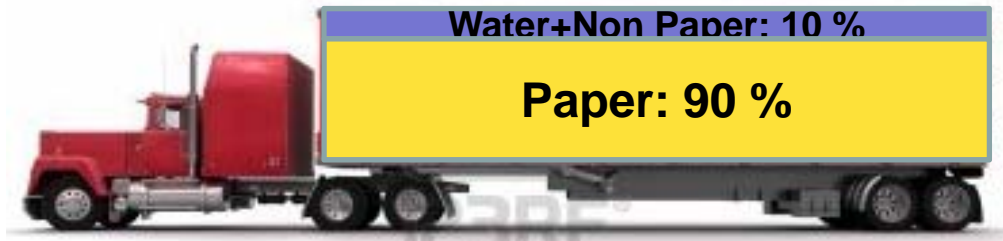
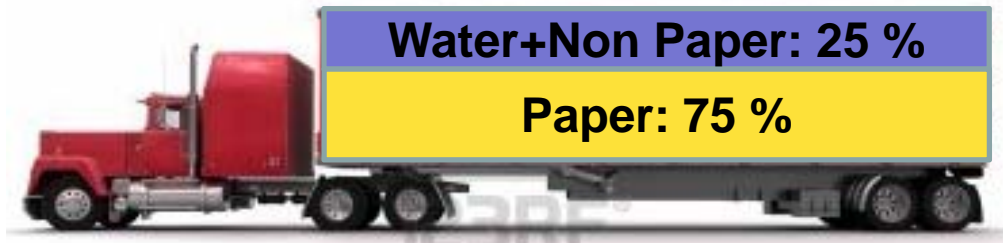


% Moisture per month



Range of % No Paper Content



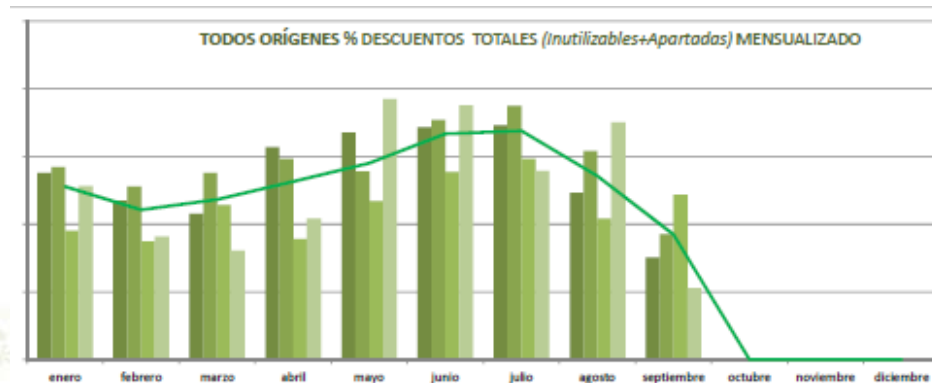


- New EN-643
- Internal control:
 - Accuracy on RP stock.
 - Accuracy on Yield calculation.
 - Control of no paper component.
 - Supplier ranking.
 - Technical figures to take commercial decision.

- Communication to the supplier (web page):
 - QC result for each truck (penalties or bonus → moisture Average + no-paper components).
 - Ranking of different origins (Depots, training, supermarket, ...).



origen	Descuentos Analisis (%)	Descuentos Totales (%)	Peso Inutilizables - Tm	Peso Humedad - Tm	Descuentos Totales - Tm	Peso Bascula total - Tm	% Apartadas totales	% Humedad	
	INUT+BBAA	INUT+HUM+BBAA							
	6,19	11,96	2,46	2,94	6,09	50,91	1,36	15,77	
	6,15	5,07	1,48	-	0,26	1,22	24,06	-	8,92
	5,40	6,26	6,20	1,79	12,99	207,44	2,41	10,86	
	5,24	6,71	29,12	18,81	85,85	1.280,08	2,96	11,47	
	5,12	4,09	12,16	-	9,06	35,94	879,06	3,74	8,97
	4,99	5,01	0,02	0,12	33,41	667,16	4,99	10,02	
	4,94	10,46	3,51	6,79	12,86	122,96	2,08	15,52	
	4,71	8,46	8,04	6,40	14,44	170,76	-	13,75	
	4,59	8,40	5,99	23,62	52,09	620,05	3,63	13,81	
	4,57	2,92	2,16	-	0,78	1,38	47,28	-	8,35
	4,54	5,46	3,46	12,57	75,07	1.375,88	4,29	10,91	
	4,43	3,97	4,02	-	0,56	4,83	121,59	1,13	9,54
	4,34	7,20	4,27	2,82	7,09	98,50	-	12,86	
	4,33	4,41	7,25	0,59	32,16	728,45	3,34	10,08	
	4,22	3,65	68,84	-	10,36	66,13	1.811,50	0,42	9,43
	4,15	7,94	7,95	31,09	65,07	819,22	3,18	13,80	
	4,11	4,28	7,74	3,31	84,77	1.980,86	3,72	10,17	
	4,04	9,00	23,27	106,65	193,58	2.150,94	2,96	14,96	



Thanks you

Sustainable Solutions!

