

2023 / 2024 CROP

TRIGO ARGENTINO

Institutional
quality report



trigoargentino.com.ar



Bread wheat

2023/2024 Crop



Planted acreage, harvested acreage, production and yield, by sub-regions

SUBREGION	AREA PLANTED	AREA HARVESTED	YIELD	PRODUCTION
Sub I	763.773	630.573	2,47	1.560.115
Sub II N	710.899	695.459	3,23	2.251.830
Sub II S	1.064.470	1.032.009	3,26	3.365.054
Sub III	690.400	653.700	3,38	2.210.910
IV	510.443	510.443	4,52	2.309.522
Sub V N	489.054	427.229	1,87	801.656
Sub V S	1.017.801	970.924	2,45	2.386.367
NEA	255.290	245.820	1,23	302.253
NOA	315.233	311.353	1,29	401.723
TOTAL	5.817.363	5.477.510	2,85	15.589.430

SUBREGION	LOCALITY COMPOSITE	SAMPLING (TONS)	PRODUCTION (TONS)	PRODUCTION SAMPLED
Sub I	26	103600	1.560.115	10,01%
Sub II N	47	275333	2.251.830	14,44%
Sub II S	51	178000	3.365.054	21,59%
Sub III	44	150760	2.210.910	14,18%
IV	31	114885	2.309.522	14,81%
Sub V N	23	87214	801.656	5,14%
Sub V S	47	142346	2.386.367	15,31%
NEA	4	13000	302.253	1,94%
NOA	2	8000	401.723	2,58%
TOTAL	275	1073138	15.589.430	100,00%

Procedure to obtain analytical results

SAMPLING

296
locality composite
sample

9
subregion

WHEAT ANALYSIS

Commercial analysis (grade)
Weight of 1000 grams
Kernels. Ash. Protein content

Commercial analysis (grade)
Weight of 1000 grams
Kernels. Ash

MILLING

Flour yield

Flours analysis:

- Wet and dry gluten
- Falling number
- Ash
- Farinogram
- Alveogram

Flours analysis:

- Wet and dry gluten
- Index gluten
- Falling number
- Ash
- Zeleny test
- Farinogram
- Alveogram
- Mixogram
- Baking tests
- Consistograma
- Viscosidad - RVA

National summary by subregions

Results of all the analyzed variables

SUBREGIONS	I	II N	II S	III	IV	V N	V S	NEA	NOA	* Pondered Average
GRAIN										
Peso Hectolítrico (kg/hl)	77,77	79,45	76,48	76,39	77,01	79,4	76,92	80,38	78,05	77,74
Peso Mil granos Tal Cual (gr)	32,58	37,24	37,54	35,65	35,02	34,6	34,02	35,73	36,2	35,71
Cenizas (s.s.s.) %	1,767	1,700	1,722	1,135	1,564	1,707	1,654	2,131	1,802	1,61
Proteínas (s/b 13,5% H ^o) (%)	11,9	11,6	12,3	11,3	10,3	11,4	11,5	12,9	11	11,53
Proteínas (s.s.s.) (%)	13,8	13,4	14,2	13,1	11,9	13,2	13,3	14,9	12,7	13,33
Cenizas (s.s.s.) %		0,482	0,509	0,504	0,66		0,512	0,647	0,646	0,43
Color										
L		88,55	87,22	87,74	87,62		87,43	88,21	87,85	72,21
a		-1,93	-1,63	-1,76	-1,75		-1,70	-1,46	-1,42	1,45
b		9,83	7,94	9,76	9,79		9,56	7,85	7,65	7,68
FLOUR										
Moisture (%)		14,97	15,71	13,91	14,31		14,29	15,46	16,05	12,14
Protein (%)		10,1	10,3	9,9	9,7		10,8	11,3	9,6	8,37
Wet Gluten (%)		26,5	26,9	24,9	25,5		29,2	30,3	23,8	21,91
Dry Gluten (%)		9,4	9,5	8,7	8,8		10,0	10,1	8,1	7,66
Index Gluten (%)		91	90	100	99		98	94	99	78
Falling Number (seg)		328	344	318	408		393	332	238	287,49
Zeleny Test (cc)										
FARINOGRAM										
Water Absorption (%)		57	59,5	55,2	54,8		56,6	62,9	59,9	46,83
Development Time (min)		10,3	9	8,1	21,2		17,9	12,8	7,8	10,13
Stability (min)		18,6	19,3	14,3	46,4		40,1	21,6	12,4	20,62
Degree pf Softening (U.F.)		31	26	45	10		11	25	54	
Quality Number		216	223	170	498		445	260	146	233
MIXOGRAM										
Development Time (min)										23,40
ALVEOGRAM										
P (mm)		84	97	75	72		64	124	110	66,70
G		21,6	18,8	21,9	22,3		26,8	18,6	17,9	18,40
L (mm)		94	71	97	100		145	70	65	80,79
W (Joules x 10-4)		277	261	265	249		298	324	265	224
P/L		0,89	1,37	0,77	0,72		0,44	1,77	1,69	0,73
Ie %		62	60,7	64,6	58,2		58,7	60,1	56,9	50,2
W (40) (Joules x 10-4)		149	170	135	123		109	214	188	117
BAKING										
Absorption (%)		62	62	62	61		62,0	62,5	62	50,9
Development Time (min)		03:30	03:30	03:30	03:00		03:30	04:00	03:30	02:49
Fermentation Time (min)		160	160	160	160		160	160	160	160
Loaf Volume (cc)		635	525	615	580		600	620	500	132
Specific Volume (cc/gr)		4,6	3,8	4,5	4,2		4,5	4,6	3,6	3,6

Argentine wheat

Main Quality Parameters

Subregion NOA

Test Weight (kg/hl) 78,05

GRADE

1	2	3	O/G
0%	50,0%	50,0%	0%

Protein (13,5 Moisture) (%)	11
Protein (s.s.s.) (%)	12,7
Wet Gluten (%)	24,7
W Alveogram (Joules 10-4)	237,5
Farino Stability (min)	9,8

Subregion NEA

Test Weight (kg/hl) 80,40

GRADE

1	2	3	O/G
25%	75%	0%	0%

Protein (13,5 Moisture) (%)	12,9
Protein (s.s.s.) (%)	14,9
Wet Gluten (%)	30,8
W Alveogram (Joules 10-4)	337,7
Farino Stability (min)	21,6

Subregion VN

Test Weight (kg/hl) 79,40

GRADE

1	2	3	O/G
8,70%	73,91%	13,04%	4,35%

Protein (13,5 Moisture) (%)	11,4
Protein (s.s.s.) (%)	13,2
Wet Gluten (%)	25,9
W Alveogram (Joules 10-4)	266,6
Farino Stability (min)	26,2

Subregion I

Test Weight (kg/hl) 77,80

GRADE

1	2	3	O/G
15,38%	69,23%	15,38%	0%

Protein (13,5 Moisture) (%)	11,9
Protein (s.s.s.) (%)	13,8
Wet Gluten (%)	0
W Alveogram (Joules 10-4)	0
Farino Stability (min)	0

Subregion VS

Test Weight (kg/hl) 76,90

GRADE

1	2	3	O/G
6,38%	63,83%	29,79%	0%

Protein (13,5 Moisture) (%)	11,5
Protein (s.s.s.) (%)	13,3
Wet Gluten (%)	29,9
W Alveogram (Joules 10-4)	305,3
Farino Stability (min)	28,3

Subregion IIN

Test Weight (kg/hl) 79,45

GRADE

1	2	3	O/G
48,94%	51,06%	0%	0%

Protein (13,5 Moisture) (%)	11,6
Protein (s.s.s.) (%)	13,4
Wet Gluten (%)	27,0
W Alveogram (Joules 10-4)	303
Farino Stability (min)	22,4

NOA

NEA

VN

I

III

IIN

IIS

IV

VS



National

Test Weight (kg/hl) 77,74

GRADE

1	2	3	O/G
16,0%	60,0%	21,0%	0%

Protein (13,5 Moisture) (%)	11,5
Protein (s.s.s.) (%)	13,3
Wet Gluten (%)	23,6
W Alveogram (Joules 10-4)	248,9
Farino Stability (min)	22,9

Subregion IIS

Test Weight (kg/hl) 76,50

GRADE

1	2	3	O/G
9,80%	50,98%	39,22%	0%

Protein (13,5 Moisture) (%)	12,3
Protein (s.s.s.) (%)	14,2
Wet Gluten (%)	27,9
W Alveogram (Joules 10-4)	268,3
Farino Stability (min)	29,1

Subregion III

Test Weight (kg/hl) 76,40

GRADE

1	2	3	O/G
11,36%	54,55%	29,55%	4,55%

Protein (13,5 Moisture) (%)	11,3
Protein (s.s.s.) (%)	13,1
Wet Gluten (%)	22,6
W Alveogram (Joules 10-4)	265,6
Farino Stability (min)	22,5

Subregion IV

Test Weight (kg/hl) 77,00

GRADE

1	2	3	O/G
6,45%	74,19%	12,90%	0%

Protein (13,5 Moisture) (%)	10,3
Protein (s.s.s.) (%)	11,9
Wet Gluten (%)	24
W Alveogram (Joules 10-4)	208,8
Farino Stability (min)	27,4

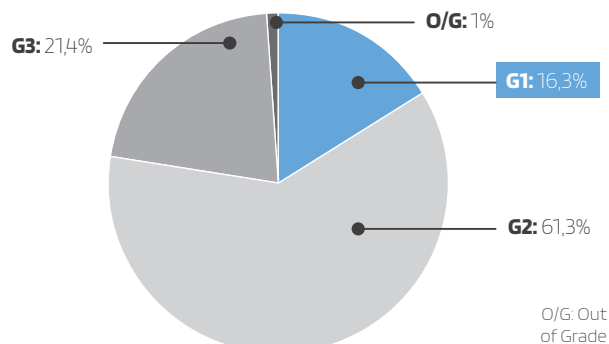
National averages

Weighted averages by tons produced in each region



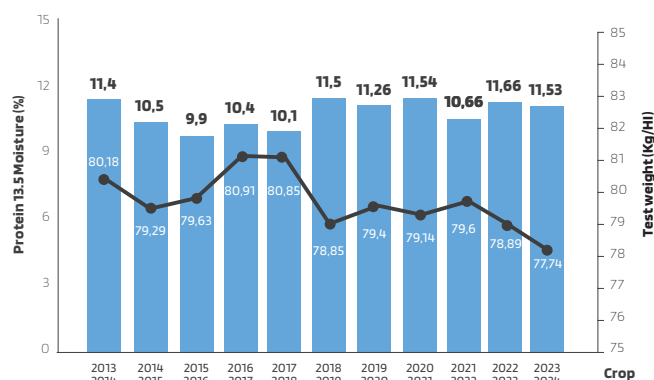
WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	76,39	79,45	77,74
Total Damaged Kernels (%)	0,14	1,96	1,02
Foreign Material (%)	0,18	0,48	0,33
Shrunken and Broken Kernels (%)	0,13	0,55	0,37
Yellow Berry Kernels (%)	0,59	5,64	2,75
Protein (13,5% Moisture) (%)	9,95	12,29	11,53
Protein (dry basis) (%)	11,5	14,21	13,33
Weight of 1000 Kernels (g.)	32,58	37,54	35,71
Ash (dry basis.) (%)	1,13	1,8	1,61

Grade distribution

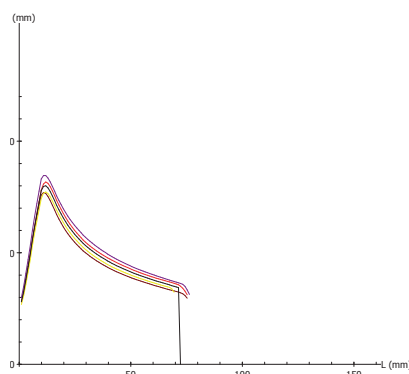


FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	0	27,94	23,57
Dry Gluten (%)	0	10,33	8,47
Falling Number (sec.)	0	394,49	319,93
Flour Yield (%)	0	69,85	59,57
Ash (dry basis) (%)	0	0,62	0,45
FARINOGRAM			
Water Absorption (14% H ^o) (%)	0	57,75	49,63
Development Time (min.)	0	17,63	11,64
Stability (min.)	0	35,55	22,91
Degree of Softening (12 min.)	0	85,5	26,54
ALVEOGRAM			
P (mm)	0	118,5	83,27
L (mm)	0	95,09	74,77
W joules X 10 4	0	305,32	248,91
P / L	0	2,39	1,09

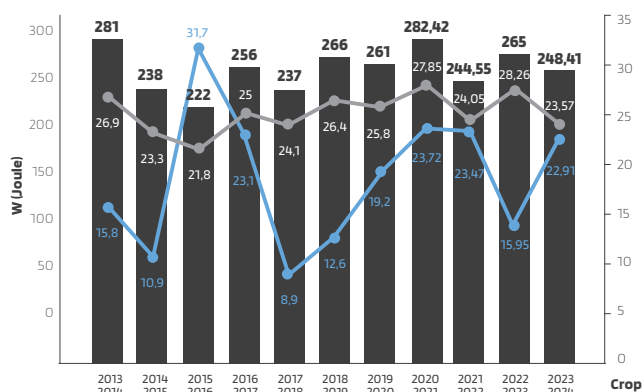
Protein 13,5% vs. Test weight



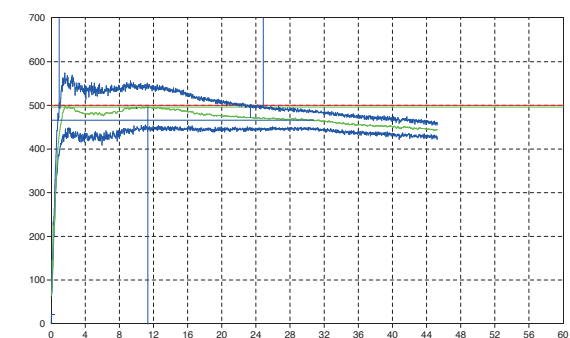
Alveogram



W, wet gluten y stability



Farinogram

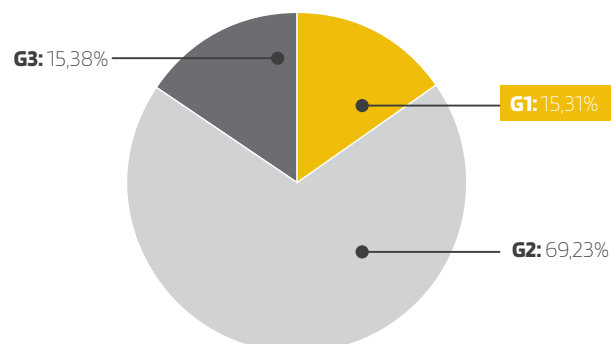


Subregion I. Analysis results

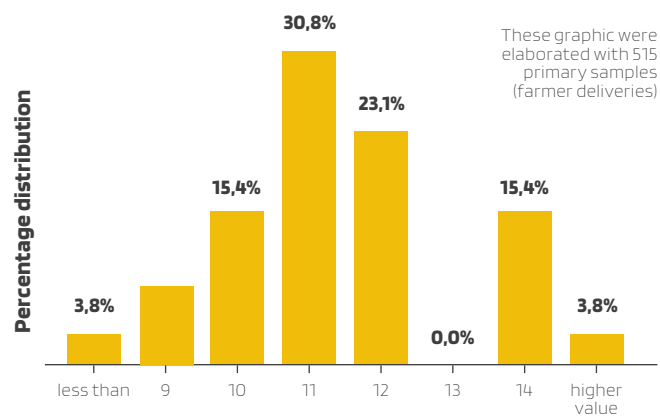
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	75,40	81,20	77,77
Total Damaged Kernels (%)	0,15	2,16	0,55
Foreign Material (%)	0,05	0,52	0,18
Shrunken and Broken Kernels (%)	0,10	0,74	0,36
Yellow Berry Kernels (%)	0,00	23,10	5,64
Protein (13,5% Moisture) (%)	8,9	15,7	11,9
Protein (dry basis) (%)	10,3	18,2	13,8
Weight of 1000 Kernels (g.)	29,35	40,75	32,58
Cenizas (S.S.S.) (%)	1,534	2,055	1,767

Grade distribution



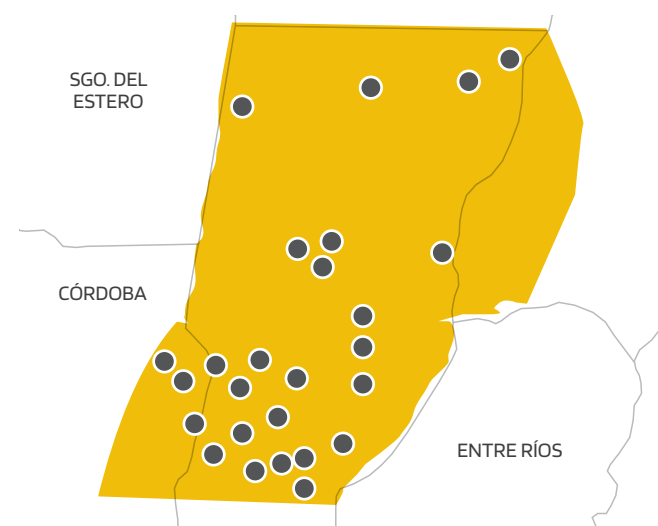
Protein (13.5% Moisture)



FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	SD	SD	SD
Dry Gluten (%)	SD	SD	SD
Falling Number (sec.)	SD	SD	SD
Flour Yield (%)	SD	SD	SD
Ash (dry basis) (%)	SD	SD	SD
FARINOGRAM			
Water Absorption (14% H ^o) (%)	SD	SD	SD
Development Time (min.)	SD	SD	SD
Stability (min.)	SD	SD	SD
Degree of Softening (12 min.)	SD	SD	SD
ALVEOGRAM (*)			
P (mm)	SD	SD	SD
L (mm)	SD	SD	SD
W Joules x 10 ⁻⁴	SD	SD	SD
P / L	SD	SD	SD

SD: No Statistical Data

(*) There is not enough data to estimate the statistical indicator

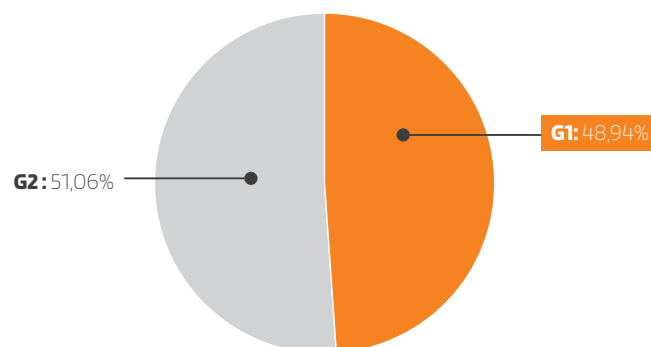


Subregion II N. Analysis results

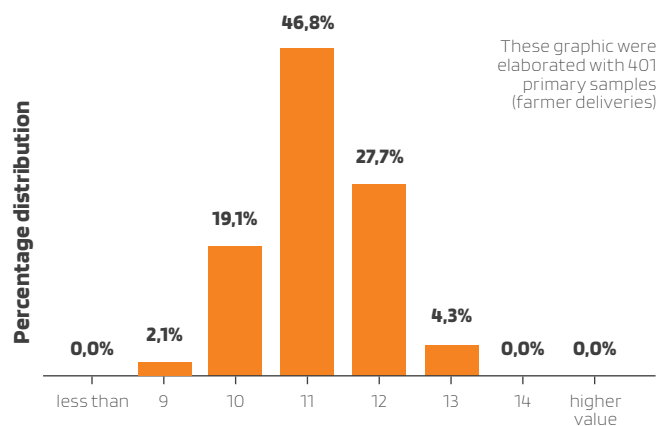
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	76,31	83,00	79,45
Total Damaged Kernels (%)	0,10	1,50	0,58
Foreign Material (%)	0,10	1,00	0,23
Shrunken and Broken Kernels (%)	0,10	1,10	0,4
Yellow Berry Kernels (%)	0,00	9,60	2,58
Protein (13,5% Moisture) (%)	9,7	13,8	11,6
Protein (dry basis) (%)	11,2	16,0	13,4
Weight of 1000 Kernels (g.)	32,07	44,39	37,24
Cenizas (S.S.S.) (%)	1,435	1,905	1,700

Grade distribution

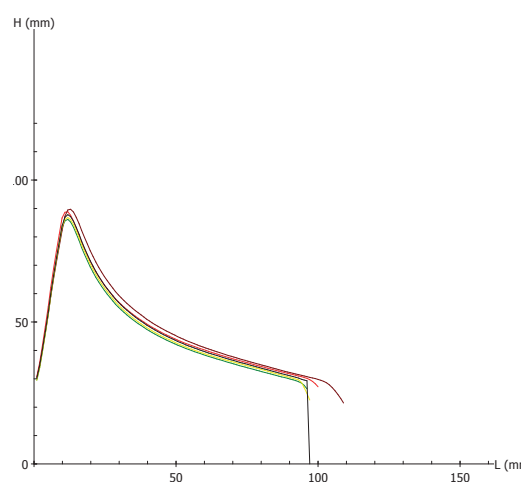


Protein (13.5% Moisture)

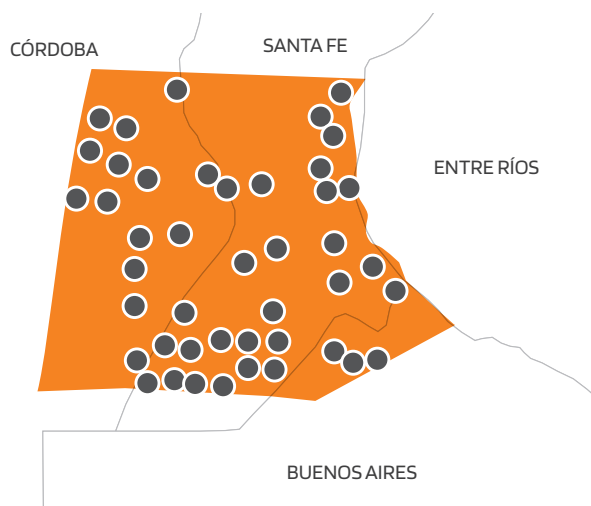
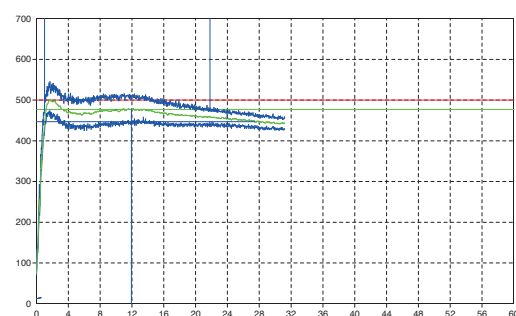


FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	20,4	34,4	27,0
Dry Gluten (%)	7,3	11,7	9,4
Falling Number (sec.)	287	470	342
Flour Yield (%)	66,8	75,5	69,8
Ash (dry basis) (%)	0,405	0,575	0,470
FARINOGRAM			
Water Absorption (14% H ² O) (%)	53,2	59,3	56,4
Development Time (min.)	1,5	21,1	12,7
Stability (min.)	4,6	42,2	22,4
Degree of Softening (12 min.)	15	186	35
ALVEOGRAM			
P (mm)	77	112	94
L (mm)	50	138	95
W Joules x 10 ⁻⁴	206	393	303
P / L	0,56	2,12	1,03

Alveogram



Farinogram

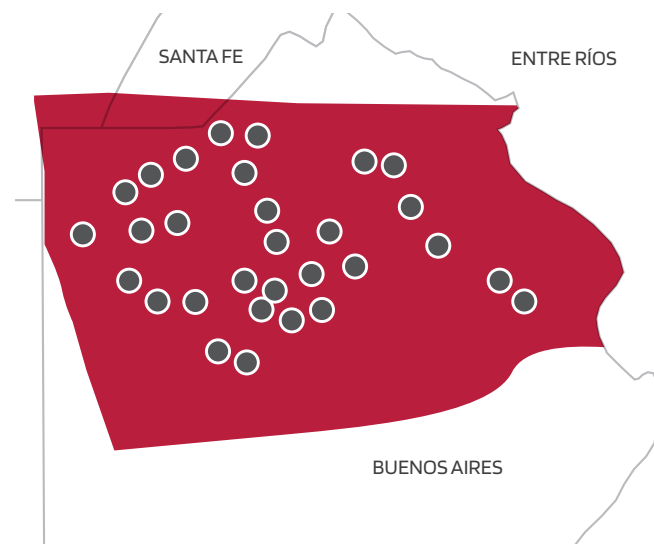


Subregion II S. Analysis results

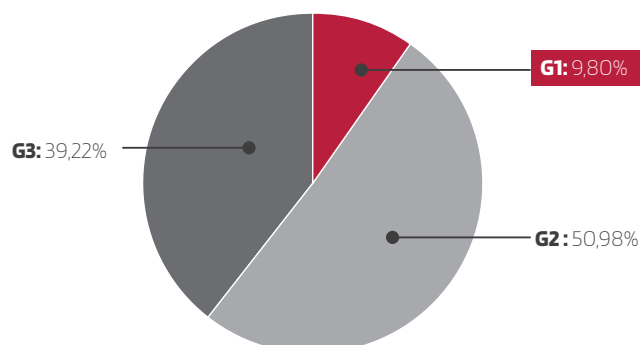
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	73,10	81,25	76,48
Total Damaged Kernels (%)	0,46	2,98	1,9
Foreign Material (%)	0,04	0,86	0,37
Shrunken and Broken Kernels (%)	0,04	0,70	0,25
Yellow Berry Kernels (%)	0,00	10,10	1,64
Protein (13,5% Moisture) (%)	10,3	15,7	12,3
Protein (dry basis) (%)	11,9	18,2	14,2
Weight of 1000 Kernels (g.)	30,95	42,80	37,54
Cenizas (S.S.S.) (%)	1,441	1,892	1,722

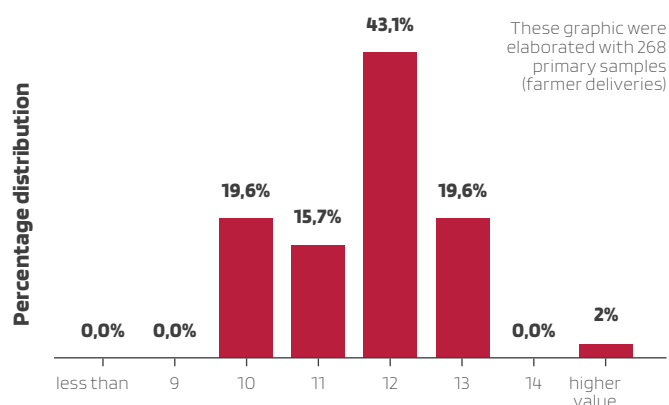
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	16,2	37,1	27,9
Dry Gluten (%)	6,0	13,7	10,3
Falling Number (sec.)	303	425	360
Flour Yield (%)	64,0	64,0	64,0
Ash (dry basis) (%)	0,405	0,584	0,508
FARINOGRAM			
Water Absorption (14% H ^o) (%)	52,4	60,0	55,7
Development Time (min.)	7,2	35,1	13,8
Stability (min.)	14,4	60,0	29,1
Degree of Softening (12 min.)	0	67	23
ALVEOGRAM			
P (mm)	66	133	99
L (mm)	28	117	74
W Joules x 10 ⁻⁴	121	499	268
P / L	0,66	3,32	1,48



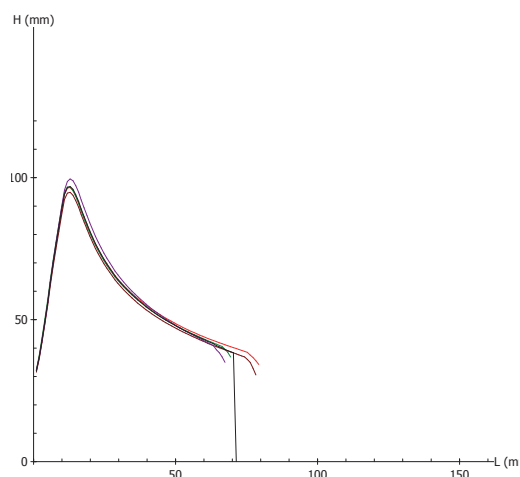
Grade distribution



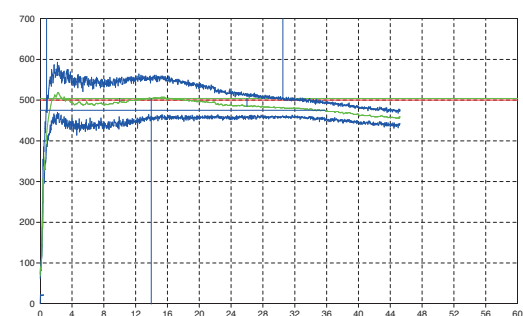
Protein (13.5% Moisture)



Alveogram



Farinogram

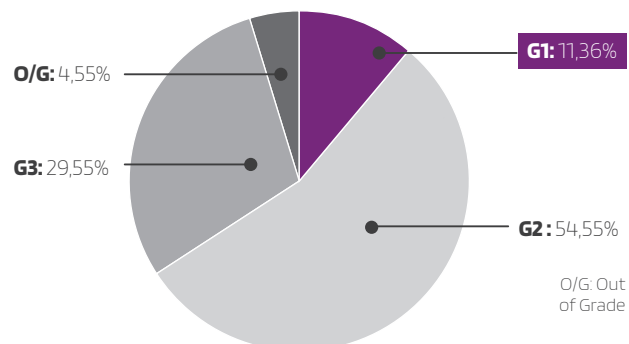


Subregion III. Analysis results

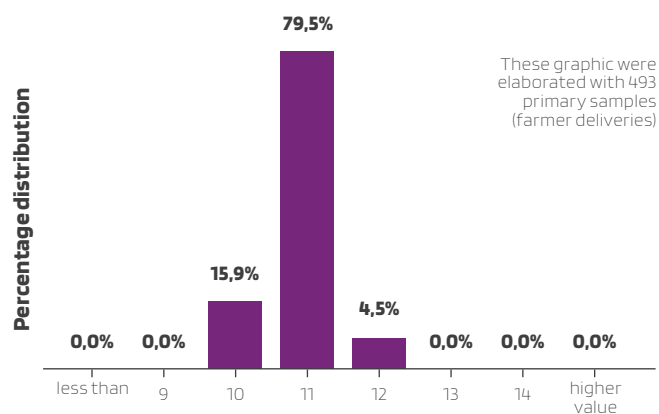
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	70,10	78,60	76,39
Total Damaged Kernels (%)	0,00	10,09	1,88
Foreign Material (%)	0,09	0,95	0,31
Shrunken and Broken Kernels (%)	0,08	0,88	0,41
Yellow Berry Kernels (%)	0,44	6,58	1,96
Protein (13,5% Moisture) (%)	10,0	12,3	11,3
Protein (dry basis) (%)	11,6	14,2	13,1
Weight of 1000 Kernels (g.)	33,76	38,30	35,65
Cenizas (S.S.S.) (%)	0,530	1,500	1,135

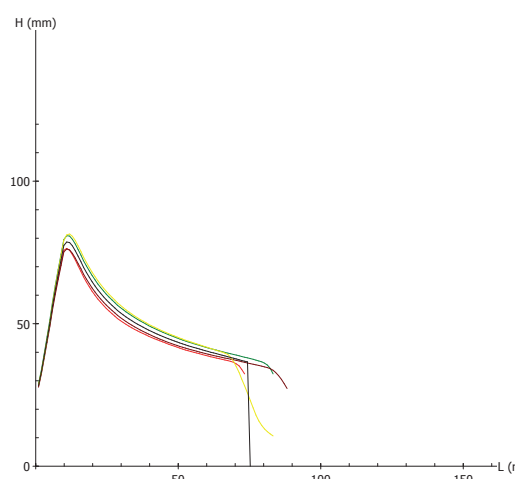
Grade distribution



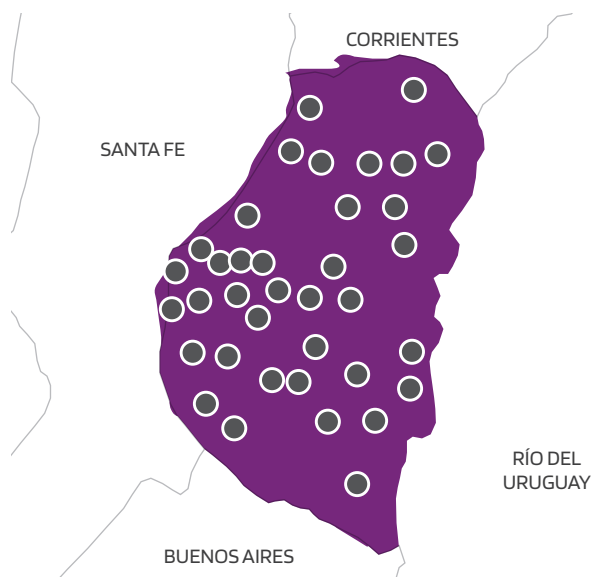
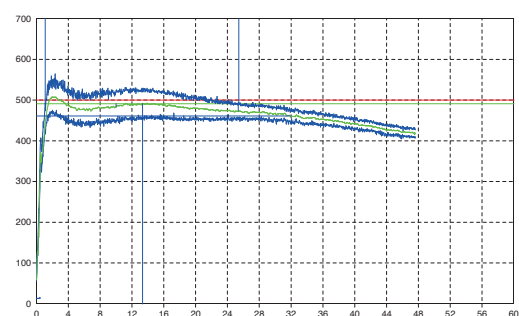
Protein (13.5% Moisture)



Alveogram



Farinogram

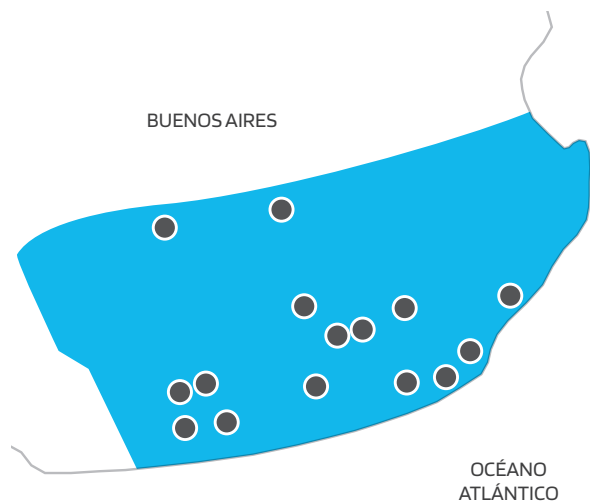


Subregion IV. Analysis results

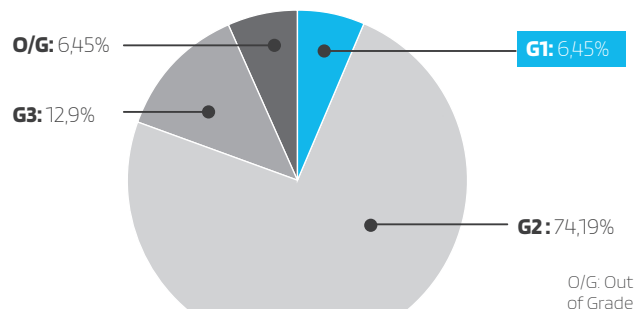
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	74,35	80,35	77,01
Total Damaged Kernels (%)	0,00	0,52	0,17
Foreign Material (%)	0,12	0,74	0,36
Shrunken and Broken Kernels (%)	0,10	0,78	0,24
Yellow Berry Kernels (%)	0,00	8,20	1,91
Protein (13,5% Moisture) (%)	9,3	11,4	10,3
Protein (dry basis) (%)	10,8	13,2	11,9
Weight of 1000 Kernels (g.)	31,10	40,40	35,02
Cenizas (S.S.S.) (%)	1,446	1,698	1,564

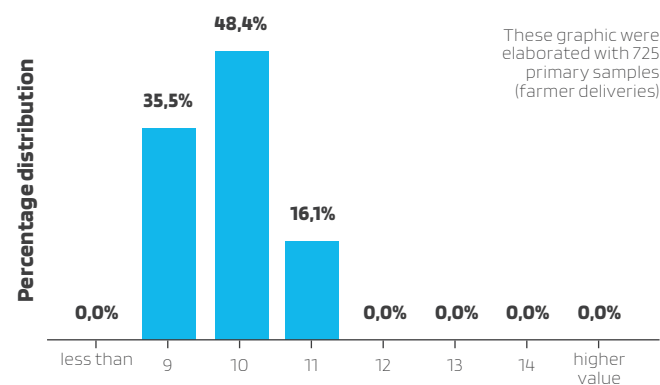
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	20,9	27,9	24,0
Dry Gluten (%)	7,1	9,9	8,4
Falling Number (sec.)	302	458	379
Flour Yield (%)	59,6	64,0	62,3
Ash (dry basis) (%)	0,467	0,675	0,522
FARINOGRAM			
Water Absorption (14% H ² O) (%)	50,0	56,9	52,6
Development Time (min.)	1,5	27,6	10,9
Stability (min.)	11,8	46,3	27,4
Degree of Softening (12 min.)	6	44	22
ALVEOGRAM			
P (mm)	59	113	83
L (mm)	36	82	63
W Joules x 10 ⁻⁴	152	306	209
P / L	0,83	2,97	1,37



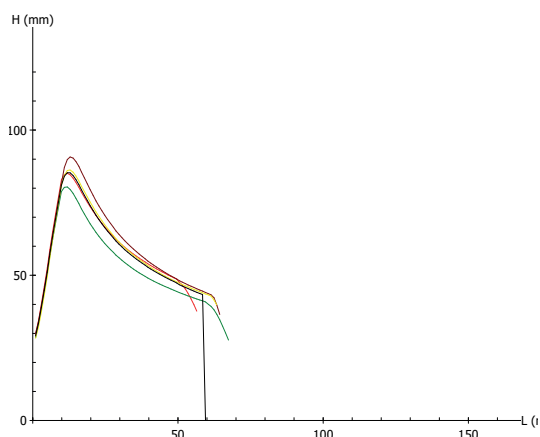
Grade distribution



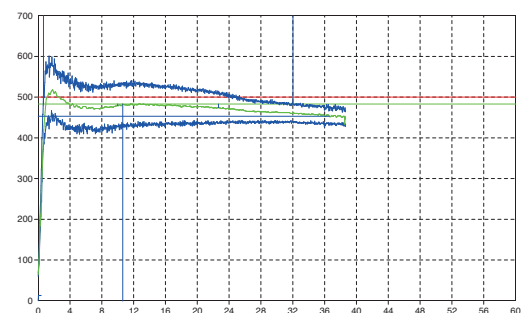
Protein (13.5% Moisture)



Alveogram



Farinogram

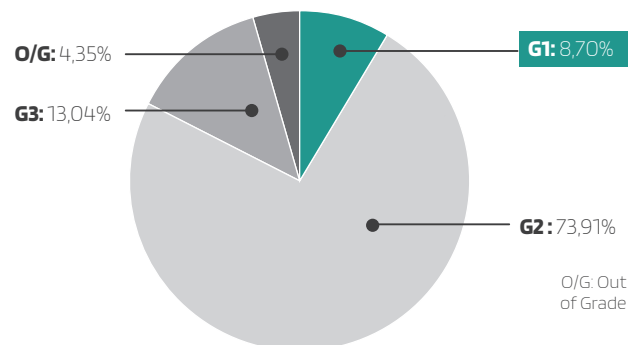


Subregion V N. Analysis results

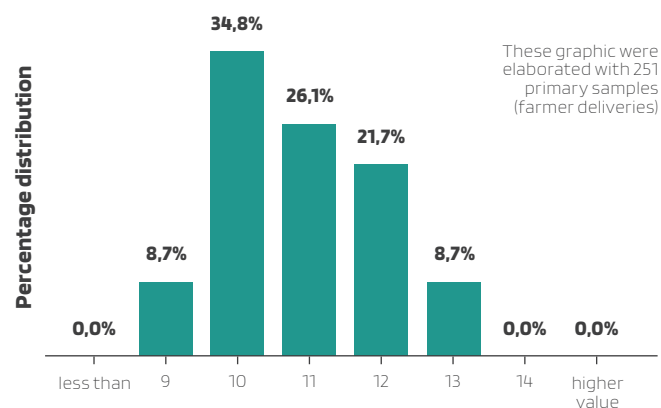
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	76,4	82,0	79,4
Total Damaged Kernels (%)	0,21	2,6	1,08
Foreign Material (%)	0,11	2,2	0,44
Shrunken and Broken Kernels (%)	0,14	0,9	0,40
Yellow Berry Kernels (%)	0,00	23,5	4,9
Protein (13,5% Moisture) (%)	9,5	13,8	11,4
Protein (dry basis) (%)	11,0	16,0	13,2
Weight of 1000 Kernels (g.)	28,63	41,0	34,6
Cenizas (S.S.S.) (%)	1,444	1,925	1,707

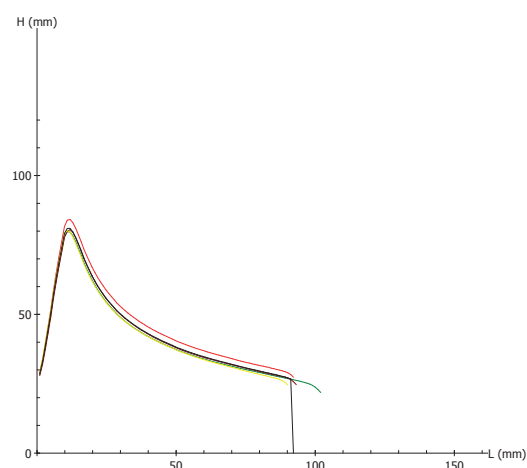
Grade distribution



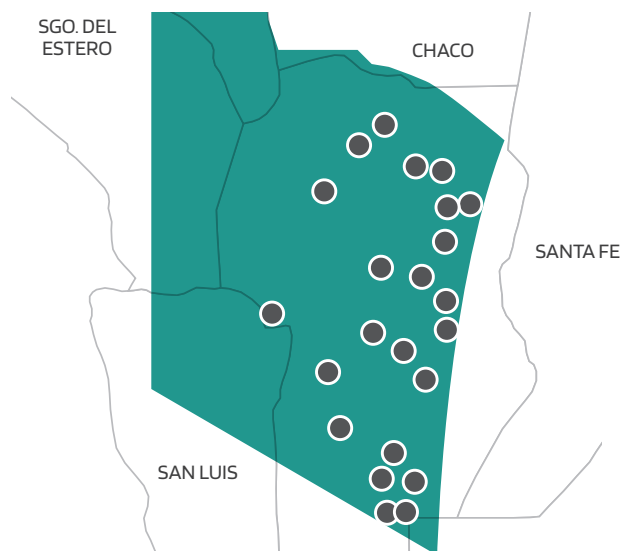
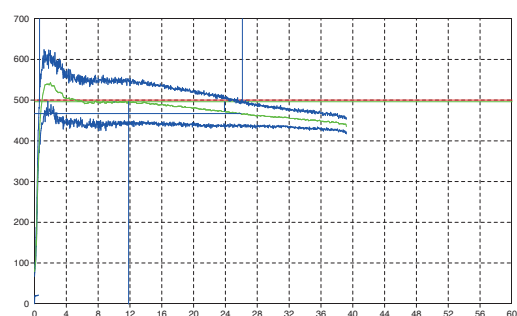
Protein (13.5% Moisture)



Alveogram



Farinogram

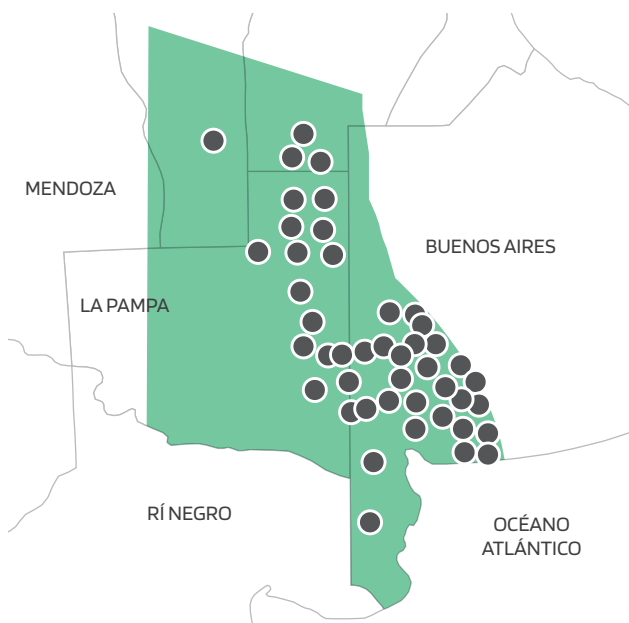


Subregion V S. Analysis results

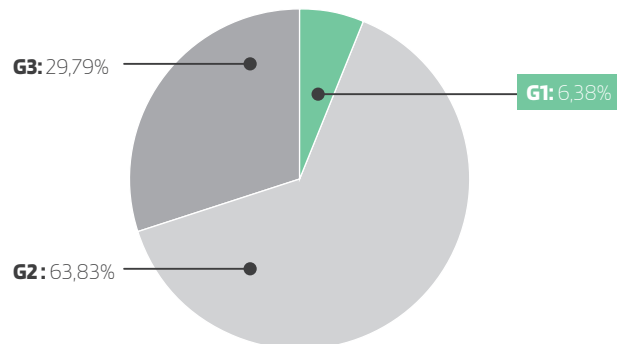
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	74,10	81,95	76,92
Total Damaged Kernels (%)	0,00	2,94	0,77
Foreign Material (%)	0,12	1,08	0,48
Shrunken and Broken Kernels (%)	0,00	1,12	0,55
Yellow Berry Kernels (%)	0,00	25,00	2,56
Protein (13,5% Moisture) (%)	9,0	13,9	11,5
Protein (dry basis) (%)	10,4	16,1	13,3
Weight of 1000 Kernels (g.)	26,99	41,91	34,02
Cenizas (S.S.S.) (%)	1,427	1,830	1,654

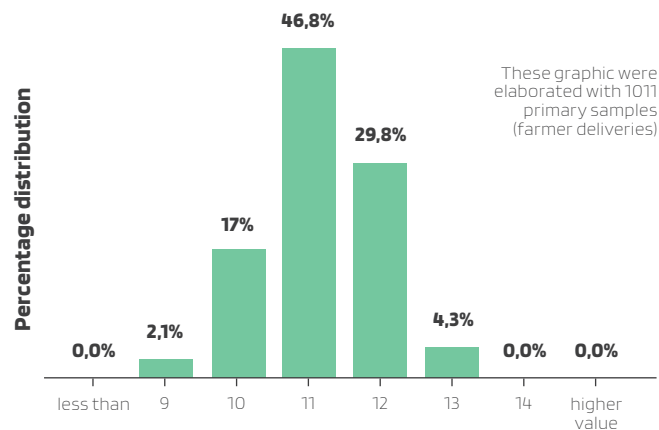
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	19,4	37,6	27,9
Dry Gluten (%)	6,8	13,3	9,8
Falling Number (sec.)	280	481	390
Flour Yield (%)	59,8	65,3	61,4
Ash (dry basis) (%)	0,468	0,634	0,537
FARINOGRAM			
Water Absorption (14% H ² O) (%)	54,0	63,7	56,6
Development Time (min.)	1,2	37,0	12,5
Stability (min.)	1,4	44,8	28,3
Degree of Softening (12 min.)	4	105	25
ALVEOGRAM			
P (mm)	80	161	101
L (mm)	36	122	80
W Joules x 10 ⁻⁴	164	423	305
P / L	0,75	3,93	1,34



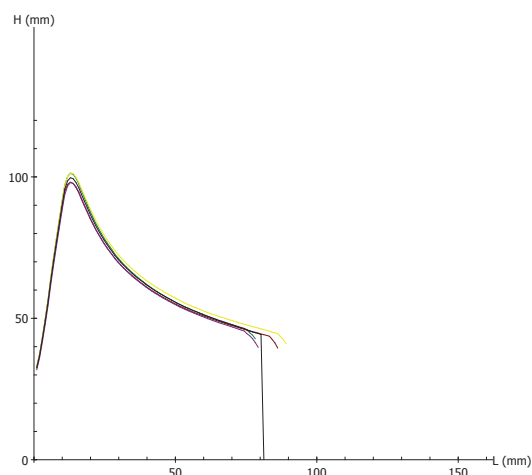
Grade distribution



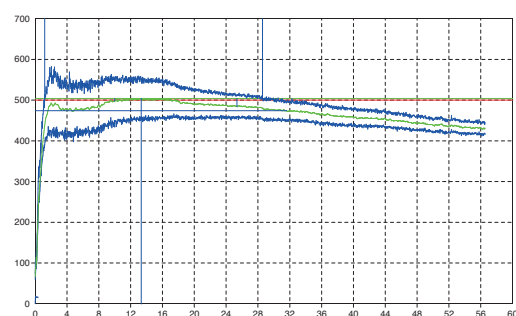
Protein (13.5% Moisture)



Alveogram



Farinogram

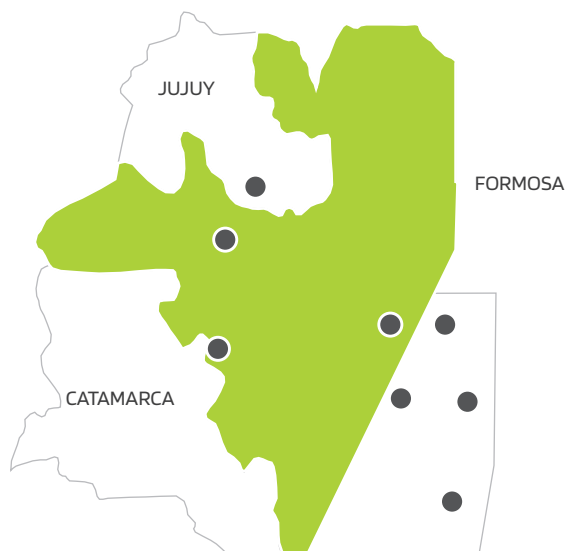


NOA. Analysis results

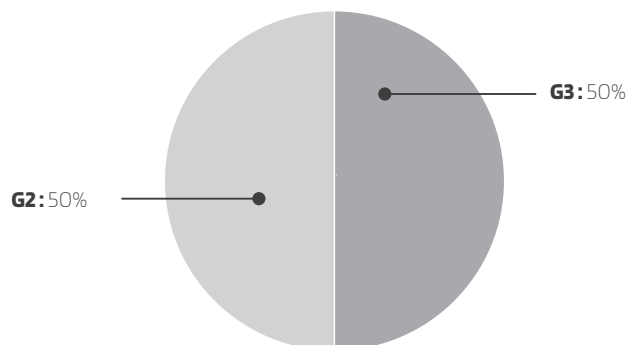
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	75,70	80,40	78,05
Total Damaged Kernels (%)	1,72	2,20	1,96
Foreign Material (%)	0,36	0,42	0,39
Shrunken and Broken Kernels (%)	0,08	0,28	0,18
Yellow Berry Kernels (%)	2,16	3,60	2,88
Protein (13,5% Moisture) (%)	10,6	11,3	11
Protein (dry basis) (%)	12,3	13,1	12,7
Weight of 1000 Kernels (g.)	34,20	38,20	36,2
Cenizas (S.S.S.) (%)	1,787	1,816	1,802

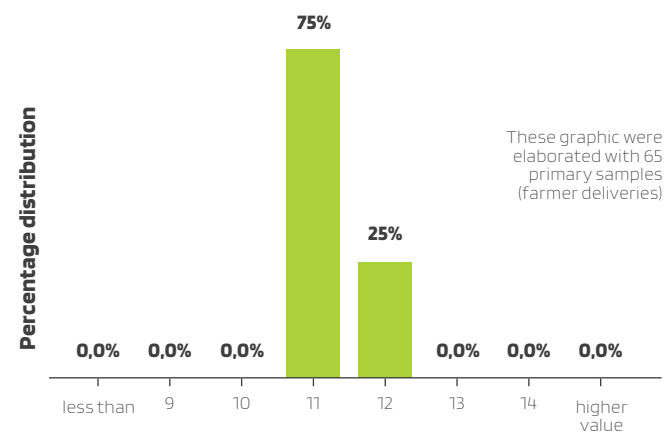
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	23,3	26,2	24,7
Dry Gluten (%)	8,6	9,7	9,2
Falling Number (sec.)	221	253	237
Flour Yield (%)	64,0	64,0	64,0
Ash (dry basis) (%)	0,618	0,631	0,625
FARINOGRAM			
Water Absorption (14% H ² O) (%)	57,7	57,8	57,8
Development Time (min.)	6,1	6,4	6,3
Stability (min.)	8,4	11,1	9,8
Degree of Softening (12 min.)	72	99	86
ALVEOGRAM			
P (mm)	111	126	119
L (mm)	48	51	50
W Joules x 10 ⁻⁴	214	261	238
P / L	2,31	2,47	2,39



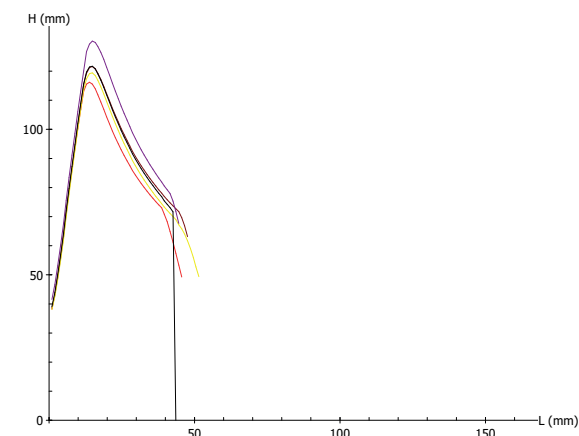
Grade distribution



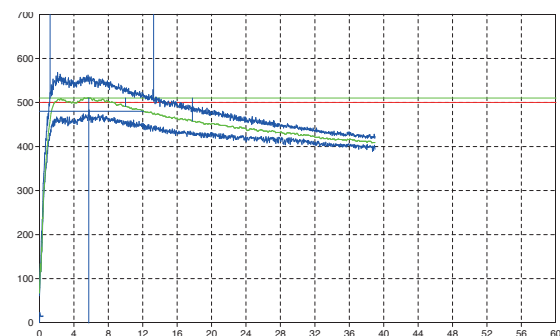
Protein (13.5% Moisture)



Alveogram



Farinogram

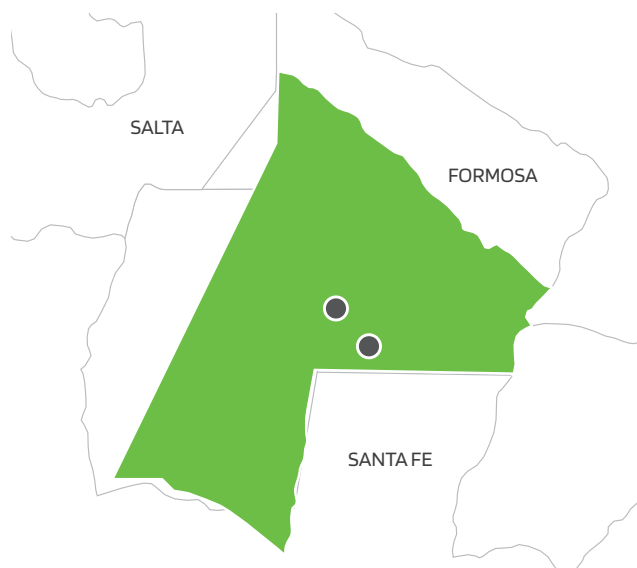


NEA. Analysis results

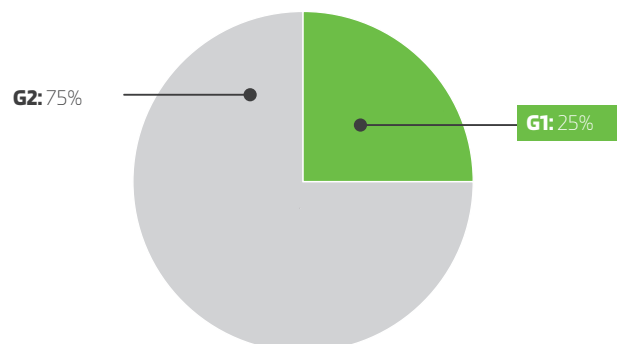
Weighted averages by tons of samples sets per location

WHEAT ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
Test Weight (kg/hl)	79,70	81,37	80,38
Total Damaged Kernels (%)	0,21	0,62	0,50
Foreign Material (%)	0,16	0,57	0,39
Shrunken and Broken Kernels (%)	0,15	0,35	0,22
Yellow Berry Kernels (%)	0,00	2,14	0,88
Protein (13,5% Moisture) (%)	12,8	13,1	12,9
Protein (dry basis) (%)	14,8	15,1	14,9
Weight of 1000 Kernels (g.)	35,00	36,30	35,73
Cenizas (S.S.S.) (%)	2,013	2,189	2,131

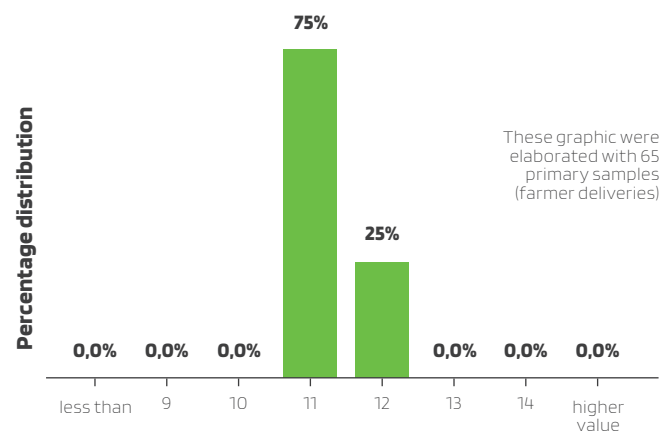
FLOUR ANALYSIS	MINIMUN	MAXIMUN	AVERAGE
MILLING			
Wet Gluten (%)	29,6	32,9	30,8
Dry Gluten (%)	10,9	12,2	11,4
Falling Number (sec.)	293	388	341
Flour Yield (%)	64,0	64,0	64,0
Ash (dry basis) (%)	0,593	0,656	0,612
FARINOGRAM			
Water Absorption (14% H ^o) (%)	59,7	60,5	60,0
Development Time (min.)	13,9	14,8	14,4
Stability (min.)	18,1	32,1	26,1
Degree of Softening (12 min.)	3	32	16
ALVEOGRAM			
P (mm)	118	149	135
L (mm)	59	73	65
W Joules x 10 ⁻⁴	315	355	338
P / L	1,64	2,49	2,10



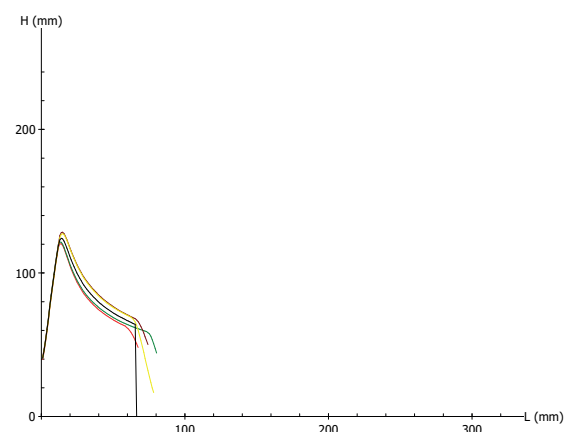
Grade distribution



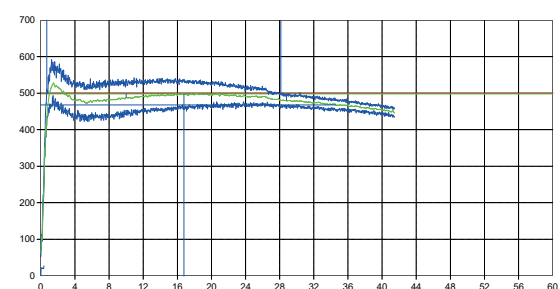
Protein (13.5% Moisture)



Alveogram



Farinogram

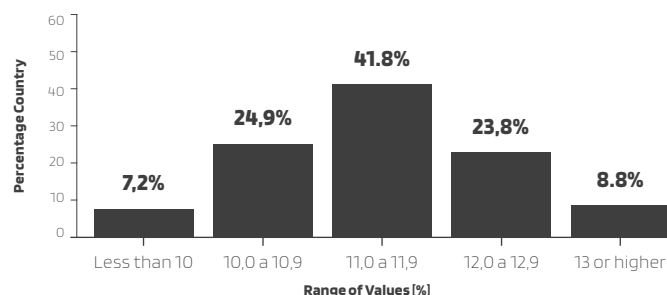


Analysis of variables by ranges

Tables summarize the analysis of four variables: protein in grain, wet gluten, strength determined by alveograph measurement and farinographic stability. Each variable was separated in ranges (first column). Averages were estimated for each range for each remaining variables (center column). This last column shows the percentage that corresponds to each range nationwide.

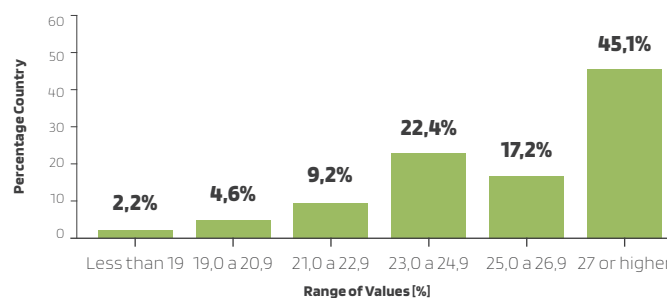
Protein

PROTEIN (13,5% MOISTURE)	WET GLUTEN W STABILITY	PERCENTAGE COUNTRY
Less than 10	21,8 192 22,9	7,2%
10,0 a 10,9	23,7 233 30,3	24,9%
11,0 a 11,9	25,9 286 25,3	41,8%
12,0 a 12,9	29,1 298 26,2	23,8%
13,0 or higher	31,8 327 21,3	8,8%



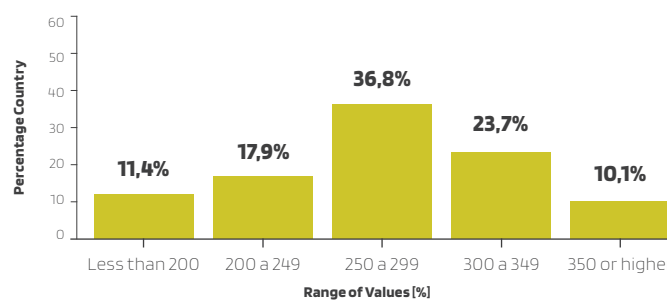
Wet Gluten

WET GLUTEN	WET GLUTEN W STABILITY	PERCENTAGE COUNTRY
Less than 19,0	10,73 211,50 31,63	2,2%
19,0 a 20,9	10,03 206,40 26,07	4,6%
21,0 a 22,9	10,45 205,35 27,92	9,2%
23,0 a 24,9	10,92 251,83 26,79	22,4%
25,0 a 26,9	11,22 282,42 26,79	17,2%
27,0 or higher	12,28 309,33 24,45	45,1%



W

W	WET GLUTEN PROTEIN. STABILITY	PERCENTAGE COUNTRY
Less than 200	21,9 10,2 27,2	11,4%
200 a 249	24,5 11,1 28,5	17,9%
250 a 299	26,7 11,7 26,0	36,8%
300 a 349	27,9 11,9 24,2	23,7%
350 or higher	30,1 12,4 25,6	10,1%



Stability

STABILITY	WET GLUTEN PROTEIN W	PERCENTAGE COUNTRY
Less than 5,0	22,9 9,8 201	1,5%
5,0 a 9,9	23,3 10,6 214	0,4%
10,0 a 14,9	27,2 11,5 263	7,2%
15,0 a 19,9	26,9 11,6 284	22,3%
20,0 a 24,9	26,6 11,7 285	24,4%
25 or higher	25,9 11,4 272	44,2%

