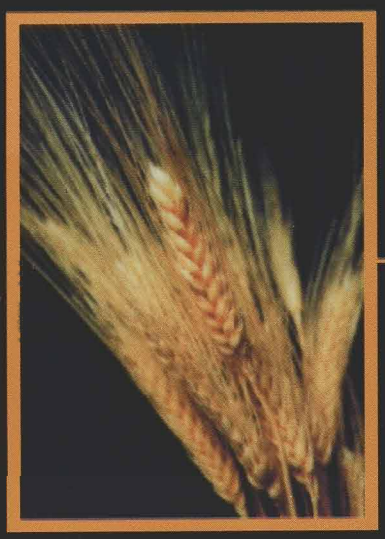

2011/2012 Crop

ARGENTINE WHEAT

Institutional Quality Report

http://www.trigoargentino.com.ar

Argentine Wheat

Institutional Quality Report

2011/2012 Crop

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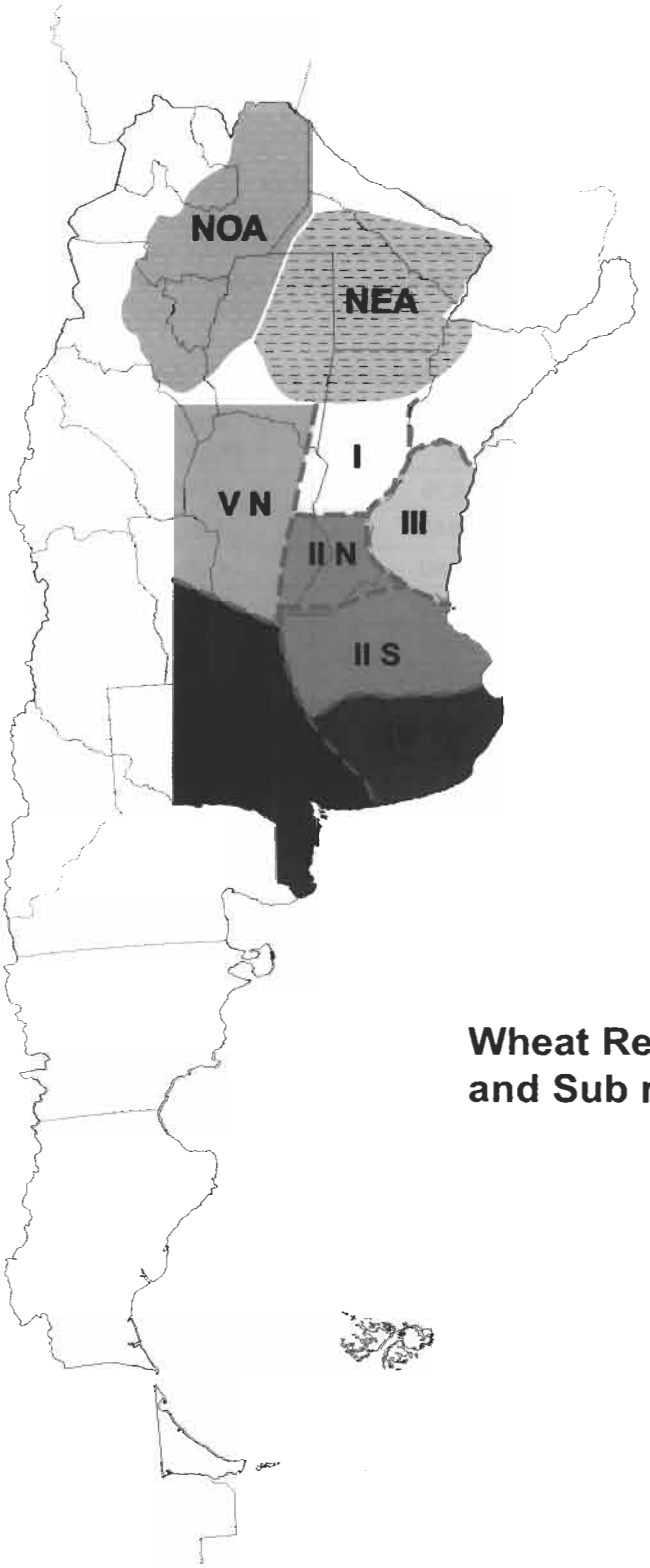
Elaborated by:

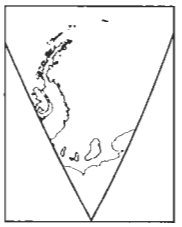
- **Agricultores Federados Argentinos S.C.L.**
  Argentine Federated Farmers S.C.L.
- **Asociación de Cooperativas Argentinas Cooperativa Limitada.**
  Argentine Cooperatives Association LTD Coop.
- **Bolsa de Cereales de Bahía Blanca.**
  Bahía Blanca Grain Exchange.
- **Bolsa de Cereales de Buenos Aires.**
  Buenos Aires Grain Exchange.
- **Bolsa de Comercio de Rosario.**
  Rosario Stock Exchange.
- **Cámara Arbitral de Cereales de Bahía Blanca.**
  Bahía Blanca Grain Arbitration Chamber.
- **Cámara Arbitral de Cereales de Entre Ríos.**
  Entre Ríos Grain Arbitration Chamber.
- **Cámara Arbitral de Cereales de la Bolsa de Comercio de Rosario.**
  Rosario Stock Exchange Grain Arbitration Chamber.
- **Cámara Arbitral de Cereales de la Bolsa de Comercio de Santa Fe.**
  Santa Fé Stock Exchange Grain Arbitration Chamber.
- **Cámara Arbitral de la Bolsa de Cereales de Buenos Aires.**
  Buenos Aires Grain Exchange Arbitration Chamber.
- **Bolsa de Cereales y Cámara de Cereales y Afines de Córdoba Tribunal Arbitral.**
  Córdoba Grain Exchange and Arbitration Chamber.
- **Centro de Exportadores de Cereales.**
  Grain Exporters Association.
- **Federación Argentina de la Industria Molinera.**
  Argentine Federation of Milling Industry.
- **Federación de Centros y Entidades Gremiales de Acopiadores de Cereales.**
  Federation of Country Elevators Association.

- **Ministerio de Agricultura, Ganadería y Pesca (MAGyP).**
  Ministry of Agriculture, Livestock and Fishery.
- **Instituto Nacional de Tecnología Agropecuaria (INTA).**
  Argentine Institute for Agricultural Technology.
- **Servicio Nacional de Sanidad y Calidad Agroalimentaria (SENASA).**
  National Agrifood Healt and Quality Service.
- **Chacra Experimental Integrada Barrow (Convenio INTA – MAA, Bs. As.)**
  Barrow Experimental Station.

Argentine Wheat
Institutional Quality Report
2011/2012 Crop



Wheat Region and Sub regions



BREAD WHEAT

Triticum aestivum

Introduction

Wheat crop was benefited from the good water refill of the soil profile, due to rains occurred during the late summer-autumn period in the main producing area of the country. The major contribution was given by the rains occurred during May and June. These conditions permitted the crop, between the stages of emergence up to the end of tillering, to have a proper availability of useful water in the soil profile, not being a limit to the yield expression.

Sowed, harvested area, yields and production per sub region

Sub region	Sowed Area (ha)	Harvested Area (ha)	Yield (Kg/ha)	Production (tn)
I	375,000	371800	2,706	1,005,980
II N	440,300	429,640	4,213	1,809,960
II S	579,050	574,290	4,064	2,333,885
III	296,300	295,300	3,483	1,028,588
IV	583,400	580,055	4,555	2,642,021
V N	322,800	310,050	2,293	711,080
V S	1,095,137	1,016,787	2,296	2,334,963
Northeast	353,200	339,160	1,412	479,020
Northwest	465,330	460,618	1,333	613,960
National	**4,510,517**	**4,377,700**	**2,960**	**12,959,457**

Based on data from the Ministery of Agriculture, Livestock and Fishery. Crop 2011 - 2012

In NOA region, in some areas, the wheat was displaced by other crops such as sugar cane and legumes like chickpeas.
In NEA region, the lack of rainfall during the period of grain number definition was the main factor affecting the yields, which an average between 30-35 % lower in than the previous campaign.
In the sub-region I the average yields by department ranged between 2,600 and 3,500 kg/ha, highlighting several lots with maximum productivities of 4,000 to 4,500 kg/ha.
In the sub-region II North, the yield was higher than the previous forecasts based on the status of the crops, with averages of 3,800 to 4,000 kg/ha, minimums of 2,500 kg/ha and maximums of 5,500 kg/ha.
In the sub-region II South, yields could not equal those of the campaign 2010/11, although they surpassed the historical average. Some fields ranged between 5,000 and 6,500 Kg/ha.
In sub-region III the outputs were moderate with an average of 3,483 kg/ha.
In sub-region IV sufficient humidity for sowing and water deficit alternated in some areas and the grain filling was very good. The outputs in general were good to very good, although they did not reach the high values of the previous campaign, varying between 3,000 and 6,000 kg/ha.
In the sub-region V North, the sown surface was 15 % inferior to that of the previous campaign, mainly due to the lack of proper humidity in the soil profile. The rainfed wheat yields were nearly 2,000 kg/ha, while those with irrigation varied between 3,000 and 4,500 kg/ha.
In the sub-region V South, due to the drought yields were very low, with areas that were not harvested due to frost damages, reaching, in some areas 2,300 kg/ha or more, as well as in areas as the low mountain range.
National production fell 11.2 % as regards the campaign of 2010/11, with an average yield of 2,960 kg/ha, lower than to the record of the previous campaign that was 3,398 kg/ha.

Organization and Methodology:

Sampling structure

It was agreed to obtain samples which represent about 4,000 tons each, reaching a total of 257 analysis to be performed.

The sampling was planned proportionally to the territorial division (district or department) sown area, and the average yield registered the last three years, according to the ex-Secretariat of Agriculture, Livestock and Fishery data. In accordance with the estimated production resulting, the composite sample number to be obtained by each district or department was determined to achieve a proportional representativeness of each locality.

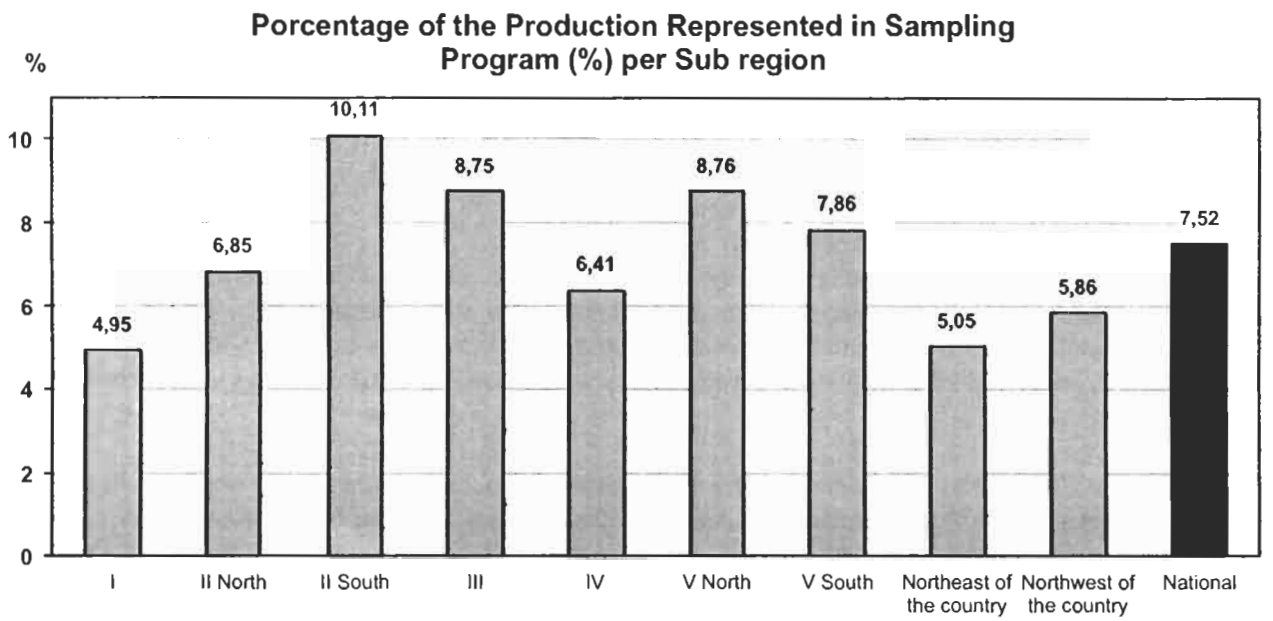
The Argentine Cooperatives Association, the Federation of Country Elevators Association, Argentine Federated Farmers and the Argentine Federation of Milling Industry, through the cooperatives, country elevators and mills selected for each locality, submitted the primary operations samples (trade samples of farmer deliveries) which were starting points to make the locality composite samples, according to instructions given to those in charge of the sampling.

Likewise the National Directorate for Processing and Marketing of Agricultural and Forestry Products. Ministry of Agriculture, Livestock and Fisheries of Argentina bring the support in the sampling

Sub region	Locality Composite	Sampling (tons)	Production (tons)	Production Sampled (%)
I	12	49,760	1,005,980	4.9
II North	31	124,000	1,809,960	6.9
II South	59	236,000	2,333,885	10.1
III	26	90,000	1,028,588	8.7
IV	48	169,266	2,642,021	6.4
V North	14	62,309	711,080	8.8
V South	52	183,473	2,334,963	7.9
North of the country	15	60,180	1,092,980	5.5
TOTALS	**257**	**974,988**	**12,959,457**	**7.52**

Based on data from the Ministry of Agriculture, Livestock and Fishery. Crop 2011/2012

These primary samples had to represent between 100 and 250 ton, and be selected so they reflected the zone production conditions as well as possible, being 4,037 samples used for this sampling program, in such a way a sampled tonnage of 7.52% of the national wheat production, which amounted to 12,959,457 tons, was reached.



Procedure

The primary samples were sent to the respective Arbitration Chambers Laboratories according to the wheat sub region of origin. The Santa Fe Arbitration Chamber received samples from the Sub region I and the NE of the country, the Rosario Chamber those from the Sub region II N, the Buenos Aires Chamber those from the Sub regions II S, IV and NOA, the Entre Ríos Chamber those from the Sub region III, the Bahía Blanca Chamber those from the Sub regions IV and V S, and the Córdoba Chamber those from the Sub region V N.

These Arbitration Chambers made **Locality Composite Samples** of 4 kg of wheat, representative of 4000 tons each one. These ones performed the commercial analysis (grade), weight of 1000 kernels, and ash .

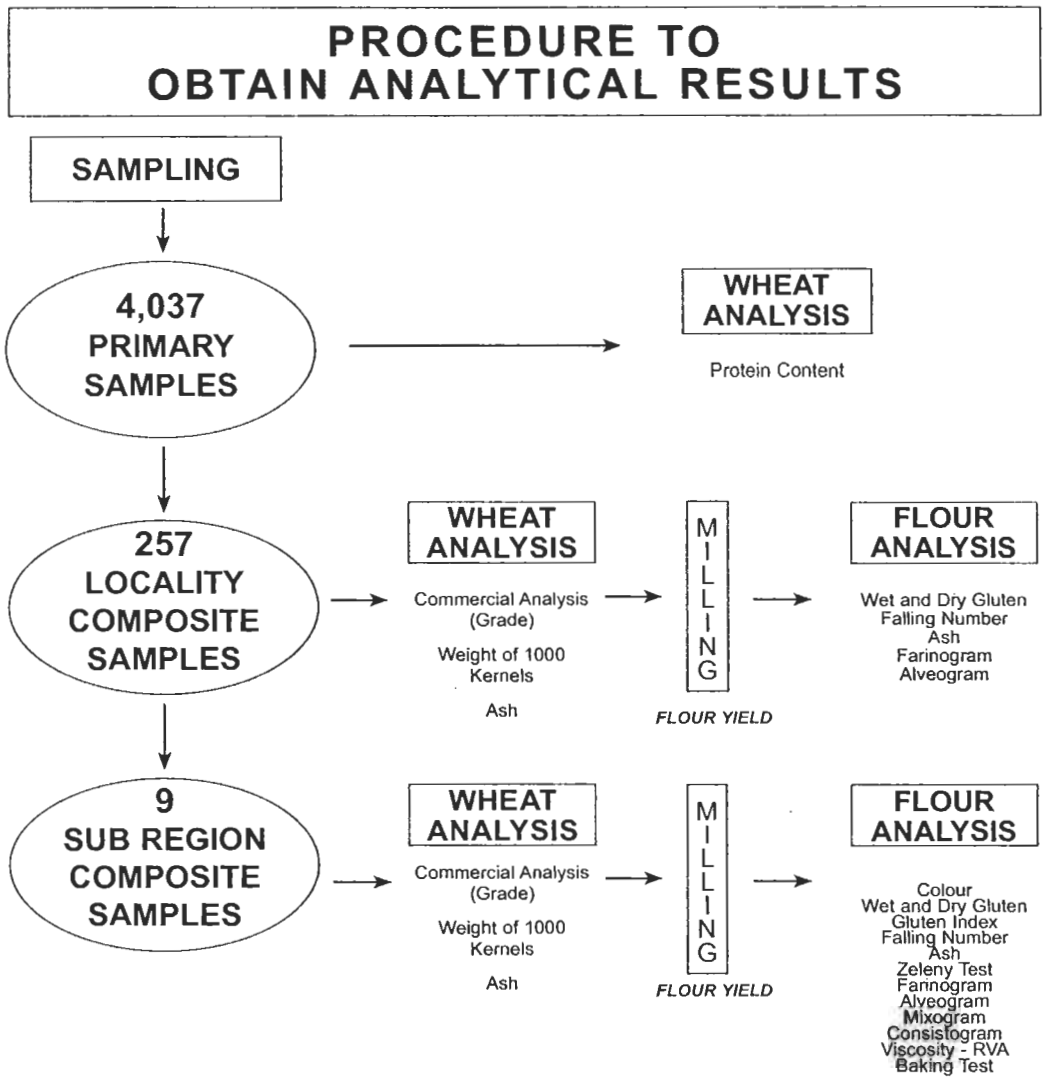
The composite samples were sent to the SENASA Laboratory to carry out the Bühler grinding, reserving a part in order to prepare the Sub region Composite Samples. It was decided to use only one mill for all the composite samples by locality, so as to minimize differences in the flour features due to the grinding.

With the flour resulting from the grinding, the Arbitration Chambers, in this case Buenos Aires, Bahía Blanca and Rosario, carried out the analyses of Falling Number, Gluten, Alveogram, Farinogram and Ash.

Prior to performing the analysis a ring test was carried out among the participating laboratories so that the results could be comparative.

On the other hand, with the locality composite samples portions kept apart, and in proportion to their representativeness, The Arbitration Chambers made the **Composite Sample of each Sub region**, 9 in total, weighing 4 kg each one, and performing Test Weight, Proteins, Ash and Weight of 1000 kernels in wheat. These samples were used by the SENASA to perform the grinding in Bühler mill and then, The Marcos Juarez Experimental Station of INTA carried out the following analyses in flour: Falling Number, Gluten, Ash, Zeleny Test, Alveogram, Farinogram, Mixogram and Baking Test.

The present report was coordinated by the Agrifood Quality Direction of the SENASA.



Methodologies for quality analysis

In order to evaluate the industrial quality of wheat, characteristics of grain, its behavior in milling, different analytical values, alveographic and farinographic curves, and bread quality, are taken into consideration. Agricultural and weather conditions can easily affect quality, and even the most remarkable varieties can present a questionable quality. Consequently any qualitative abnormality must be observed in different environments or periods of cultivation in order to assure that the result is due tothe variety.

Grain characteristics are prominent quality factors in wheat appraisal. To a low test weight corresponds an unsatisfactory milling, low flour yield and inferior quality.

Behavior in the milling is another important aspect in the quality criterion. Wheat of low extraction of flour or high ash content constitutes a real problem. While some areas are favorable for the highest amount of minerals, there are certain varieties which have lower ash content in the grain and, therefore, in the flour.

The quantity and quality of flour proteins are essential to determine the bread quality. Rheologic analysis include indirect determinations of quality such as alveographic, mixographic and farinographic curves which provide the necessary information to evaluate bread force, time for dough development, water absorption and stability or behavior during kneading.

Bread quality of wheat is determined by flour absorption of water, time of kneading, dough aspect, volume of bread, porosity and whiteness of the crumb. All those characteristics constitute the bread value of wheat, being some of them considered in a subjective way and others through equipement.

The volume of bread is one of the most important factors of flour potential force, since it demonstrates the gluten capacity of expansion through gas produced by the contact between yeast and sugars, and at the same time, the ability to hold the gas during the whole expansion.
Wheat with a low loaf volume, or with a high one, but with huge alveolus or holes inside, are not desired, as they are the evidence of weak flours. It is essential to know the flour protein content during baking, since at a low level there will be less expansion and final volume, which is not due to the quality but to the quantity of proteins.

WHEAT

Test Weight (SAGPyA 1262/04 Resolution)
It is an important quality factor around the world and it is influenced by grain shape, uniformity, density and size. The content of foreign material and broken kernels have also an influence on it. To a high Test weight in a certain wheat corresponds high flour yield. It is defined as the weight of 100 litres wheat volume, as is, expressed in kg/hl. It is determined by the use of a Schopper balance.

Moisture (IRAM* 15850)
This test is carried out by previous milling and then drying at 130° C +/- 3° C under normal pressure in an oven with forced air circulation, during an hour.

Foreign material (SAGPyA 1262/04 Resolution)
All kernels or pieces of kernels, other than wheat, and any other inert material.

Total damaged kernels (SAGPyA 1262/04 Resolution)
Kernels or pieces of wheat kernels that are substantially altered in their structure, such us: heat damaged, green, frozen, sprouted, calcinated and germ or insect chewed kernels.

Smutty kernels (SAGPyA 1262/04 Resolution)
Wheat kernels that have been changed into a black mass due to fungus (Tilletia spp.) attack. Kernel external appearance is often round and gray.

Shrunken and broken kernels (SAGPyA 1262/04 Resolution)
Kernels or pieces of kernels that have readily passed through a 1,6 x 9,5 mm oblong-hole sieve. This determination shall be done after separating foreign material, damaged and smutty kernels.

Yellow berry kernels (SAGPyA 1262/04 Resolution)
Kernels with starchy endosperm in more than a half of their structure, showing a yellowish appearance.

Protein Content - 13.5% moisture basis (SAGPyA 1262/04 Resolution - Chemist Method from ICC Nº 105 – IRAM* 15852)
Proteins are complex organic compounds containing nitrogen. Flour proteins are responsible for obtaining gluten, once this one and water were put in contact. Proteins were determined in flour by the Kjeldahl method, while they were quantified in grain by rapid methods based on reflectance and transmittance (NIR - NIRT).

Weight of 1000 kernels (IRAM* 15853)
Its value is related to the quantity of flour that is possible to obtain from a wheat. This analysis is carried out by the counting of kernels using an electronic seed counter, and weighing them. Broken kernels and foreing material are previously removed from the sample by hand-picking.

Ash (Method from ICC N° 104 – IRAM* 15851)

Ash determination conforms one of the best methods to measure the milling process efficiency. The ash content of certain flour can give an idea about the percentage of bran or minerals that it has.
The mineral matter is found in the residue that remains when the flour is ignited. The organic matters, such as starch, proteins, sugars (carbon hydrates), etc., are ignited, but the mineral matter remains as ash.
Ash content is determined by ignition at 900° C +/- 25° C using furnace until a constant weight is reached.

MILLING (IRAM* 15854 - Part I and II)

Grain must be prepared to reach 15,5 % of moisture, which is the appropriated state to mill, in order to separate the bran from the endosperm. The milling is performed in an automatic experimental MLU–202 Bühler mill.

FLOUR

Moisture (IRAM* 15850)

This test is carried out by drying at 130° C +/- 3° C under normal pressure conditions in an oven with forced air circulation, during an hour.

Gluten (AACC 3812 - IRAM* 15864 3rd edition)

Gluten is a plastic - elastic substance with a yellowish colour wich is isolated by washing the dough with a solution of sodium chloride and subsequently centrifugation to remove the starch and the soluble proteins (albumins and globulins), remaining the insoluble (gliadins and glutenins), which constitute wet gluten and dry gluten. The result is expressed in percentage .
The gluten main characteristic is the coherence and the agglutination that it gives to starch cells. During baking gluten is the one that retains gases, which are originated during the fermentation due to yeast effect.
The methodology is carried out using the "Glutomatic" system.

Zeleny Test (AACC N° 56-61-IRAM* 15875)

This is an orientation test on the quality of a protein, estimating the gluten strength. It is associated with the quantity and the quality of proteins. The isopropyl alcohol in a slightly acid media (lactic acid solution) acts on the gluten (proteins) producing a swelling. The bigger this swelling is, the more precipitate volume will be obtained, and consequently the volume of bread will be better.

Falling Number (Hagberg – Perten Method - AACC N° 56-81-IRAM* 15862)

This test measures flour alpha amylase activity, from which depends the fermentative capacity of dough during baking. These enzymes activity in wheat is variable, being affected by climate harvest conditions. Wet and hot conditions contribute to an increase in the enzymes activity, especially in germinated kernels, making the dough more liquid and obtaining sticky - crumbed breads. In order to know the alpha amylase activity, the Falling Number is used. A general idea of the enzyme activity is obtained through this method, according to the falling time in seconds. It is determinated on a 7g of flour with 15% of moisture.

Colorimeter (Minolta Chroma Meter CR-410)

It is used to determine the color of flour in an objective, easy and fast way since this is a very important parameter for the milling and bakery industry.
It is expressed through a tristimulus method, Hunter-Lab and measures:
L: brightness. L=100 white, L=0 black. The nearest to 100, the whiter the flour is.
a and b= express color values. +a: green, -a: red, +b: yellow, -b: blue. For white flour it should be between +/- 1 or 2 and b below 10. A value above 10 expresses a yellowish color.

RHEOLOGY

Farinogram (Brabender Farinograph - ICC N° 115 – IRAM* 15855)

It is used to prove dynamically dough properties in order to evaluate the quality of flour and the properties of dough process. The parameters recorded during the analysis show the behavior in the kneading, the water absorption capacity, the time that dough takes to get the best consistency and the stability or flour tolerance to mixing.

Mixogram (Swanson Mixograph - AACC N° 54-40)

It determines the time of mixing or development (DT), and stability through a graphic drawn by the equipment due to the resistance of dough. Low value of DT is evidence of a bad bakery quality.

Alveogram (Chopin Alveograph - ICC N° 121 – IRAM* 15857). Chopin Manufacturer's Method. Boulogne, France.

The alveograph test simulates graphically the dough behavior during the fermentation process, imitating the dough alveolus formation due to CO2 produced by yeast action in large scale. By air inflation, this test measures the resistance to deformation and extensibility of test pieces from the dough with a certain thickness, thus obtaining curves called alveograms, where the area under it suggests the bakery strength (W). The maximum over pressure, which is related to the resistance of dough to deformation (P) is the tenacity, and the abscissa at the rupture point expresses the curve length (L), extensibility or index of swelling (G). P/L or P/G curve configuration ratios designs the dough equilibrium.

Consistograph (Chopin Alveograph NG Consistograph)

The consistograph makes it possible to carry out consistograph measurements as well as alveograph with adapted hydration. In a first test at constant hydration, water absorption in flour is measured and then, the test is carried out at adapted hydration. In this way, the dough behavior is evaluated during mixing. The parameters measured are:

TPr Max: time to reach the peak of Maximum Pressure.
Tol: tolerance, time when pressure is superior to PrMax-20%.
D250: weakening of dough to 250 seconds.
D450: weakening of dough to 450 seconds.
WAC: hydration equivalent to 1700 mb based at 15% H2O.
HYDRA: hydration equivalent to 2200 mb based at 15% H2O.

Rapid Visco Analyser (RVA viscoanalyiser- Newport Scientific-Standard ICC 162)

It quantifies the viscosity, determines the resistance of dough with basic of starch when subjected to a constant stirring action, incorporating time and temperature conditions. The sample is subjected to a classical cooking cycle (preheating-heating-stand) where the viscosity records a behavior that depends mainly on the starch origin and properties. It measures the following:

Maximum viscosity: maximum level of water absorption of the granules which produce a peak of viscosity.
Medium viscosity: granules break down due to stirring and polymers leach giving a decrease in viscosity.
End viscosity: in this period of temperature decrece, starch retro gradation takes place, this phenomenon gives way to the formation of gel and the amylose is the main responsible. Here, a new increase of viscosity occurs, reaching the final point of the test.
Dough T°: increase of viscosity which corresponds to the beginning of gelatinization of starch granules.
Break down: difference between maximum and medium viscosity. It makes it possible to know the stability of the granule to cooking.
Set Back: difference between maximum and end viscosity, associated to dough retro gradation.

BAKING TEST (Official Method modified by EEA Marcos Juárez Laboratory) IRAM* 15858-1

Is the most representative test of wheat industrial quality since, in a small scale, is a direct testing in which the flour aptitude to make a bread with good characteristics is evaluated. It allows to value the different stages in dough manufacturing, noticing the time it takes to develop and gain consistence, its behavior during fermentation, the bread volume and its inner and outer appearance.

The outcoming values reflect the behaviour of the flour in an experimental method with short fermentation terms, while in industrial bread-making, with longer fermentation terms, such results can be different.

* References: IRAM: Instituto Argentino de Normalización y Certificación (Argentine Standards and Certification Institute).

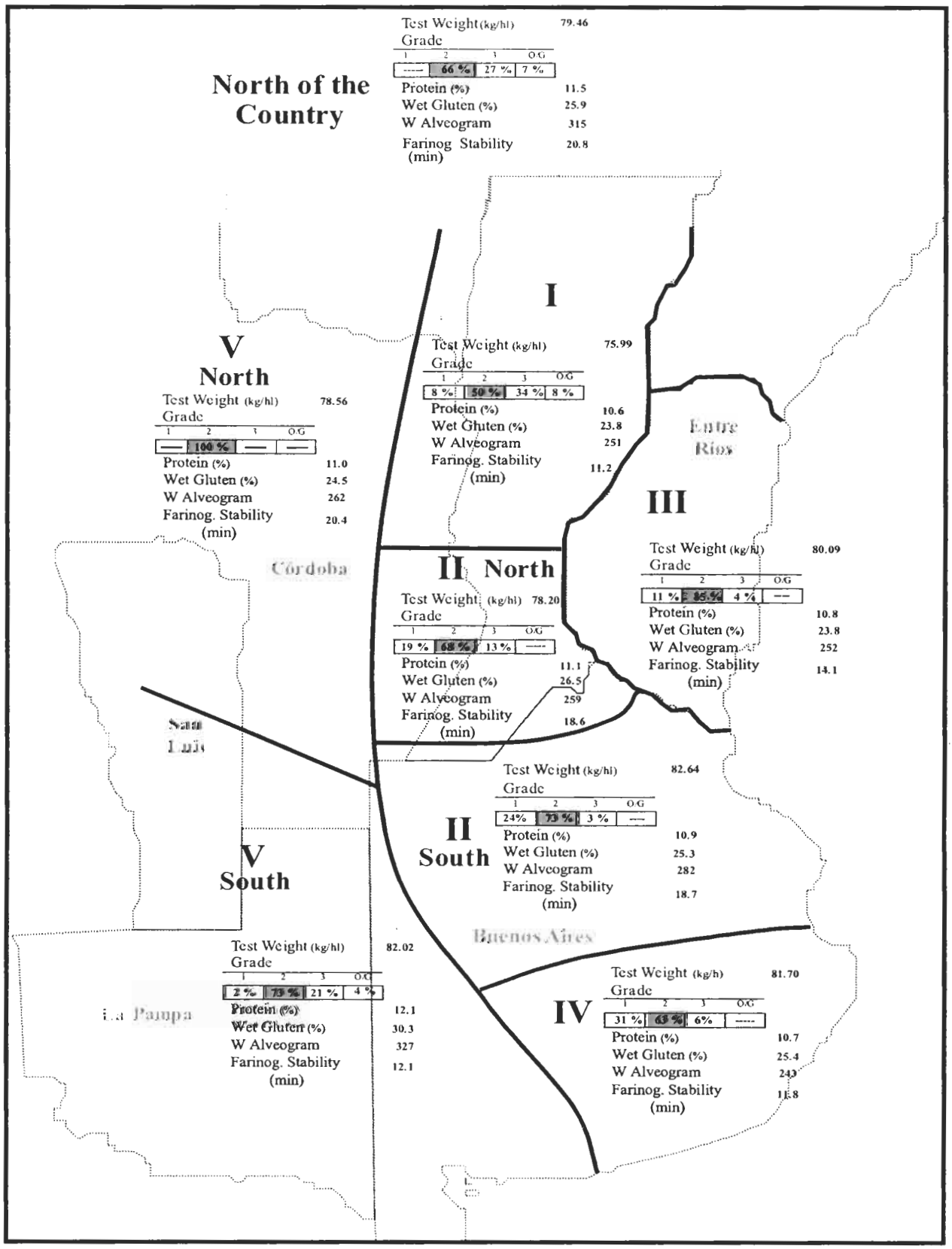
Ex-SAGPyA N° 1262 / 04
ARGENTINE STANDARD FOR WHEAT

<table>
<tr><th rowspan="3">GRADE</th><th rowspan="3">Bonus and Discounts per Grade %</th><th rowspan="3">Minimum Test Weight per hectolitre Kg/hl</th><th colspan="6">PERCENTS MAXIMUM LIMITS OF</th><th rowspan="3">Insect Bored Kernels %</th><th rowspan="3">Sweet clover seeds (Melilotus sp.) Seeds/ 100 g</th><th rowspan="3">MOISTURE Max %</th><th rowspan="3">Live Insects and arachnids</th><th rowspan="3">PROTEIN CONTENT
Bonus and Discounts (for each percentage or proportional fraction of the protein content)</th></tr>
<tr><th rowspan="2">Foreign Material %</th><th colspan="2">Damaged Kernels</th><th rowspan="2">Smutty Kernels %</th><th rowspan="2">Yellow Berry Kernels %</th><th rowspan="2">Shrunken and Broken Kernels % (1)</th></tr>
<tr><th>Heat Damaged Kernels %</th><th>Total %</th></tr>
<tr><td>1</td><td>+ 1.5</td><td>79.00</td><td>0.20</td><td>0.50</td><td>1.00</td><td>0.10</td><td>15.00</td><td>0.50</td><td rowspan="3">0.50</td><td rowspan="3">8</td><td rowspan="3">14.0</td><td rowspan="3">FREE</td><td rowspan="3">More than 11.0 %: Bonus 2 %
11.0 %: -
10.0-10.9 %: Discount 2 %
9.0-9.9 %: Discount 3 %
Less than 9.0 %: Discount 4 %</td></tr>
<tr><td>2</td><td>-</td><td>76.00</td><td>0.80</td><td>1.00</td><td>2.00</td><td>0.20</td><td>25.00</td><td>1.20</td></tr>
<tr><td>3</td><td>- 1.0</td><td>73.00</td><td>1.50</td><td>1.50</td><td>3.00</td><td>0.30</td><td>40.00</td><td>2.00</td></tr>
</table>

(1) All Wheat kernels or pieces of them that pass through a sieve with 1,6 mm wide and 9,5 mm long holes, excluding damaged kernels.

Protein content: basis 11 % (moisture basis of 13,5 %)
According to protein content there will be bonus or discounts. Those lots which test weight is under 75 Kg/hl are excluded of bonus.

Argentine Wheat
Main Quality Parameters



Sub region I
Background for the crop

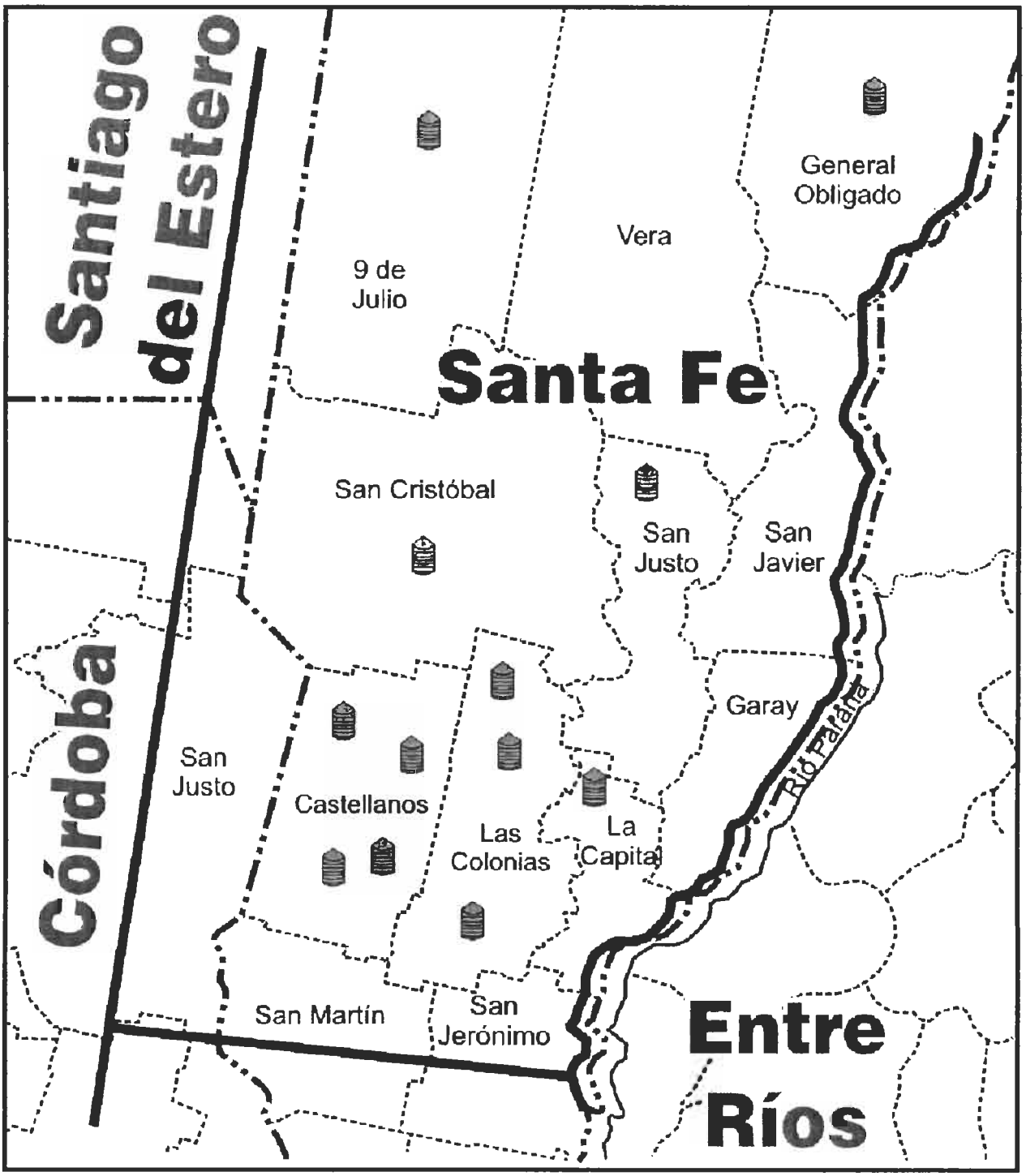
The sown surface was slightly larger than that of the campaign 2010/2011 mainly due to the proper humidity existing in the soil profile, to assure a good stand and emerging of the plants. The sowings started by the end of April (a small number) and continued throughout the months of May, June and July (the majority), in some zones at the East being delayed due to the water excess that made the labor difficult.

The beginning of the plant cycle had a good stand and emergence of the plants. During the first half of August, the humidity conditions maintained proper, allowing a normal development of the crops at the tilling stage, in which programmed re-fertilizations were done, verifying a good coverage of the plants.

Lack of rains in various zones during September produced a decrease in the humidity reserves in the middle of the stem stage, which started to affect the crops manifesting symptoms of water-stress, such as yellow base leaves and yellow tips of the higher leaves. The timely rains registered at the beginning of October resulted highly beneficial for the recovery of the crops in the reproductive stages with larger demands of water. The continuity of weekly rains during October favored the filling of the grains, and the rains retreated in November, allowing a normal culmination of the cycle with good performances in general.

Sanitary condition was good, although in some zones there were fields slightly affected by yellow spot, septoria and rust. There were mites in fields of some zones that were then chemically treated.

Final average yields per department varied in a range of around 2,600 and 3,500 kg/ha, and some fields stood out with maximum yieds of 4,000 to 4,500 kg/ha.



Each reference represents near 250 to 4,000 tons sampled

Subregion I Wheat

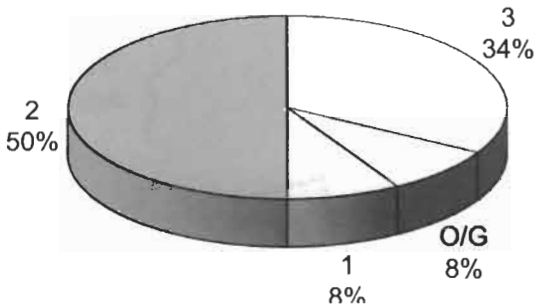
Results of the Analyses

Composite Samples by Locality. Averages were weighted by Tonnage.

Wheat Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Test Weight (kg/hl)	72.50	79.30	75.99	1.72	2.26
Total Damaged Kernels (%)	0.20	0.74	0.45	0.16	36.46
Foreign Material (%)	0.06	0.64	0.23	0.18	76.17
Shrunken and Broken Kernels (%)	0.34	0.82	0.57	0.14	25.50
Yellow Berry Kernels (%)	0.00	2.10	0.24	0.67	275.85
Protein (13.5% Moisture) (%)	9.4	11.4	10.6	0.5	5.20
Weight of 1000 Kernels (gr.)	30.90	34.20	32.30	1.20	3.72
Ash (% dry basis)	1.634	1.970	1.825	0.116	6.38

Total damaged kernels includes 0.12% green kernels, 0.12% sprouted kernels and 0.21% insect chewed kernels.

Grade Distribution



O/G: Out of Grade

Flour Analysis		Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
MILLING	Wet Gluten (%)	19.2	27.8	23.8	2.4	9.87
	Dry Gluten (%)	6.9	9.5	8.0	0.8	9.87
	Falling Number (sec.)	386	491	448	32	7.22
	Flour Yield (%)	68.5	73.8	**71.6**	1.8	2.47
	Ash (dry basis) (%)	0.555	0.765	**0.682**	0.066	9.75
FARINOGRAM	Water Absorption (14% H°) (%)	54.6	63.4	**57.8**	2.3	4.00
	Development Time (min.)	1.6	10.4	**6.1**	3.3	54.78
	Stability (min.)	2.0	19.5	11.2	6.4	56.72
	Degree of Softening (12 min.)	29	67	46	10	21.94
ALVEOGRAM	P (mm)	68	123	98	18	18.42
	L (mm)	49	110	73	17	23.82
	W Joules x 10^{-4}	196	303	251	31	12.43
	P / L	0.66	2.51	1.33	0.53	36.55

These results were elaborated with 12 composite samples prepared proportionally from 252 primary samples (farmer deliveries)

Sub region Data

In this sub region the wheat production was 1,005,980 tons., the 7.8% of the national total. Were sampled 49,760 tons., the 4.9 % of the sub region production.

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION			WHEAT ANALYSIS								
Sample Number	Locality, district or department	Tonnage	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Material (%)	Shrunken and Broken Kernels (%)	Yellow Berry Kernels (%)	Protein (13.5 % Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
1	Gral. Obligado	5780	2	77.40	0.58	0.06	0.46	2.10	9.4	30.90	1.867
2	San Justo - Santa Fe	4120	1	79.30	0.20	0.14	0.60	0.00	10.4	33.90	1.810
3	La Capital	2050	2	77.00	0.40	0.56	0.40	0.00	10.8	33.50	1.634
4	9 de Julio	5900	2	76.70	0.26	0.16	0.82	0.00	10.4	32.80	1.970
5	San Cristobal	3990	2	76.00	0.38	0.48	0.50	0.00	10.8	31.00	1.913
6	Castellanos	3900	2	77.30	0.46	0.22	0.66	0.00	10.4	32.10	1.937
7	Castellanos	4050	3	75.30	0.50	0.10	0.64	0.00	11.4	33.80	1.882
8	Castellanos	4200	3	74.70	0.44	0.16	0.36	0.00	11.1	31.20	1.866
9	Castellanos	3970	O/G	72.50	0.54	0.20	0.54	0.00	10.7	31.60	1.872
10	Las Colonias	3950	2	76.00	0.74	0.26	0.66	0.00	10.5	32.80	1.638
11	Las Colonias	3800	3	75.40	0.70	0.08	0.34	0.00	11.3	34.20	1.675
12	Las Colonias	4050	3	73.80	0.26	0.64	0.68	0.00	10.3	30.90	1.645

SAMPLE IDENTIFICATION		FLOUR ANALYSIS												
						FARINOGRAM				ALVEOGRAM				
Sample Number	Locality, district or department	Wet Gluten (%)	Dry Gluten (%)	Falling Number (sec.)	Flour Yield (%)	% WA (14 % H°)	D. T. (min.)	Stability (min.)	Degree Softening (12 min.)	P	L	W	P/L	Ash (dry basis) (%)
1	Gral Obligado	19.2	6.9	386	68.5	56.8	1.6	2.0	67	114	57	262	2.00	0.555
2	San Justo	27.8	9.5	439	70.0	63.4	6.4	7.3	52	116	65	258	1.78	0.625
3	La Capital	24.5	8.4	417	70.0	60.0	10.0	17.2	41	102	80	299	1.28	0.595
4	9 de Julio	23.0	7.8	420	71.4	59.4	9.1	18.1	36	113	72	303	1.57	0.695
5	San Cristobal	23.1	7.7	430	70.4	56.9	9.2	18.2	38	102	74	266	1.38	0.625
6	Castellanos	21.6	7.2	484	70.1	60.1	10.4	12.9	47	123	49	242	2.51	0.715
7	Castellanos	24.3	7.5	452	72.0	56.7	7.9	14.4	45	73	110	263	0.66	0.695
8	Castellanos	24.1	7.7	491	73.2	55.3	9.0	19.5	29	91	51	196	1.78	0.745
9	Castellanos	23.5	8.0	465	73.8	54.6	2.1	8.1	47	68	88	203	0.77	0.685
10	Las Colonias	24.5	8.3	481	73.6	58.2	2.0	3.1	50	96	72	259	1.33	0.765
11	Las Colonias	26.4	8.9	473	73.6	56.4	6.1	14.3	46	72	99	228	0.73	0.725
12	Las Colonias	26.6	9.3	463	72.9	57.0	2.0	3.5	54	87	75	234	1.16	0.765

Sub region II North
Background for the crop

Wheat crop during the year 2011 was benefited from the good water refill of the soil profile, due to the rains occurred during the period of the end of summer-fall. The most significant contribution of 2011 was given by the rains occurred in the last decade of May and June that reached 86 mm. These conditions were the ones that permitted the crop during the stage of emergence up to the end of tilling to have proper useful water availability in the soil profile, not being a limit for the expression of the yields.

Total rains fallen during the crop cycle (May to November) was 375 mm, with 45 mm more than the historical value of the last 20 years.

The number of days with frosts was 51 during the crop cycle, and the more frequent occurrence was during June, July and August. In the sub-region II North the frosts damaged crops with and advanced reproductive stage, which led to a significant fall in the grain production.

The growing and development of the crop were affected by high temperatures registered during crucial moments for the production and quality, such as pre-anthesis, anthesis and grain filling (September-October-November).

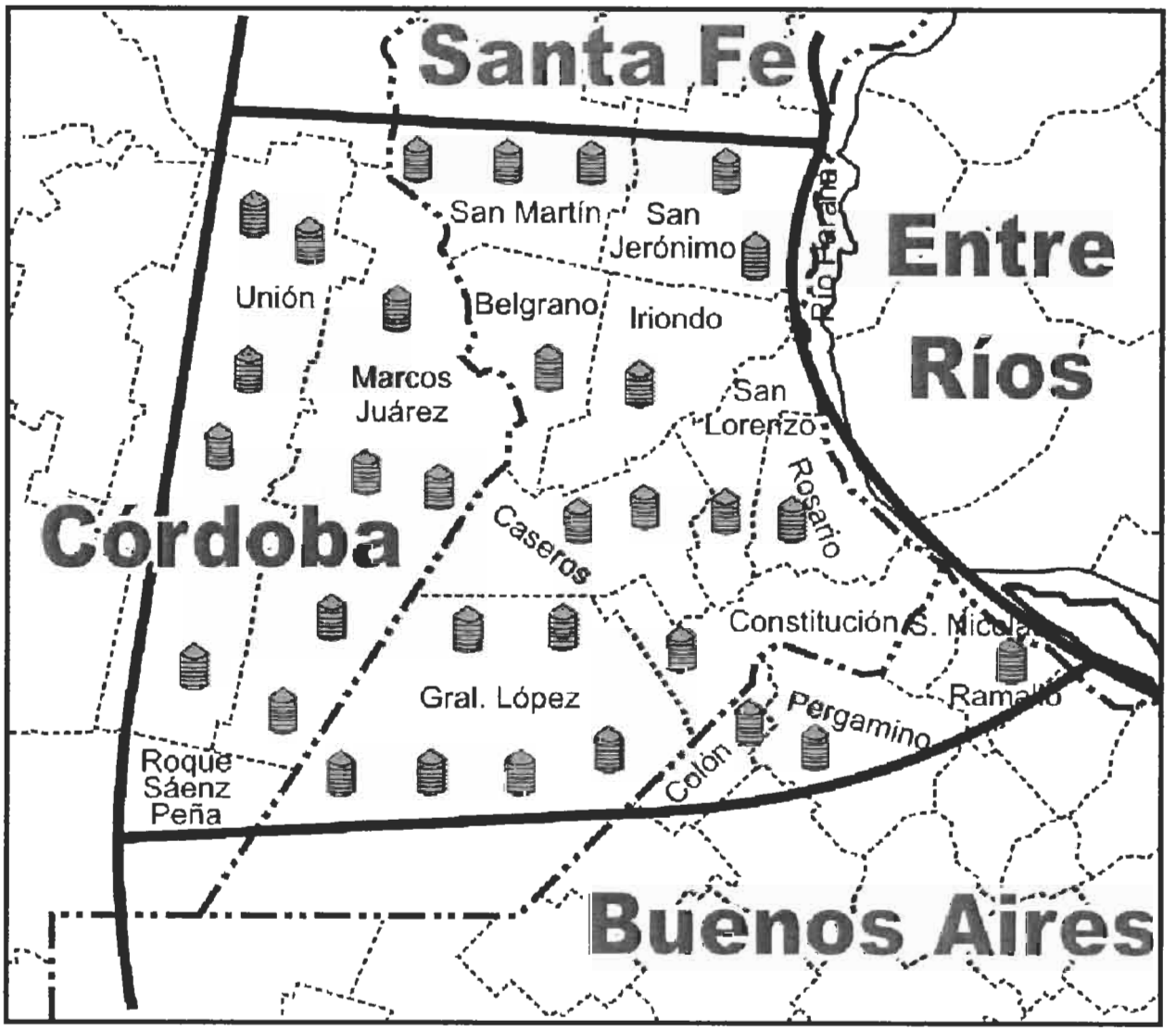
The percentage of severity of the foliar diseases, measured in the stage of flag leaf was low and yellow spot was the disease with higher incidence.

There were predisposing conditions for ear fusariosis and there were important differences in incidence and severity among the assessed genotypes.

The rose-green aphid of the cereals was the most common plague and the levels reached during the stage of flag leaf and earing surpassed the limit of economic damage.

Yields in the area ranged from good to very good, higher than the forecasts based on the status of the crops, overcoming the expectations, with estimated averages of 3,800 to 4,000 kg/ha, minimums of 2,500 kg/ha and maximums of 5,500 kg/ha.

Sub region
II North
Wheat



Each reference represents near 4,000 tns sampled.

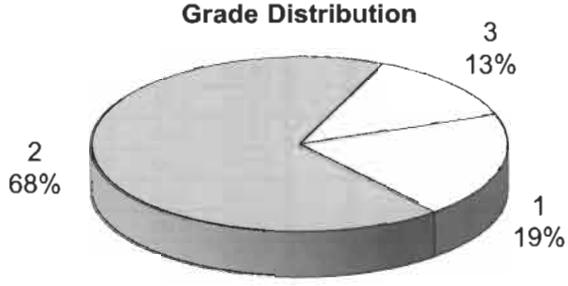
Results of the Analyses

Composite Samples by Locality. Averages were weighted by Tonnage.

Wheat Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Test Weight (kg/hl)	74.70	81.30	78.20	1.61	2.06
Total Damaged Kernels (%)	0.10	2.30	0.57	0.48	83.93
Foreign Material (%)	0.10	1.30	0.29	0.25	83.86
Shrunken and Broken Kernels (%)	0.00	0.90	0.40	0.21	53.74
Yellow Berry Kernels (%)	0.00	2.30	0.75	0.60	81.01
Protein (13,5% Moisture) (%)	9.8	12.1	11.1	0.5	4.32
Weight of 1000 Kernels (gr.)	31.30	35.70	33.26	1.16	3.48
Ash (% dry basis)	1.725	1.925	1.830	0.051	2.80

Total damaged kernels includes 0.12% sprouted kernels, 0.11% insect chewed kernels and 0.34% germ-chewed kernels.

Grade Distribution



Flour Analysis		Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
MILLING	Wet Gluten (%)	21.0	29.6	26.5	1.8	6.80
	Dry Gluten (%)	7.1	10.1	9.0	0.7	7.29
	Falling Number (sec.)	424	513	482	23	4.87
	Flour Yield (%)	70.8	74.8	73.1	1.1	1.49
	Ash (dry basis) (%)	0.571	0.765	0.650	0.050	7.65
FARINOGRAM	Water Absorption (14% H°) (%)	54.7	61.1	56.8	1.3	2.36
	Development Time (min.)	6.0	20.6	9.7	2.8	28.46
	Stability (min.)	10.8	35.2	18.6	4.5	24.36
	Degree of Softening (12 min.)	0	50	31	12	37.88
ALVEOGRAM	P (mm)	68	115	88	12	13.81
	L (mm)	53	121	86	18	20.34
	W Joules x 10^{-4}	211	293	259	21	8.27
	P / L	0.60	2.13	1.02	0.39	35.38

These results were elaborated with 31 composite samples prepared proportionally from 432 primary samples (farmer deliveries)

Sub region Data

In this subregion the wheat production was 1,890,960 tons., the 14.0% of the national total. Were sampled 124,000 tons., the 6.9 % of the subregion production.

Sub region II North Wheat

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION			WHEAT ANALYSIS								
Sample Number	Locality, district or department	Tonnage	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Material (%)	Shrunken and Broken Kernels (%)	Yellow Berry Kernels (%)	Protein (13.5 % Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
101	San Martin	4000	2	78.70	0.30	0.20	0.30	0.90	10.7	34.70	1.775
102	San Martín	4000	2	76.10	0.70	0.20	0.10	0.70	10.9	32.20	1.825
103	San Martín	4000	3	74.70	0.40	0.20	0.00	2.30	11.3	31.50	1.925
104	San Jerónimo	4000	2	76.10	1.00	0.20	0.20	0.30	11.1	33.40	1.925
105	San Jerónimo	4000	2	78.20	1.00	0.10	0.20	0.10	11.0	35.10	1.895
106	Caseros	4000	2	76.60	0.30	0.20	0.50	0.70	11.3	32.00	1.855
107	Caseros	4000	2	78.10	0.20	0.10	0.20	0.20	10.7	33.40	1.805
108	Belgrano	4000	2	77.10	0.80	0.20	0.10	1.10	10.8	32.90	1.895
109	Iriondo	4000	3	79.30	2.30	0.20	0.70	0.00	10.9	33.30	1.825
110	San Lorenzo	4000	2	78.10	0.90	0.40	0.70	1.10	11.1	35.70	1.875
111	Rosario	4000	2	78.60	0.20	0.40	0.50	0.20	11.2	33.40	1.835
112	Constitución	4000	1	80.60	0.20	0.10	0.20	1.20	9.8	34.40	1.835
113	General López	4000	3	77.50	0.60	1.30	0.30	1.20	11.7	33.80	1.855
114	General López	4000	1	79.00	0.20	0.20	0.30	0.40	11.5	35.70	1.735
115	General López	4000	2	78.70	0.10	0.30	0.50	0.00	11.3	32.20	1.825
116	General López	4000	2	77.80	0.50	0.20	0.60	0.50	11.6	31.90	1.815
117	General López	4000	1	80.40	0.20	0.20	0.50	2.10	10.3	34.20	1.785
118	General López	4000	2	79.80	1.00	0.10	0.60	1.60	10.7	33.30	1.815
119	Marcos Juárez	4000	1	79.20	0.30	0.20	0.30	1.00	11.7	33.40	1.785
120	Marcos Juárez	4000	3	75.90	0.20	0.60	0.70	0.00	11.9	32.00	1.855
121	Marcos Juárez	4000	2	76.10	1.30	0.60	0.10	0.50	11.0	33.00	1.895
122	Marcos Juárez	4000	2	77.80	1.60	0.40	0.90	0.60	10.8	32.30	1.815
123	Marcos Juárez	4000	1	79.70	0.30	0.10	0.40	0.30	11.5	33.60	1.855
124	Unión	4000	2	76.70	0.40	0.10	0.40	0.60	12.1	31.30	1.885
125	Unión	4000	2	76.70	0.60	0.70	0.40	0.60	11.9	33.50	1.795
126	Unión	4000	2	78.70	0.40	0.20	0.60	0.00	11.7	32.80	1.785
127	Unión	4000	2	77.90	0.50	0.20	0.20	0.60	11.2	32.70	1.785
128	Unión	4000	2	77.90	0.20	0.20	0.50	1.10	10.9	31.80	1.825
129	Ramallo	4000	2	81.30	0.70	0.60	0.60	0.40	10.9	35.10	1.725
130	Colón	4000	2	81.30	0.10	0.30	0.30	1.90	11.0	33.60	1.745
131	Pergamino	4000	1	79.70	0.30	0.10	0.40	0.90	11.1	33.00	1.875

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION		FLOUR ANALYSIS												
						FARINOGRAM				ALVEOGRAM				
Sample Number	Locality, district or department	Wet Gluten (%)	Dry Gluten (%)	Falling Number (sec.)	Flour Yield (%)	% WA (14 % H°)	D. T. (min.)	Stability (min.)	Degree Softening (12 min.)	P	L	W	P/L	Ash (dry basis) (%)
101	San Martín	24.8	8.2	474	73.4	57.0	11.9	22.2	28	102	70	262	1.46	0.655
102	San Martín	25.9	8.8	465	73.1	57.9	12.2	23.1	28	103	80	293	1.29	0.625
103	San Martín	25.6	8.7	471	73.6	55.7	12.1	22.7	28	83	90	262	0.92	0.585
104	San Jerónimo	26.2	8.9	459	72.6	56.5	12.1	21.8	30	94	77	262	1.22	0.625
105	San Jerónimo	27.3	8.8	470	72.2	61.1	6.6	10.8	47	97	66	218	1.47	0.705
106	Caseros	27.7	9.4	449	71.6	55.6	11.9	20.9	32	78	98	265	0.80	0.585
107	Caseros	24.8	8.5	440	71.4	58.6	10.2	18.9	26	103	54	222	1.91	0.615
108	Belgrano	24.8	8.3	450	72.3	57.3	11.9	20.1	26	86	88	264	0.98	0.585
109	Iriondo	26.3	8.6	456	71.5	60.2	9.6	17.8	24	115	61	264	1.89	0.655
110	San Lorenzo	26.6	8.8	424	70.8	57.4	9.6	21.5	20	97	80	278	1.21	0.571
111	Rosario	21.0	7.1	457	72.5	56.0	20.6	35.2	13	113	53	246	2.13	0.585
112	Constitución	27.7	9.3	509	71.4	56.1	8.7	16.4	0	76	94	242	0.81	0.655
113	General López	28.8	9.6	507	73.9	57.7	7.3	14.5	44	82	94	258	0.87	0.695
114	General López	27.9	9.5	509	73.3	57.4	8.3	17.8	0	88	88	275	1.00	0.625
115	General López	28.6	9.7	489	74.3	57.0	6.3	18.1	32	80	84	237	0.95	0.665
116	General López	27.2	9.6	505	74.1	55.4	7.8	18.5	35	78	92	250	0.85	0.605
117	General López	23.4	7.8	483	74.8	55.4	9.7	18.1	39	87	69	211	1.26	0.765
118	General López	25.3	8.3	484	74.1	56.7	9.4	16.2	40	92	73	238	1.26	0.655
119	Marcos Juárez	28.7	9.8	490	73.0	55.7	6.1	18.2	32	72	121	280	0.60	0.645
120	Marcos Juárez	29.6	10.1	479	73.2	56.5	6.0	15.1	41	75	120	290	0.63	0.705
121	Marcos Juárez	25.2	8.9	463	74.0	54.7	8.3	15.0	44	68	111	240	0.61	0.625
122	Marcos Juárez	25.5	8.7	496	71.5	56.2	8.1	13.5	46	76	98	243	0.78	0.685
123	Marcos Juárez	26.6	9.3	512	73.1	56.5	13.2	27.2	21	90	83	280	1.08	0.635
124	Unión	28.7	10.0	490	73.3	55.9	9.6	20.0	32	76	114	290	0.67	0.705
125	Unión	28.0	9.9	487	72.7	55.6	9.4	16.2	34	74	112	271	0.66	0.615
126	Unión	29.1	9.6	513	74.6	57.7	8.3	15.2	37	78	102	268	0.76	0.685
127	Unión	25.6	9.0	484	74.7	56.6	7.9	13.4	50	80	89	239	0.90	0.735
128	Unión	25.6	8.9	497	72.8	55.8	8.2	13.9	47	80	88	247	0.91	0.625
129	Ramallo	26.6	9.1	509	72.7	57.8	10.5	18.3	28	98	71	256	1.38	0.635
130	Colón	25.9	8.9	512	74.5	57.3	9.2	17.3	37	98	79	284	1.24	0.755
131	Pergamino	25.7	8.7	499	74.0	56.6	10.4	19.3	32	99	78	285	1.27	0.645

Sub region II South
Background for the crop

The sowed area in the North Center region of Buenos Aires province in some areas had a slight decrease as regards the historical average; the surface was occupied with other winter crops, especially barley. Such lower acreage was offset by increasing planted elsewhere and good yields per hectare, which in many cases surpassed the expectations, taking into account that the climate conditions during their cycle were not so favorable.

The sowing dates concentrated in June and July, and in some cases in August. During the cultivation cycle (May-November), in the zone of Pergamino, there was a deficit of rains as regards the historical average (1910-2010) of 186 mm, but the good distribution of rains produced in the critical moments of the crop did not affect their development.

In most of the cases, the fields were fertilized with nitrogen and phosphor and in some cases also with sulfur.

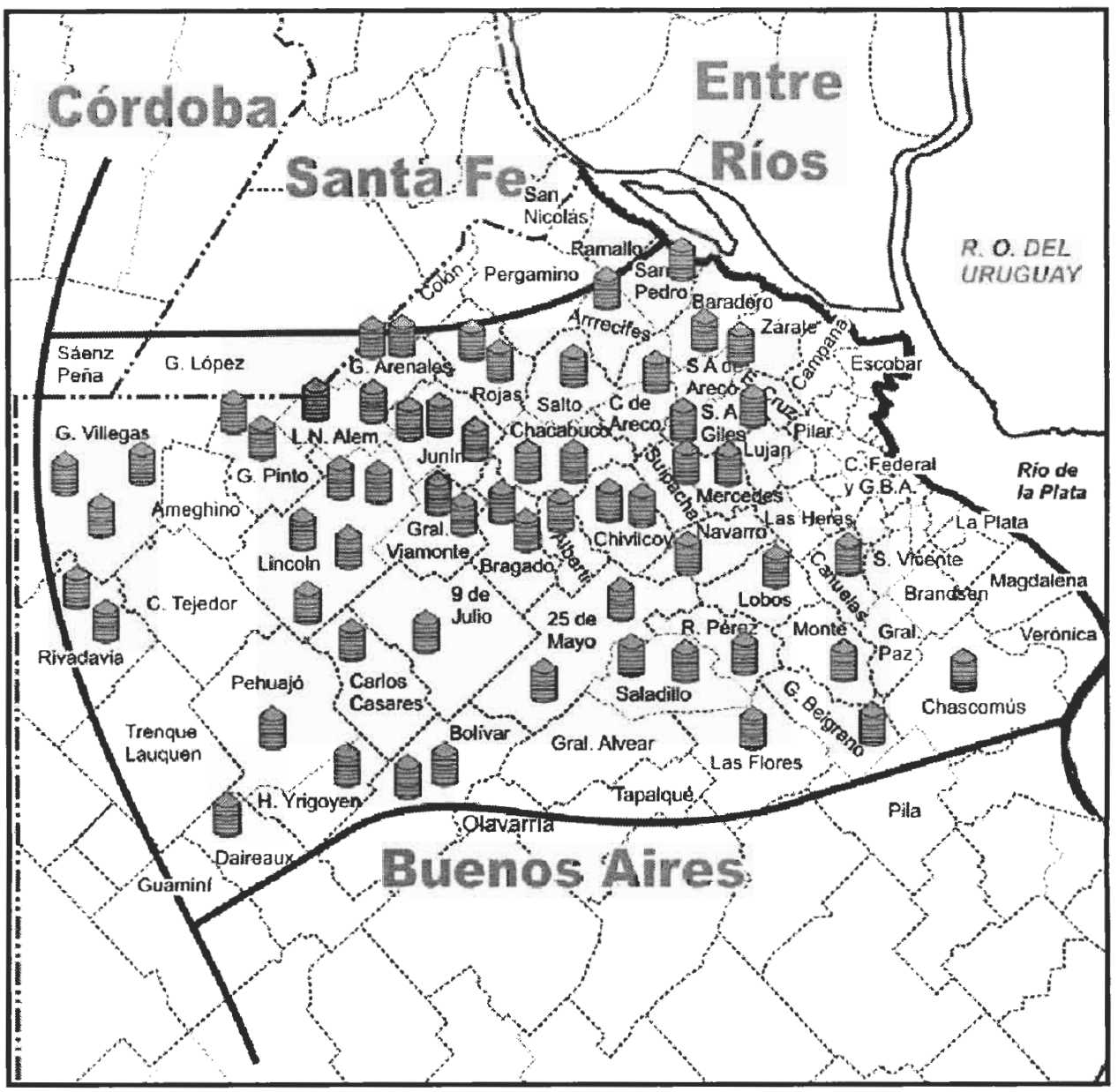
The minimum temperatures during the tilliering were not considered unfavorable. During the first week of September, they varied between -3.4° C and -7.5° C, favoring the varieties with longer cycle, with cold needs. During blossom and in grain milk stage there were temperatures under zero on October 03 (-4,5° C), October 27 (-2,7° C) and October 31 (-1,8° C). The maximum high temperatures during the grain filling varied between the 33° C to 38° C from November 05 to 10 and November 18 to 21. It is considered that they did not produce any shrunken grains. The high solar radiation favored even more the metabolic processes of the plant for the grain filling.

Among the insects, the greenbug aphid and the grain aphid were present with more intensity, and chemical treatments were needed.

The general level of diseases was low, with a higher frequency of the leaf rust (Puccinia tritici Rob) and yellow spot (Drechslera tritici repentis). The ear fusariosis only occurred in specific cases with a low intensity attack.

Harvest was advanced a couple of days and it developed in excellent conditions, with no rains and very low environmental humidity. Yields were very good, with excellent hectoliter weights and weight of 1,000 grains. The performances per surface unit did not equal those of the agricultural campaign 2010/2011, but they surpassed the historical average. There were fields with significant surface that produced between 5,000 and 6,500 Kg/ha.

Sub region
II South
Wheat



Each reference represents near 4,000 tns sampled.

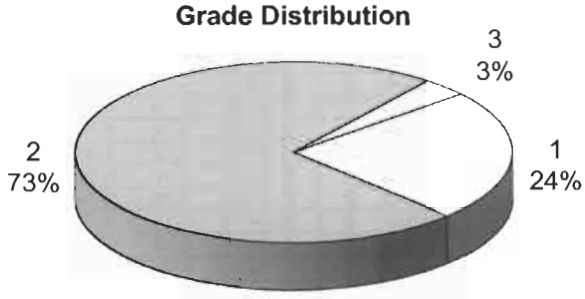
Results of the Analyses

Composite Samples by Locality. Averages were weighted by Tonnage.

Wheat Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Test Weight (kg/hl)	78.15	86.40	82.64	1.66	2.00
Total Damaged Kernels (%)	0.02	0.62	0.24	0.16	66.29
Foreign Material (%)	0.03	0.80	0.26	0.18	68.67
Shrunken and Broken Kernels (%)	0.20	1.60	0.62	0.28	45.76
Yellow Berry Kernels (%)	0.00	10.52	3.59	2.43	67.76
Protein (13,5% Moisture) (%)	9.7	14.3	10.9	0.8	7.45
Weight of 1000 Kernels (gr.)	31.48	39.61	35.45	1.47	4.16
Ash (% dry basis)	1.503	2.232	1.765	0.146	8.28

Total damaged kernels includes 0.03% green kernels, 0.04 frosty kernels, 0.01% sprouted kernels and 0.09% insect chewed kernels.

Grade Distribution



Flour Analysis		Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
MILLING	Wet Gluten (%)	21.4	33.8	25.3	2.7	10.70
	Dry Gluten (%)	8.0	12.6	9.4	1.0	10.79
	Falling Number (sec.)	383	480	428	22	5.16
	Flour Yield (%)	70.4	76.6	72.9	1.4	1.98
	Ash (dry basis) (%)	0.488	0.755	0.618	0.063	10.21
FARINOGRAM	Water Absorption (14% H°) (%)	54.9	62.6	57.9	1.6	2.74
	Development Time (min.)	1.9	20.0	7.9	4.4	55.42
	Stability (min.)	2.1	46.6	18.7	8.2	43.74
	Degree of Softening (12 min.)	10	87	34	18	52.30
ALVEOGRAM	P (mm)	71	135	106	16	15.09
	L (mm)	36	162	76	25	33.04
	W Joules x 10^{-4}	191	429	282	51	17.93
	P / L	0.44	3.50	1.39	0.64	40.83

These results were elaborated with 59 composite samples prepared proportionally from 995 primary samples (farmer deliveries)

Subregion Data

In this subregion the wheat production was 2,333,885 tons., the 18.0% of the national total. Were sampled 236,000 tons., the 10.1 % of the subregion production.

Sub region II South Wheat

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION			WHEAT ANALYSIS									
Sample Number	Locality, district or department	Tonnage	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Material (%)	Shrunken and Broken Kernels (%)	Yellow Berry Kernels (%)	Protein (13.5% Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
200	Junín	4000	2	83.05	0.40	0.44	1.04	7.88	11.0	35.21	1.704
201	Junín	4000	2	83.50	0.04	0.36	1.18	5.56	10.6	34.82	1.720
202	Junín	4000	2	84.85	0.12	0.46	0.40	1.48	10.2	36.19	1.680
203	Carmen de Areco	4000	2	84.15	0.32	0.16	0.72	4.20	10.8	35.21	1.732
204	Rojas	4000	2	83.70	0.08	0.40	0.48	1.28	10.5	35.55	1.806
205	Rojas	4000	1	83.50	0.20	0.08	0.20	2.12	11.2	35.69	1.644
206	Gral. Arenales	4000	2	83.05	0.59	0.37	0.44	3.67	10.9	36.47	1.688
207	Gral. Arenales	4000	2	83.25	0.36	0.80	1.08	1.77	10.1	35.03	1.686
208	San Andrés de Giles	4000	1	83.25	0.08	0.16	0.32	2.12	10.2	33.65	1.646
209	San Andrés de Giles	4000	2	81.95	0.04	0.24	0.40	1.16	10.2	37.77	1.670
210	Chacabuco	4000	1	82.85	0.12	0.16	0.32	3.52	10.1	33.89	1.688
211	Chacabuco	4000	2	84.40	0.04	0.08	0.68	3.44	10.6	35.17	1.802
212	Salto	4000	1	82.40	0.12	0.06	0.28	1.32	10.5	36.59	1.638
213	San Antonio de Areco	4000	2	83.70	0.12	0.04	0.60	1.28	10.8	38.10	1.728
214	San Pedro	4000	2	81.95	0.16	0.60	0.65	1.96	10.6	38.19	1.566
215	Arrecifes	4000	1	84.15	0.16	0.16	0.30	1.68	10.4	37.39	1.610
216	Baradero	4000	2	81.95	0.32	0.36	0.68	3.68	10.7	34.44	1.721
217	Mercedes	4000	2	83.05	0.16	0.32	0.64	3.64	11.4	33.71	1.817
218	Suipacha	4000	2	81.05	0.08	0.20	0.72	2.64	11.4	31.89	1.641
219	Alberti	4000	2	84.15	0.12	0.25	0.44	1.60	10.4	34.52	1.680
220	Bragado	4000	2	83.05	0.34	0.44	0.46	4.92	10.4	35.43	1.912
221	Bragado	4000	2	84.40	0.48	0.16	0.63	7.60	10.7	36.87	1.909
222	Chivilcoy	4000	2	83.25	0.12	0.18	0.98	6.00	9.9	34.87	1.947
223	Chivilcoy	4000	2	84.40	0.12	0.70	0.88	1.36	10.5	34.49	1.954
224	9 de Julio	4000	2	82.40	0.32	0.12	0.58	7.30	10.2	36.99	1.988
225	Bolivar	4000	2	83.95	0.40	0.36	0.59	1.86	12.0	34.70	2.033
226	Bolivar	4000	2	83.70	0.20	0.16	0.57	2.70	10.4	36.46	1.878
227	Hipólito Irigoyen	4000	2	83.05	0.37	0.50	0.44	1.30	12.1	35.99	2.007
228	Daireaux	4000	1	83.95	0.26	0.16	0.48	2.80	12.4	35.84	2.016
229	25 de Mayo	4000	1	84.15	0.13	0.14	0.28	4.00	10.3	35.01	1.807
230	25 de Mayo	4000	2	84.60	0.03	0.54	0.48	7.70	10.1	35.22	1.831
231	Saladillo	4000	2	85.05	0.28	0.44	0.90	4.88	10.7	36.02	1.864
232	Saladillo	4000	1	86.40	0.28	0.12	0.28	4.62	10.6	35.28	1.943
233	Gral. Belgrano	4000	2	82.95	0.08	0.10	0.68	7.76	11.0	35.93	2.232
234	Chascomus	4000	2	82.85	0.62	0.24	0.44	2.87	10.4	34.65	1.958
235	San Miguel del Monte	4000	2	78.15	0.27	0.36	0.48	3.86	10.6	36.63	1.601
236	Cañuelas	4000	2	80.80	0.51	0.08	0.92	1.46	10.8	34.20	1.578
237	Lobos	4000	2	82.60	0.04	0.12	0.72	7.84	11.1	35.86	1.552
238	Roque Perez	4000	1	81.05	0.52	0.12	0.38	3.07	11.0	31.69	1.711
239	Gral. Viamonte	4000	2	83.05	0.16	0.40	0.80	6.23	9.8	36.15	1.646
240	Gral. Viamonte	4000	2	83.05	0.12	0.60	0.88	6.72	9.7	36.28	1.602
241	Carlos Casares	4000	2	83.95	0.52	0.24	0.32	2.00	11.8	36.91	1.811
242	Lincoln	4000	2	81.50	0.22	0.24	0.67	2.30	12.1	34.03	1.692
243	Lincoln	4000	3	78.35	0.28	0.30	1.60	2.68	11.5	39.61	1.503
244	Lincoln	4000	2	82.85	0.20	0.12	0.84	10.52	11.0	35.96	1.708
245	Lincoln	4000	2	81.95	0.28	0.28	0.84	1.73	11.5	36.78	1.747
246	Lincoln	4000	3	80.15	0.44	0.74	1.44	2.63	11.5	36.10	1.570
247	Gral. Pinto	4000	1	81.70	0.36	0.08	0.48	2.88	10.9	34.64	1.799
248	Gral. Pinto	4000	2	82.35	0.04	0.18	0.68	4.16	10.3	36.13	1.690
249	L. N. Alem	4000	1	82.60	0.06	0.18	0.36	10.36	11.8	36.50	1.753
250	L. N. Alem	4000	2	82.85	0.48	0.12	0.94	0.74	11.1	33.48	1.667
251	Gral. Villegas	4000	1	79.25	0.35	0.16	0.40	6.12	12.8	34.84	1.896
252	Gral. Villegas	4000	2	79.90	0.56	0.24	0.56	1.20	12.3	33.88	1.833
253	Gral. Villegas	4000	2	79.90	0.32	0.36	0.52	0.00	14.3	31.48	1.965
254	Navarro	4000	2	83.25	0.28	0.03	0.72	3.27	10.0	35.17	1.624
255	Las Flores	4000	1	82.40	0.02	0.04	0.28	3.88	10.4	34.94	1.607
256	Pehuajó	4000	1	82.85	0.16	0.12	0.24	1.28	11.4	34.91	1.781
257	Rivadavia	4000	2	79.90	0.31	0.16	0.64	2.00	11.5	35.81	1.743
258	Rivadavia	4000	2	79.45	0.12	0.24	0.66	1.08	11.0	36.25	1.892

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION		FLOUR ANALYSIS												
						FARINOGRAM				ALVEOGRAM				
Sample Number	Locality, district or department	Wet Gluten (%)	Dry Gluten (%)	Falling Number (sec.)	Flour Yield (%)	% WA (14 % H°)	D. T. (min.)	Stability (min.)	Degree Softening (12 min.)	P	L	W	P/L	Ash (dry basis) (%)
200	Junín	23.6	8.7	422	72.3	58.1	5.9	27.8	10	126	57	292	2.21	0.613
201	Junín	24.9	9.2	432	73.5	58.5	4.9	20.5	21	115	62	273	1.85	0.689
202	Junín	23.1	8.6	404	70.6	58.0	11.8	21.2	30	116	59	264	1.97	0.641
203	Carmen de Areco	24.5	9.1	427	73.9	59.0	6.2	26.7	14	132	64	331	2.06	0.671
204	Rojas	24.5	9.1	441	71.5	58.6	12.9	18.2	38	112	71	293	1.58	0.629
205	Rojas	26.0	9.6	443	75.2	60.2	5.5	16.5	30	116	63	276	1.84	0.755
206	Gral. Arenales	25.7	9.5	405	73.1	56.4	10.1	22.1	22	94	96	315	0.98	0.595
207	Gral. Arenales	22.7	8.4	435	76.3	58.0	6.2	15.2	35	104	68	264	1.53	0.737
208	San Andrés de Giles	23.7	8.8	448	74.4	55.9	5.9	19.6	28	108	63	258	1.71	0.610
209	San Andrés de Giles	24.2	9.0	427	75.4	59.2	4.8	9.4	59	100	77	256	1.30	0.658
210	Chacabuco	25.1	9.3	431	73.0	56.6	5.1	20.9	11	102	72	260	1.42	0.582
211	Chacabuco	25.0	9.3	435	76.6	58.7	4.6	16.5	28	105	67	264	1.57	0.733
212	Salto	25.0	9.2	429	72.5	55.5	16.2	24.1	29	112	77	322	1.45	0.668
213	San Antonio de Areco	25.7	9.5	438	72.0	62.6	8.4	11.3	52	135	72	324	1.88	0.674
214	San Pedro	24.5	9.1	418	72.0	57.3	10.7	19.8	32	107	60	241	1.78	0.536
215	Arrecifes	24.2	9.0	400	71.2	59.1	6.6	20.8	17	132	52	272	2.54	0.671
216	Baradero	24.3	9.0	415	71.2	57.8	14.4	24.0	26	115	62	274	1.85	0.571
217	Mercedes	26.3	9.7	407	72.7	58.9	11.0	24.6	23	115	83	337	1.39	0.582
218	Suipacha	24.5	9.1	383	72.1	56.0	20.0	46.6	14	122	70	338	1.74	0.488
219	Alberti	24.0	9.0	402	70.4	58.5	5.8	17.1	25	104	73	283	1.42	0.600
220	Bragado	23.4	8.6	399	73.3	56.7	5.6	20.4	16	122	51	254	2.39	0.585
221	Bragado	22.5	8.4	432	72.6	58.6	4.3	17.8	23	126	50	254	2.52	0.639
222	Chivilcoy	21.9	8.2	393	71.6	55.7	6.8	18.6	25	103	44	191	2.34	0.570
223	Chivilcoy	23.7	8.7	411	72.2	59.3	6.3	16.8	30	133	38	217	3.50	0.707
224	9 de Julio	30.0	11.0	418	71.2	56.4	4.9	15.3	32	106	53	222	2.00	0.607
225	Bolivar	23.8	8.9	389	72.4	61.2	8.4	12.3	68	110	61	250	1.80	0.601
226	Bolivar	23.1	8.5	445	71.1	59.0	12.0	16.9	43	115	72	303	1.60	0.674
227	Hipólito Irigoyen	30.2	11.2	407	70.4	60.2	9.5	16.6	38	114	101	379	1.13	0.664
228	Daireaux	28.6	10.7	437	72.4	57.6	16.9	25.4	29	92	133	405	0.69	0.607
229	25 de Mayo	23.3	8.5	424	73.8	57.4	5.0	23.4	13	116	79	332	1.47	0.692
230	25 de Mayo	21.4	8.0	450	72.5	54.9	19.7	30.1	28	92	85	286	1.08	0.627
231	Saladillo	25.5	9.4	425	71.2	58.0	8.4	20.9	24	110	78	304	1.41	0.629
232	Saladillo	22.8	8.5	428	72.0	58.3	6.2	24.1	13	125	36	197	3.47	0.562
233	Gral. Belgrano	24.5	9.1	473	72.5	58.1	7.3	26.7	15	109	86	336	1.27	0.603
234	Chascomus	23.9	8.9	422	73.3	55.5	20.0	46.6	13	127	51	275	2.49	0.537
235	San Miguel del Monte	22.5	8.2	411	75.2	56.2	4.3	8.2	54	93	70	252	1.33	0.590
236	Cañuelas	25.8	9.5	391	73.1	55.9	7.2	12.9	49	82	67	199	1.22	0.531
237	Lobos	24.2	9.0	460	74.7	56.2	3.7	21.0	15	107	55	235	1.95	0.623
238	Roque Perez	24.8	9.1	460	73.5	56.7	4.5	14.4	37	111	51	235	2.18	0.567
239	Gral. Viamonte	21.7	8.1	410	73.8	56.6	4.6	11.9	40	103	59	221	1.75	0.626
240	Gral. Viamonte	21.7	8.0	433	72.9	56.3	4.2	10.1	46	97	65	229	1.49	0.574
241	Carlos Casares	28.9	10.8	442	75.0	60.3	7.4	12.0	59	85	60	193	1.42	0.564
242	Lincoln	31.6	11.8	450	72.9	57.5	7.3	27.7	11	96	124	429	0.77	0.592
243	Lincoln	27.0	10.1	462	73.6	60.2	13.3	27.5	18	135	50	275	2.70	0.536
244	Lincoln	25.6	9.6	427	73.8	57.5	3.7	13.8	36	108	60	253	1.80	0.532
245	Lincoln	26.1	9.7	415	73.4	58.8	4.8	27.5	18	118	90	382	1.31	0.508
246	Lincoln	26.7	9.8	475	73.8	59.2	14.5	19.9	36	104	95	330	1.09	0.570
247	Gral. Pinto	23.3	8.7	433	73.0	57.2	5.6	18.7	28	89	99	297	0.90	0.640
248	Gral. Pinto	27.1	10.1	422	71.0	57.6	6.5	21.9	25	100	78	288	1.28	0.605
249	L. N. Alem	23.7	8.8	441	72.6	57.5	1.9	3.2	87	89	96	275	0.93	0.555
250	L. N. Alem	24.3	9.1	441	72.2	57.5	2.2	4.5	62	85	119	334	0.71	0.603
251	Gral. Villegas	30.7	11.4	446	71.2	59.6	7.2	10.6	62	82	128	304	0.64	0.660
252	Gral. Villegas	33.1	12.3	398	71.4	59.7	5.9	8.9	71	72	162	306	0.44	0.617
253	Gral. Villegas	33.8	12.6	421	70.4	61.4	9.0	17.9	36	112	77	320	1.45	0.707
254	Navarro	23.1	8.8	430	73.5	57.5	1.9	2.1	76	79	81	222	0.98	0.537
255	Las Flores	24.2	9.0	438	74.3	57.1	4.8	14.0	38	86	81	247	1.06	0.537
256	Pehuajó	26.4	9.8	473	73.9	57.0	4.4	13.1	43	86	116	330	0.74	0.741
257	Rivadavia	27.4	10.2	480	74.8	58.2	8.0	13.2	49	81	96	242	0.84	0.746
258	Rivadavia	28.3	10.5	412	74.3	56.4	8.7	13.7	47	71	130	276	0.55	0.674

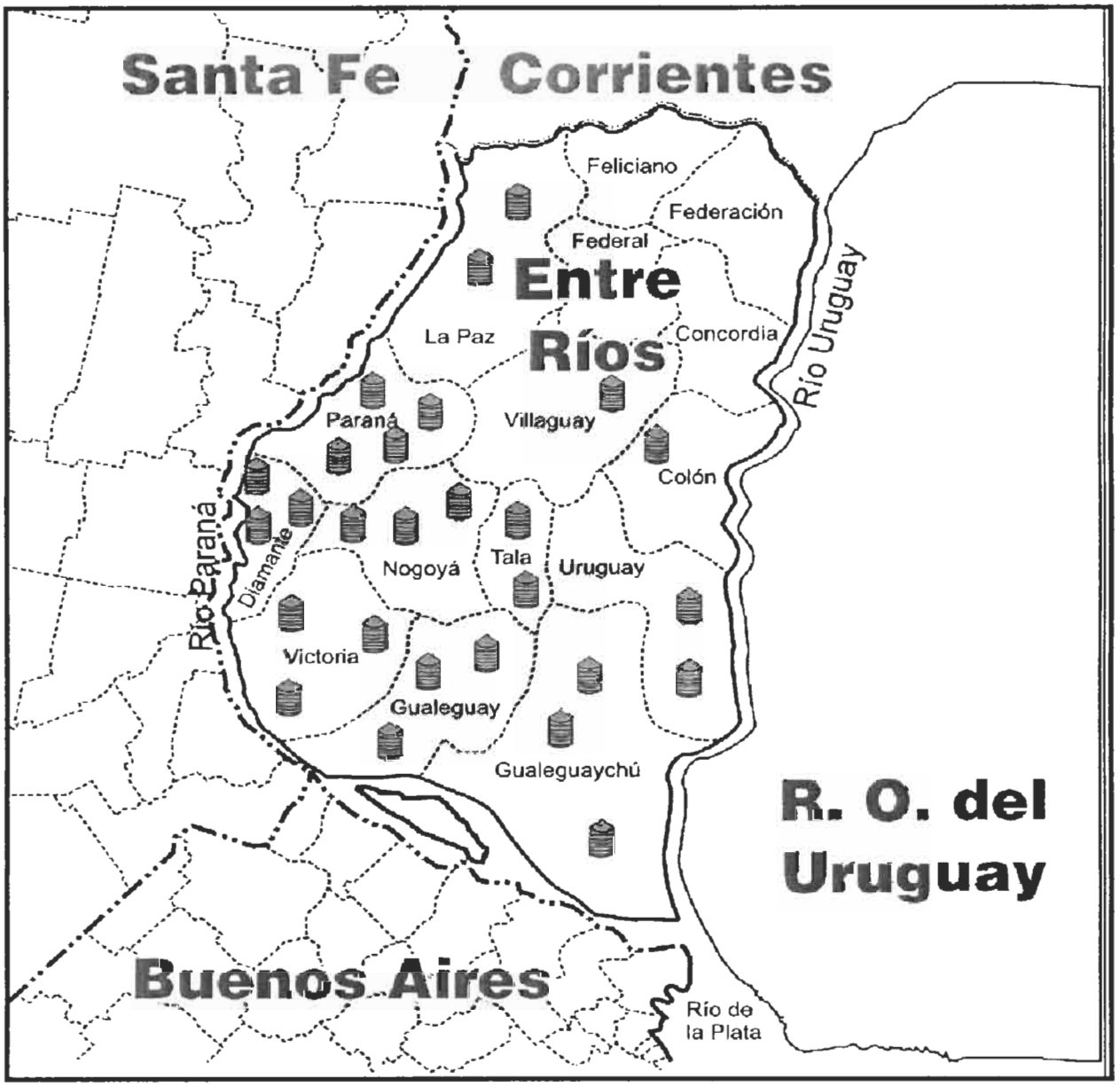
Sub region III
Background for the crop

Wheat campaign of 2011 started with enough humidity in the soil profile due to the occurrence of rains, mainly during May, achieving a good implantation in early and intermediate dates. In the following months, the rains were less than the historical average and not until October, there were rains surpassing said average. With this rains distribution, the genotypes that eared later were favored.

Temperatures, in general, were similar to the historical average. In September (beginning of the critical period) there were temperatures registered of 17°C over the normal ones, and later, as from November, there were prevailing temperatures higher than the normal ones, which contributed to a shortening of the grain filling period. The photo-thermal coefficient during the critical period for the crop (definition of the number and grain filling) only during the first days of September was higher than the historical average.

During October, there were frequent rains, which favored the development of Fusarium.ear blight Regarding leaf diseases, the campaign was characterized mainly by the presence of yellow spot, leaf rust and stem rust, affecting the cultivars with higher susceptibility with high infection levels.

The weather conditions mentioned before and the presence of ear and leaf diseases produced mild yields during this campaign. With a sown surface of 296,300 ha, the average yield was 3,483 kg/ha with a production of 1,028,588 tons. The commercial quality of grains was good.



Each reference represents near 4,000 tns sampled.

Sub region III Wheat

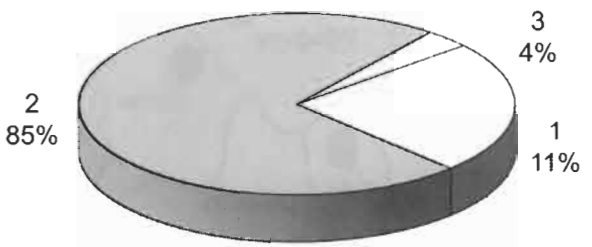
Results of the Analyses

Composite Samples by Locality. Averages were weighted by Tonnage.

Análisis de Grano	Mínimo	Máximo	Promedio	Desvío Estándar	Coeficiente Variación
Test Weight (kg/hl)	77.90	82.10	80.09	1.16	1.45
Total Damaged Kernels (%)	0.15	2.12	0.89	0.42	47.32
Foreign Material (%)	0.09	0.75	0.30	0.15	50.99
Shrunken and Broken Kernels (%)	0.09	1.03	0.56	0.22	38.87
Yellow Berry Kernels (%)	1.31	13.84	7.31	3.09	42.32
Protein (13,5% Moisture) (%)	10.2	11.7	10.8	0.4	3.42
Weight of 1000 Kernels (gr.)	31.96	44.28	37.77	2.28	6.03
Ash (% dry basis)	1.500	1.860	1.716	0.088	5.15

Total damaged kernels includes 0.21% green kernels, 0.03% frosty kernels, 0.14% sprouted kernels, 0.34% calcinated kernels, 0.14% insect chewed kernels and 0.03% germ-chewed kernels.

Grade Distribution



Flour Analysis		Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
MILLING	Wet Gluten (%)	21.7	26.7	23.8	1.1	4.72
	Dry Gluten (%)	7.2	8.7	7.9	0.4	4.64
	Falling Number (sec.)	419	526	465	25	5.40
	Flour Yield (%)	69.0	75.3	72.1	1.2	1.67
	Ash (dry basis) (%)	0.525	0.732	0.637	0.055	8.60
FARINOGRAM	Water Absorption (14% H°) (%)	56.2	61.5	58.8	1.4	2.32
	Development Time (min.)	1.8	9.8	6.9	2.2	31.10
	Stability (min.)	3.6	22.0	14.1	3.9	27.60
	Degree of Softening (12 min.)	23	68	44	12	26.15
ALVEOGRAM	P (mm)	11	126	95	17	17.44
	L (mm)	51	96	74	11	14.30
	W Joules x 10^{-4}	213	294	252	22	8.69
	P / L	0.19	2.47	1.31	0.39	29.39

These results were elaborated with 26 composite samples prepared proportionally from 542 primary samples (farmer deliveries)

Sub region Data

In this subregion the wheat production was 1,028,588 tons., the 7.9% of the national total. Were sampled 90,000 tons., the 8.7 % of the subregion production.

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION			WHEAT ANALYSIS								
Sample Number	Locality, district or department	Tonnage	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Material (%)	Shrunken and Broken Kernels (%)	Yellow Berry Kernels (%)	Protein (13.5 % Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
300	Diamante	4000	2	79.90	0.59	0.54	0.63	6.75	10.2	37.04	1.860
301	Diamante	4000	2	79.40	0.85	0.60	0.57	7.33	11.2	37.28	1.640
302	Diamante	4000	2	80.10	0.61	0.24	0.71	10.52	11.0	37.04	1.780
303	La Paz	4000	2	79.70	0.61	0.75	0.63	2.92	10.8	35.20	1.810
304	La Paz	4000	3	78.40	2.12	0.42	0.88	8.14	11.7	36.24	1.670
305	Paraná	4000	2	81.20	0.82	0.31	0.69	3.83	10.4	37.80	1.770
306	Paraná	4000	2	82.00	1.18	0.44	0.57	9.50	10.5	36.76	1.750
307	Paraná	4000	2	80.50	1.22	0.28	0.56	9.73	11.0	39.42	1.800
308	Paraná	4000	2	78.70	1.14	0.28	0.74	9.87	10.7	37.60	1.800
309	Victoria	4000	1	80.10	1.00	0.19	0.25	5.05	10.5	38.16	1.760
310	Victoria	4000	2	82.10	0.82	0.24	0.42	10.61	10.6	37.88	1.800
311	Victoria	2000	2	77.90	0.81	0.22	0.37	9.28	11.1	40.40	1.790
312	Gualeguay	4000	2	79.30	1.16	0.29	0.36	4.26	11.1	38.28	1.560
313	Gualeguay	2000	2	79.40	1.33	0.11	0.25	13.84	10.5	39.36	1.660
314	Gualeguay	2000	2	81.10	0.79	0.30	0.49	10.55	10.6	38.32	1.670
315	Gualeugaychú	4000	2	80.90	1.00	0.29	0.38	10.61	10.5	39.84	1.550
316	Gualeguaychú	2000	2	78.40	1.63	0.09	0.09	10.12	10.7	37.94	1.500
317	Gualeguaychú	4000	2	80.90	0.37	0.13	0.61	9.16	10.5	37.46	1.630
318	Nogoyá	2000	2	80.10	1.58	0.22	0.98	7.60	10.8	38.90	1.640
319	Nogoyá	4000	2	79.50	0.55	0.25	0.46	1.86	11.3	44.28	1.690
320	Nogoyá	4000	1	81.10	0.72	0.16	0.49	1.31	11.0	37.14	1.670
321	C. del Uruguay	4000	2	80.00	0.49	0.28	1.03	7.16	10.5	37.54	1.770
322	C. del Uruguay	4000	1	82.00	0.28	0.12	0.24	7.85	10.5	35.12	1.760
323	Villaguay	4000	2	78.10	0.91	0.28	0.56	4.22	11.4	31.96	1.770
324	R. del Tala	2000	2	79.70	0.77	0.34	0.55	10.68	10.5	38.72	1.660
325	R. del Tala	2000	2	79.50	0.15	0.21	0.99	5.36	10.9	41.80	1.630

Sub region III Wheat

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION		FLOUR ANALYSIS												
						FARINOGRAM				ALVEOGRAM				
Sample Number	Locality, district or department	Wet Gluten (%)	Dry Gluten (%)	Falling Number (sec.)	Flour Yield (%)	% WA (14 % H°)	D. T. (min.)	Stability (min.)	Degree Softening (12 min.)	P	L	W	P/L	Ash (dry basis) (%)
300	Diamante	23.0	7.4	446	72.3	60.0	7.3	14.4	41	126	51	246	2.47	0.665
301	Diamante	24.5	8.2	502	72.5	59.6	4.5	15.6	31	102	70	261	1.46	0.725
302	Diamante	23.8	7.9	506	71.0	56.2	9.5	20.5	32	89	81	258	1.10	0.615
303	La Paz	24.1	8.0	439	71.0	57.6	9.5	17.7	39	98	80	277	1.23	0.625
304	La Paz	25.5	8.5	491	72.6	58.1	8.5	14.3	47	86	96	271	0.90	0.615
305	Paraná	23.8	7.9	437	72.2	59.3	8.2	17.0	35	107	68	268	1.57	0.625
306	Paraná	24.1	8.0	453	72.2	58.8	7.4	13.2	51	96	72	236	1.33	0.615
307	Paraná	25.1	8.1	419	71.5	60.9	8.4	12.7	54	102	85	294	1.20	0.625
308	Paraná	21.7	7.4	495	72.8	57.3	6.6	18.4	29	89	68	222	1.31	0.675
309	Victoria	24.2	7.9	438	72.9	58.7	7.4	16.2	38	95	84	278	1.13	0.615
310	Victoria	23.5	7.6	449	73.0	61.3	8.0	14.1	50	115	61	266	1.89	0.595
311	Victoria	23.6	8.0	508	70.9	57.6	5.4	9.4	68	78	85	213	0.92	0.695
312	Gualeguay	24.9	8.2	457	71.5	58.3	9.5	13.1	49	90	92	284	0.98	0.565
313	Gualeguay	22.7	7.6	498	72.6	59.5	6.0	10.2	62	86	75	218	1.15	0.695
314	Gualeguay	24.2	8.1	526	71.5	59.3	7.3	16.0	59	11	56	230	0.19	0.705
315	Gualeuaychú	22.2	7.2	457	72.0	59.4	1.8	3.6	46	109	59	243	1.85	0.525
316	Gualeguaychú	24.1	8.1	470	72.5	57.8	6.0	10.9	60	82	70	237	1.17	0.565
317	Gualeguaychú	23.1	8.0	482	69.0	57.6	6.1	12.6	53	90	76	238	1.18	0.615
318	Nogoyá	25.9	8.3	442	71.1	58.9	7.0	11.8	46	98	67	228	1.46	0.585
319	Nogoyá	24.3	8.3	471	75.3	61.5	5.8	8.4	64	98	77	253	1.27	0.732
320	Nogoyá	24.0	7.9	459	70.5	57.8	7.9	13.3	50	91	74	238	1.23	0.725
321	C. del Uruguay	22.2	7.5	446	72.8	60.0	2.5	14.1	27	82	79	215	1.04	0.645
322	C. del Uruguay	22.3	7.3	464	71.8	57.1	9.8	22.0	23	96	67	245	1.43	0.750
323	Villaguay	24.9	8.3	466	72.8	57.5	7.2	16.3	39	103	71	274	1.45	0.595
324	R. del Tala	26.7	8.7	459	74.3	59.1	2.1	11.2	37	91	82	249	1.11	0.625
325	R. del Tala	23.1	7.8	472	71.8	58.7	6.6	10.9	57	86	80	231	1.08	0.725

Sub region IV
Background for the crop

In the campaign 2011/12 enough humidity was alternated for the sowing with a water deficit in some areas and a very good grain filling. The performances in general were from good to very good, although they did not achieve the high values of the campaign 2010/11.

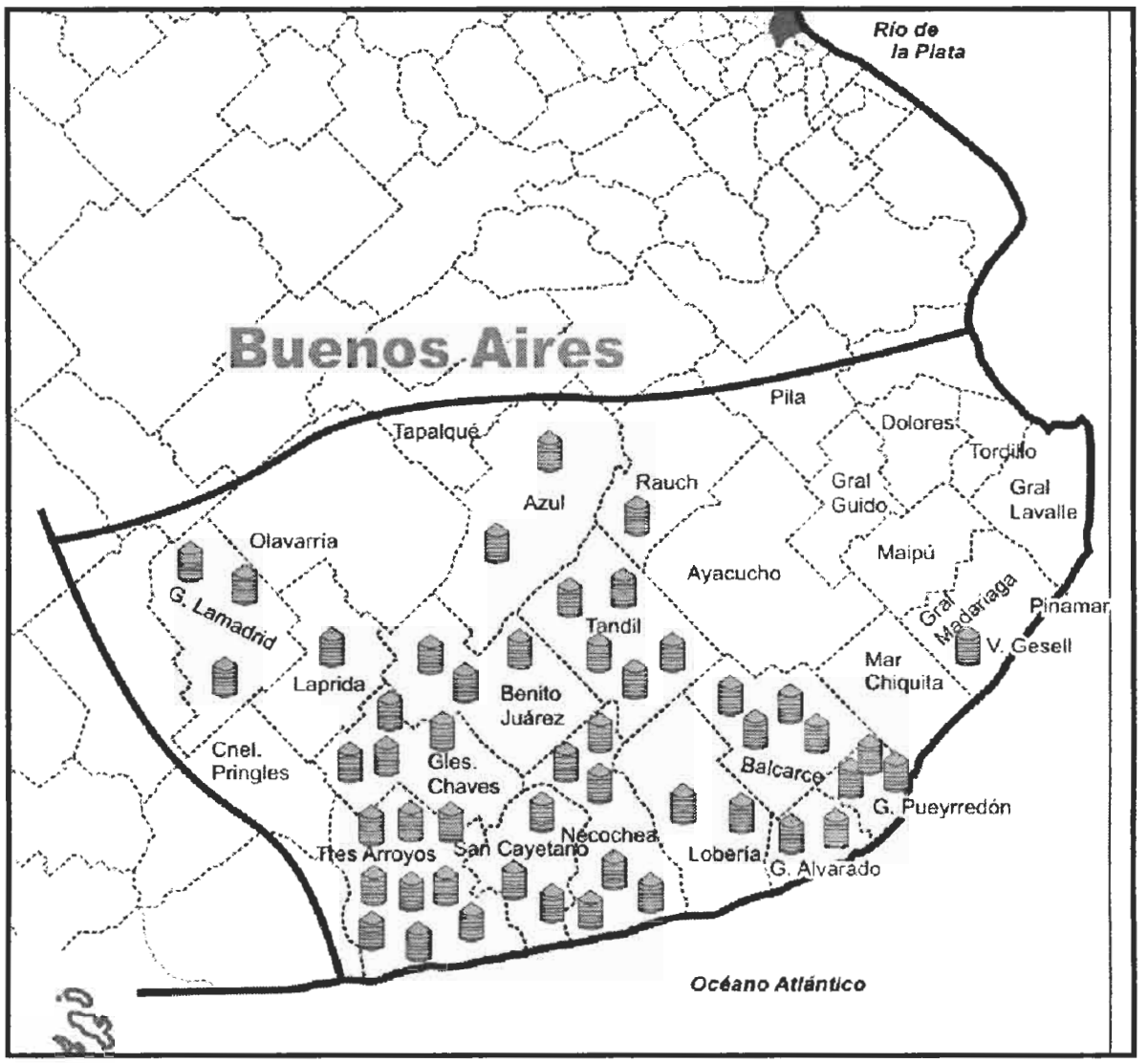
Sowing was possible to be done in the proper dates since there were no significant rains between June and August. With proper temperature and soil water, the wheat crop developed normally, with a good tilling and with no frosts reducing the foliar surface. There were late frosts by the end of October, but in general they did not produce significant damages. In October, the temperatures were normal, but the scarce rains affected mainly the crop in superficial soils by the end of the month. Hail affected the location Gonzalez Chaves and part of the adjacent locations.

As from November 4, the rains were abundant and the soil profile water was recovered (190 mm in November) in the central-western area of the Sub-region IV. All the Sub-region was benefited with higher rainfalls in November allowing a very good grain filling stage and obtaining values above the historical average. The total rains from June to December were an 8% higher than the normal and a 110% higher in the grain filling stage (November). The ear-maturity period length was normal allowing the harvest to be in the last week of December. In November, the average temperatures were of more than 1.4° C lower than the average of the last 10 years with only 2 days of more than 30° C. The abundant rains produced a significant increase in the Weight of 1,000 Grains and in the Hectoliter Weight (PH), which contributed to good produces and a good commercial quality.

Foliar diseases were not significant and only the highly susceptible cultivars had significant values of leaf rust to evidence a decrease in the produce and the commercial quality (PH). There was a differential in the produce average in favor of the treatments with fungicide, although it was not important.

The yields of the zone, due to the good weather conditions ranged between 3,000 and 6,000 kg/ha. The problems in the commercial quality due to the low percentage of proteins in the grain were given when the fertilization was not high enough for the obtained yields.

Sub region
IV
Wheat



Each reference represents near 4,000 tns sampled.

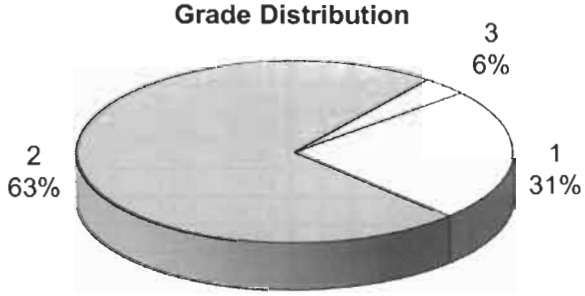
Results of the Analyses

Composite Samples by Locality. Averages were weighted by Tonnage.

Wheat Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Test Weight (kg/hl)	78.15	85.50	81.70	1.71	2.09
Total Damaged Kernels (%)	0.00	1.73	0.34	0.34	102.32
Foreign Material (%)	0.04	1.46	0.30	0.28	93.18
Shrunken and Broken Kernels (%)	0.15	1.43	0.47	0.27	57.37
Yellow Berry Kernels (%)	0.00	6.48	2.23	1.71	76.39
Protein (13,5% Moisture) (%)	9.3	12.2	10.7	0.7	6.29
Weight of 1000 Kernels (gr.)	32.10	41.03	37.05	2.32	6.26
Ash (% dry basis)	1.505	1.905	1.680	0.070	4.19

Total damaged kernels includes 0.02% burnt kernels, 0.02% green kernels, 0.04% sprouted kernels, 0.03% calcinated kernels, 0.08% insect chewed kernels and 0.15% germ-chewed kernels.

Grade Distribution



Flour Analysis		Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
MILLING	Wet Gluten (%)	20.4	31.0	25.4	2.6	10.14
	Dry Gluten (%)	7.6	10.7	9.0	0.8	8.56
	Falling Number (sec.)	357	493	413	29	7.05
	Flour Yield (%)	71.0	76.3	73.9	1.2	1.66
	Ash (dry basis) (%)	0.543	0.763	0.642	0.058	9.08
FARINOGRAM	Water Absorption (14% H°) (%)	54.2	61.1	57.9	1.5	2.67
	Development Time (min.)	1.5	10.5	5.8	2.2	37.92
	Stability (min.)	2.2	27.7	11.8	4.9	41.42
	Degree of Softening (12 min.)	15	87	50	15	30.09
ALVEOGRAM	P (mm)	72	155	92	16	17.55
	L (mm)	43	113	79	19	23.73
	W Joules x 10^{-4}	151	348	243	41	16.93
	P / L	0.65	3.30	1.16	0.54	42.20

These results were elaborated with 48 composite samples prepared proportionally from 764 primary samples (farmer deliveries)

Sub region Data

In this subregion the wheat production was 2,642,021 tons., the 20.4% of the national total. Were sampled 169,266., the 6.4 % of the subregion production.

Sub region IV Wheat

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION			WHEAT ANALYSIS								
Sample Number	Locality, district or department	Tonnage	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Material (%)	Shrunken and Broken Kernels (%)	Yellow Berry Kernels (%)	Protein (13.5 % Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
400	Necochea	4000	1	83.70	0.07	0.13	0.21	0.35	10.5	37.60	1.723
401	Tandil	4000	2	81.70	0.11	0.58	0.34	3.41	9.7	40.15	1.669
402	Lobería	4000	2	81.25	1.73	0.19	0.29	1.61	10.0	40.50	1.682
403	Gral. Madariaga	4000	1	80.80	0.89	0.16	0.20	4.52	9.4	40.12	1.505
404	Gral.Pueyrredón	4000	1	80.80	0.56	0.18	0.48	2.56	9.3	37.70	1.674
405	Gral. Alvarado	4000	1	83.25	0.32	0.04	0.20	2.32	10.0	38.20	1.662
406	Balcarce	4000	1	82.40	0.08	0.19	0.15	6.48	10.0	41.03	1.644
407	Balcarce	4000	2	83.50	0.47	0.49	0.35	1.47	9.8	38.30	1.630
408	Azul	4000	1	84.40	0.47	0.09	0.17	1.04	10.0	39.01	1.679
409	Azul	4000	2	81.70	0.14	0.15	0.57	1.59	10.8	36.58	1.723
410	Necochea	4000	2	85.05	0.14	0.31	0.19	2.58	10.3	38.01	1.737
411	Gral.Pueyrredón	4000	2	82.60	0.73	0.35	0.32	0.08	10.4	39.90	1.768
412	Necochea	4000	1	85.50	0.24	0.06	0.30	0.00	10.7	35.75	1.868
413	Balcarce	4000	2	81.50	0.50	0.25	0.32	3.83	10.9	39.01	1.623
414	Balcarce	4000	2	81.95	0.57	0.18	0.62	0.00	11.4	37.90	1.905
415	Gral. Alvarado	4000	1	80.35	0.08	0.20	0.34	1.88	10.0	39.89	1.640
416	Lobería	4000	2	82.15	0.50	0.30	0.36	1.57	10.3	38.72	1.663
417	Tandil	4000	3	85.05	0.10	0.17	1.43	1.58	9.9	36.04	1.638
418	La Dulce	4000	2	82.15	0.18	0.11	0.57	0.66	10.2	38.65	1.691
419	Gral.Pueyrredón	4000	1	79.90	0.46	0.15	0.25	2.96	10.9	37.73	1.557
420	Necochea	4000	1	83.95	0.18	0.12	0.21	1.26	10.8	38.10	1.697
421	Necochea	4000	2	83.70	0.28	0.14	0.61	2.32	10.8	40.84	1.623
500	Benito Juárez	4017	3	79.90	0.00	1.12	0.32	5.70	10.7	37.40	1.624
501	Benito Juárez	4053	2	81.95	0.24	0.34	0.74	0.80	11.1	36.70	1.672
502	Benito Juárez	2132	2	83.05	0.10	0.20	0.78	0.20	11.7	34.60	1.606
503	General Lamadrid	4009	2	81.25	0.16	0.14	0.84	1.80	11.9	33.80	1.656
504	General Lamadrid	1836	2	81.70	0.24	0.28	1.06	0.40	11.7	34.50	1.706
505	General Lamadrid	2958	2	82.15	0.16	0.18	0.62	0.20	12.2	32.10	1.720
506	Gonzáles Cháves	2500	2	82.85	0.18	0.56	0.62	0.40	11.0	34.60	1.724
507	Gonzáles Cháves	3802	2	78.15	1.46	0.24	0.54	4.40	10.2	32.30	1.697
508	Gonzáles Cháves	4001	1	80.80	0.06	0.14	0.48	4.80	10.2	33.00	1.768
509	Gonzáles Cháves	1683	2	81.50	0.00	0.08	0.70	2.10	10.9	32.40	1.727
510	Laprida	2044	2	82.15	0.20	0.40	0.76	3.80	11.6	36.20	1.736
512	San Cayetano	4000	1	79.45	0.10	0.08	0.24	2.10	10.5	37.50	1.639
513	San Cayetano	2250	1	79.45	0.18	0.16	0.40	5.80	10.3	36.70	1.687
514	San Cayetano	1061	2	80.80	0.18	0.20	0.54	4.60	10.6	35.50	1.680
517	Tandil	4000	1	83.25	0.36	0.18	0.36	0.00	10.3	39.20	1.665
518	Tandil	2000	2	82.15	0.28	0.32	0.76	1.60	10.5	34.00	1.562
519	Tandil	1576	2	81.50	0.44	0.30	0.80	5.80	10.4	35.70	1.629
520	Tres Arroyos	4000	2	79.45	0.14	0.26	0.56	3.70	11.1	37.50	1.690
521	Tres Arroyos	4000	3	79.90	0.56	1.46	0.44	3.40	11.1	36.00	1.742
522	Tres Arroyos	1500	2	79.45	0.18	0.24	0.40	0.80	11.5	37.00	1.670
523	Tres Arroyos	4008	2	80.80	0.34	0.70	1.16	2.60	10.9	34.50	1.637
524	Tres Arroyos	3998	2	79.90	0.38	0.28	0.32	1.10	11.6	33.90	1.676
525	Tres Arroyos	3746	2	79.90	0.00	0.40	0.34	3.80	11.2	36.50	1.598
526	Tres Arroyos	4066	2	80.80	0.16	0.76	0.74	0.50	11.7	34.50	1.648
527	Tres Arroyos	4006	2	79.90	0.44	0.34	0.42	0.90	11.6	35.00	1.753
528	Tres Arroyos	4020	1	80.35	0.08	0.10	0.30	3.80	11.1	35.70	1.697

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION		FLOUR ANALYSIS												
						FARINOGRAM				ALVEOGRAM				
Sample Number	Locality, district or department	Wet Gluten (%)	Dry Gluten (%)	Falling Number (sec.)	Flour Yield (%)	% WA (14 % H°)	D. T. (min.)	Stability (min.)	Degree Softening (12 min.)	P	L	W	P/L	Ash (dry basis) (%)
400	Necochea	24,7	9,2	461	75,2	59,6	4,5	14,2	32	114	80	307	1,43	0,651
401	Tandil	20,8	7,7	386	74,1	55,7	4,1	10,6	41	81	54	151	1,50	0,613
402	Lobería	22,5	8,3	397	74,3	57,2	2,0	3,4	66	95	61	223	1,56	0,657
403	Gral. Madariaga	20,4	7,6	357	74,2	57,0	1,5	2,2	87	81	75	204	1,08	0,572
404	Gral.Pueyrredón	20,4	7,6	390	74,1	56,5	1,7	2,4	78	78	70	187	1,11	0,573
405	Gral. Alvarado	24,2	8,9	396	75,5	58,1	3,8	9,4	51	93	61	205	1,52	0,737
406	Balcarce	23,5	8,7	408	75,4	57,7	2,3	6,0	62	82	87	228	0,94	0,730
407	Balcarce	23,6	8,7	368	74,4	56,8	3,6	10,2	49	92	59	203	1,56	0,588
408	Azul	21,1	7,8	424	73,8	57,3	4,2	15,2	28	112	43	196	2,60	0,576
409	Azul	25,3	9,3	425	74,4	58,2	7,5	13,6	46	103	55	216	1,87	0,633
410	Necochea	24,9	9,2	389	72,5	57,7	5,5	13,1	44	87	63	181	1,38	0,599
411	Gral.Pueyrredón	24,9	9,2	430	74,6	58,6	4,3	10,3	52	98	64	232	1,53	0,576
412	Necochea	25,6	9,5	493	74,1	59,2	5,7	15,1	41	114	67	275	1,70	0,702
413	Balcarce	26,8	9,9	372	73,4	57,6	4,2	8,2	67	80	106	256	0,75	0,630
414	Balcarce	26,1	9,6	409	73,1	58,2	8,8	19,9	27	125	52	260	2,40	0,714
415	Gral. Alvarado	22,5	8,3	391	74,4	54,9	3,9	8,9	53	77	82	208	0,94	0,545
416	Lobería	24,0	8,9	421	75,0	58,6	4,0	9,8	53	109	73	274	1,49	0,730
417	Tandil	22,9	8,5	411	73,8	59,6	1,8	2,9	80	155	47	282	3,30	0,608
418	La Dulce	24,7	9,1	424	73,2	58,0	3,7	12,4	40	109	55	229	1,98	0,669
419	Gral.Pueyrredón	23,4	8,6	447	75,1	54,2	5,7	27,7	16	86	56	180	1,54	0,572
420	Necochea	26,3	9,7	425	75,1	60,1	5,4	13,4	42	106	90	309	1,18	0,692
421	Necochea	28,4	10,5	430	73,0	60,3	6,1	12,7	50	100	80	266	1,25	0,663
500	Benito Juárez	26,6	9,0	371	72,3	56,9	6,0	8,9	63	73	100	222	0,73	0,543
501	Benito Juárez	27,3	9,5	401	72,8	60,6	7,0	11,7	47	94	94	282	1,00	0,637
502	Benito Juárez	28,7	9,9	413	72,6	59,7	7,5	14,3	36	94	111	328	0,85	0,551
503	General Lamadrid	28,9	9,9	437	72,5	61,1	6,5	8,7	54	92	92	284	1,00	0,686
504	General Lamadrid	30,0	10,5	426	71,9	58,7	9,9	15,1	32	98	101	348	0,97	0,586
505	General Lamadrid	31,0	10,7	406	71,0	59,1	10,5	25,3	15	88	111	329	0,79	0,616
506	Gonzáles Cháves	27,3	9,4	450	72,8	59,8	7,2	11,4	57	81	98	261	0,83	0,696
507	Gonzáles Cháves	23,1	7,9	388	71,3	55,4	9,3	19,4	25	83	69	216	1,20	0,584
508	Gonzáles Cháves	24,4	8,2	463	71,6	58,5	7,5	10,1	58	91	66	215	1,38	0,763
509	Gonzáles Cháves	26,5	9,0	402	71,1	57,5	9,6	16,7	37	91	97	300	0,94	0,621
510	Laprida	29,4	10,0	417	72,5	58,5	6,5	11,5	47	85	112	318	0,76	0,621
512	San Cayetano	24,6	8,3	405	76,3	56,9	6,8	10,8	60	78	79	208	0,99	0,700
513	San Cayetano	23,9	8,1	413	75,1	54,2	7,3	14,1	42	74	79	214	0,94	0,638
514	San Cayetano	24,7	8,3	429	74,8	57,7	7,0	11,5	61	86	81	244	1,06	0,697
517	Tandil	24,1	8,2	381	73,5	58,0	7,1	11,3	60	84	83	244	1,01	0,606
518	Tandil	24,5	8,4	401	74,4	57,9	5,5	10,6	53	90	73	237	1,23	0,642
519	Tandil	23,4	7,9	400	74,0	55,2	6,9	17,7	26	89	71	244	1,25	0,588
520	Tres Arroyos	26,8	9,0	422	75,8	58,3	5,8	10,8	53	89	83	249	1,07	0,708
521	Tres Arroyos	26,9	9,1	415	74,4	56,7	7,0	13,2	45	73	113	265	0,65	0,625
522	Tres Arroyos	27,4	9,3	442	75,3	58,5	7,6	12,4	51	85	79	232	1,08	0,687
523	Tres Arroyos	28,0	9,2	373	74,2	57,2	6,7	10,4	61	76	91	227	0,84	0,577
524	Tres Arroyos	29,0	9,8	392	75,2	58,1	8,1	13,4	49	84	83	250	1,01	0,672
525	Tres Arroyos	27,7	9,5	431	74,0	56,5	7,2	12,3	53	72	98	232	0,73	0,713
526	Tres Arroyos	29,2	9,9	472	75,0	58,8	8,0	11,9	61	82	105	280	0,78	0,693
527	Tres Arroyos	28,3	9,7	416	73,2	57,3	8,2	12,9	55	74	103	248	0,72	0,600
528	Tres Arroyos	28,2	9,5	443	73,9	59,3	8,5	13,1	56	91	91	281	1,00	0,689

Climate and Wheat Campaign 2011 - 2012 in Argentina

José L. Aiello – Alfredo C. Elorriaga

Climate behaviour is described during the wheat campaign 2011-2012 resorting, once again, to the utilization of a method to calculate the water reserves in the soil and its ab-normalities. The latter ones called "Classification of soil moisture" were calculated as a monthly average during the whole wheat cycle, although they come from a daily analysis and express the degree of deviation from the habitual conditions in each region and season. Moisture classification is an adequate climatic indicator since it summarizes the behaviour of most relevant climatic variables, such as spatial and temporal distribution of precipitation and its interaction with evapotranspiration which at the same time depends on room temperature, solar radiation, wind and atmospheric humidity.

The maps, which are used in an operational way and for any period of time, are in this case monthly and contain a political subdivision by departments which can be associated to the known wheat zones of the country representing only the pampas provinces. The reader can have a clear idea of the climatic evolution of the wheat campaign through the sequence of maps of soil moisture classification and the description of its behaviour, since the agronomic considerations are described in another section of this publication. It is important to highlight that not always the habitual or normal conditions are the most adequate for the crop in all the regions and seasons; therefore in winter and early spring, normal conditions could result in hydric deficit in regions located towards the west or northwest of the area like the North V wheat region, while the same conditions could represent water excess in the soil towards the central east and west of the wheat region.

MAY 2011

The beginning of the wheat campaign presented very good humidity conditions in the Province of Córdoba, in the center of the Pampeana region and North Center of La Pampa province, however, in the Southeast of Buenos Aires province the conditions were normal or below the climate values, a situation that was extended towards the Northeast of Santa Fe province and West of Córdoba.

JUNE 2011

It was maintained and increased soil humidity conditions below normal in a large part of the Southeast of Buenos Aires, in the South of Córdoba and in the Province of San Luis, and that situation led to the lack of surface humidity for the sowing. The conditions of soil humidity continued to be very good in a large part of the rest of the wheat region, allowing a normal calendar of sowing.

JULY 2011

There was a significant change that benefited the wheat nucleus at the Southeast part of Buenos Aires Province, i. e., the atmospheric conditions provided a water availability that modified the conditions of humidity and permitted the sowing and a very good start to the wheat campaign. The dry conditions were intensified to the South of Buenos Aires Province, South and West of Córdoba and San Luis.

AUGUST 2011

The negative water anomaly continued to intensify in the Center-West Pampeana region with a nucleus at the South of Córdoba and adjoining areas, and curiously there was a situation similar to the one of the previous campaign. In Entre Ríos province there was only a situation under the normal one in the Southern region. Although the negative anomaly was also extended towards the South of Santa Fe, the wheat situation was still acceptable.

SEPTEMBER 2011

There was an opposite situation to the wheat campaign of 2010 – 2011 since except for the Southeast of Buenos Aires Province and the South and West of Córdoba, in the rest of the region, the humidity conditions decreased significantly, and this is well reflected in the map shown. The wheat nucleus in the Southeast of Buenos Aires had quasi normal conditions, which resulted very good for the development of crops.

OCTOBER 2011

The situation in October was very interesting, in fact, the conditions were good for the development of wheat in almost all the Province of Santa Fe, La Pampa and nearly all the Province of Entre Ríos except for its Southern region. The conditions were dry or very dry in the Northwest of Buenos Aires Province and and also in its Center/South region, and the soil humidity maintained normal in the wheat nucleus. In Buenos Aires southeast, the humidity was enough to face the period with increasing water demands in that region.

NOVEMBER 2011

Very good conditions in almost all the Pampeana region except for a strip that comprised the Southern part of Santa Fe and Northeast of Buenos Aires province. These conditions allowed a proper continuation of the wheat cycle, and therefore a normal to good harvest was expected, with the possibility of being very good at Buenos Aires southeast, the last one in being harvested and which continued to have excellent water reserves in the soil that reached for the most requiring stages in that area.

DECEMBER 2011

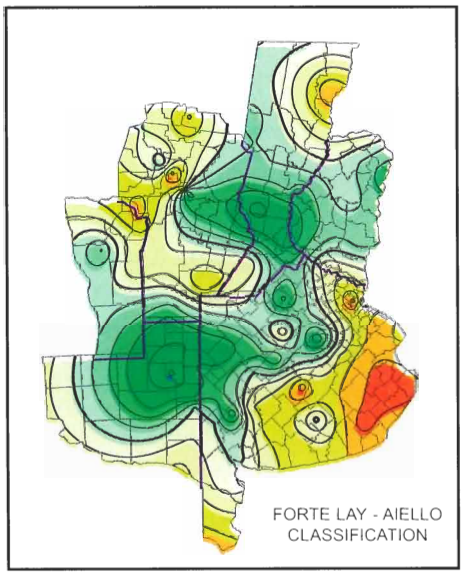
Since this was a month of harvest in the Center and North of the region, the negative humidity anomalies in the soil are ussually favorable for the wheat. Only there were positive anomalies in the Southeast of Buenos Aires, the only zone that could have taken advantage of in its last stages of that water benefit.

JANUARY 2012

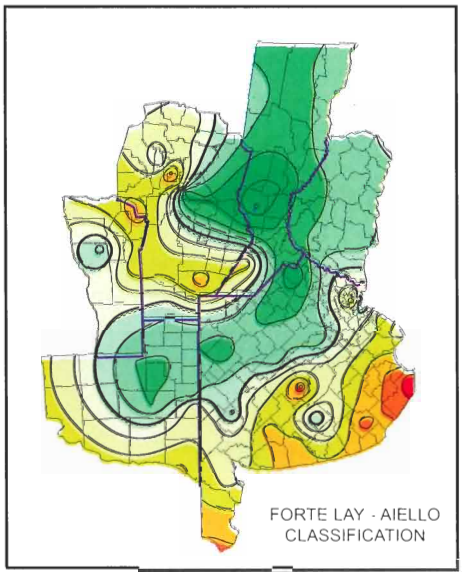
A map of the average water situation from this month is added, since it is still a harvest period in the Southeast part of the wheat area. The soil moisture slightly above normal did not influence the harvest tasks.

SOIL HUMIDITY CLASSIFICATION

MAY 2011



JUNE 2011



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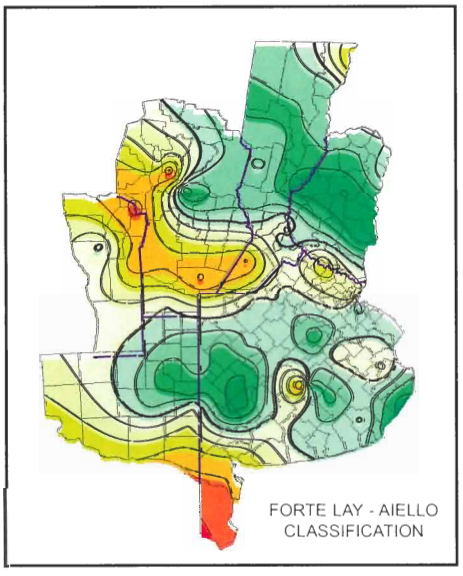

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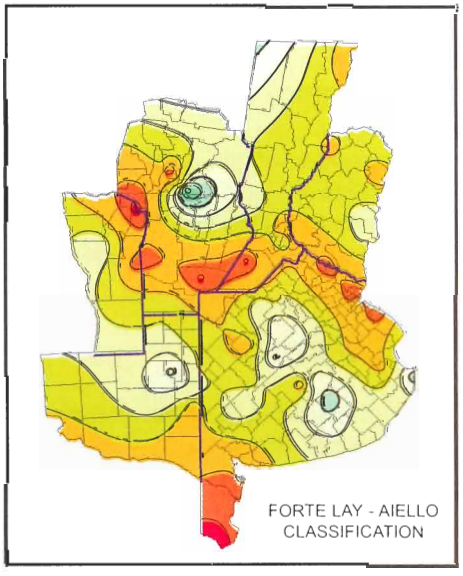

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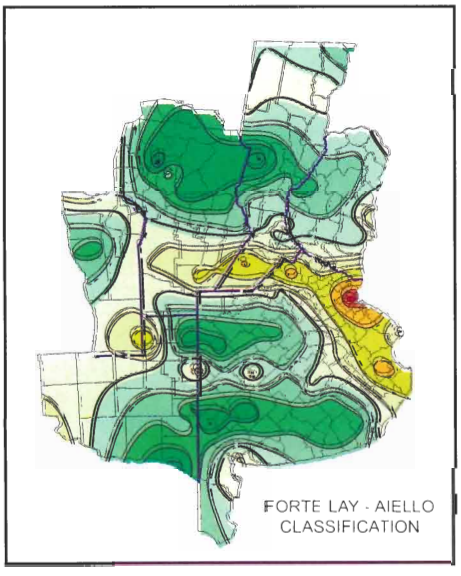

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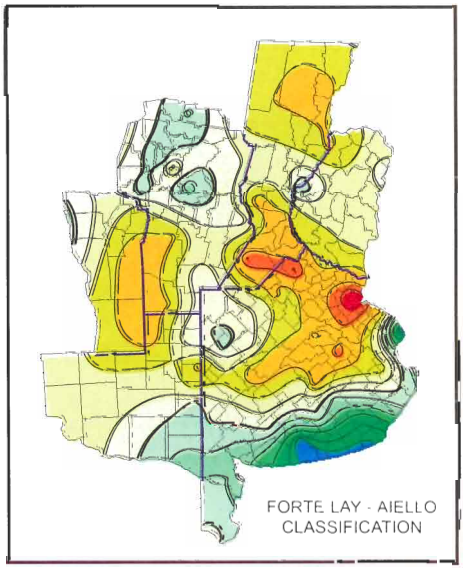
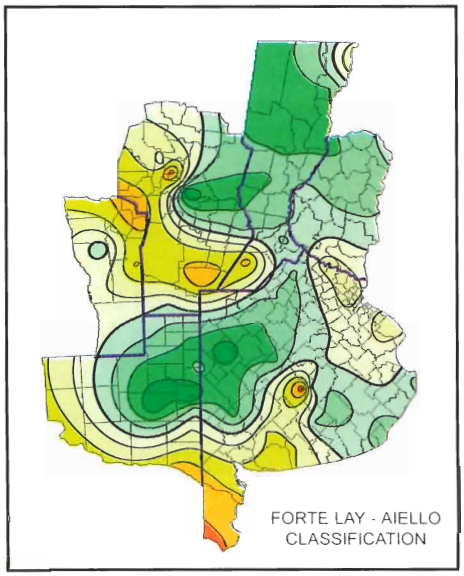
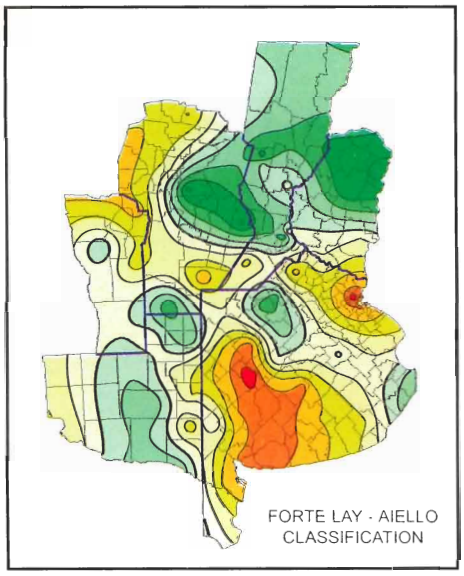


2011/2012 WHEAT CROP

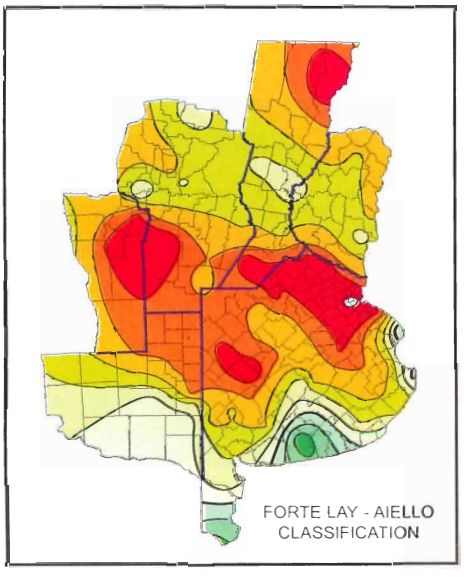
JULY 2011



OCTOBER 2011



JANUARY 2012



Extremely wetter than usual.
Much wetter than usual.
Wetter than usual.
Approximately normal for the season.
Drier than usual.
Much drier than usual.
Extremely drier than usual.

Sub region V North
Background for the crop

The sown surface was 15 % less than the campaign 2010/11, due mainly to the lack of proper humidity in the soil profile. The sowing was done between May and June. Due to the lack of soil water, in some zones, there was irregular emergence, plants with low height and tillering, which led the producers to destine them to animal feed.

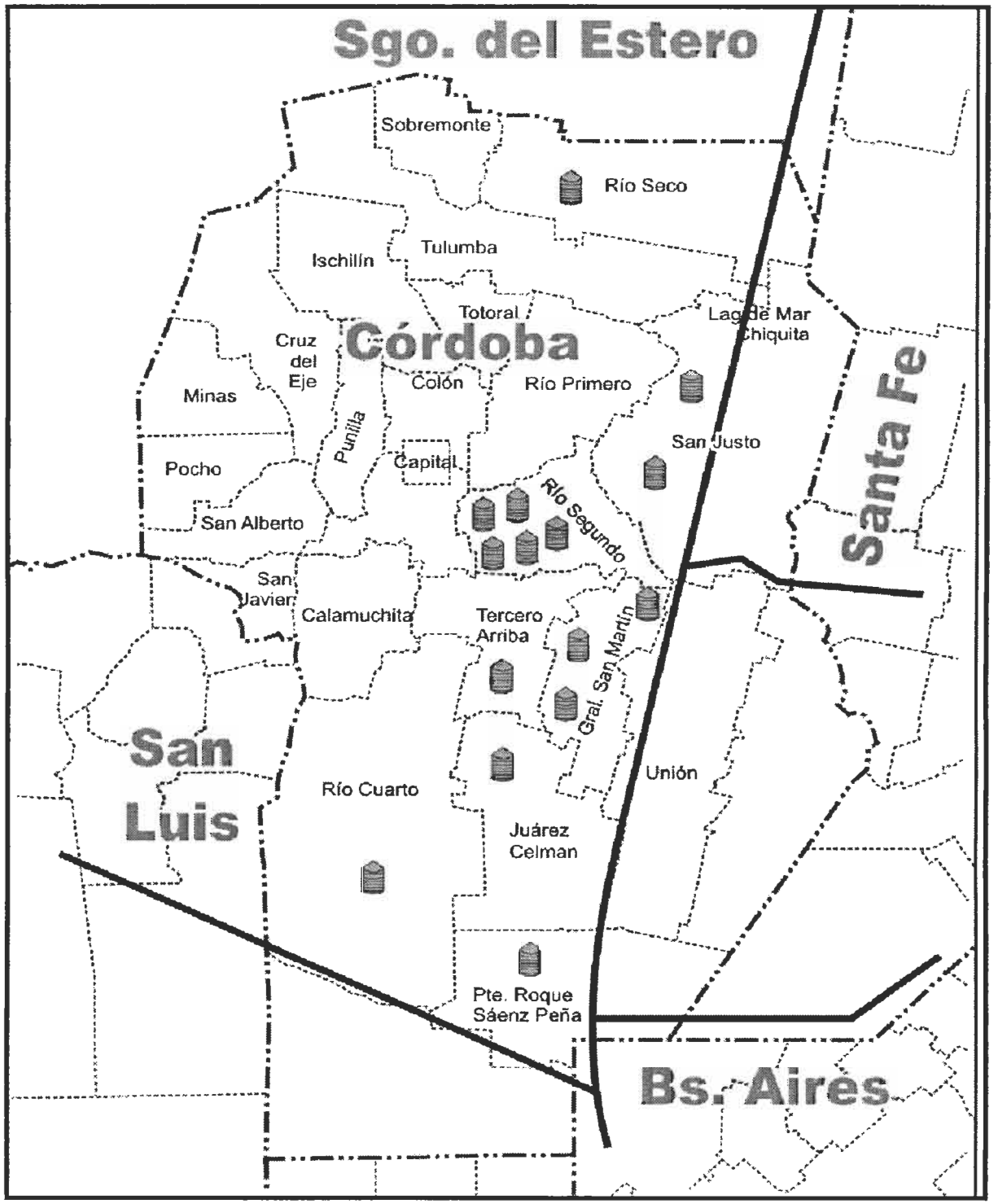
The strong frosts occurred at the beginning of July stopped the growth and there were fields with yellow tips. The Department of Santa María was the most affected one due to the lack of humidity, followed by the Department of Río Segundo. The stem elongation stage to the earing stage was irregular since there were late frosts affecting the grain filling. High temperatures and intense solar exposure caused the speeding up of the crop and decreased the production.

Furthermore, during the last stage of the cycle, there were strong storms, with strong winds and hail, producing in some cases significant decreases in the yields.

In relation to the presence of plagues during the crop cycle, there were some aphids, mites and diseases such as leaf rust, yellow spot, Septoria, Fusarium and "common bunt" (Tilletia).

The yields of rainfed wheat were around 2,000 kg/ha and in the fields with irrigation between 3,000 to 4,500 kg/ha.

There were zones with good gluten and proteins, and others where there were "washed", and shrunken grains, presence of Fusarium and low gluten.



Each reference represents near 4,000 tns sampled.

Sub region V North Wheat

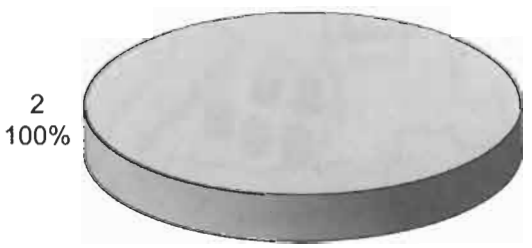
Results of the Analyses

Composite Samples by Locality. Averages were weighted by Tonnage.

Wheat Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Test Weight (kg/hl)	77.00	81.05	78.56	1.05	1.33
Total Damaged Kernels (%)	0.58	1.60	1.03	0.29	27.69
Foreign Material (%)	0.12	0.37	0.21	0.06	28.29
Shrunken and Broken Kernels (%)	0.43	1.10	0.62	0.18	28.52
Yellow Berry Kernels (%)	0.30	3.20	1.15	0.75	65.26
Protein (13,5% Moisture) (%)	9.0	12.4	11.0	0.8	7.38
Weight of 1000 Kernels (gr.)	30.29	32.54	31.44	0.69	2.20
Ash (% dry basis)	1.790	2.110	1.903	0.087	4.57

Total damaged kernels includes 0.16% green kernels, 0.09% frosty kernels, 0.09% sprouted kernels, 0.12% calcinated kernels, 0.39% insect chewed kernels and 0.18% germ-chewed kernels

Grade Distribution



Flour Analysis		Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
MILLING	Wet Gluten (%)	18.6	29.6	24.5	3.0	12.04
	Dry Gluten (%)	6.0	9.8	8.2	0.9	11.05
	Falling Number (sec.)	343	452	391	32	8.16
	Flour Yield (%)	71.4	74.0	72.2	0.7	0.95
	Ash (dry basis) (%)	0.603	0.749	0.673	0.041	6.10
FARINOGRAM	Water Absorption (14% H°) (%)	54.8	61.1	57.3	1.5	2.68
	Development Time (min.)	1.6	19.2	10.8	4.5	41.61
	Stability (min.)	1.2	29.9	20.4	7.7	37.85
	Degree of Softening (12 min.)	10	49	27	10	36.65
ALVEOGRAM	P (mm)	76	120	93	12	12.62
	L (mm)	37	98	77	18	23.46
	W Joules x 10^{-4}	193	325	262	41	15.54
	P / L	0.80	3.24	1.34	0.61	45.16

These results were elaborated with 14 composite samples prepared proportionally from 100 primary samples (farmer deliveries)

Sub region Data

In this subregion the wheat production was 711,080 tons., the 5.5% of the national total. Were sampled 62,309 tons., the 8.8 % of the subregion production.

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION			WHEAT ANALYSIS								
Sample Number	Locality, district or department	Tonnage	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Material (%)	Shrunken and Broken Kernels (%)	Yellow Berry Kernels (%)	Protein (13.5 % Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
600	San Justo	3873	2	79.25	1.42	0.37	0.63	0.30	10.8	31.03	1.910
601	San Justo	4238	2	78.35	1.44	0.19	0.43	0.60	10.8	30.50	1.920
602	Gral. San Martín	4000	2	78.80	1.16	0.25	0.73	0.40	12.1	32.54	1.910
603	Gral. San Martín	4800	2	79.45	0.98	0.21	0.75	1.10	11.1	30.53	2.000
604	Gral. San Martín	3600	2	78.60	1.10	0.20	0.47	0.70	10.8	32.52	1.850
605	Río Segundo	4000	2	78.35	1.23	0.26	0.66	0.90	11.3	31.67	2.110
606	Río Segundo	3832	2	78.60	0.86	0.15	0.51	2.30	9.0	31.66	1.790
607	Río Segundo	3766	2	78.60	0.97	0.18	0.62	3.20	10.0	31.75	1.790
608	Río Segundo	6000	2	77.00	1.02	0.20	0.46	1.20	10.6	31.14	1.840
609	Río Segundo	3700	2	77.90	1.60	0.15	0.46	2.20	10.2	30.95	1.900
610	Tercero Arriba	7500	2	77.45	1.01	0.18	0.68	0.60	11.1	31.52	1.990
611	Sáenz Peña	4000	2	77.70	0.58	0.12	0.62	0.90	12.4	30.29	1.930
612	Juárez Celman	4000	2	81.05	0.64	0.30	0.45	1.10	12.0	32.22	1.820
613	Río Cuarto	5000	2	79.90	0.63	0.21	1.10	1.20	11.6	32.14	1.820

Sub region
V North
Wheat

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION		FLOUR ANALYSIS												
						FARINOGRAM				ALVEOGRAM				
Sample Number	Locality, district or department	Wet Gluten (%)	Dry Gluten (%)	Falling Number (sec.)	Flour Yield (%)	% WA (14 % H°)	D. T. (min.)	Stability (min.)	Degree Softening (12 min.)	P	L	W	P/L	Ash (dry basis) (%)
600	San Justo	24.3	8.1	420	74.0	57.1	2.2	8.8	49	84	69	214	1.22	0.749
601	San Justo	22.7	8.0	392	72.1	54.8	10.0	19.8	29	76	65	193	1.17	0.650
602	Gral San Martin	27.5	9.0	377	71.6	58.5	9.8	18.3	34	93	89	292	1.04	0.695
603	Gral San Martin	25.5	8.4	360	72.5	56.6	8.7	17.4	34	78	98	253	0.80	0.690
604	Gral San Martin	24.3	8.2	386	72.5	57.9	8.9	15.9	36	78	92	247	0.85	0.715
605	Río Segundo	24.4	7.9	383	71.5	57.0	12.9	21.6	26	93	79	282	1.18	0.634
606	Río Segundo	18.6	6.0	388	72.6	58.9	1.6	1.2	10	120	37	194	3.24	0.653
607	Río Segundo	22.4	7.6	405	71.4	56.1	14.6	26.3	18	107	58	254	1.84	0.657
608	Río Segundo	22.1	7.6	413	72.9	56.2	13.2	28.0	17	106	56	232	1.89	0.701
609	Rio Segundo	21.2	7.2	360	72.8	55.9	19.2	29.1	21	103	57	247	1.81	0.610
610	Tercero Arriba	23.8	8.1	343	71.4	57.0	16.0	29.9	18	90	93	325	0.97	0.639
611	Roque Sáenz Peña	29.6	9.8	376	72.1	58.7	10.5	19.4	31	92	79	279	1.16	0.706
612	Juárez Celman	27.0	9.1	442	71.7	56.9	11.8	24.1	25	88	92	295	0.96	0.603
613	Río Cuarto	29.6	9.5	452	72.0	61.1	7.9	15.0	39	91	93	302	0.98	0.718

Sub region V South
Background for the crop

The VS sub-region suffered again a drought campaign. The sowings were done with a water soil profile that did not have chances of refilling during the prior season.

Direct sowing is used in the best soils; the use of fertilizers and other crop modern technologies is scarce.

Rains were scarce during all the winter, with variations in some areas.

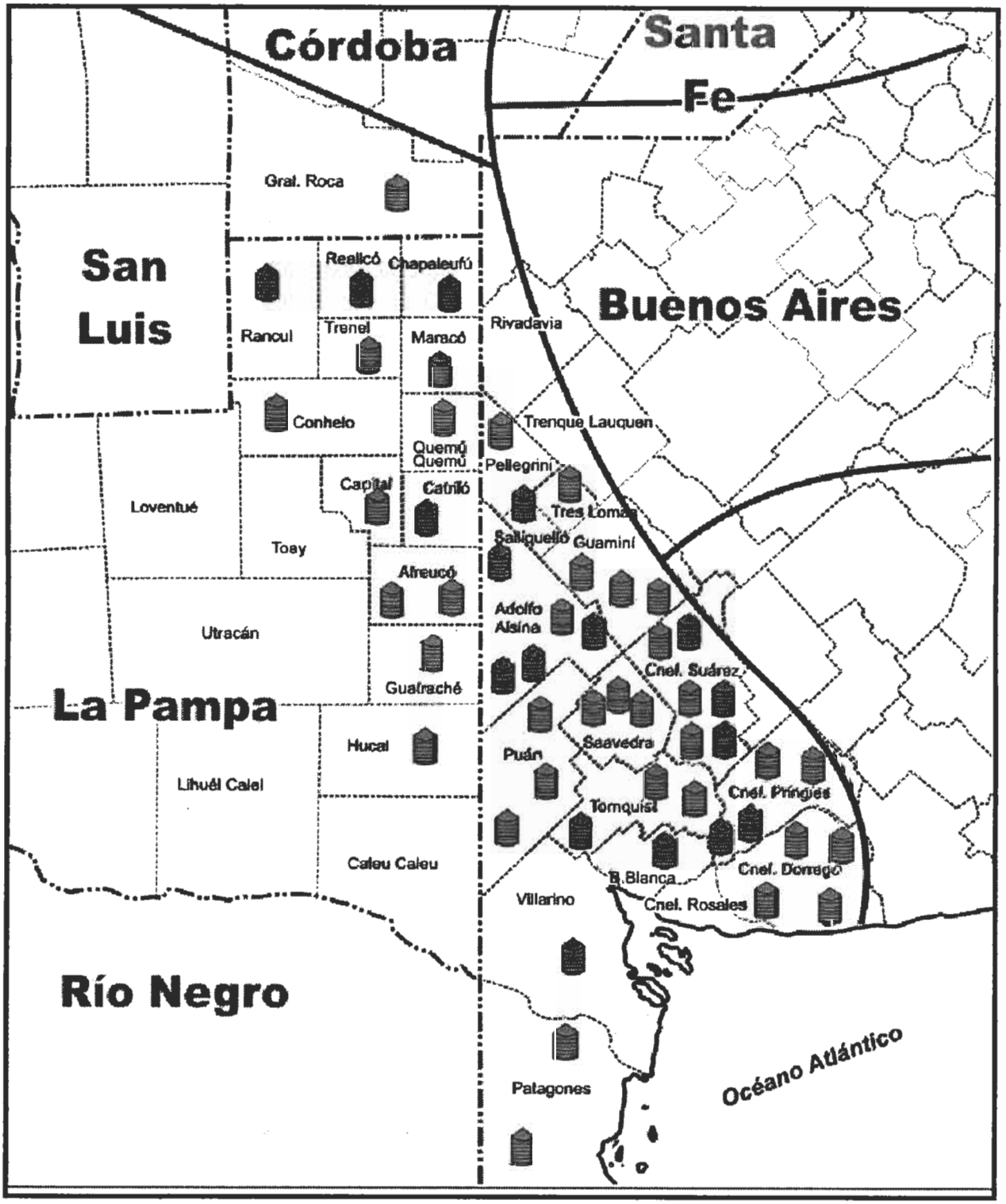
Low availability of the humidity was extended in the winter period, with mild temperature during the tilling period. There were no diseases observed, but there were plagues in the dryer areas, especially aphids.

Status of the crops was highly uneven when reaching the stem elongation stage, by the beginnings of October, there were frosts affecting field in good state, as in Patagones, with frosts of -4° C and 8 hours under zero. In some departments of La Pampa, there were hail with significant damages in all the crops.

The November rains favored some precocious wheat crops, and improved the general status, producing in many cases the appearance of late tillers.

Yields were very low, from 600 to 800 kg/ha on average in the south, with areas that were not harvested due to frosts damages of up to 2,300 kg/ha or more in locations such as the low mountain range comprising Coronel Suárez, Pigué and Guaminí.

Sub region
V South
Wheat



Each reference represents near 4,000 tns sampled.

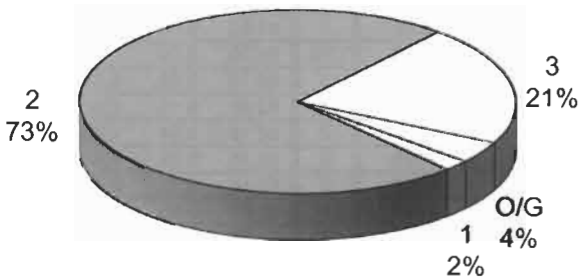
Results of the Analyses

Composite Samples by Locality. Averages were weighted by Tonnage.

Wheat Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Test Weight (kg/hl)	76.10	85.05	82.02	1.85	2.25
Total Damaged Kernels (%)	0.00	0.72	0.16	0.13	86.71
Foreign Material (%)	0.06	1.76	0.54	0.32	59.43
Shrunken and Broken Kernels (%)	0.28	2.26	0.86	0.43	49.69
Yellow Berry Kernels (%)	0.00	6.80	1.52	1.57	102.90
Protein (13,5% Moisture) (%)	10.6	13.6	12.1	0.7	5.41
Weight of 1000 Kernels (gr.)	29.90	39.90	34.51	2.14	6.19
Ash (% dry basis)	1.575	1.967	1.832	0.082	4.45

Total damaged kernels includes 0.03% green kernels, 0.04% sprouted kernels, 0.03% insect chewed kernels and 0.06% germ-chewed kernels

Grade Distribution



O/G: Out of Grade

Flour Analysis		Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
MILLING	Wet Gluten (%)	24.9	35.1	30.3	2.4	7.91
	Dry Gluten (%)	8.6	12.1	10.3	0.8	7.93
	Falling Number (sec.)	392	479	437	18	4.09
	Flour Yield (%)	70.4	76.2	72.1	1.1	1.52
	Ash (dry basis) (%)	0.559	0.853	0.705	0.060	8.47
FARINOGRAM	Water Absorption (14% H°) (%)	56.8	63.6	60.5	1.5	2.49
	Development Time (min.)	5.3	13.7	7.5	1.6	21.92
	Stability (min.)	6.5	23.9	12.1	3.9	32.46
	Degree of Softening (12 min.)	11	64	44	13	28.42
ALVEOGRAM	P (mm)	68	113	89	11	12.77
	L (mm)	79	146	112	15	13.65
	W Joules x 10^{-4}	253	420	327	39	11.97
	P / L	0.47	1.31	0.79	0.21	25.28

These results were elaborated with 52 composite samples prepared proportionally from 754 primary samples (farmer deliveries)

Sub region Data

In this subregion the wheat production was 2,334,963 tons., the 18.0% of the national total. Were sampled 183,473 tons., the 7.9 % of the subregion production.

Sub region
V South
Wheat

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION			WHEAT ANALYSIS									
Sample Number	Locality, district or department	Tonnage	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Material (%)	Shrunken and Broken Kernels (%)	Yellow Berry Kernels (%)	Protein (13.5 % Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
700	Atreucó	4000	2	84.40	0.06	0.20	0.82	0.60	11.4	35.70	1.816
701	Atreucó	2450	2	82.60	0.20	0.36	0.68	2.80	12.4	34.70	1.886
702	Capital (Santa Rosa)	2727	2	83.25	0.00	0.10	0.64	2.60	11.3	35.80	1.732
703	Catriló	928	2	81.70	0.00	0.40	0.54	0.60	11.5	33.80	1.859
704	Conhelo	2744	2	83.05	0.16	0.28	0.62	3.10	11.9	37.20	1.950
705	Chapaleufú	3907	3	81.05	0.00	1.16	0.70	1.20	12.6	36.00	1.829
706	Guatraché	2097	2	83.95	0.00	0.28	1.00	6.80	11.6	34.60	1.761
707	Hucal	4139	O/G	83.25	0.18	1.06	2.26	0.40	13.5	33.50	1.745
708	Maracó	2135	1	79.00	0.28	0.20	0.48	4.40	11.3	35.30	1.819
709	Quemú - Quemú	3900	2	82.15	0.16	0.36	0.96	2.60	12.0	34.90	1.798
710	Rancul	606	3	81.50	0.00	0.56	1.26	1.40	11.8	35.90	1.832
711	Realicó	1728	O/G	81.70	0.06	1.76	0.68	2.20	12.8	35.80	1.860
712	Trenel	1697	2	82.15	0.06	0.56	0.64	3.60	11.8	36.40	1.687
714	Adolfo Alsina	3996	2	82.40	0.12	0.68	0.76	0.50	11.8	34.10	1.891
715	Adolfo Alsina	3174	2	82.15	0.24	0.68	1.10	1.20	12.3	33.90	1.891
716	Adolfo Alsina	3985	2	82.15	0.22	0.44	0.48	3.80	11.1	33.40	1.806
717	Adolfo Alsina	1262	2	82.15	0.18	0.42	0.80	3.80	11.1	34.20	1.806
718	Adolfo Alsina	4015	3	82.60	0.00	0.98	0.68	3.20	11.2	33.40	1.787
719	Bahía Blanca	1931	3	81.25	0.42	1.50	1.90	0.00	13.6	30.90	1.858
720	Coronel Dorrego	4013	2	77.25	0.12	0.36	0.34	0.40	11.8	38.80	1.665
721	Coronel Dorrego	3692	2	80.80	0.32	0.60	0.88	2.60	11.6	34.30	1.778
722	Coronel Dorrego	4002	2	79.70	0.06	0.30	1.04	0.30	11.6	31.70	1.704
723	Coronel Dorrego	2422	2	79.90	0.18	0.26	0.82	5.20	10.6	33.50	1.575
725	Coronel Pringles	4001	2	81.50	0.12	0.46	0.52	0.60	12.1	32.90	1.965
726	Coronel Pringles	4021	3	83.25	0.16	0.60	1.52	0.80	12.0	31.00	1.908
727	Coronel Pringles	4000	2	83.05	0.24	0.60	0.46	0.30	12.6	32.00	1.920
728	Coronel Pringles	3308	2	81.25	0.12	0.76	1.04	2.40	11.8	30.90	1.853
730	Coronel Suárez	4293	2	83.05	0.52	0.28	0.70	0.80	11.7	35.50	1.784
731	Coronel Suárez	4000	2	81.95	0.26	0.64	0.28	0.20	12.6	33.60	1.759
732	Coronel Suárez	3987	2	82.40	0.00	0.56	1.10	2.40	12.1	34.40	1.851
733	Coronel Suárez	4001	2	82.60	0.08	0.26	0.88	0.60	12.2	35.40	1.946
734	Coronel Suárez	4008	2	83.50	0.34	0.06	0.70	2.10	12.1	34.70	1.807
735	Coronel Suárez	4003	2	81.95	0.00	0.32	0.70	1.20	12.2	34.00	1.811
736	Guaminí	3995	2	81.25	0.14	0.28	0.62	0.80	11.7	33.50	1.777
737	Guaminí	1302	2	80.35	0.28	0.24	0.56	0.30	12.1	33.20	1.867
738	Guaminí	4000	2	81.95	0.34	0.78	1.16	1.10	11.8	35.00	1.757
739	Patagones	3991	3	80.35	0.18	1.22	1.90	6.60	12.4	31.00	1.958
740	Patagones	2825	2	83.25	0.72	0.34	1.00	4.40	12.3	35.60	1.834
742	Pellegrini	2039	2	81.70	0.00	0.54	0.78	3.60	11.2	37.40	1.844
743	Puán	8000	3	84.40	0.18	0.98	0.56	0.40	12.8	36.60	1.734
744	Puán	7420	2	83.25	0.08	0.50	0.58	0.60	12.2	35.30	1.825
745	Puán	6070	2	85.05	0.06	0.30	0.76	0.20	12.6	34.60	1.932
746	Saavedra	2362	2	83.05	0.14	0.26	0.62	3.10	11.3	36.10	1.758
747	Saavedra	5000	2	83.05	0.00	0.38	0.42	0.80	12.1	36.10	1.910
748	Saavedra	11000	2	82.85	0.06	0.64	0.68	0.40	11.0	36.30	1.841
749	Salliqueló	2088	2	80.80	0.34	0.18	0.78	2.40	12.2	36.40	1.763
750	Tornquist	3892	3	81.70	0.18	0.38	1.52	0.20	12.9	30.80	1.967
751	Tornquist	4002	2	79.00	0.20	0.36	0.90	0.00	13.1	30.30	1.933
752	Tornquist	2331	3	79.45	0.10	0.64	1.76	0.80	13.0	29.90	1.950
753	Tres Lomas	2161	3	79.70	0.26	1.06	0.62	1.20	12.5	33.90	1.815
754	Villarino	1429	2	83.95	0.06	0.74	0.36	0.40	12.7	33.60	1.902
756	General Roca (Córdoba)	5000	3	76.10	0.14	0.20	1.64	1.30	13.1	39.90	1.888

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION		FLOUR ANALYSIS												
						FARINOGRAM				ALVEOGRAM				
Sample Number	Locality, district or department	Wet Gluten (%)	Dry Gluten (%)	Falling Number (sec.)	Flour Yield (%)	% WA (14 % H°)	D. T. (min.)	Stability (min.)	Degree Softening (12 min.)	P	L	W	P/L	Ash (dry basis) (%)
700	Atreucó	29.5	10.0	424	71.6	60.1	6.0	9.0	63	85	98	276	0.87	0.660
701	Atreucó	30.4	10.5	463	72.8	61.5	8.2	13.2	41	105	95	353	1.11	0.615
702	Capital (Santa Rosa)	27.9	9.6	404	71.3	60.2	8.5	13.0	39	101	94	335	1.07	0.736
703	Catriló	29.3	9.9	463	74.9	60.4	8.4	12.0	35	103	79	296	1.30	0.684
704	Conhelo	29.1	10.0	438	71.1	60.9	8.3	15.2	29	106	96	363	1.10	0.739
705	Chapaleufú	31.7	10.8	444	72.3	60.4	7.8	12.1	51	83	121	322	0.69	0.737
706	Guatraché	28.9	9.8	406	71.5	58.9	8.2	13.5	47	93	103	337	0.90	0.639
707	Hucal	34.6	11.9	461	73.1	60.6	8.4	14.5	30	90	130	398	0.69	0.732
708	Maracó	27.4	9.4	404	72.8	57.3	7.6	12.2	49	83	111	304	0.75	0.634
709	Quemú - Quemú	30.1	10.2	440	73.7	60.8	7.3	10.4	59	95	103	327	0.92	0.747
710	Rancul	—	—	—	—	—	—	—	—	—	—	—	—	—
711	Realicó	30.2	10.4	392	70.4	59.1	7.5	17.5	33	98	96	348	1.02	0.678
712	Trenel	27.8	9.5	447	73.8	60.2	5.3	9.6	56	98	88	302	1.11	0.744
714	Adolfo Alsina	29.4	10.0	456	71.7	60.0	6.8	10.0	55	89	120	357	0.74	0.742
715	Adolfo Alsina	29.0	10.2	479	71.3	61.9	6.0	9.9	55	98	116	387	0.84	0.853
716	Adolfo Alsina	27.8	9.4	445	72.0	60.7	6.0	9.3	53	94	106	335	0.89	0.787
717	Adolfo Alsina	28.1	9.4	450	73.0	61.8	7.8	10.4	44	104	86	310	1.21	0.738
718	Adolfo Alsina	28.1	9.7	428	73.1	59.2	7.2	11.7	54	90	103	319	0.87	0.706
719	Bahía Blanca	35.1	12.1	442	72.0	63.5	7.0	7.1	56	87	134	349	0.65	0.817
720	Coronel Dorrego	29.5	10.0	418	73.5	56.9	5.7	8.2	60	74	109	253	0.68	0.559
721	Coronel Dorrego	28.9	9.9	415	72.6	59.3	7.8	10.0	53	82	114	308	0.72	0.731
722	Coronel Dorrego	28.3	9.7	457	72.5	57.3	8.0	12.8	51	84	109	316	0.77	0.622
723	Coronel Dorrego	24.9	8.7	408	74.4	57.4	10.0	18.3	34	91	88	299	1.03	0.681
725	Coronel Pringles	30.2	10.2	417	70.8	61.5	8.5	14.9	26	100	117	380	0.85	0.654
726	Coronel Pringles	30.1	10.1	414	72.1	61.3	6.0	10.7	45	88	119	334	0.74	0.756
727	Coronel Pringles	32.2	11.0	424	71.3	60.3	9.0	16.0	31	86	132	371	0.65	0.650
728	Coronel Pringles	26.3	9.3	409	70.8	59.8	13.7	23.9	21	113	94	400	1.20	0.699
730	Coronel Suárez	30.5	10.5	450	72.4	61.7	6.2	7.4	57	79	114	277	0.69	0.813
731	Coronel Suárez	32.8	11.2	452	76.2	60.6	5.8	8.1	61	75	115	264	0.65	0.753
732	Coronel Suárez	30.8	10.4	452	73.5	59.9	6.4	8.5	58	76	128	302	0.59	0.680
733	Coronel Suárez	31.5	10.7	445	72.4	62.4	6.8	11.8	39	85	104	274	0.82	0.761
734	Coronel Suárez	31.2	10.6	453	72.8	60.3	6.7	8.9	50	81	116	295	0.70	0.703
735	Coronel Suárez	31.3	10.6	456	70.9	61.7	7.0	9.2	47	90	110	311	0.82	0.738
736	Guaminí	30.3	10.4	453	72.6	58.9	7.7	19.8	25	81	120	317	0.68	0.646
737	Guaminí	31.2	10.6	451	73.4	59.9	6.5	9.8	45	81	102	276	0.79	0.700
738	Guaminí	30.5	10.4	422	72.8	59.4	6.0	12.5	38	81	116	305	0.70	0.733
739	Patagones	30.4	10.3	459	72.0	62.0	9.4	14.6	34	103	119	398	0.87	0.774
740	Patagones	32.5	11.0	415	71.5	63.6	8.7	13.8	39	112	111	420	1.01	0.736
742	Pellegrini	27.8	9.4	435	72.2	62.0	5.8	7.7	64	92	91	274	1.01	0.829
743	Puán	34.4	11.8	438	71.4	62.2	6.5	7.5	52	73	136	288	0.54	0.639
744	Puán	31.0	10.5	422	71.6	61.4	7.9	10.0	50	95	103	323	0.92	0.744
745	Puán	32.3	10.9	462	71.0	61.8	5.8	6.5	61	78	131	300	0.60	0.695
746	Saavedra	27.6	9.4	433	71.0	59.8	7.0	15.0	30	94	89	278	1.06	0.722
747	Saavedra	29.6	10.0	436	71.8	61.1	6.2	11.6	42	90	122	364	0.74	0.632
748	Saavedra	25.3	8.6	445	72.6	60.4	8.3	16.7	29	111	85	338	1.31	0.717
749	Salliqueló	32.0	10.8	427	70.6	60.0	7.2	10.1	40	76	109	276	0.70	0.682
750	Tornquist	32.8	11.2	420	71.0	60.8	7.7	12.3	31	84	124	342	0.68	0.731
751	Tornquist	33.0	11.2	449	70.9	61.6	13.7	23.3	11	100	116	387	0.86	0.664
752	Tornquist	33.1	11.3	433	71.3	62.1	7.2	10.8	41	92	116	347	0.79	0.665
753	Tres Lomas	32.0	11.1	444	72.5	59.0	9.5	14.9	31	80	133	365	0.60	0.609
754	Villarino	32.5	11.1	411	72.8	62.5	7.8	9.2	49	86	140	367	0.61	0.648
756	General Roca (Córdoba)	32.9	11.4	429	70.8	56.8	6.9	11.7	48	68	146	311	0.47	0.615

Nortwest of the Country (NOA)
Background for the crop

The surface sown with wheat in Tucumán was approximately 137,000 hectares, with a decrease in the sown area of 24 % as regards the prior campaign. This was due mainly to unfavorable conditions during the sowing period, low rains and the presence of other crops such as sugar cane and legumes such as chickpeas, displacing the area sown with wheat.

In contrast, in the west of Santiago del Estero, a province where the crop is looking to achieve ground cover, there was a significant increase in the surface, helped by a good autumn rains that allowed a good introduction.

The campaign was not so favorable due to the high variability of the water accumulated in the region and the scarce contribution of the rain in the key months for the wheat, April and May, as well as due to the high temperatures in critical moments of the wheat affecting its tillering rate and its grain filling.

The sowing dates were the normal ones from April 15 towards the end of May, using varieties of long cycle to continue with intermediates, and finishing the sowing with short cycles.

There were diseases such as yellow spot and leaf rust, being in general expressed with very low damage levels. In plagues, there were aphids in leaves and ears with a less pressure than normal, and with a higher intensity the mites and trips that in general were satisfactorily controlled with the treatments used.

Yields were highly variable with values reaching a provincial average of 1,100 to 1,200 kg/ ha, a low value, but with high variations in the different fields assessed, a characteristic presented frequently in our region. Irrigated crops reached yields between 2,200 and 2,500 kg / ha.

Northeast of the Country (NEA)
Background for the crop

In the campaign 2011 the abundant rains occurred towards the end of summer caused delayed in the sowing by excess moisture in the soil profile, affecting the planting of long cycles and concentrated between mid June and beginning of July, with planting short cycles.

At tillering and to the end of the vegetative stage, the water and temperature conditions were normal for that environment. But in the reproductive stage, mainly some 20 to 30 days before anthesis, the period when the number of grains is determined, the water deficit was significant, in addition to late frosts in September that caused the loss of more advanced lots. Rains normalized during the stage of grain filling, towards the end of September and beginning of October.

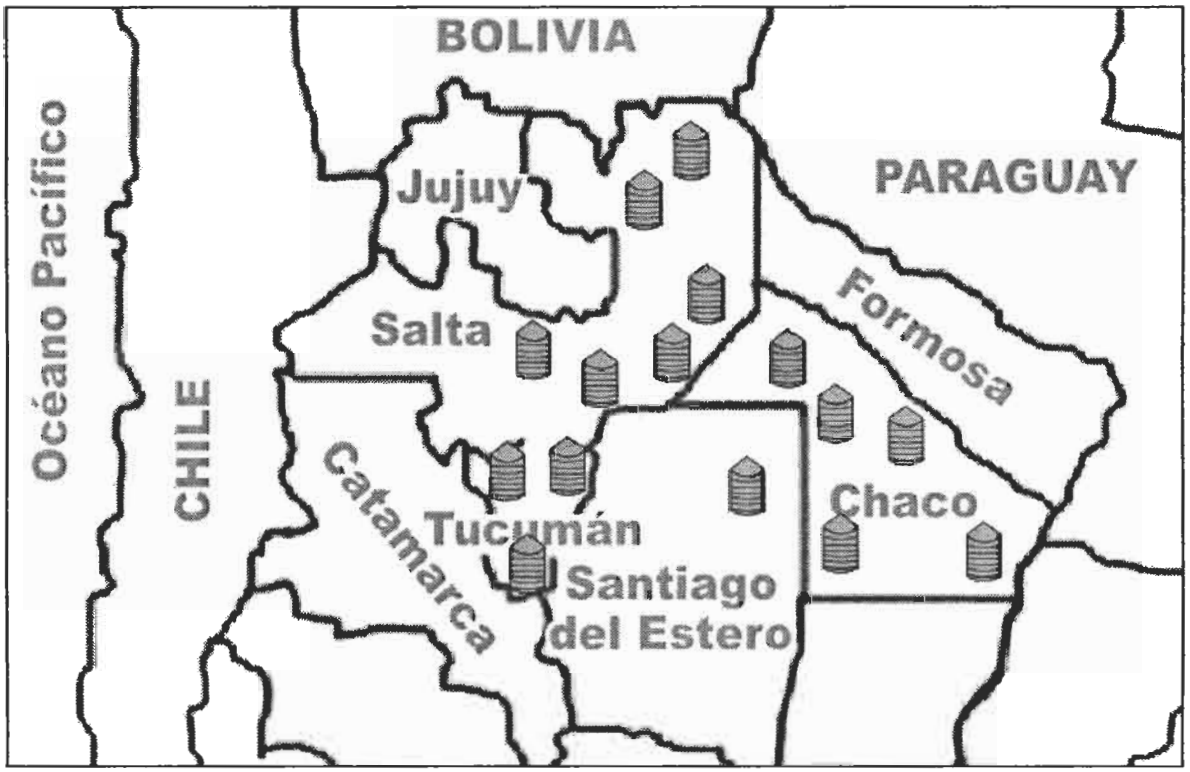
The tendency of monthly average temperature was similar to the historical series, reaching in average the 15.5° C during the stage of the grain number definition. Furthermore, there were short periods of 2 to 3 days with high temperature amplitude reaching and surpassing the 27°C to 30° C of average maximum temperature and low temperatures registered during the night.

The sanitary condition of the crop was generally good, although in some areas there was high incidence of yellow spot (Drechslera tritici-repentis), but low incidence of leaf rust (Puccinia triticina). stem rust (Puccinia graminis) was also observed in several genotypes. As pests, there sometimes severe incidence of aphids and thrips.

Yields dropped by 30 - 35 % as regard the prior campaign. The lack of rains during the period of grain number definition was the main environmental factor affecting the crop, and therefore the production.

The hectares that were lost due to frost and hail in few cases.

North of the Country



Each reference represents near 4,000 tns sampled.

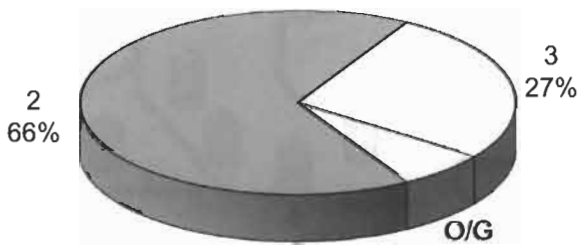
Results of the Analyses

Composite Samples by Locality. Averages were weighted by Tonnage.

Wheat Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Test Weight (kg/hl)	75.10	83.05	79.46	2.53	3.19
Total Damaged Kernels (%)	0.04	0.58	0.25	0.19	77.48
Foreign Material (%)	0.08	1.96	0.55	0.49	89.87
Shrunken and Broken Kernels (%)	0.32	1.46	0.68	0.31	45.61
Yellow Berry Kernels (%)	0.00	10.76	2.77	3.41	123.20
Protein (13,5% Moisture) (%)	9.8	12.8	11.5	0.7	6.43
Weight of 1000 Kernels (gr.)	27.60	33.59	30.15	1.81	6.01
Ash (% dry basis)	1.818	2.123	2.022	0.080	3.97

Total damaged kernels includes 0.04% green kernels, 0.02% frosty kernels, 0.04% sprouted kernels and 0.15% insect chewed kernels.

Grade Distribution



O/G: Out of Grade

Flour Analysis		Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
MILLING	Wet Gluten (%)	21.6	29.2	25.9	2.4	9.25
	Dry Gluten (%)	7.9	11.0	9.2	1.0	10.57
	Falling Number (sec.)	411	512	445	31	6.86
	Flour Yield (%)	67.5	72.5	70.1	1.6	2.26
	Ash (dry basis) (%)	0.561	0.795	0.722	0.063	8.69
FARINOGRAM	Water Absorption (14% H°) (%)	54.7	62.5	59.3	2.1	3.60
	Development Time (min.)	7.9	27.2	13.8	5.0	36.28
	Stability (min.)	11.0	45.2	20.8	8.8	42.26
	Degree of Softening (12 min.)	12	67	41	15	35.97
ALVEOGRAM	P (mm)	100	156	117	15	13.14
	L (mm)	50	94	74	16	21.67
	W Joules x 10^{-4}	252	393	315	36	11.53
	P / L	1.12	3.12	1.59	0.63	36.66

These results were elaborated with 15 composite samples prepared proportionally from 198 primary samples (farmer deliveries)

Sub region Data

In this subregion the wheat production was 1,092,980 tons., the 8.4% of the national total. Were sampled 60,180 tons., the 5.5 % of the subregion production.

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION			WHEAT ANALYSIS								
Sample Number	Locality, district or department	Tonnage	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Material (%)	Shrunken and Broken Kernels (%)	Yellow Berry Kernels (%)	Protein (13.5 % Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
14	Chaco	3750	3	75.10	0.50	0.42	0.62	0.00	12.1	29.80	2.089
15	Chaco	4020	2	78.10	0.56	0.24	0.82	0.00	11.4	32.10	2.031
16	Chaco	3980	2	78.10	0.20	0.12	0.40	0.00	11.4	27.60	2.037
17	Chaco	4210	3	75.70	0.58	0.66	1.46	0.00	12.8	28.80	2.123
18	Chaco	3900	2	77.10	0.12	0.14	0.90	0.00	11.1	30.10	2.017
19	Santiago del Estero	4320	2	76.00	0.54	0.08	0.74	0.00	12.4	30.00	2.039
1	Burruyacú	4000	2	81.05	0.20	0.52	1.04	0.56	11.7	28.72	1.864
2	Cruz Alta/Leales	4000	2	83.05	0.08	0.18	0.88	3.10	11.9	29.86	1.818
3	La Cocha/Simoca	4000	2	81.70	0.08	0.16	0.74	1.04	12.2	31.49	1.959
4	Anta	4000	2	82.60	0.32	0.36	0.56	9.08	11.8	28.03	2.035
5	Anta	4000	3	81.25	0.08	1.16	0.40	10.76	11.2	29.04	2.024
6	Anta	4000	2	81.25	0.22	0.68	0.40	4.76	11.8	28.16	2.087
7	Orán	4000	O/G	79.45	0.08	1.96	0.44	3.24	10.6	33.10	2.079
8	Orán	4000	3	79.90	0.04	1.04	0.32	6.36	10.8	33.59	2.061
9	Cerrillos/Metán	4000	2	81.70	0.12	0.52	0.36	2.76	9.8	31.84	2.063

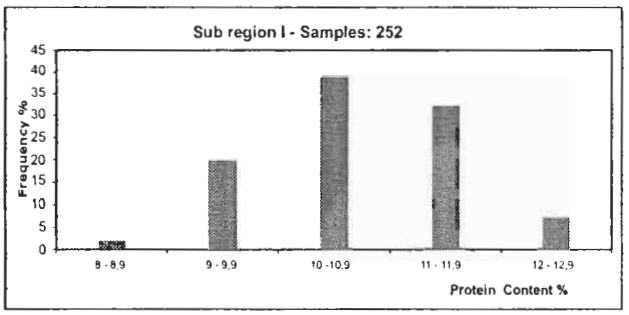
SAMPLE IDENTIFICATION		FLOUR ANALYSIS												
						FARINOGRAM				ALVEOGRAM				
Sample Number	Locality, district or department	Wet Gluten (%)	Dry Gluten (%)	Falling Number (sec.)	Flour Yield (%)	% WA (14 % H°)	D. T. (min.)	Stability (min.)	Degree Softening (12 min.)	P	L	W	P/L	Ash (dry basis) (%)
14	Chaco	27.6	9.5	436	70.3	57.8	10.5	20.4	32	100	88	321	1.14	0.705
15	Chaco	24.3	8.1	440	68.0	61.1	11.1	16.8	42	124	71	333	1.75	0.715
16	Chaco	23.0	7.9	489	70.8	54.7	27.2	45.2	12	113	57	277	1.98	0.705
17	Chaco	26.9	8.9	502	71.6	58.3	13.3	25.1	25	103	80	323	1.29	0.795
18	Chaco	24.5	8.3	512	70.3	56.1	9.6	20.9	30	112	53	252	2.11	0.785
19	Santiago del Estero	29.1	9.9	441	72.5	60.7	7.9	12.0	56	106	84	304	1.26	0.785
1	Burruyacú	29.2	11.0	425	71.8	61.3	8.8	11.0	67	103	92	308	1.12	0.733
2	Cruz Alta/Leales	28.0	10.3	411	72.0	62.3	11.3	14.6	48	114	76	303	1.50	0.691
3	La Cocha/Simoca	27.6	10.3	453	70.4	59.6	10.6	13.6	52	102	80	284	1.28	0.561
4	Anta	27.3	10.2	431	70.4	59.7	15.8	19.8	45	117	93	390	1.26	0.780
5	Anta	23.4	8.5	447	69.7	59.9	16.3	21.6	41	156	50	328	3.12	0.756
6	Anta	26.5	9.9	421	70.5	59.9	16.3	20.5	48	115	94	393	1.22	0.695
7	Orán	22.3	8.2	414	67.5	57.5	20.0	33.1	21	138	53	303	2.60	0.665
8	Orán	21.6	8.1	431	67.9	58.1	17.9	25.7	32	138	50	288	2.76	0.790
9	Cerrillos/Metán	26.4	9.7	420	67.7	62.5	10.4	11.7	58	113	81	311	1.40	0.654

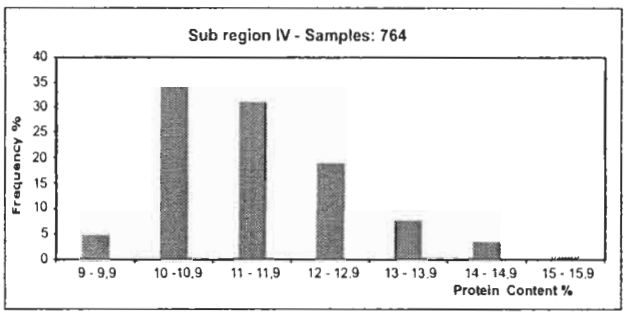
Protein Content Wheat

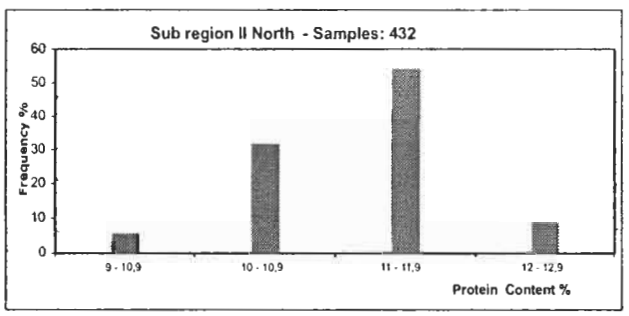
Protein Content

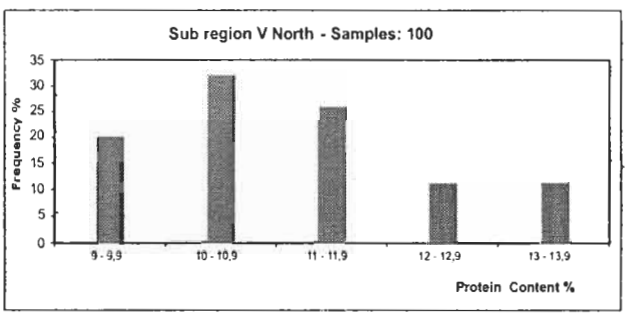
Distribution by ranges

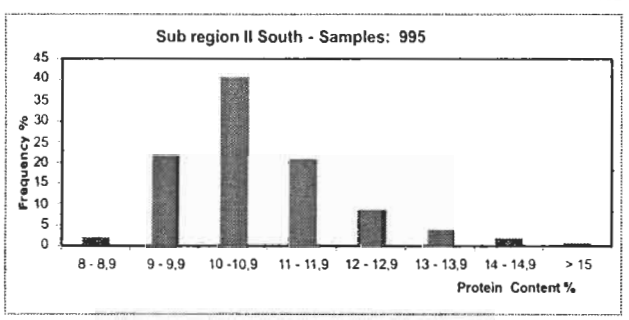
Results obtained on 4,037 Primary Samples

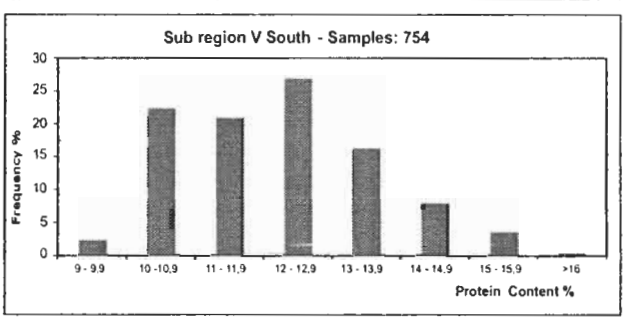


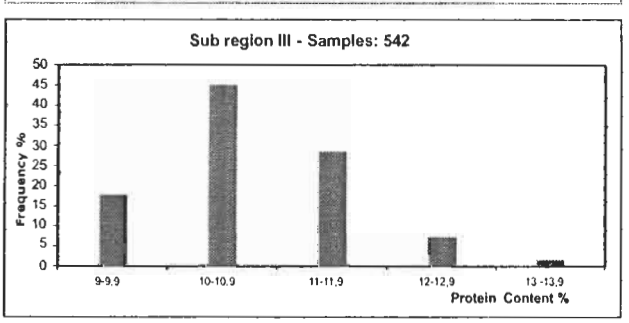


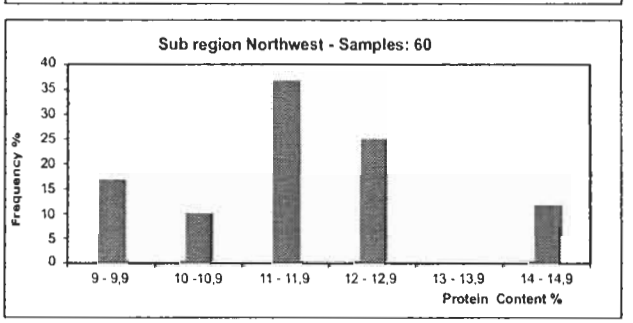


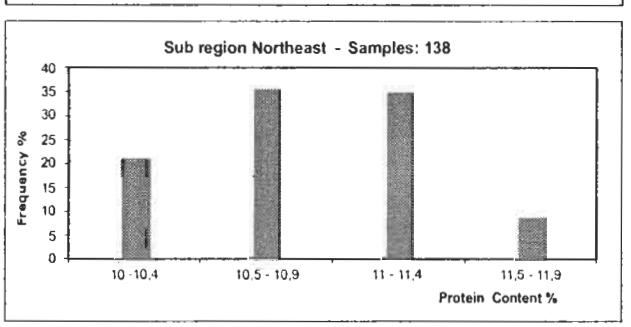


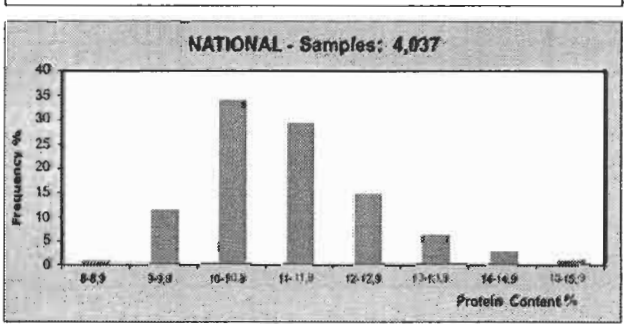












Wheat National Averages

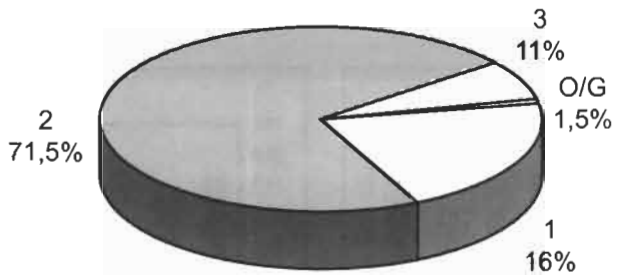
Results of the Analyses

Composite Samples by Locality. Averages were weighted by Tonnage.

National Averages Wheat

Wheat Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Test Weight (kg/hl)	72.50	86.40	80.76	2.58	3.19
Total Damaged Kernels (%)	0.00	2.30	0.41	0.39	97.33
Foreign Material (%)	0.03	1.96	0.34	0.29	83.52
Shrunken and Broken Kernels (%)	0.00	2.26	0.61	0.33	53.93
Yellow Berry Kernels (%)	0.00	13.84	2.57	2.74	106.51
Protein (13.5% Moisture) (%)	9.0	14.3	11.1	0.8	7.55
Weight of 1000 Kernels (gr.)	27.60	44.28	34.74	2.78	8.01
Ash (% dry basis)	1.500	2.232	1.794	0.132	7.346

Grade Distribution



O/G: Out of Grade

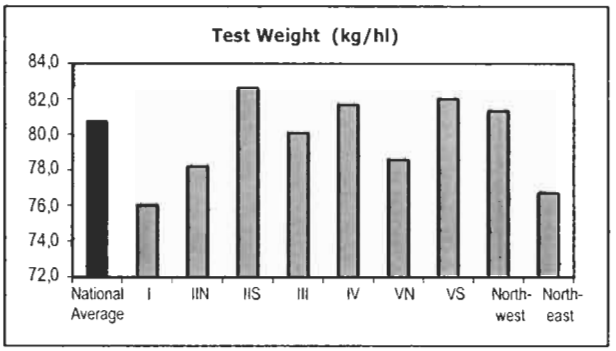
Flour Analysis		Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
MILLING	Wet Gluten (%)	18.6	35.1	26.2	3.2	12.21
	Dry Gluten (%)	6.0	12.6	9.2	1.1	12.17
	Falling Number (sec.)	343	526	437	35	7.98
	Flour Yield (%)	67.5	76.6	72.6	1.6	2.17
	Ash (dry basis) (%)	0.488	0.853	0.657	0.068	10.30
FARINOGRAM	Water Absorption (14% H°) (%)	54.2	63.6	58.4	2.0	3.40
	Development Time (min.)	1.5	27.2	8.1	3.9	47.89
	Stability (min.)	1.2	46.6	15.7	7.1	45.32
	Degree of Softening (12 min.)	0	87	40	16	39.95
ALVEOGRAM	P (mm)	11	156	96	17	17.56
	L (mm)	36	162	84	24	28.03
	W Joules x 10^{-4}	151	429	277	49	17.86
	P / L	0.19	3.50	1.14	0.58	44.94

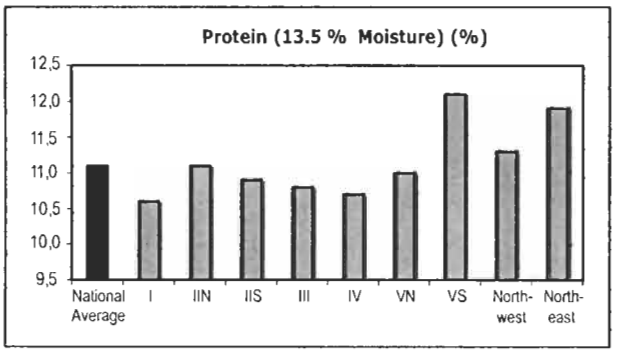
National Averages Wheat

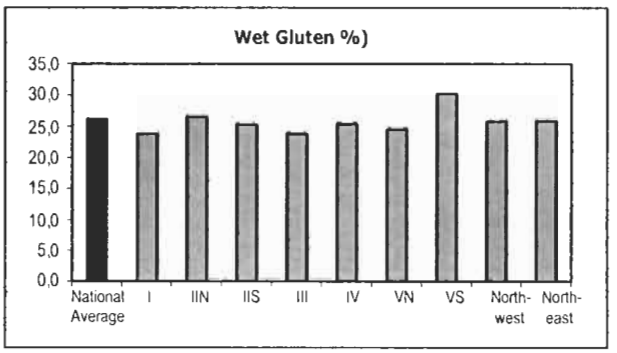
Wheat National and Sub regions Averages

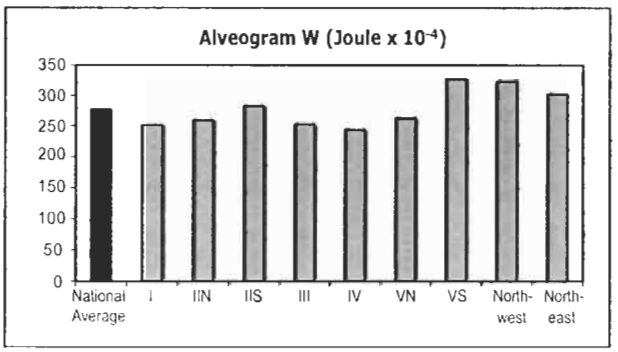
Comparative Graphics

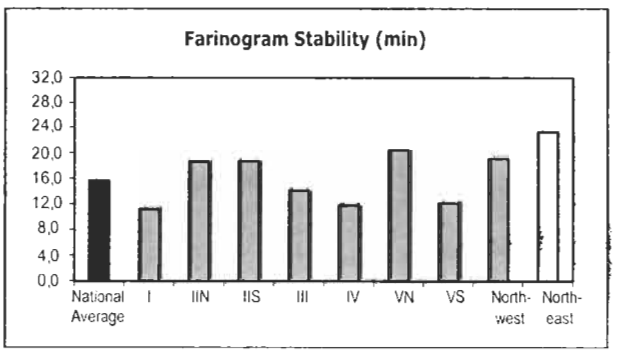
Composite Samples by Locality. Averages were weighted by Tonnage.











By Agr. Eng. (Ms.Sci.) Nelly Salomón, Agronomy Department, Universidad Nacional del Sur

Mean Comparison among Sub regions:

An analysis of the variation of the measured data was carried out (ANAVA) among the wheat sub regions. Taking into account that the amount of points of sampling was different in each sub region (unbalanced), a comparison test of means was applied that permits to compare them although they are based on different number of data.

The obtained results are reliable because we could demonstrate if there were differences among the sub regions with a very small experimental error. This was due to the fact that the averages were calculated with a high sampling intensity.

The interpretation of the results should be carried out observing the letters that figure to the right of each value in the variables. Those sub regions named with the same letter did not show any significant difference.

All the opposing difference have a probable error of 5 %. All the likeness was accepted with a level of confidence close to 50 %.

Sub region	N° Samples	Test Weight		Sub region	Total Damaged Kernels		Sub region	Foreign Material		Sub region	Shrunken And Broken Kernels	
II South	59	82,64	a	V South	0,16	a	V North	0,21	a	II North	0,40	a
V South	51	82,02	a	II South	0,24	ab	I	0,23	a	IV	0,47	ab
IV	48	81,70	a	Northern	0,25	ab	II South	0,26	a	III	0,56	ab
III	26	80,09	b	IV	0,34	abc	II North	0,29	a	I	0,57	ab
Northern	15	79,46	bc	I	0,45	bc	IV	0,30	a	II South	0,62	abc
V North	14	78,56	bc	II North	0,57	c	III	0,30	ab	V North	0,62	abc
II North	31	78,20	c	III	0,89	d	V South	0,54	bc	Northern	0,68	bc
I	12	75,99	d	V North	1,03	d	Northern	0,55	c	V South	0,86	c

Sub region	Yellow Berry Kernels		Sub region	Protein		Sub region	Weight 1000 Kernels		Sub region	Ash	
I	0,24	a	V South	12,1	a	III	37,77	a	IV	1,680	a
II North	0,75	ab	Northern	11,5	ab	IV	37,05	ab	III	1,716	a
V North	1,15	abc	II North	11,1	bc	II South	35,45	bc	II South	1,765	ab
V South	1,52	abc	V North	11,0	bc	V South	34,51	cd	I	1,825	bc
IV	2,23	bcd	II South	10,9	bc	II North	33,26	de	II North	1,830	bc
Northern	2,77	cd	III	10,8	c	I	32,30	ef	V South	1,832	bc
II South	3,59	d	IV	10,7	c	V North	31,44	fg	V North	1,903	c
III	7,31	e	I	10,6	c	Northern	30,15	g	Northern	2,022	d

Sub region	Wet Gluten		Sub region	Dry Gluten		Sub region	Falling Number		Sub region	Flour Yield	
V South	30,3	a	V South	10,3	a	V North	391	a	Northern	70,1	a
II North	26,5	b	II South	9,4	b	IV	413	ab	I	71,6	b
Northern	25,9	bc	Northern	9,2	b	II South	428	bc	III	72,1	bc
IV	25,4	bc	IV	9,0	b	V South	437	c	V South	72,1	bc
II South	25,3	bc	II North	9,0	b	Northern	445	cd	V North	72,2	bc
V North	24,5	bc	V North	8,2	c	I	448	cd	II South	72,9	cd
III	23,8	c	I	8,0	c	III	465	ce	II North	73,1	cd
I	23,8	c	III	7,9	c	II North	482	e	IV	73,9	e

Statistical Analysis Wheat

Sub region	Water Absorption (%)		Sub region	D.T. (min.)		Sub region	Stability (min.)		Sub region	Degree Softening	
II North	56,8	a	Northern	13,8	a	Northern	20,8	a	IV	50	a
V North	57,3	ab	V North	10,8	ab	V North	20,4	a	I	46	ab
I	57,8	ab	II North	9,7	bc	II South	18,7	ab	V South	44	abc
IV	57,9	abc	II South	7,9	bcd	II North	18,6	ab	III	44	abc
II South	57,9	abc	V South	7,5	cd	III	14,1	bc	Northern	41	abc
III	58,8	bc	III	6,9	cd	V South	12,1	c	II South	34	bcd
Northern	59,3	cd	I	6,1	d	IV	11,8	c	II North	31	cd
V South	60,5	d	IV	5,8	d	I	11,2	c	V North	27	d

Sub region	P		Sub region	L		Sub region	W		Sub region	P/L	
Northern	117	a	V South	112	a	V South	327	a	V South	0,79	a
II South	106	ab	II North	86	b	Northern	315	ab	II North	1,02	ab
I	98	bc	IV	79	b	II South	282	bc	IV	1,16	abc
III	95	bc	V North	77	b	V North	262	cd	III	1,31	bc
V North	93	bc	II South	76	b	II North	259	cd	I	1,33	bc
IV	92	c	III	74	b	III	252	cd	V North	1,34	bc
V South	89	c	Northern	74	b	I	251	cd	II South	1,39	c
II North	88	c	I	73	b	IV	243	d	Northern	1,59	c

Sub region	Flour Ash	
II South	0,618	a
III	0,637	ab
IV	0,642	ab
II North	0,650	ab
V North	0,673	bc
I	0,682	bc
V South	0,705	c
Northern	0,722	c

Analysis of Variables by Ranges

The charts show the summary of an analysis carried out to four variables: protein in grain, wet gluten, strength measured by Alvegraph and Farinograph stability.

Each variable was divided in ranges (first column), they were calculated the averages of each range corresponding to each one of the remaining variables (central column), the percentages are also shown from each range to national level.

PROTEIN RANGE	Average Gluten W Stability	% Country
9 - 9.9	22.1 223 8.3	4.69
10 - 10.4	23.9 248 16.0	15.23
10.5 - 10.9	24.5 255 16.2	25.00
11 - 11.9	**26.8** **286** **16.3**	**37.50**
12.0 - 12.9	30.8 331 14.1	17.58

WET GLUTEN RANGE	Average Protein W Stability	% Country
18 - 20.9	9.4 200 3.7	1.95
21 - 24.9	**10.6** **253** **17.1**	**41.02**
25 - 27.9	11.1 280 16.3	28.13
28 - 31.9	11.8 307 13.5	22.66
32 - 34.9	12.8 337 12.4	6.25

Alveograph W RANGE	Average Gluten Protein Stability	% Country
190 - 249	24.2 10.5 13.5	30.86
250 - 299	**26.1** **11.1** **16.5**	**38.28**
300 - 349	28.0 11.6 15.9	23.05
350 - 400	30.2 12.3 15.7	6.25
> 400	29.8 12.2 22.7	1.56

Farinograph STABILITY RANGE	Average Gluten Protein W	% Country
1 - 9.9	26.6 11.1 265	16.80
10.0 - 14.9	**27.1** **11.3** **275**	**36.72**
15 - 19.9	25.9 11.1 274	25.39
20 - 29.9	25.4 11.1 295	18.75
30 - 30.9	21.6 10.6 278	2.34

Sub region Composite Samples Wheat

Composite Sample of each Sub region

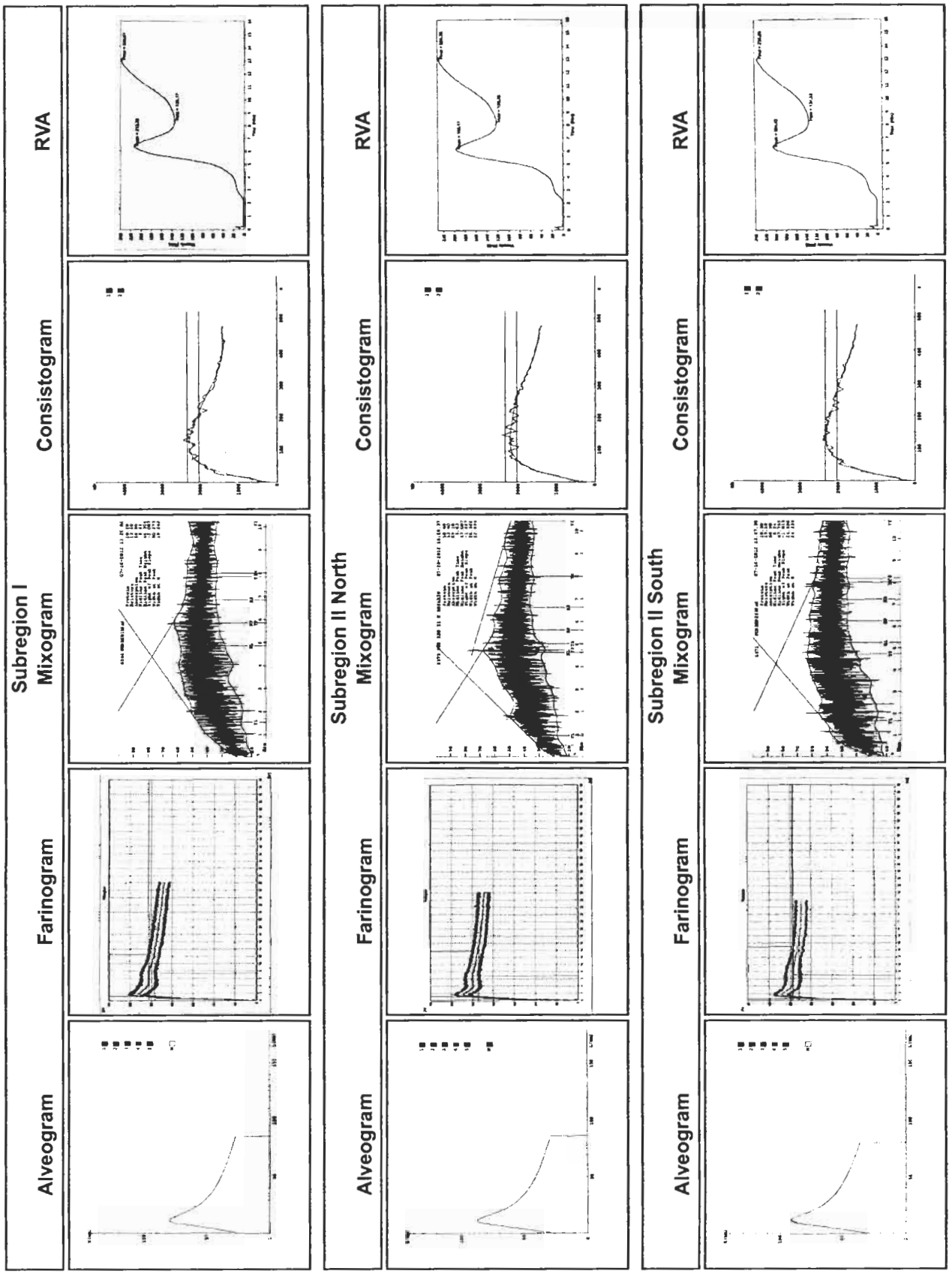
Results of the Analyses

Along with the analisis of samples corresponding to different localities, a further evaluation was performed in order to analyze Composite Samples of each Sub region directly, which were made proportionally from the composite samples corresponding to each locality, such as it is detailed in Organization and Methodology.

		Sub regions									**Pondered Average	Average last Quinquenio	Average Decade
		I	II N	II S	III	IV	V N	V S	Northeast	Northwest			
WHEAT	Test Weight (kg/hl)	75,70	78,90	82,40	80,40	81,70	78,60	81,84	76,80	81,25	80,78	80,39	80,36
	Weight of 1000 Kernels (gr.)	32,30	33,50	34,58	37,48	34,60	31,20	34,38	30,80	30,43	34,10	33,31	33,67
	Ash (dry basis) (%)	1,935	1,835	1,705	1,710	1,783	1,970	1,831	2,062	1,990	1,807	1,756	1,781
	Protein (13.5% Moisture) (%)	10,6	11,2	10,9	10,7	11,6	11,7	12,1	12,1	11,3	11,3	11,6	11,4
MILLING	Flour Yield (%)	67,5	74,4	74,1	74,0	73,5	70,7	72,0	70,6	67,7	72,8	68,6	68,9
	Ash (dry basis) (%)	0,634	0,698	0,624	0,638	0,620	0,610	0,670	0,725	0,666	0,646	0,592	0,582
	Color												
	L	88,52	86,28	88,42	88,33	7,78	88,71	89,06	87,65	88,03	74,25	84,73 *	----
	a	-1,31	-1,05	-1,12	-1,26	-1,07	-1,43	-1,23	-1,00	-1,09	-1,16	-1,22 *	----
	b	8,55	8,88	8,55	8,81	8,49	8,86	8,47	7,94	8,41	8,59	8,66 *	----
FLOUR	Moisture (%)	13,24	13,5	13,16	13,85	14,50	13,63	14,42	12,39	13,86	13,75	13,32	13,51
	Proteins (%)	10,2	10,4	10,3	9,9	10,2	10,4	11,3	11,2	10,6	10,5	10,8	10,7
	Wet Gluten (%)	25,0	26,1	25,3	25,3	26,5	25,9	29,4	27,7	25,1	26,5	26,9	26,1
	Dry Gluten (%)	8,3	8,5	8,4	8,3	8,7	8,6	9,6	9,2	8,5	8,7	9,1	9,1
	Index Gluten (%)	96	97	99	97	96	97	96	98	97	97	96	97
	Falling Number (sec.)	427	498	485	473	479	455	488	497	481	480	437	401
	Zeleny Test (cc)	37	35	40	36	36	35	40	33	33	37	40	38
	FARINOGRAM												
	Water Absorption (%)	58,0	58,8	58,9	60,3	58,2	56,6	59,5	57,6	60,0	58,8	58,7	58,7
	Development Time (min.)	7,4	6,9	7,1	6	6,7	8,6	8,0	7,8	8,2	7,2	9,6	9,0
	Stability (min.)	11,5	12,8	14,5	16,0	14,6	24,6	16,6	13,8	22,5	15,6	20,4	18,2
	Degree of Softening	49	39	34	44	33	20	29	38	18	34	31	34
	Quality Number	146	151	177	130	170	282	202	168	260	181	228	222
	MIXOGRAM												
	Development Time (min.)	5,85	5,63	6,24	5,68	5,48	6,68	5,80	6,27	6,52	5,76	5,65	5,15
	ALVEOGRAM												
	P (mm)	88	96	101	96	86	84	92	108	121	95	95	98
	L (mm)	21	21	20	21	22	19	23	19	20	21	73	77
	G	86	87	80	85	101	75	102	70	78	89	34	28
	W (Joules x 10^{-4})	252	274	289	262	272	240	311	287	335	282	289	291
	P/L	1,02	1,10	1,26	1,13	0,85	1,12	0,90	1,54	1,55	1,09	1,17	1,23
	Ie %	54,9	53,8	57,7	51,5	54,1	61,8	57,8	60,7	57	56,2	59,5	59,8
	W (40) (Joules x 10-4)	149	161	173	159	144	148	158	189	207	161	167,3	----
	CONSISTOGRAM												
	WA 1700 (%) (Base 15%)	56,7	56,7	56,8	56,9	57,0	55,6	58,5	56,6	56,6	57,0	56,4 *	----
	WA 1700 (%) (Base 14%)	58,0	58,6	58,6	58,6	58,8	57,4	60,4	58,5	58,5	58,9	58,4 *	----
	HYD2200 (%) (Base 15%)	52,9	54,1	53,3	54,3	53,7	53,1	56,2	54,1	53,9	54,1	53,8 *	----
	PrMax (mb)	2.302	2.218	2.331	2.204	2.321	2.196	2.160	2.198	2.247	2.254	2233 *	----
	PrMax Time (Sec)	114	127	130	123	102	165	142	188	175	131	163 *	----
	Tolerance (Sec)	218	287	282	246	181	289	244	296	288	252	275 *	----
	Weakening 250 (mb)	394	157	232	283	548	104	235	74	93	274	156 *	----
	Weakening 450 (mb)	873	749	779	758	991	653	869	583	695	816	762 *	----
	RVA												
	Maxim Viscosity (RVU)	213,33	196,17	204,42	188,67	198,17	195,17	218,5	183,83	198,58	202,62	189 *	----
	Minimum Viscosity (RVU)	135,17	122,58	134,83	121,17	109,25	106,33	149,67	108,67	123,00	127,47	122 *	----
	Final Viscosity (RVU)	238,67	228,25	235,08	224,75	210,33	208,67	245,25	219,50	232,83	228,90	283 *	----
	BAKING												
	Absorption (%)	62,0	62,0	62,0	62,0	62,0	62,0	62,5	62,0	63,0	62,1	61,9	62,1
	Development Time (min.)	3'30	3'30	3'30	3'30	3'30	3'30	4'00	3'00	4'00	4'27	3'43	3'22
	Fermentation Time (min.)	160'	160'	160'	160'	160'	160'	160'	160'	160'	160'	160'	160'
	Loaf Volume (cc)	595	580	550	575	645	660	725	600	560	616	632	665
	Specific Volume	4,3	4,2	4,0	4,2	4,7	4,9	5,5	4,4	4,1	4,5	4,6	4,9

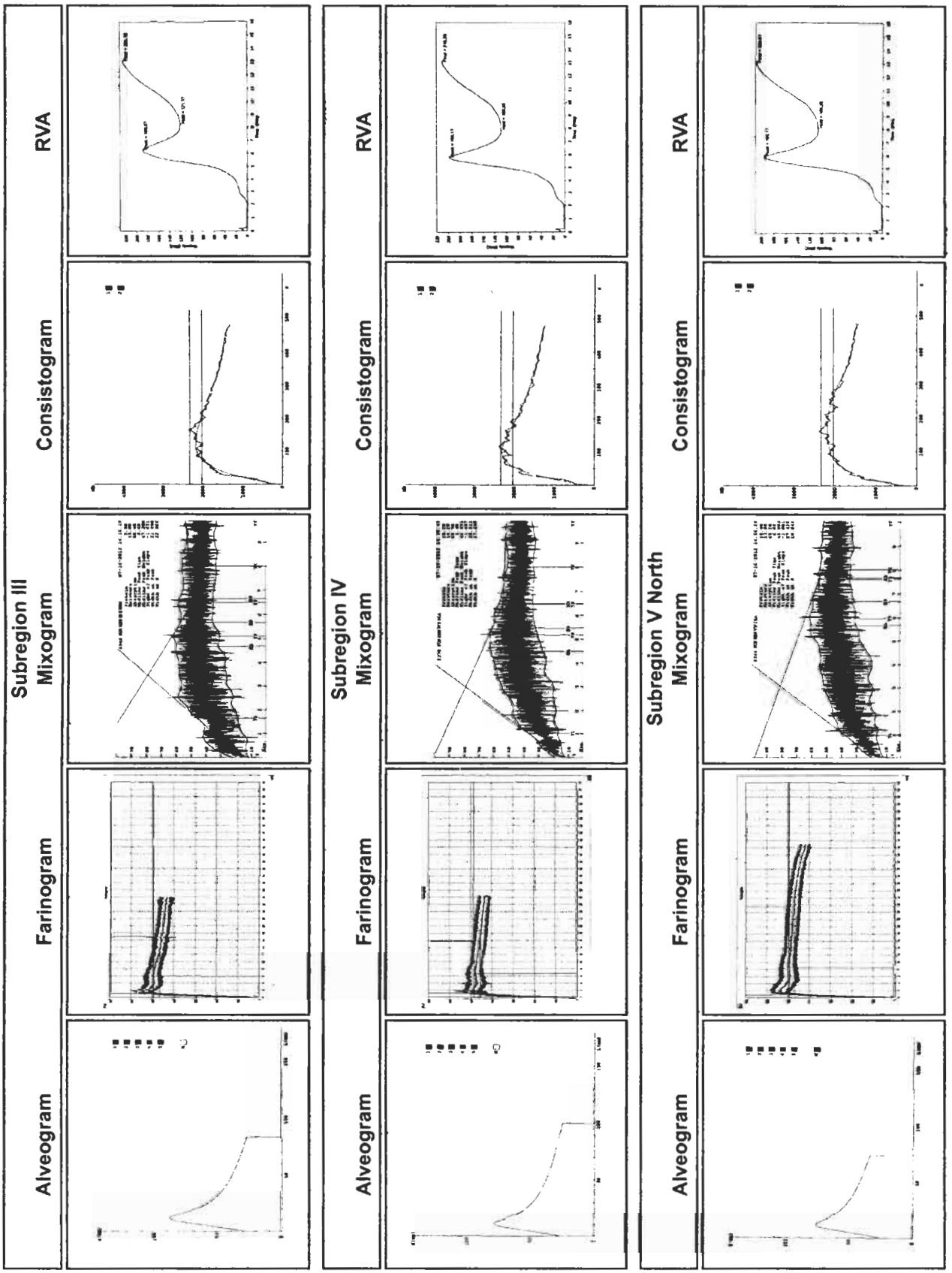
(*) Average based in 4 dates

Results of the Analyses



Sub region Composite Samples Wheat

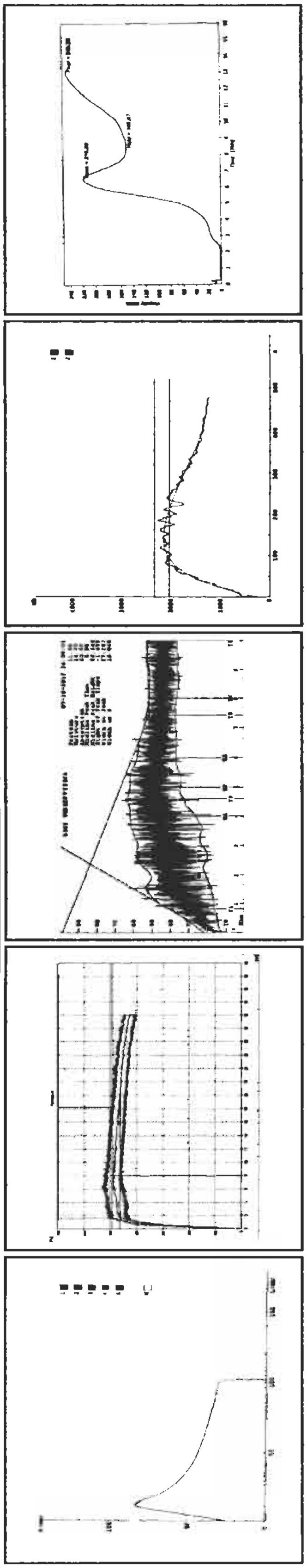
Results of the Analyses



Results of the Analyses

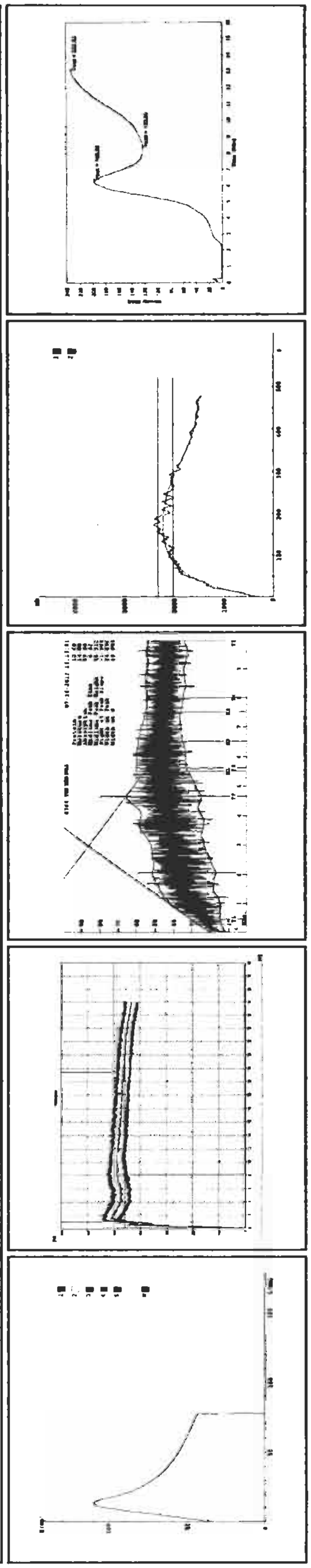
Subregion V South

Alveogram | Farinogram | Mixogram | Consistogram | RVA



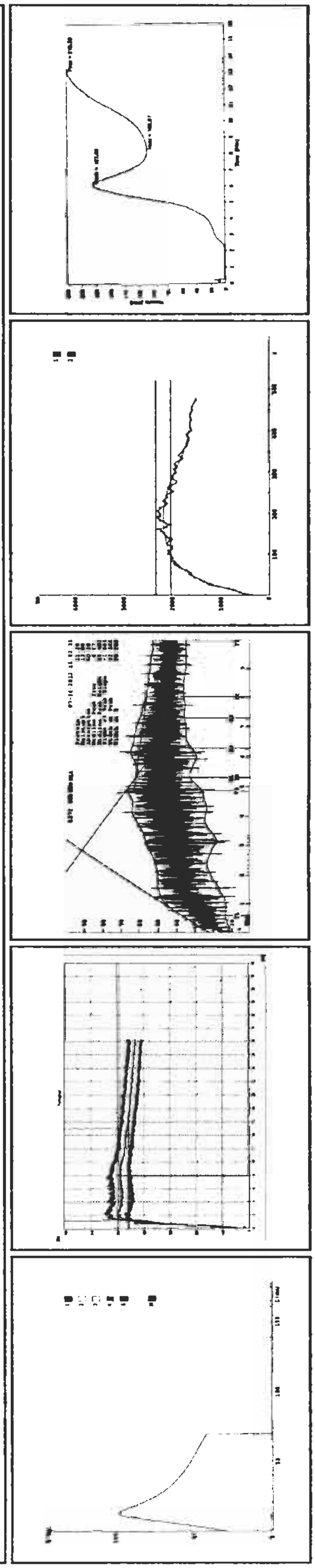
NOA

Alveogram | Farinogram | Mixogram | Consistogram | RVA



NEA

Alveogram | Farinogram | Mixogram | Consistogram | RVA



DURUM WHEAT

Triticum turgidum vd. Durum L.

Organization and Methodology

Although durum wheat production is minor compared with wheat (Triticum aestivum), and its area is very localized (the traditional region extending from the SE to the SW of the province of Buenos Aires), representing an attractive option for producers.

2011/2012 Crop

Sown Area (ha)	64,200
Harvested Area (ha)	64,135
Average Yield (Kg/ha)	2,850
Production (tn)	182,958

Source: MAGyP

Sampling Structure

Because of the specific conditions under which most durum wheat is produced, where farmers and industries agree on a contract, the samples were requested from the industries receivals, obtaining 55 composite samples.

They were organized according to theirs origin region, mainly in the Sub regions V, V South y NOA.

Procedure

Composite samples were sent to Bahía Blanca and Buenos Aires Arbitration Chamber Laboratories, where the commercial analysis (grade), ash and weight per 1000 kernels were performed.

Afterward, composite samples were referred to Grain Quality Laboratory of Chacra Experimental Integrada Barrow to carry out grinding in a Buhler 202 D mill. In the semolina obtained, Falling Number, Gluten, Color and Farinogram were analyzed.

Methodology

The evaluation of the industrial quality of durum wheat is based on grain characteristics, milling,behavior in milling, gluten quality, semolina color and rheological properties of dough.

Some traits like protein content and vitreous kernels percentage are affected by agricultural and weather conditions. Percentage of hard vitreous kernels is an important grading factor in durum wheat. Industry prefers vitreous kernels because of theirs high correlation with protein content, semolina yield and cooking quality.

On the other hand, gluten quality (measured as Gluten Index), semolina color and rheological characteristics, are strongly influenced by genotype.

The reasons why durum wheat produces good quality pasta are the following:
- Its yellow pigment content doubles the wheat (Triticum aestivum).
- Durum gluten is stronger and more cohesive than wheat (Triticum aestivum).
- Due to its kernel hardness,semolina yield is superior to other wheats. Durum semolina has many advantages with regard to wheat flour in the manufacturing of pasta: it requires less water to form a dough; consequently, drying cycle is cheaper.
- The main difference between durum and wheat (Triticum aestivum) is that pasta elaborated with durum semolina has more stability when cooked, doesn't disintegrate when boiling and stands overcooking.

Methodology for durum wheat includes some of the tests regularly used for wheat (Resolution SAGPyA 557/97) plus the following specific ones:

GRAIN

Vitreous Kernels Percentage (Resolution N° 1075/94 – Standard XXI - Ex. SAGyP)
Percent in weight of vitreous kernels present in the sample, being vitreous the ones that are completely translucid, without points, opaque stains or bleached grains.

MILLING (Experimental Milling Buhler 202-D)

Grain is dampered to 15.8 % humidity and tempered during 20 hours. Semolina yield (Particle size between 125- 355 microns) is reported.

SEMOLINA

Color (Minolta Chromameter CR-310, Manufacturer's Method)
Spaghetti color is due to a balance between pigment content (carotenes and xanthophylls) and lipoxigenasic activity which destroys color.
Lightness (L), redness (a) and yellowness (b) of Hunter data are determined using the tristimulus method, with Minolta CR-310 reflectance colorimeter.

Gluten Index (Glutomatic Perten 2200). Manufacturer's Registry.
Once the wet gluten test is done, the centrifuge forces the gluten to pass through a sieve that has been specially designed. The amount of gluten that goes through the sieve is a measure of gluten characteristics. This method is done as follows: both fractions, the one that passes through the sieve, and the one which is retained in it, are gathered and weighed, obtaining, thus, a percentage.

FARINOGRAM (Brabender's Farinograph)

The method in use is described by Irvine, Bradley and Martin's technique (Cereal Chemistry, Vol 38, N° 2, 1961), using fixed water absortion (45 %), fixed time of kneeding (8 min) and small stainless steel bowl (50 g). The following data are reported:

Dough development time (min)
Energy Level= Max Height (UF) / 20+ Area (cm2)
Tolerance Index (%)= Max Height - Final Height / Max Height.

Argentine Standard for Durum Wheat

(Resolution N°1075/94 - Standard XXI. Ex Secretariat of Agriculture, Livestock and Fishery)

GRADE	Test Weight Min. (Kg/hl)	PERCENT MAXIMUM LIMITS OF					Insect Bored Kernels Max. (%)	Sweet Clover Seeds Melilotus spp Seeds/ 100 g. Max.	MOISTURE Max. (%)	Wheat (Triticum aestivum) Max. (%)	Vitreous Kernels Min (%)
		Foreign Material (%)	Damaged Kernels		Shrunken and Broken Kernels (1) (%)	Smutty Kernels (%)					
			Heat Damaged Kernels (%)	Total (%)							
1	78	0.75	0.50	1.00	1.50	0.10					
2	76	1.50	1.00	2.00	3.00	0.20	0.50	8	14.0	3.00	40
3	72	3.00	1.50	3.00	5.00	0,30					

VITREOUS KERNELS

Bonifications		Discounts	
51 a 55%	0,5 %	46 a 49%	1,0%
56 a 60%	1,0%	41 a 45%	3,0%
61 a 65%	1,5%	36 a 40%	5,0%
66 a 70%	2,0%	31 a 35%	7,0%
71 a 75%	3,0%	26 a 30%	9,0%
76 a 80%	4,0%	21 a 25%	11,0%
81 a 85%	5,0%	16 a 20%	13,0%
86 a 90%	6,0%	11 a 15%	15,0%
91 a 95%	7,0%	6 a 10%	17,0%
96 a 100%	8,0%	0 a 5%	19,0%

PROTEIN

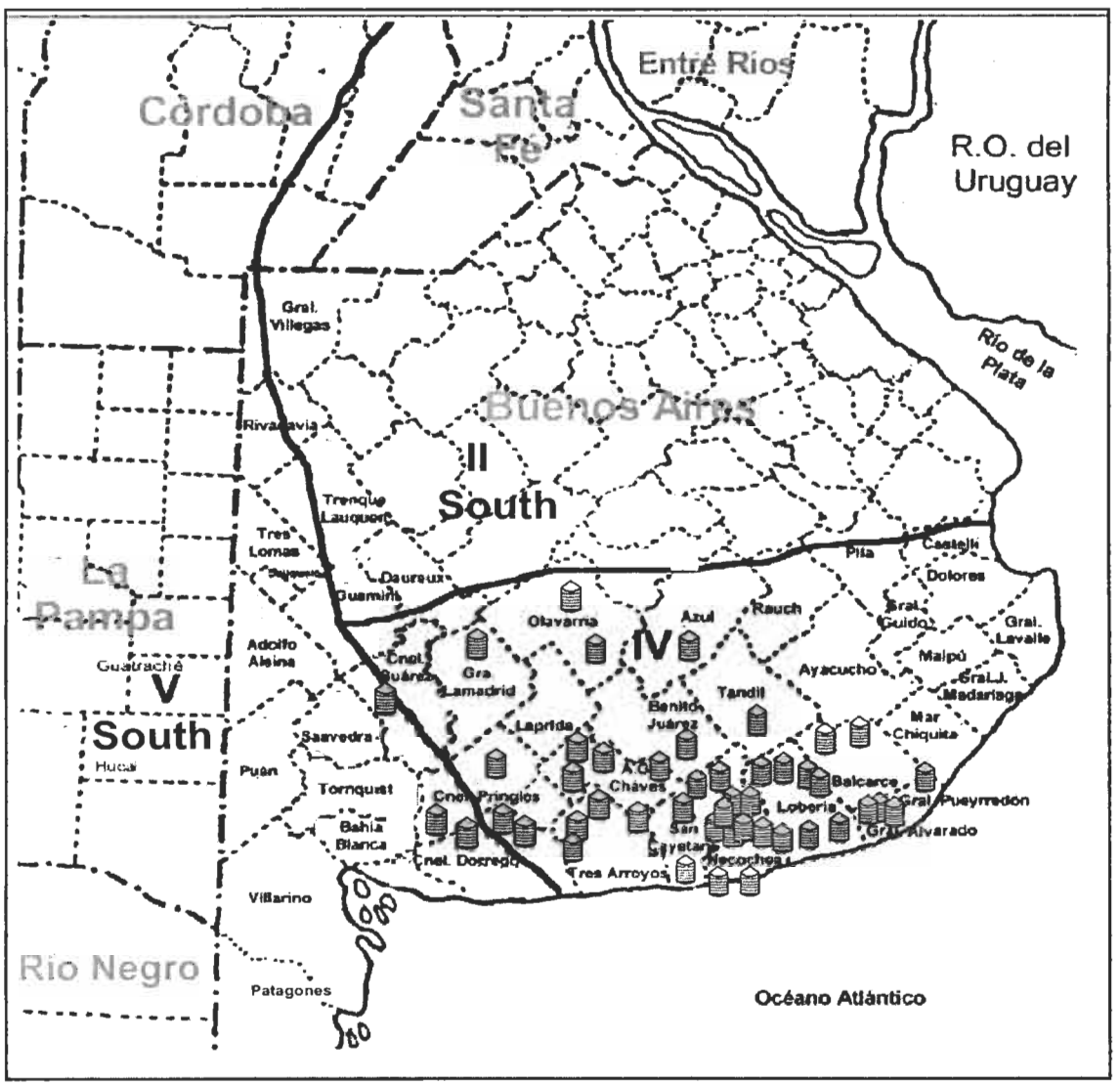
More than 11% (moisture basis 13,5 %) there will be bonifications of 2 % for each % or fraction

Less than 10% (moisture basis 13,5 %) there will be discounts of 2 % for each % or fraction

LIVING INSECTS AND ARACHNIDS: FREE

(1) All Durum Wheat kernels or pieces of them that pass through a sieve with 1,6 mm wide and 9,5 mm long holes, excluding damaged kernels.


Salta
Formosa
Catamarca
Tucumán
Chaco
Santiago
del Estero


Córdoba
Santa Fe
Entre Ríos
R.O. del Uruguay
Río de la Plata
Buenos Aires
II
South
La Pampa
V
South
Río Negro
IV
Gral. Villegas
Rivadavia
Trenque Lauquen
Tres Lomas
Guaminí
Daireaux
Adolfo Alsina
Guatraché
Hucal
Puán
Saavedra
Tornquist
Bahía Blanca
Coronel Dorrego
Villarino
Patagones
Olavarría
Azul
Rauch
Tandil
Laprida
Benito Juárez
Pila
Castelli
Dolores
Gral. Guido
Gral. Lavalle
Maipú
Gral. J. Madariaga
Mar Chiquita
Balcarce
Gral. Pueyrredón
Gral. Alvarado
Lobería
Necochea
Tres Arroyos
Océano Atlántico

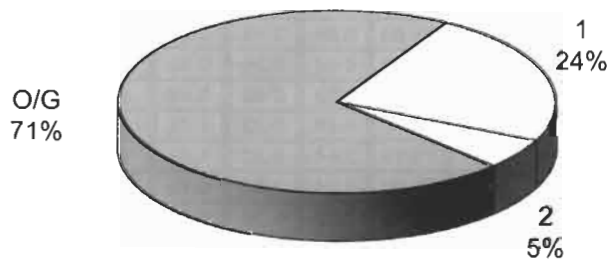
Durum Wheat Averages

Results of the Analysis

Wheat Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Test Weight (kg/hl)	75.00	83.25	80.55	1.62	2.02
Total Damaged Kernels (%)	0.00	4.24	0.80	0.80	100.89
Foreign Material (%)	0.100	2.4	0.59	0.47	79.84
Shrunken and Broken Kernels (%)	0.16	1.78	0.62	0.36	57.45
Vitreous Kernels (%)	17	84	51	16	30.98
Wheat (Triticum aestivum) (%)	0.92	26.32	5.21	4.16	79.92
Proteins (13,5% Moisture) (%)	9.9	13.9	12.0	0.8	6.40
Weight of 1000 Kernels (gr.)	39.00	55.60	46.73	4.26	9.11
Ash (% dry basis)	1.643	2.017	1.865	0.074	3.98

Total damaged kernels includes 0.06% green kernels, 0.39% sprouted kernels, 0.06% insect chewed kernels, 0.19% germ-chewed kernels y 0.18% calcinated kernels.

Grade Distribution



O/G: Out of Grade

Semolin Analysis	Minimum	Maximum	Average	Standard Deviation	Variation Coefficient
Falling Number (sec.)	374	689	488	57	12
Color (b)	19.1	24.9	22	1.5	6.7
Wet Gluten (%)	28.7	37.7	31.9	1.9	5.93
Gluten Index (%)	2	71	38	15	40.04
Energy Level	24.5	37.1	30.6	2.9	9.61
Degree Softening (%)	25	37	29	3	11.09

These results were elaborated with 55 composite samples (wheat analysis) and 39 composite samples (semolin analysis)

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION		WHEAT ANALYSIS									
Sample Number	Locality, district or department	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Materials Kernels (%)	Shrunken and Broken Kernels (%)	Vitreous Kernels (%)	Wheat (Triticum aestivum) (%)	Protein (13.5 % Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
1	Santamarina	O/G	79.90	0.90	0.58	0.98	42	3.20	12.3	48.80	1.847
2	Santamarina	O/G	79.90	0.70	0.66	0.74	34	3.88	12.0	50.40	1.825
3	Cristiano Muerto	1	81.70	0.54	0.20	0.22	76	0.92	13.2	50.70	1.997
4	Coronel Suárez	O/G	79.25	0.08	0.28	0.90	17	0.92	10.3	46.60	1.994
5	Cte. N. Otamendi	O/G	79.90	1.58	0.62	0.78	77	6.56	11.6	54.00	1.873
6	Necochea	1	81.05	0.54	0.56	0.84	49	2.92	11.4	49.30	1.874
7	Necochea	O/G	81.50	1.18	0.40	0.56	58	3.78	11.8	49.60	1.856
8	San Cayetano	2	80.60	1.30	0.26	0.38	44	2.30	12.1	51.00	1.892
9	Cte. N. Otamendi	O/G	83.25	0.66	0.38	1.02	70	11.98	12.3	52.80	1.878
10	San Miguel	1	80.60	0.64	0.38	0.38	84	1.28	12.5	43.00	1.847
11	Lobería	1	80.80	0.24	0.10	0.68	45	2.06	12.2	48.80	1.807
12	Pieres	O/G	78.80	0.84	1.18	0.20	47	4.74	12.2	41.50	1.986
13	San Manuel	1	81.70	0.64	0.34	0.32	79	1.86	12.3	42.90	1.800
14	El Zorro	O/G	76.80	0.22	2.40	0.24	42	5.80	13.1	46.70	1.643
15	De La Garma	O/G	78.60	0.48	0.22	1.78	22	3.20	13.9	41.20	1.998
16	De La Garma	1	78.15	0.44	0.32	1.48	40	2.30	13.8	43.20	2.017
17	Lumb	O/G	75.00	0.84	2.38	0.78	36	1.10	12.9	43.40	1.913
18	Balcarce	1	82.40	0.20	0.56	0.66	73	2.16	11.7	45.40	1.928
19	Mechongué	O/G	78.35	0.84	0.40	0.42	36	4.76	10.5	42.20	1.930
20	General Matienzo	O/G	79.00	0.72	1.92	0.72	26	7.36	9.9	55.60	1.847
21	General Lamadrid	O/G	83.25	0.32	0.74	0.48	58	4.80	12.7	50.90	1.876
22	Juan N. Fernández	O/G	78.15	1.10	1.16	1.76	19	26.32	11.2	50.60	1.945
23	Benito Juárez	1	81.50	0.36	0.66	0.48	54	2.34	12.2	48.50	1.994
24	Mar Del Plata	O/G	83.05	1.42	0.24	0.92	64	9.40	11.1	53.20	1.883
25	Lobería	O/G	82.40	0.80	0.46	0.70	49	6.00	11.9	45.70	1.866
26	Tres Arroyos	O/G	80.80	0.64	0.68	0.78	52	4.80	11.8	47.20	1.899
27	Azul	1	79.90	0.12	0.58	0.50	50	1.12	11.6	47.50	1.778
28	Necochea	1	79.45	0.00	0.48	0.64	40	1.12	11.3	45.70	1.811
29	Olavarría	2	82.60	0.12	1.02	0.46	74	1.94	12.0	48.80	1.807
30	Miramar	O/G	79.00	0.24	0.24	0.16	38	1.80	10.7	45.60	1.723
31	Tandil	O/G	82.40	0.32	0.60	0.24	76	3.36	11.9	52.30	1.810
32	Tres Arroyos	O/G	80.15	4.00	0.44	0.36	60	5.00	12.2	49.00	1.830
33	Tres Arroyos	2	80.80	1.54	0.80	0.34	58	2.84	12.3	49.00	1.870
34	San Cayetano	O/G	80.35	1.60	0.84	0.54	42	6.80	12.0	51.40	1.844
35	Lobería	O/G	80.35	0.36	0.32	0.48	45	4.80	12.2	48.50	1.811

Appendix of Locality Composite Samples.

SAMPLE IDENTIFICATION		WHEAT ANALYSIS									
Sample Number	Locality, district or department	Grade	Test Weight (Kg/hl)	Total Damaged Kernels (%)	Foreign Materials Kernels (%)	Shrunken and Broken Kernels (%)	Vitreous Kernels (%)	Wheat (Triticum aestivum) (%)	Protein (13.5 % Moisture) (%)	Weight of 1000 Kernels (gr.)	Ash (dry basis) (%)
36	Juan N. Fernández	O/G	83.25	0.78	0.42	0.82	72	4.00	12.0	52.40	1.735
37	Miramar	1	81.70	0.88	0.20	0.34	56	2.50	12.1	48.80	1.821
38	Miramar	1	81.70	0.28	0.26	0.20	64	1.96	12.2	48.70	1.824
39	Balcarce	O/G	80.80	1.16	0.22	1.26	76	4.78	12.4	45.60	1.839
40	Coronel Pringles	1	80.60	0.00	0.56	0.78	48	2.80	12.7	42.30	1.877
41	Coronel Pringles	O/G	80.35	0.34	0.64	0.52	58	4.24	13.0	40.30	1.948
42	San Mayol	O/G	81.05	0.00	0.36	0.16	62	3.54	12.8	49.60	1.786
43	Gonzáles Cháves	O/G	80.80	4.24	0.26	0.36	43	7.60	12.6	50.40	1.946
44	Gonzáles Cháves	O/G	81.05	2.00	0.32	0.38	48	4.36	12.7	50.20	1.937
45	La Dulce	O/G	82.40	0.80	0.34	0.52	35	6.80	11.4	47.40	1.836
46	La Cocha (Tucumán)	O/G	82.60	0.46	0.16	0.20	52	11.60	11.5	44.40	1.847
47	La Cocha (Tucumán)	O/G	82.40	0.80	0.40	0.36	55	13.00	11.5	43.40	1.840
48	Burruyacú (Tucumán)	O/G	79.70	0.72	0.26	0.64	45	8.72	11.8	42.10	1.796
49	Burruyacú (Tucumán)	O/G	79.90	0.76	0.52	0.44	41	7.70	11.7	41.20	1.799
50	Burruyacú (Tucumán)	O/G	79.90	0.32	0.52	0.68	47	10.20	11.8	41.10	1.812
51	Burruyacú (Tucumán)	O/G	79.70	0.00	0.46	0.50	48	7.68	11.8	42.70	1.811
52	Cruz Alta (Tucumán)	O/G	80.35	0.60	0.98	0.80	40	7.00	11.3	39.00	1.893
53	Cruz Alta (Tucumán)	O/G	80.35	0.68	0.74	0.68	45	7.70	11.3	40.80	1.914
54	Cruz Alta (Tucumán)	O/G	79.90	1.80	0.68	1.04	37	6.70	11.4	39.80	1.896
55	Cruz Alta (Tucumán)	O/G	80.35	0.68	0.68	0.74	36	7.90	11.3	39.00	1.924

SAMPLE IDENTIFICATION		SEMOLIN ANALYSIS					
Sample Number	Locality, district or department	Falling Number (sec.)	Color (b)	Wet Gluten (%)	Gluten Index (%)	Farinogram Energy Level	Farinogram Degree of Softening (12 min.)
1	Santamarina	430	22.2	32.2	55	33.5	25
2	Santamarina	477	21.4	31.9	50	34.2	27
6	Necochea	449	22.3	30.9	43	32.1	26
7	Necochea	472	22.3	30.8	31	33.8	31
8	San Cayetano	444	21.0	32.0	46	31.2	36
9	Cte. N. Otamendi	529	19.6	32.1	30	34.9	34
10	San Miguel	570	24.4	32.4	44	32.1	31
11	Lobería	509	23.3	32.0	34	37.1	32
12	Pieres	547	23.4	30.1	71	35.0	25
13	San Manuel	441	24.1	32.3	44	32.1	28
15	De La Garma	689	24.3	36.7	48	33.4	30
16	De La Garma	585	23.2	37.7	50	32.3	29
17	Lumb	523	24.2	33.9	65	34.6	26
18	Balcarce	475	22.6	30.4	59	30.8	26
19	Mechongué	471	22.7	28.8	37	25.1	29
21	General Lamadrid	540	21.2	34.4	30	30.7	29
23	Benito Juárez	470	20.4	32.0	2	28.3	32
24	Mar Del Plata	418	19.1	29.5	33	29.4	25
25	Lobería	557	21.8	31.0	47	30.2	27
26	Tres Arroyos	497	21.6	31.8	17	28.5	29
27	Azul	480	21.9	29.9	32	26.2	26
28	Necochea	473	24.0	29.5	45	27.0	30
29	Olavarría	466	22.3	31.2	34	24.5	28
30	Miramar	462	23.1	28.7	37	25.2	25
31	Tandil	463	21.6	30.2	45	29.2	25
32	Tres Arroyos	374	21.0	31.8	38	28.2	31
33	Tres Arroyos	420	21.7	32.2	36	29.4	29
34	San Cayetano	437	20.4	31.3	14	31.7	31
35	Lobería	440	22.2	32.2	44	29.3	27
36	Juan N. Fernández	459	20.2	30.6	12	29.7	33
37	Miramar	464	22.1	32.0	56	32.1	28
38	Miramar	534	22.2	31.6	41	33.0	28
39	Balcarce	517	20.6	32.7	12	31.8	37
40	Coronel Pringles	506	23.9	32.6	39	27.3	31
41	Coronel Pringles	539	24.9	34.5	43	29.4	28
42	San Mayol	514	21.6	32.4	26	32.5	36
43	Gonzáles Cháves	491	19.9	34.8	60	29.7	33
44	Gonzáles Cháves	458	20.1	32.6	22	28.9	33
45	La Dulce	437	20.3	30.5	18	29.5	29

Country elevators, Cooperatives and Mills that contributed in the sampling

LOCALITY	DENOMINATION
BUENOS AIRES PROVINCE	
Adolfo Alsina	Ganadera Salliqueló S.A.
Adolfo Alsina	Unigran S.A.
Adolfo Alsina	Trabajadores Unidos Cooperativa Mixta Ltda.
Alberti	Eduardo Beraza S.A.
Arrecifes	Buratovich Hnos. S.A.
Arrecifes	Francisco Sellart S.A.
Arribeños	Junarsa S.A.
Ascensión	Coop. Agric.Ganad. Ltda. de Ascensión
Balcarce	P.A.I.S. S.A.
Balcarce	Scorziello y Galella S.C.
Baradero	Julio Do Campo
Benito Juárez	Campoamor Hnos. S. A.
Bolivar	Coop.Agropecuaria de Bolívar Ltda
Bolivar	Oscar Gallo y Cía. S.R.L.
Bordeu	Acopio A.C.A.
Bragado	La Bragadense S.A.
Bragado	CDC ACA Bragado
Cabildo	Cooperativa Agrícola Ganadera e Industrial Sombra de Toro Ltda.
Carabelas	Coop. Agrop. Ltda. de Carabelas Ltda.
Carhué	Agopecuaria Millagro S.A.
Carhué	Cooperativa Agrícola Ganadera Ltda. de Adolfo Alsina
Carlos Casares	Agrogama S.A.
Carlos Casares	Tehucan S.A.
Carlos Casares	Tomás Hnos. y Cía. S.A.
Carmen de Areco	Coop. Agrop. de Carmen de Areco Ltda.
Chacabuco	Coop. Agropecuaria Granjeros Unidos de Chacabuco Ltda.
Chacabuco	Coop. Defensa de Agricultores Ltda.
Chacabuco	Rodolfo Ferrari é Hijo S.A
Chacabuco	Cargill S.A.C.I.
Chacabuco	Fergar Cereales S.A
Chivilcoy	Alagna Cereales S.A.
Chivilcoy	Coop. Agrícola Ganadera de Chivilcoy Ltda.
Coronel Dorrego	Alea y Cía.
Coronel Dorrego	Baya Casal S.A.
Coronel Dorrego	Casa Balda S.A.
Coronel Dorrego	Don Ramón S.A.
Coronel Dorrego	Pelayo Agronomía S.A.
Coronel Dorrego	Pérez Raúl Horacio - Agronomía
Coronel Dorrego	Sucesión Antonio Moreno S.A.C.A.I.F.I
Coronel Dorrego	Syngenta Agro S.A.
Coronel Pringles	Criadero Cabildo
Coronel Pringles	López y Ramos S.C.
Coronel Pringles	Pucará S.A.
Coronel Suárez	Agro El Renacer S.A. de Kopelson
Coronel Suárez	Agronomía Álvarez
Coronel Suárez	Bertolami Cereales S.A.
Coronel Suárez	Cereales Pasman S.A.
Coronel Suárez	Ducós Juan Enrique
Coronel Suárez	Navas y Cía H. J.
Coronel Suárez	Cooperativa Agropecuaria General San Martín Ltda.
Daireaux	Aripar Cereales S.A.
Daireaux	Camafer S.A.
Darregueira	Torre Teodoro S.A

LOCALITY	DENOMINATION
BUENOS AIRES PROVINCE	
Darregueira	La Emancipación Sociedad Cooperativa Mixta de Consumo Ltda.
Darregueira	Cooperativa Agropecuaria Darregueira Ltda.
Dudignac	Coop. Agrícola Ganadera de Dudignac Ltda.
Ferré	José Cusato S.A.
General Belgrano	Belgrano Cereales S.R.L.
General Lamadrid	Productores General Lamadrid S.A.
General Pinto	Rucamalen S.A.
General Pueyredón	Héctor Villar
Gonzáles Cháves	Compañía Argentina de Granos S.A.
Guaminí	Ganadera Salliqueló S.A.
Guaminí	Cooperativa Agrícola Ganadera Guaminí Ltda.
Guaminí	Cooperativa Agrícola Ganadera de Garré Ltda.
Henderson	Coop. Agrop. "El Progreso" de Henderson Ltda..
Huanguelén	Acopio A.C.A.
Junín	Liga Agrícola Ganadera Ltda.
Junin	Milo S.A.
Junín	Molino Muscariello Hnos. S.A.
Junín	Sardi y Vergani S.A.
Junín	Junarsa S.A
Junín	Berval S.A.
Laprida	Peiretti Ricardo S.A.
Lartigau	Cooperativa Agrícola Ganadera de Lartigau Ltda.
Lobería	Barón y Cía. S.A.
Lobería	Cantabria S.A.
Lobería	Forner Hnos. y Cía. S.A.
Lobería	Marzu S.A.
Lobos	Agronomía Dom S.A.
Lobos	Biroccio Cereales S.A.
Mercedes / Suipacha	Coincer S.A.
Micaela Cascallares	Cooperativa Agrícola Limitada de Micaela Cascallares
Navarro	Omar Echeverri S.R.L.
Necochea	Coop. Agropecuaria Gral. Necochea Ltda..
Nueve de Julio	CDC ACA Naon
Nueve de Julio	Coop. Agricola Ganadera de Dudignac Ltda
Olavarría	Acopio ACA
Patagones	Fibiger S.R.L. Benito
Patagones	Novick y Cía. S.R.L.
Patagones	Novick Cereales S.R.L. Daniel
Patagones	Sucesión de Ángel Martín Recondo Cereales
Patagones	Cooperativa Agrícola Ganadera e Ind. de Patagones y Viedma Ltda.
Pellegrini	Ganadera Salliqueló S.A.
Pergamino	Agricultores Federados Argentinos SCL
Pigüé	Molino Cañuelas S.A.
Pigüé	La Alianza Cooperativa Agrícola Ganadera Ltda.
Puan	Bertin y Cía. S.C.A.
Puan	Torre Hnos. S.A.
Puan	Cooperativa Agrícola Ganadera Ltda. de Puan
Rauch	Coop. Agríc. Ganadera Agríc. de Rauch Ltda..
Rawson	Rodolfo Ferrari é Hijo S.A
Rivera	Ganadera Salliqueló S.A.
Rojas / Carmen de Areco	Molinos Cabodi S.A.
Rojas	Agricultores Federados Argentinos SCL
Saavedra	Los Grobo Agropecuaria S.A.

LOCALITY	DENOMINATION
BUENOS AIRES PROVINCE	
Saavedra	Vázquez Roberto J.
Saavedra	Cooperativa Agrícola Ganadera de Espartillar
Saladillo	Coop. Agricola Ganadera Ltda. de Saladillo
Salliqueló	Ganadera Salliqueló S.A.
Salto	Ferias del Norte S.A.C.I.A.
San Andrés de Giles	Cosechas Argentinas S.A.
San Andrés de Giles	Curcija S.A.
San Antonio de Areco	Coop. Agropecuaria de San A.de Areco Ltda.
San Miguel Arcangel	Cooperativa Agricola Ganadera Limitada San Miguel
San Pedro	Ramon Rosa y Cia. S.A.
Stroeder	Cooperativa Agrícola Ganadera e Industrial de Patagones y Viedma (Deleg.Stroeder) Limitada
Suipacha / Mercedes	Coincer SA
Tandil	Usandizaga, Perrone y Juliarena
Tandil	Cooperativa Agropecuaria Limitada
Tandil	Grupo Ceres Tolvas
Tandil	Coop. Agríc. Ganadera de Tandil y Vela Ltda.
Tandil	Usandizaga, Perrone y Juliarena
Tandil - Gral. Alvarado	Rural Ceres S.A.
Tornquist	Vittori Cereales S.R.L.
Tornquist	Los Vascos Cereales S.A.
Tres Arroyos	Agarraberes Oscar Pedro
Tres Arroyos	Agro Cereales de Tres Arroyos
Tres Arroyos	Agro El Carretero S.A.
Tres Arroyos	Agro Gilardoni S.R.L.
Tres Arroyos	Agro Roca S.R.L.
Tres Arroyos	Agrooriente
Tres Arroyos	Agronomía Raúl Horacio Pérez S.A.
Tres Arroyos	Agroprimus S.A.
Tres Arroyos	Agroservicios Sudeste S.A.
Tres Arroyos	Alea y Cía.
Tres Arroyos	Bellingieri e Hijos S.A Francisco
Tres Arroyos	Bellingeri Horacio Atilio
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Tres Arroyos	Cooperativa Agraria Tres Arroyos Ltda.
Tres Arroyos	Cooperativa Rural Limitada Alfa
Tres Lomas	Ganadera Salliqueló S.A.
Tres Lomas	Morero Semillas y Cereales S.A.
Veinticinco de Mayo	Cereales 25 de Mayo S.R.L.
Villarino	A.C.A. Criadero Cabildo
Villarino	Novick y Cía. S.R.L.
Villarino	Tomás Hnos.
Villarino	Barraca Mitre
Villarino	Cooperativa Agrícola e Industrial de Médanos Ltda.
	Acopio Balcarce S.A.
	B.L.S. Agrogestión S.A.
	Cargill S.A.C.I.

LOCALITY	DENOMINATION
BUENOS AIRES PROVINCE	
	Enrique Baya Casal S.A.
	Glencore S.A.
	Molino Cañuelas S.A.
	Molino Panamericano S.A.
	Centro de Acopiadores de Cereales
	Centro de Acopiadores de la Zona Oeste de la Pcia. de Bs.As.
	Centro de Acopiadores de Daireaux
	Sociedad de Cerealistas del Norte de la Pcia. de Bs.As.
	Centro de Acopiadores de Cereales Zona Puerto Quequén
	Sociedad de Acopiadores de Cereales Zona Bahía Blanca
	Centro de Acopiadores de Cereales de Tres Arroyos
CÓRDOBA PROVINCE	
Arias	Cargill S.A.C.I.
Arias	Graneros Elevadores Arg. Coop. Ltda.
Arroyo Cabral	Lorenzati, Ruetsch y Cía. S.A.
Arroyo Cabral	Cooperativa Arroyo Cabral Ltda.
Bell Ville	La Belvillense de Cereales S.R.L.
Bell Ville	El Carmen Cereales S.R.L.
Canals	ACA Canals
Carrilobo	Logrando Amigos S.R.L.
Colazo	Comercial Rossi S.A.
Cruz Alta	Coop Agric. Gan, Cruz Alta Ltda.
Etruria	Etruria Cereales SA
Freyre	Coop. Agr.Gan. y de Cons. de Freyre Ltda.
General Roca - Depto.	Integral Agropecuaria S.C.C.
General Roca - Depto.	Aceitera General Deheza S.A.
Hernando	Coop. La Vecedora Ltda. de Hernando
Idiazábal	Ortega Hermanos S.A.
Inriville	Cargill S.A.C.I.
Jesus María	Los 6 Hermanos S.R.L.
Juárez Celman	Varios
Justiniano Posse	Coop. Agric Ganad. J. Posse Ltda.
Justiniano Posse	Coop Unión J. Posse Ltda.
La Laguna	Dosagro S.R.L.
Laboulaye	Molinos Florencia S.A.
Laboulaye	Mario Berra Cereales
Las Junturas	Molino Las Junturas S.A.
Las Junturas	Cereales Las Junturas S.A.
Leones	Coop. Agric. Gan. Leones Ltda.
Leones	Unión Agric. de Leones Soc. Coop. Ltda.
Luque	Coop. Agr. Gan. de Luque Ltda.
Marcos Juárez	Coop. Genera Paz Ltda.
Marcos Juárez	AFA Marcos Juárez
Monte Buey	Coop. Agric. Gan. Monte Buey Ltda.
Monte Maíz	Coop. Agric. Monte Maíz Ltda.
Morteros	Coop. Agric.Gan. de Morteros Ltda.
Noetinger	Coop Agr. Gral. Belgrano Noetinger Ltda.
Oliva	Coop. La Federación de Oliva Ltda.
Porteña	Coop. Gan. Agr. y Cons.Porteña Ltda.
Rio Cuarto	Varios
Roque Sáenz Peña - Depto.	Varios
Tío Pujio	ACA Tío Pujio
Tránsito	Miguel Gazzoni e Hijos S.R.L..
Tránsito	Zanoy Agro y Servicios S.R.L.
Villa del Rosario	Teumaco Cereales SA
Villa del Rosario	ACA Villa del Rosario

LOCALITY	DENOMINATION
CÓRDOBA PROVINCE	
Villa del Rosario	Molino Viada S.A.
Villa del Totoral	Pronor S.A.
Villa María	Hector A. Bertone S.A.
	Sociedad de Acopiadores de Granos de la Pcia. de Córdoba
CHACO PROVINCE	
Charata	Pampa del Cielo SRL
Corzuela	Cereacor SRL
Hermoso campo	Agrohermoso SRL
Las Breñas	Agroservicios Bru y Ka SRL
Pampa del Infierno	Alfredo Brugnoli Cereales SRL
Pcia. Roque Saenz Peña	Varios
Resistencia	Cargill S.A.C.I. Molino Resistencia
ENTRE RIOS PROVINCE	
Caseros	Coop. Arrocera de Gualeguaychú Ltda.
Concepción del Uruguay	A.C.A.- C. del Uruguay
Crespo	La Agrícola Regional Coop. Ltda.
Diamante	Agromoya S.R.L.
General Galarza	Coop. La Protectora Ltda.
General Ramírez	Coop. La Ganadera Gral. Ramírez Ltda.
Gualeguay	Maribey S.A.
Gualeguay	Coop. La Protectora Ltda.
Gualeguay	ACA -CDC-Gualeguay
Gualeguay	Gualeguay Cereales
Gualeguaychú	Unión Cerealera S.R.L.
Gualeguaychú	Tierra Greda S.A.
Gualeguaychú	Coop. Fed. Ag. Gan. de Urdinarrain
Gualeguaychú	Coop. Arrocera de Gualeguaychú
Gualeguaychú	Larroque Cereales S.R.L.
Hasenkamp	Ultragrain S.A
Hasenkamp	León Rabey e Hijos S. A.
La Paz	Coop. La Paz Ltda.
Larroque	Tierra Greda S.A.
Lucas González	Coop. El Progreso Ltda.
Lucienville	Coop. Lucienville Ltda
María Luisa	Héctor Bolzan y Cia.
Nogoya	Coop. El Progreso Ltda
Nogoya	Coop. Aranguren Ltda.
Nogoya	La Agrícola Regional Coop. Ltda.
Rosario del Tala	Coop. Agr. Gan. León Solá Ltda.
Rosario del Tala	Palombi Marcelo y Mirian S.de H..
Sauce Pinto	Dellizzotti Hnos. S.R.L.
Urdinarrain	Coop. Fed. Ag. Gan. de Urdinarrain Ltda.
Viale	Santiago D. Trocello S.A.
Victoria	Granero S.R.L.
Victoria	Maiocco Cereales S.A.
Victoria	Nidera S.A.
Victoria	Agrosur S.A.
Victoria	Destefanis Cereales S.A..
Villa Fontana	Cereales Bolzan S.R.L.
Villaguay	Arroceros de Villaguay S.C.L.
Villaguay	Semillas y Cereales S.R.L.
	Centro de Acopiadores de Granos de Entre Ríos

LOCALITY	DENOMINATION
ENTRE RIOS PROVINCE	
Monte Rico - Dto. El Carmen	Granexar S.A.
Pampa Blanca - Dto. El Carmen	Granexar S.A.
Palma Sola - Ledesma	Granexar S.A.
San Vicente - Dto. El Carmen	Granexar S.A.
LA PAMPA PROVINCE	
Anguil	Trabajadores Unidos Cooperativa Mixta Ltda.
Atreucó	Casa Alarcia S.A.C.I.F.I.A.G.
Atreucó	Sebastián Dalmasso e Hijos
Atreucó	Trimag S.A.
Atreucó	Atreucó Cooperativa Agropecuaria Ltda.
Atreucó	Cooperativa Agropecuaria de Doblas Ltda.
Capital	Casa Alarcia S.A.C.I.F.I.A.G.
Capital	Trimag S.A.
Capital	Cooperativa Agropecuaria de Anguil Ltda.
Castex	Acopio A.C.A.
Catriló	Lartirigoyen y Cía. S.A.
Catriló	Molisud S.A.
Chapaleufú	Varios
Chapaleufú	Sebastián Dalmasso e Hijos
Conhelo	Varios
General San Martín	Sociedad Cooperativa Agrícola Ganadera Ltda. de General San Martín
Guatraché	INTA Guatraché
Guatraché	Molisud S.A.
Hucal	Molisud S.A.
Maracó	Varios
Maracó	Cereales del Centro S.A.
Miguel Riglos	Trimag S.A.
Quemú-Quemú	Varios
Rancul	Varios
Realicó	Varios
Santa Rosa	Pelayo Agronomía S.A
Trenel	Cereales Del Centro S.A.
Trenel	Varios
Winifreda	Acopio A.C.A.
	Centro de Acopiadores de Cereales de La Pampa y Limítrofes
SALTA PROVINCE	
Anta	Molino Panamericano S.A. / Molinos Cañuelas S.A.C.I.F.I.A.
Rosario de la Frontera	Molino Panamericano S.A. / Molinos Cañuelas S.A.C.I.F.I.A.
Agua Linda - Embarcación	GRANEXAR S.A.
La Junta - Embarcación	GRANEXAR S.A.
Metán	Molino Panamericano S.A. / Molinos Cañuelas S.A.C.I.F.I.A.
SANTA FE PROVINCE	
Alcorta	Jakas Kokic Ivancich y cia Ltda.
Alvarez	Coop. Agrop. Fed. de Alvarez y Piñero Ltda.
Arroyo Ceibal	Quatrin S.A.
Avellaneda	Unión Agricola de Avellaneda Coop. Ltda.
Bigand	ACA Bigand

LOCALITY	DENOMINATION
SANTA FE PROVINCE	
Bigand	A.F.A. Bigand
Bombal	A.F.A. Bombal
Calchaquí	Coop. Agrícola Mixta de Margarita Ltda.
Cañada de Gómez	ACA Cañada de Gomez
Cañada del Ucle	Coop. Agric. Gan.Ltda. de Cañada del Ucle
Cañada Rosquín	AFA Cañada Rosquin
Capitan Bermudez	Rocca Cereales S.R.L.
Carlos Pellegrini	Coop. Agric. Gan. Carlos Pellegrini Ltda.
Casilda	A.F.A.Casilda
Correa	Soc. Agrop. de Correa Coop. Ltda.
El Trébol	Coop. Agric. Gan. De El Trebol
Fuentes	Fuentes Agrícola S.R.L.
Gobernador Crespo	Coop. Agr.Gan. De Gob. Crespo Ltda.
Humboldt	A.F.A. Agencia Humboldt
Humboldt	Agroservicios Humboldt S.A.
Irigoyen	Coop. Agrop. Mixta de Irigoyen Ltda.
López	Coop. Agrop. de Lopez Ltda,
López	AFA Lucio V. Lopez
Maciel	AFA Maciel
Malabrigo	Coop. Malabrigo Ltda.
Margarita	Coop. Agrícola Mixta de Margarita Ltda.
María Susana	Coop. Federal Agric. Gan. De Maria Susana
Maximo Paz	A.C.A. Cooperativa Agropecuaria Ltda.
Máximo Paz	Coop. Agrop. Ltda. de Maximo Paz
Monje	Coop. Agr. Gan. Tamb. Ltda. de Monje
Montes de Oca	AFA Montes de Oca
Pilar	Coop.Agr.Gan.Ltda Guillermo Lehmann
Pueblo Muñoz	J.A. Agrícola S.R.L.
Reconquista	Industrias Molineras y Afines de Norte (Molino IMAN)
Romang	Coop. Agropecuaria de Malabrigo Ltda.
Salto Grande	AFA Salto Grande
San Jerónimo	Coop. Agric. Gan. Ltda. de San Jeronimo
San Jerónimo Norte	AgroCereales Las Colonias S.A.
San José de la Esquina	ACA San Jose de la Esquina
Sancti Spiritu	Coop. Agric. Gan. Sancti Spiritu Ltda.
Santa Clara de Buena Vista	Coop.Agr.Gan. La Unión Ltda.
Serodino	AFA Serodino

LOCALITY	DENOMINATION
TUCUMAN PROVINCE	
Teodelina	Coop. Agraria Union y Fuerza de S. Isabel y Teodelina Ltda.
Timbúes	ACA Timbues
Timbúes	A.C.A. Cooperativa Agropecuaria Ltda.
Tortugas	AFA Tortugas
Tostado	Unión Agrícola de Avellaneda Coop. Ltda.
Totoras	AFA Totoras
Videla	Coop. Agr.Gan. De Videla Ltda
Villa Cañás	Coop. Agric. Gan. Federada de Villa Cañas Ltda.
Villa Minetti	Coop. Agrícola Mixta de Margarita Ltda.
Villa Ocampo	Unión Agrícola de Avellaneda Coop. Ltda.
Villada	Cooperativa Agropecuaria de Bombal - Sucursal Villada
Zavalla	A.C.A. Cooperativa Agropecuaria Ltda.
	Centro de Acopiadores de Cereales y Oleaginosas de Santa Fe
	Sociedad Gremial de Acopiadores de Granos - Rosario
TUCUMAN PROVINCE	
Burruyacú	Coop. Agrop. Unión y Progreso Ltda.
Banda Río Salí	Molinos Emilio Luque S.A.
La Cocha	Servicios y Negocios S.A.
	Centro de Acopiadores de Granos del NOA
WHEAT DURUM	
Bahía Blanca	Manera Virgilio S.A.C.I.F.
	Molinos Río de la Plata S.A.(Acopios Olavarría y Tres Arroyos)
Tres Arroyos	Kraft Foods Argentina S.A.
	Cargill S.A.C.I.
San Miguel de Tucumán	Molinos Emilio Luque S.A.

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Contents:

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Buenos Aires

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Bolsa de Cereales, Oleaginosos, Frutos y Productos de Bahía Blanca

AFA S.C.L.
Agricultores Federados Argentinos
Sociedad Cooperativa Limitada

Bolsa de Comercio de Rosario
Cámara Arbitral de Cereales

Cámara Arbitral de la Bolsa de Cereales de Buenos Aires

Cámara Arbitral de Cereales
Bahía Blanca Argentina

Cámara Arbitral de Cereales de Entre Ríos

faim
federación argentina de la industria molinera

Cámara Arbitral de Cereales
Bolsa de Comercio de Santa Fe

Asociación de Cooperativas Argentinas

Centro de Exportadores de Cereales

Bolsa de Cereales de Córdoba y
Cámara de Cereales y Afines de Córdoba
Tribunal Arbitral