



# COTTON IN ARGENTINA

**INTERNATIONAL COTTON  
ADVISORY COMMITTEE**

**77<sup>TH</sup> PLENARY MEETING**

ABIDJAN, Côte d'Ivoire, from December 2 to 6, 2018

Secretaría  
de Agroindustria



Ministerio de Producción y Trabajo  
Presidencia de la Nación

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# DECLARATION OF THE SITUATION OF COTTON IN ARGENTINA FOR THE 77<sup>TH</sup> PLENARY SESSION OF INTERNATIONAL COTTON ADVISORY COMMITTEE

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## 1. CULTIVATED SURFACE

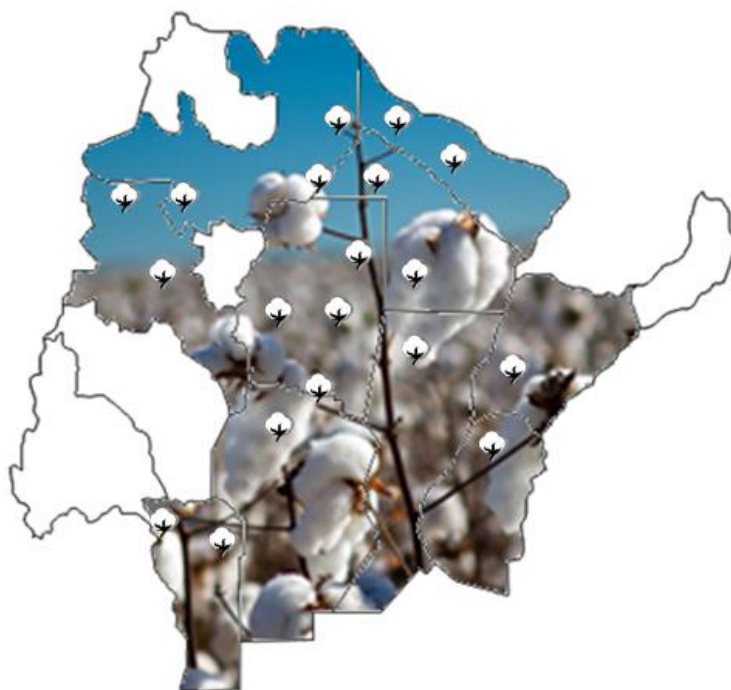
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### a) Geographical location of the crop.

During the 2017/18 agricultural season in the Argentina Republic, sowed cotton in the following provinces:

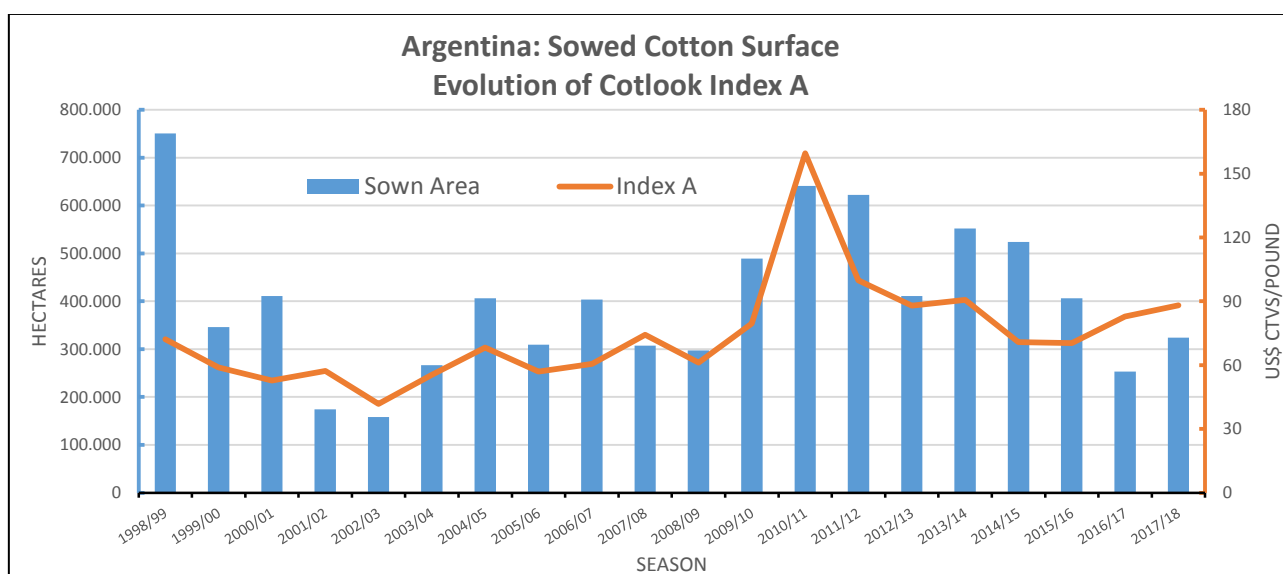
- Córdoba.
- Corrientes.
- Chaco.
- Entre Ríos.
- Formosa.
- Salta.
- San Luis.
- Santa Fe.
- Santiago del Estero.

These provinces correspond to the north of Argentina, being the cotton area defined by the north of the parallel 32° and the south of the parallel 24°, and between the meridian 56° and 66°, approximately.

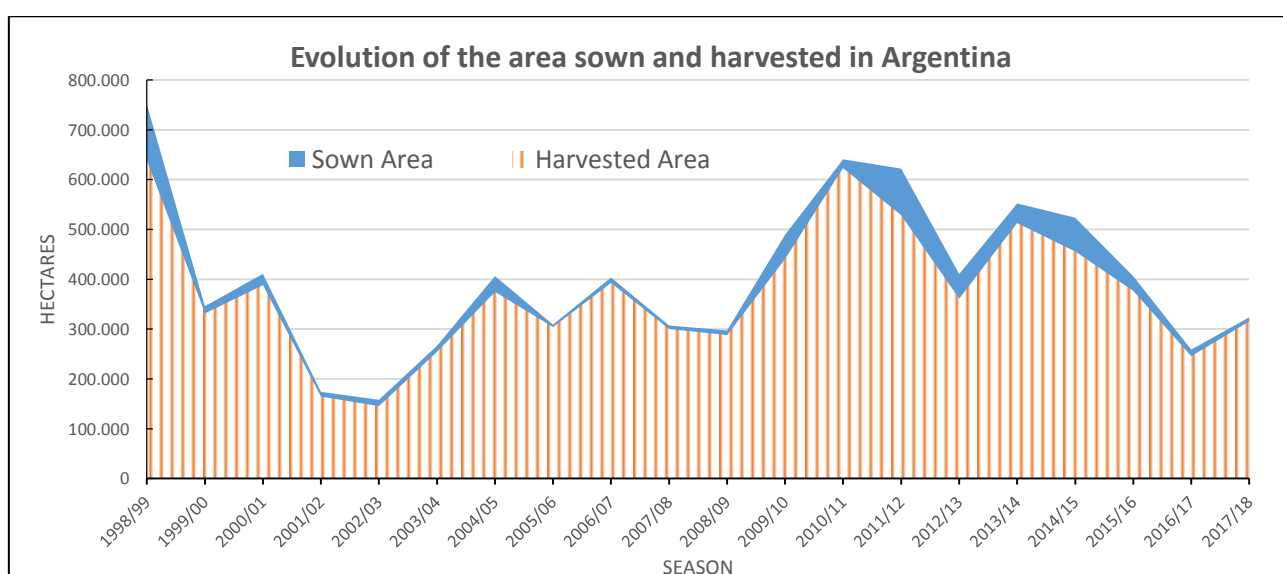


## b) Retrospective analysis.

Analyzing the last twenty campaigns and as can be seen in the graphics N°1 and N°2, it is possible to extrapolate that the sown area underwent fluctuations reaching its maximum values on the 1998/99 campaign, with 750.930 hectares, and the minimum in the 2002/03 season, with 158.209 hectares. However, we can affirm that the values registered of sown area (323.711 hectares), harvested area (315.531 hectares) and production (810.658 tons) are better than the values obtained in the immediately last season, inviting to be optimistic for the future.



Graph N° 1. Source: Directorate of Agricultural Estimates and Delegations. Provisional data, subject to change and readjustment. Prepared by Cotton Department.



Graph N° 2. Source: Directorate of Agricultural Estimates and Delegations. Provisional data, subject to change and readjustment. Prepared by Cotton Department.

### c) Analysis of the last campaign.

The sown area cotton in the 2017/18 season, reached to 323.711 hectares, while the harvested area was superior to the 315.500 hectares.

It should be note that the country average yields is close to 2.600 kg raw cotton per hectare, being the province of San Luis the one that reached the highest yield (4.200 kg/hectare), followed by Santiago del Estero with 3.200 kg/hectare.

A detailed analysis by province of the last season, allows us to visualize the following table:

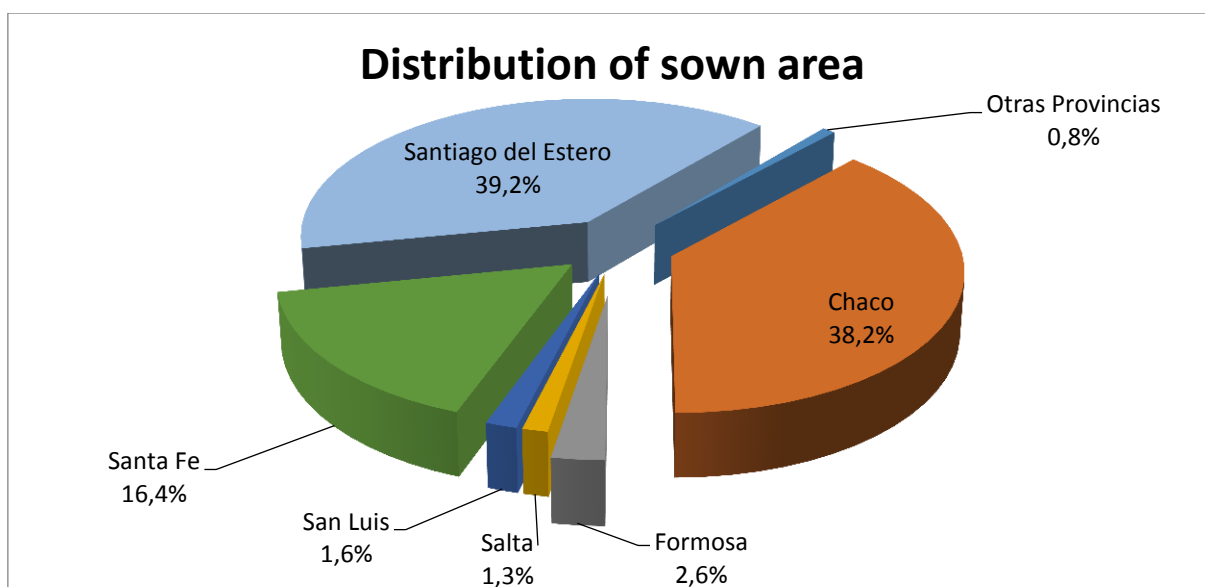
#### **Surface and Production – 2017/18 (Estimated to 02/08/18)**

Provinces	Seeded area (ha)	Lost Area (ha)	Harvested area (ha)	Producción (tn)	Rendimiento (kg/ha)
Córdoba	830	80	750	2.280	3.040
Corrientes	210		210	158	750
Chaco	123.513	1.450	122.063	265.745	2.177
Entre Ríos	1.600	300	1.300	1.690	1.300
Formosa	8.500		8.500	12.750	1.500
Salta	4.150		4.150	13.280	3.200
San Luis	5.128		5.128	21.502	4.193
Santa Fe	53.000	4.500	48.500	106.700	2.200
Santiago Del Estero	126.780	1.850	124.930	386.554	3.094
<b>Total</b>	<b>323.711</b>	<b>8.180</b>	<b>315.531</b>	<b>810.658</b>	<b>2.569*</b>

Table Nº 1. Source: Directorate of Agricultural Estimates and Delegations. Provisional data, subject to change and readjustment.

**\* Average yield for all the country, expressed on kg of cotton raw/hectare equivalent to 770 kg/ hectare of cotton raw fiber, reaching in some cases 884 kg/hectare**

In graphic Nº 3 it could be seen that, in the actuality, the province of Santiago del Estero, shows the highest surface dedicated to cotton in our country, encompassing the 39,2% of the sown area in Argentina, followed by the province of Chaco (38,2%) and Santa Fe (16,4%), adding between the three 93,8% of the national cotton area.

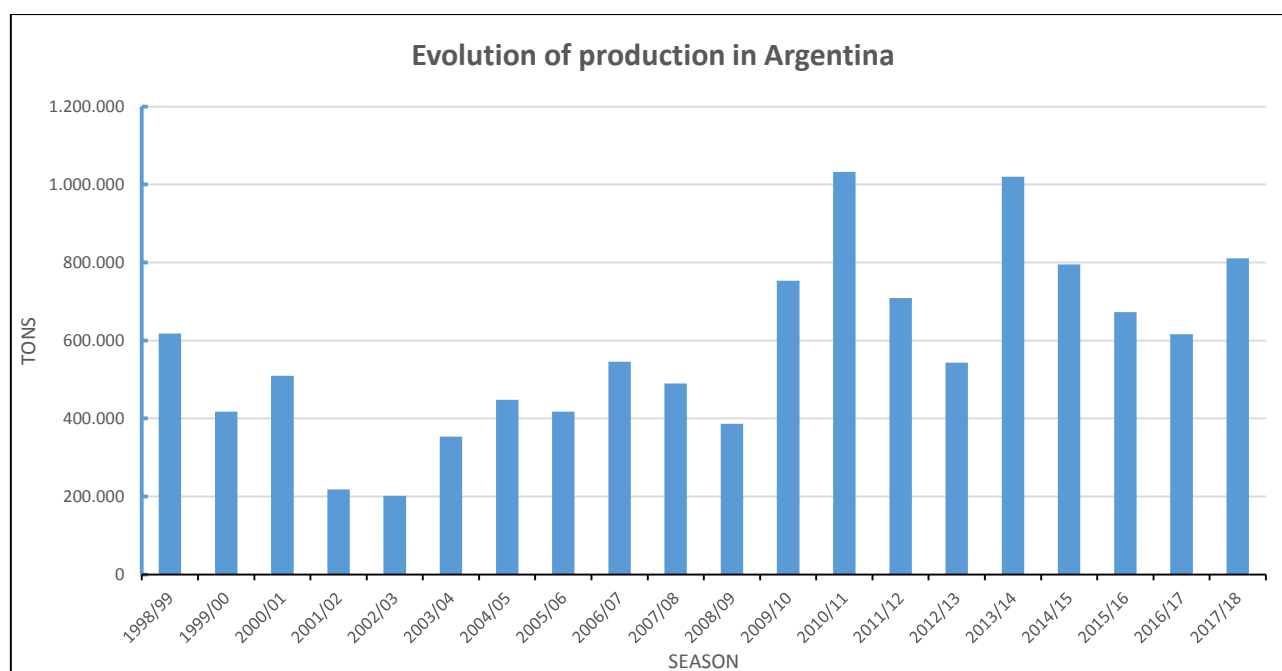


Graph N° 3. Source: Directorate of Agricultural Estimates and Delegations. Provisional data, subject to change and readjustment. Prepared by Cotton Department.

## 2. PRODUCTION

### a) National Production– Retrospective Analysis.

In graphic N° 4, it can be seen the cotton production evolution in Argentina. From the data of the last 20 campaigns we can spotlight the 2010/11 and 2013/14 seasons, as those the higher volume produced, being the first the highest one in this two decades.

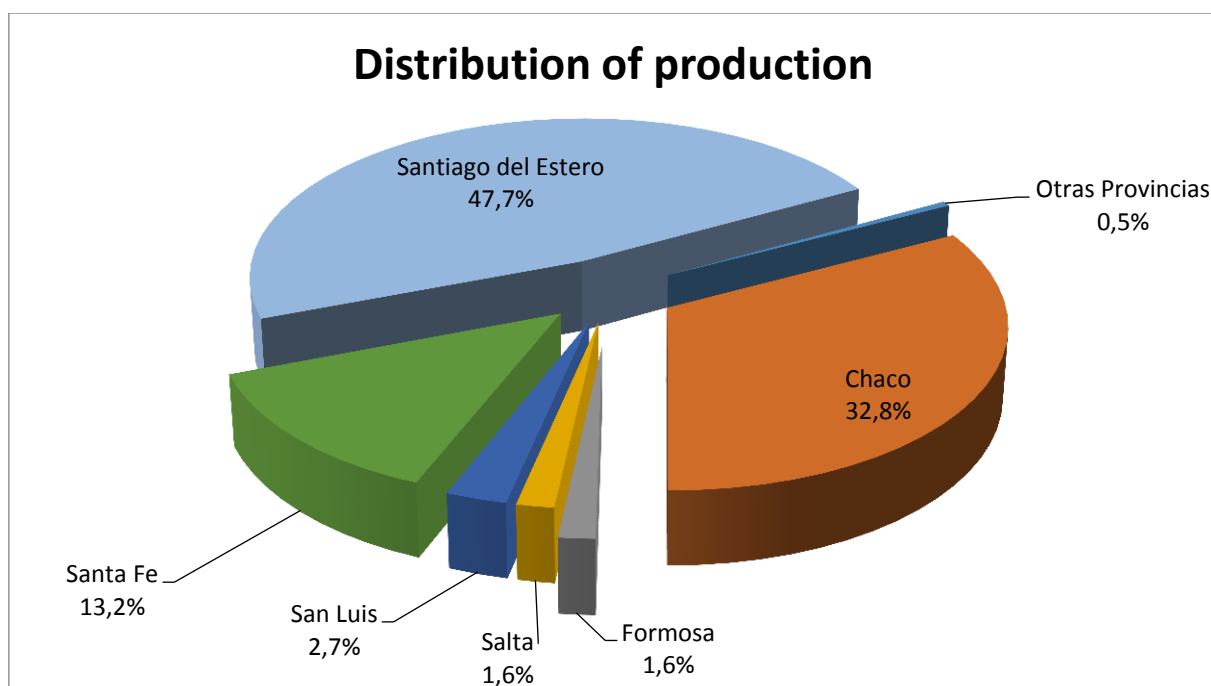


Graph N° 4. Source: Directorate of Agricultural Estimates and Delegations. Provisional data, subject to change and readjustment. Prepared by Cotton Department.



## b) Analysis of the last campaign.

During the 2017/18 season, 810.658 tons of raw cotton produced; the main production was in the provinces of Santiago del Estero (386.554 tons), Chaco (265.745 tons) and Santa Fe (106.700 tons). The percentage incidence of each shown in the following graph (Nº 5).



Graph Nº 5. Source: Directorate of Agricultural Estimates and Delegations. Provisional data, subject to change and readjustment. Prepared by Cotton Department.

In the last season, and comparing the previous campaign, we can spotlight that the attack of Cotton Boll Weevil was smaller. The reduction it could be the result of the strongest accompaniment that the public organisms had with the producer, across the startup of the Sanitary Entities, as too the capacitation and implementation of the Good Farming Practices.

## 3. VARIETIES

The main reference in improvement of the quality of the seed and production of varieties in Argentina is the National Institute of Agricultural Technology (INTA) remembering that these must conform to the protocols established by the National Seed Institute (INASE) for approval.

The objective of the program carried forward by INTA is generate and select varieties adapted to the national territory, especially considering characteristic such as productivity, fiber quality and health.

The private sector has contributed some commercial varieties: DP402 BGRR, Nuopal RR and DP1238 BGRR. It should be mention that the first is a development by Monsanto and INTA, as well as the variety Guazuncho 2000 RR.

It should be note that more than 70% of the sown area corresponds to the variety Nuopal RR. However, some cotton producers have required seeds of varieties with INTA genetics with transgenic events, since according to them, the yield of the kilos of fiber per hectare and the percentage to the cotton ginning are higher than in the varieties with greater diffusion.

Recently, the registration process for three varieties with the BGRR technology and the genetic background of INTA was complete called Guazuncho 4 INTA BGRR, Porâ 3 INTA BGRR y Guaraní INTA BGRR. This process was carry out by the INTA Agricultural Experimental Station in Presidencia Roque Ráenz Peña, with the collaboration of other Station nears to them. One of the main improvements of the new genetics is the increase in fiber percentage (5 points more than Nuopal RR). This advance in combination with a greater weight of bolls and a better fixation of structures in the lower third generates a 22% more yield in kilos of fiber hectare in relation to the BGRR materials described in table N° 2. It's important to note that the three new varieties show resistance to Bacteriosis and typical Blue Disease, maintaining the sanitary profile of the INTA genetics.

The seed Company Gensus S.A., will distribute the materials described (Guazuncho 4 INTA BGRR, Porâ 3 INTA BGRR and Guaraní INTA BGRR). During this season will be carried the original seed multiplications to market the first bags in 2019/20. It is estimate that the diffusion of these varieties in the cotton area of the country during the next 4 years will generate progress in the productivity.



The table N° 2 shows the agronomic behavior of the varieties:

Variety/line	Yield	Mill yield	Fiber Technological Parameters			
Variants	(kg fibra/ha)	(% fiber)	Length (mm)	Resistance (gr/tex)	Uniformity	Micronaire
DP 402 BG/RR	938	37	30,2	33,4	84,7	4,6
Nuopal RR	939	35	29,5	34,1	84,2	4,8
Guazuncho 2000	1049	38	30,3	33,4	85	4,8
DP 1238 BGRR	885	37	30,5	33,9	85,5	4,9

Table N° 2. Source: The table above supposes tests of the INTA of the town Roque Sáenz Peña sowed with distancing of 0,70 m. INTA EEA Sáenz Peña for season 2015/16, 2016/17 and 2017/18, Chaco, Argentina.

(\*)Thanks to the counsel of the Eng. Agr. Mauricio Tcach of INTA and Eng. Agr. Alberto Ballesteros of INASE on this topic.

#### 4. MAIN FIBER TECHNOLOGICAL VALUES OF COTTON IN ARGENTINA

In the Fiber Technology Laboratory of INTA Saénz Peña, Chaco, have been establish the standards for the characterization of Argentina cotton fiber and this are listed in the following table:

Concept	Length	Resistance	Micronaire
	Mm	g/tex	Index
Very High	Greater than 30,0	Greater than 31	Greater than 5,0
High	29,1 a 30,0	29 a 31	4,6 a 5,0
Medium	27,1 a 29,0	24 a 28	3,7 a 4,5
Low	26,0 a 27,0	22 a 23	3,2 a 3,6
Very low	Less than 26,0	Less than 22	Less than 3,2

Table N° 3. Standards of length, strength and micronaire of cotton fiber in Argentina.

Analyzing the 1964/97 period of registered statistical values of cotton fiber it can be comment that:

- 1- The Micronaire index also experienced an increase reaching 4,2 ug/pulg, becoming stable in the last years.

- 2- The length went from values inferior or near 25 mm to levels near or superior to 29/30 mm
- 3- The resistance has been increasing until reaching 20 - 25 gr/tex (level Stelómetro)

All these parameters determine that the Argentine cotton fiber is among the levels considered internationally average.

*(\*)Thanks to the counsel of the Eng. Agr. Alex Montenegro of INTA on this topic.*

## 5. LAST COTTON NEWS

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### a) Traceability experiences in cotton production.

The variability of the quality of cotton fiber is one of the most important problems in the cotton sector that particularly affects the textile industry. The Program of Assistance for the Improvement of the Quality of the Cotton Fiber (PROCALGODON) in charge of the Secretariat of Government of Agro-Industry of the Nation has developed and put into practice protocols of good practices of management of the crop (sowing and harvesting) and of monitoring and control of the production process of the cotton fiber (separation of the fiber of the seed: ginning) that guarantees the final quality of the same in the bale.

In this regard has been raised as a need to implement a system of traceability of batches and in particular of the bale that includes in the identification of each of them not only important information of their processing but also the quality of each bale individually. In this way the Program seeks to obtain data from the different stages of production that contribute to the improvement of the raw material and the processes involved in obtaining it, so as to tend towards a more transparent commercialization that includes not only the commercial classification determined by the classifier as it is carried out in the current system but also include the measurements according to the objective quality determined by high volume measuring equipment (HVI).

The main cotton provinces were invited to develop systems that guarantee traceability in fiber production based on radio frequency (RFID) technology. The province of Santa Fe began with these activities and it is expected that both the province of Santiago del Estero and Chaco will join the experience.

For this, technicians from the National Institute of Industrial Technology (INTI) made a presentation with the characteristics of RFID technology, proposing the development of a protocol of traceability of cotton, including the handling of bales and the possible form of reading as well as the use of Ultra High Frequency (UHF) RFID chips. This type of system, which functions as a bale document, not only allows recording, but also allows the re-recording of the available memory space, and the information can be encrypted.

The first pilot test in the province of Santa Fe included the purchase of the appropriate equipment for the reading and recording of the tags (printer, handheld and tags for the identification label) with information of the cotton producer, of the lot, characteristics of the gin and fiber quality data both HVI and commercial classification. Likewise, an evaluation of the sensitivity for the reading of different sizes of bales in the deposit of the gin was carried out. For the development of this pilot test, one of the largest ginners in the country was chosen for the volume processed, in order to select different storage methods.

The pilot test allowed sizing the most suitable hardware with different reading sensitivities of the tags according to the type of deposit of bales in gin, as well as the need to develop specific software was detected and it provided a very valuable experience for the implementation in gins of other provinces.

We appreciate the advice of Ing. Patricia Marino, Coordinator of the Europe Aid / 150248 project of the Textile Research and Development Center of INTI, on this topic.

## **b) PROCALGODON**

The research work continues within the framework of this program the INTA (through each regional center) reaches to the producer according to the particular and zonal characteristics of them, allowing them to adopt better technology according to their needs framed in their environment.

These works contemplate the use of varieties according to the productive needs, seed of good quality, correct preparation of the land, good practices.

## **c) Sanitary Entities**

The Sanitary Entities that were generated by Law N° 27.233 have been consolidated in the different provinces. More and more producers are grouped in these entities, perfecting their

operation in the struggle to control the progress of the cotton boll weevil, a fundamental objective of the National Service of Health and Agrifood Quality (SENASA), dependent on the Secretariat of Government of Agro-Industry of the Ministry of Production and Labor of the Nation.

#### **d) Seed - INASE.**

Through the General Joint Resolution N° 4248/2018 of the Ministry of Agro-Industry, SENASA, INASE and the Federal Administration of Public Revenues (AFIP), the Simplified Agricultural Information System (SISA) was created. This System replaces the Informative Registry linked to the production and commercialization activity of grains and seeds in certification process. SISA has to objective promote the use by natural and legal persons of controlled seed for the sowing of cotton (*Gossypium hirsutum* L.) by affidavit, understanding that this will allow a better control and quality of the seed used. Likewise, it is important to highlight that thanks to this registry, all the information on the legal origin of the seed used will be available.

**In this way, cotton in Argentina continues to develop the three pillars that point to sustainability, proposed by the current management, namely:**

- **Health (through the Sanitary Entities).**
- **Fiber quality (through PROCALGODÓN).**
- **Genetics (through the Simplified Agricultural Information System).**

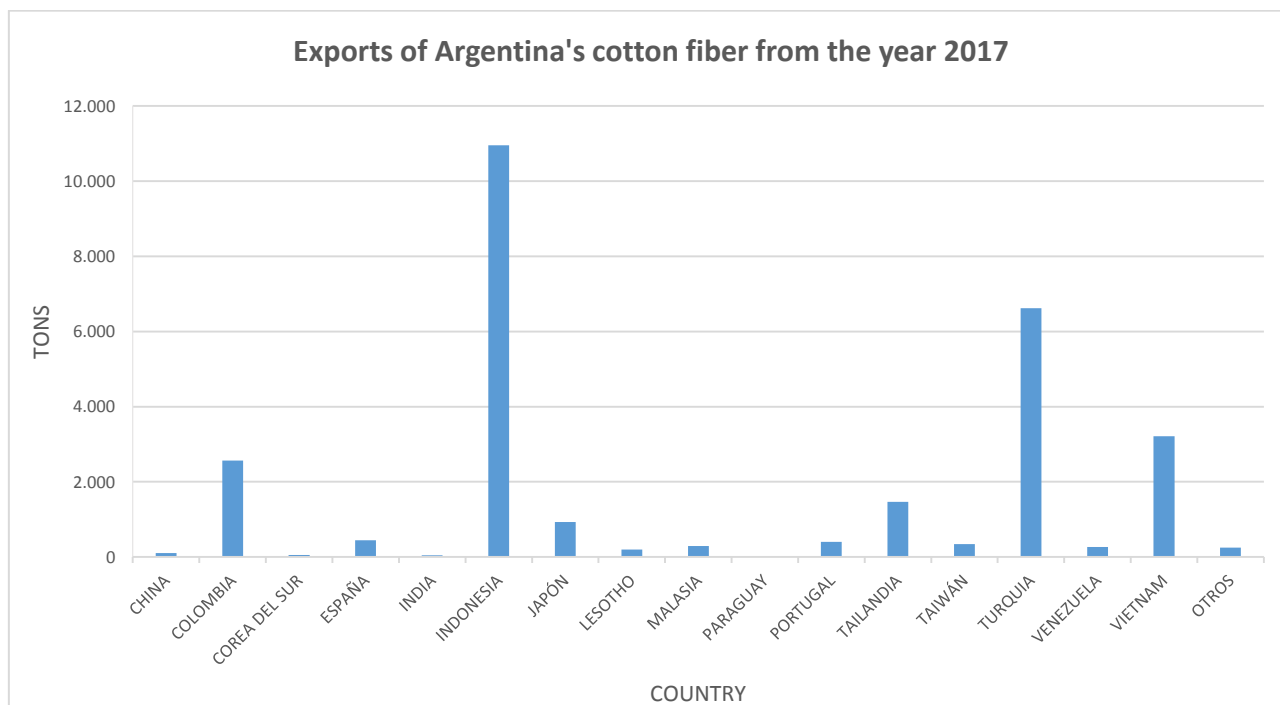
## **6. EXPORTS**

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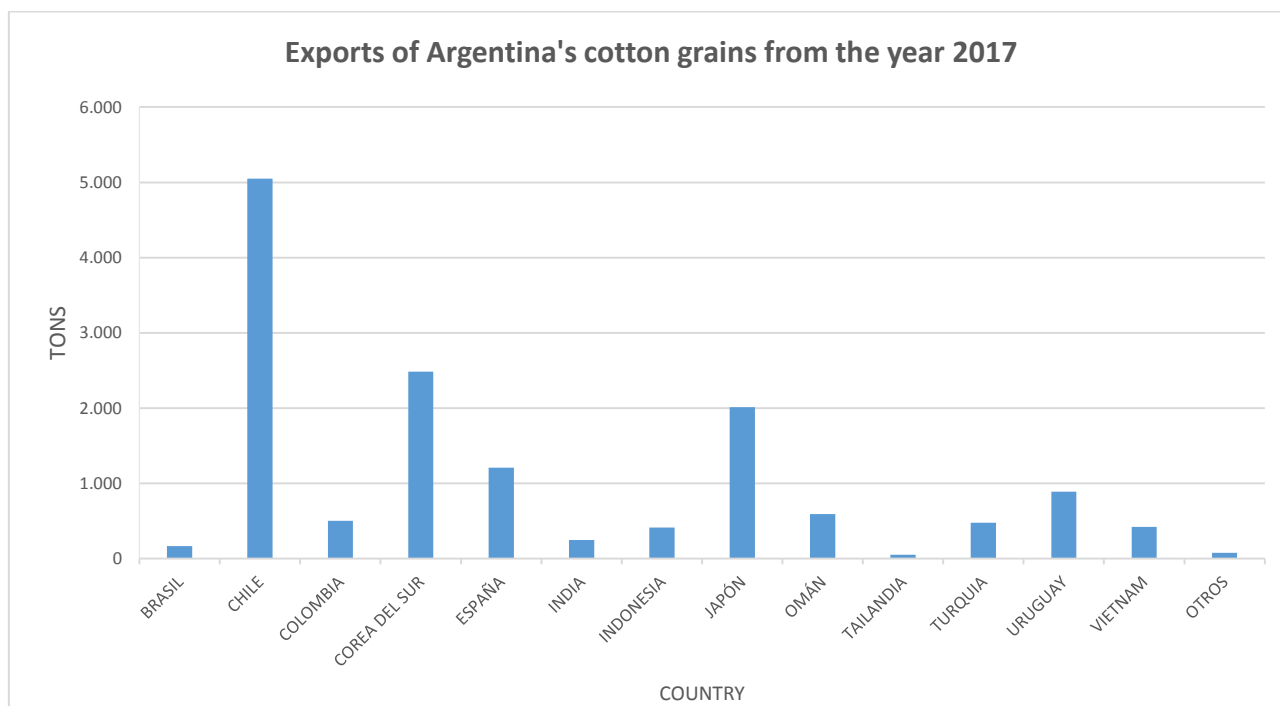
Traditionally Argentina was characterized by being an exporter of cotton, reaching in the year 2017, according to SENASA data, about 51.300 tons. The destinations where the largest volume of cotton fiber was exported were Indonesia (11.051 tons) and Turkey (7.311 tons).

In addition, we must mention that a large percentage of this volume corresponds to fiber with 29.665 tons (58%) and grains 15.700 tons (31%). From this last, it was exported to Chile 6.015 tons, followed by South Korea with 2.486 tons and Japan 2.013 tons.

Among other by-products exported are Pellets with 5.702 tons to Paraguay, cotton wool with 49 tons and 29 tons of seed with the same destination. Linter has to only destiny Brazil, who bought 152 tons.



Graph N° 6. Source: Statistical Coordination - Foreign Trade Statistics Office - SENASA. Prepared by Cotton Department



Graph N° 7. Source: Statistical Coordination - Foreign Trade Statistics Office - SENASA. Prepared by Cotton Department

In general terms, we can infer that of the total fiber exported in 2017 just over 80% goes to Asia and Oceania; while something more than 10% goes to America.

## **7. IMPORTS**

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For some periods the import trend has increased, generally responding to the supply of domestic demand, when local production, for climatic reason, failed to meet the needs of domestic industry.

Last year, by way of example, more than 1.600 tons of cotton fiber was import, coming the most part from Brazil.

## **8. PROSPECT FOR THE 2018/19 CAMPAIGN**

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Although the national and international context requires caution when issuing some kind of projection, we cannot stop being optimistic if we take into account some results obtained in the 2017/18 campaign.

The incorporation of new varieties in the local cotton market would allow, among other things, to open the spectrum of choice of quality seeds, this can attracting those producers who were not convinced of the qualities of the seeds that had been use. This undoubtedly should have a positive impact on the incorporation of new cotton producers and would strengthen existing ones.

The constitution of the Sanitary Entities and the joint commitment between the State (in its different organism) and the whole cotton community allowed demonstrating that an efficient control of the Cotton Weevil, the main plague affecting the crop, can be achieve. This would result in a probable increase in yields and their production; needless to say, we must bear in mind there are other factors who affect performance.

On the other hand, the increase of the production and the ginning percentage could be understand as one of the achievements reached by the Good Farming Practices and the joint work realized between the Governmental Organisms and the producers raising awareness about the use of quality seeds.

When making this estimate we cannot stop being alien and consider the climatic variable as a determining index when evaluating the agricultural behavior of the crop.

Therefore, if it is possible to repeat the effectiveness obtained in the fight against the plague; as well as a price level that can accompanies the expectations, added to favorable



agro-meteorological conditions at the time of sowing will be determining factors for cotton and its upward projection before the other competing crops.

If confirmed, these estimates would increase both the area sown and its production, also having an impact on the potential increase in exports. To this, it is important to add that a percentage of imported fiber with specific parameters for the manufacture of certain yarns should be considered.

For harvesting, it is expected to increase the use of picker harvesters, given that the quality of the raw cotton obtained is that required by the spinning mill since the fiber harvested with this modality responds to the parameters requested by the Federation of Textile Industries. It would also continue to recommend the use of stripper harvesters with pre-cleaning because with these characteristics the fiber collected will be of good quality.

## 9. TEXTILE INDUSTRY

This topic includes information referring to the sector of the Argentine textile industry.

### a) Participation of the Textile Industry in the Gross Domestic Product and in the Industrial Gross Product.

	YEAR										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	<b>Gross Production Value</b>										
Textile	0,75%	0,62%	0,57%	0,62%	0,65%	0,58%	0,55%	0,61%	0,59%	0,53%	0,47%
Textile + Clothing	1,58%	1,43%	1,39%	1,42%	1,51%	1,40%	1,40%	1,38%	1,40%	1,24%	1,08%
	<b>Gross Value of Industrial Production</b>										
Textile	2,37%	1,99%	1,91%	2,05%	2,11%	1,94%	1,88%	2,09%	2,09%	1,90%	1,80%
Textile + Clothing	5,02%	4,59%	4,64%	4,67%	4,93%	4,69%	4,73%	4,68%	4,96%	4,44%	4,11%

Table Nº 4. Source: National Institute of Statistics and Census. Prepared by Federation of Argentine Textile Industries. According of calendar years.

## b) Apparent consumption of final textile goods (kg/habitant).

Year	Kg per habitant
2007	9,69
2008	9,98
2009	7,00
2010	9,45
2011	9,75
2012	8,10
2013	7,54
2014	8,70
2015	8,37
2016	7,63
2017	7,75

Table N° 5. Source: Argentine Cotton Chamber, Argentine Wool federation, Manufactured Fibers Chamber, National Institute of Statistics and Census, and Customs House. Prepared by Federation of Argentine Textile Industries. According of calendar years.

## c) Fiber consumption.

YEAR	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	Tons										
Cotton fiber	203.629	201.021	132.428	196.438	192.399	125.393	137.122	230.489	185.538	131.824	141.911
Washed wool	5.000	2.000	2.000	2.000	2.000	3.000	2.000	2.000	2.000	2.000	2.000
Manufactured fibers	49.139	50.413	40.178	47.347	47.915	53.104	47.108	48.120	48.289	42.692	33.019
<b>TOTAL</b>	<b>257.768</b>	<b>253.434</b>	<b>174.606</b>	<b>245.785</b>	<b>242.314</b>	<b>181.497</b>	<b>186.230</b>	<b>280.609</b>	<b>235.827</b>	<b>176.516</b>	<b>176.930</b>

Table N° 6. Source: Argentine Cotton Chamber, Argentine Wool federation, Manufactured Fibers Chamber, National Institute of Statistics and Census, and Customs House. Prepared by Federation of Argentine Textile Industries. According of calendar year.

## d) Utilization of the installed capacity of the textile industry.

Total estimate of the textile-confectionary chain (Average).

YEAR	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
VALUE	79,2%	78,2%	75,2%	83,5%	78,2%	78,8%	76,4%	76,0%	67,7%	68,0%	61,1%	54,3%

Table N° 7. Source: National Institute of Statistics and Census. Prepared by Federation of Argentine Textile Industries. According of calendar years. \*Average seven first months of the year.

## e) External Market.

### Imports – Cotton and Blends.

		YEAR											
		2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2007	2018*
Yarns	In tonnes	12.513	12.516	2.366	5.835	3.217	3.799	4.798	2.725	4.701	4.894	3.467	1.274
	Millions of dollar (US\$)	31,8	37,9	8,5	20,8	18,0	18,1	22,4	13,8	17,8	17,2	13,5	4,9
Flat Woven Fabrics	In tonnes	25.620	26.360	14.677	18.301	13.950	10.467	11.221	9.665	9.626	11.757	11.630	5.747
	Millions of dollar (US\$)	134,6	156,4	91,8	117,0	132,6	109,9	113,7	99,8	94,8	101,2	91,3	48,1
Knitwear	In tonnes	733	979	354	1.973	5.679	9.465	4.447	1.421	1.352	799	620	454
	Millions of dollar (US\$)	6,4	7,9	2,8	10,0	25,2	38,1	19,4	8,9	9,4	8,1	5,3	3,6

Table N° 8. National Institute of Statistics and Census, and Customs House. Prepared by Federation of Argentine Textile Industries. According of calendar years. \*Average seven first months of the year, it is estimated that these data are underestimated due to statistical secrecy.

### Exports - Cotton and Blends.

		YEAR											
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*
Yarns	In tonnes	5.956	5.439	5.432	5.551	6.855	3.499	4.129	7.596	2.848	3.009	3.261	1.065
	Millions of dollar (US\$)	18,5	20,1	16,7	19,9	34,5	13,3	14,6	27,1	11,9	9,8	8,8	2,7
Flat Woven Fabrics	In tonnes	2.922	2.456	1.171	867	562	379	17	610	201	129	952	6
	Millions of dollar (US\$)	14,8	14,4	5,2	4,9	4,9	3,2	1,5	4,1	1,9	1,1	5,4	0,1
Knitwear	In tonnes	491	476	328	453	402	229	157	111	91	51	63	20
	Millions of dollar (US\$)	3,2	4,2	2,7	4,0	4,6	2,8	1,8	1,2	1,0	0,5	0,7	0,2

Table N° 9. National Institute of Statistics and Census, and Customs House. Prepared by Federation of Argentine Textile Industries. According of calendar years. \*Average seven first months of the year, it is estimated that these data are underestimated due to statistical secrecy.



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