Tucuman

Production structure

Main activities
- Energy
- Sugar
- Lemon
- Grain
- Vegetables
- Tobacco
- Avocado
- Strawberry
- Blueberry
- Afforestation
- Metalworking
- Textile
- Automotive

Production and Scientific Development
- Human Resources Training
- Research
- Promotion of Exports and Investments
- Environment
- Protected Areas | Hydrographic Network

Tourism

Exports

Production Statistics

Authorities
The province of Tucuman is located in the north of the country and is the economic center of the Northwestern region of Argentina (NOA). This region also includes the provinces of Catamarca, Santiago del Estero, Salta and Jujuy.

The NOA is an area of 470,184Km² which is the 9.3% of the continental territory of the Argentine Republic and has a population of 4,765,114 inhabitants that represents 12% of the total population in the country with an average density of 10 inhabitants/km².

Tucuman is the smallest province of Argentina. Its surface represents 0.8% of the total of the national territory and it has the highest population density in the country: 67 inhabitants per km². According to the Statistics and Census National Institute (INDEC) projections for 2010 the population growth will be of 1,511,516 inhabitants which represents 32% of the total of the population for the region of NOA.

<table>
<thead>
<tr>
<th>Surface</th>
<th>22,524 km²</th>
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<tbody>
<tr>
<td>Population</td>
<td>1,511,516 hab.</td>
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<tr>
<td>Population Density</td>
<td>67 hab/km²</td>
</tr>
<tr>
<td>Geographical Location</td>
<td>26° - 28° LS y 64° - 66° 10' LW</td>
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<td>Capital of the Province</td>
<td>San Miguel de Tucumán</td>
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The territory has a varid agroecological diversity. Warm sub-tropical climate with dry season prevails over most of the province with microclimates that allow a highly productive potential. This potential is favoured by the surface and underground hydric resources that enable the agricultural and industrial development.

The high quality and abounding water resources were of the greatest importance for the development of the sugar cane industry more than 100 years ago, as well as for the rise, lately, of other industries such as the citrus factories, soft drinks and paper production, among others, which allowed Tucuman to be one of the most industrialized provinces in the country.

Tucuman is a node within the regional transportation area. Its location in the middle of the North West of Argentina (NOA) region is a major strategical position for domestic commerce and for MERCOSUR as well.

It is connected to the main productive centers of the country throughout national routes from San Miguel de Tucuman through the whole province and the region alongside every cardinal point.

The political division includes 17 departments. The distribution of the population inside the province was influenced by the earlier and current upcoming of the sugar mills that allowed the rise of numerous villages. Nonetheless, 65% of the population is distributed in what is known as the Great San Miguel of Tucuman formed by the city halls of the departments of the Capital City, Yerba Buena, Tafí Viejo and Cruz Alta.

Tucuman is a rich province that mixes the heritage of ancient generations of local aborigines, patriots and visionary people with the vigour of its growth and modernization.

Its geography shows flat lands, valleys and mountains with high peaks towards the western and northeastern center of the province covering 45% of the province area. The landscape has great contrasts in short distances: in a 60km journey it is possible to start at 300m over the sea level in the flat lands and then reach more than 3,000m going from the foothills through the intermountain valleys.
Main Activities

**Regarding the domestic market, both commercial and touristic, and due to its privileged geographical location, it is possible to reach 3.25 million people of the neighbouring provinces in a range of 300 Km.**

The road system facilitates both the access to the ports on the Pacific Ocean in Chile throughout the border passages of San Francisco in Catamarca and Jama in Jujuy as well as the regional trade with other bordering countries such as Bolivia, Brasil y Paraguay.

Air flights for worldwide trade connection is in full development currently. **In 2009, Tucuman became the second more important national center regarding air cargoes for international destinations.** Approximately, 1,000tn of fine fruit have been exported from the local International airport and this cargo is planned to be trebled in two years’ time.

**PRODUCTION STRUCTURE**

The Geographical Gross Product (PBG) of Tucuman was of 4,872 millon ARS for the year 2008 which approximately accounts for 1.5% of the country Internal Gross Product (PBI). Within the province PBG, the services sector contributes with 65 % and the manufacturing sector with 35 % of the total. The average percentage composition of each sector contribution to the PBG is as follows: agriculture, 9%, industry and manufacturing 18%, electricity, gas and water 3%, building industry 3%, trade 16%, public administration and social services 27%. Other sectors (mining, quarries, transport, etc.) 24%.

The productive sector in Tucuman is improving its diversification and the primary sector has reached a major importance through the agroindustrial integration in sectors such as sugar cane and lemons. This integration involves the farming up to the final product: the classification and packaging of fresh fruit as well as manufactured products such as concentrated juices, essential oils and dehydrated peel in the case of lemon production. Regarding the sugar cane process the products obtained are: raw and refining sugar, molasses, bioetanol, bagasse as raw material for the production of paper and another by-products.

There are also another important agricultural productions though less industrialized such as strawberries, avocados and tobacco as well as blueberries, vegetables and grains (soya, maize, wheat, beans). Manufacturing has diversified significantly around textile, shoes, automotive and other metallurgical industries. The major productive area is the central flat land of the province.

**MAIN ACTIVITIES**

Below it is a brief summary of the most important productive activities: production of energy, the main agroindustrial areas and primary production sectors as well as research, training, promotion and tourism activities.
**Production of Energy**

**Generation from renewable sources**

Tucuman is a significant promoter of the production of energy from renewable sources through the replacement of fossil fuels by biomass, hydroelectricity and solar energy in order to foster the sustainability of farming and agroindustrial productive activities and the preservation of the environment as well.

The local government has elaborated a plan to be carried out in a short time in order to adjust some projects of hydroelectrical exploitation in the Gastona, Medina, Pueblo Viejo, Angostura, Los Sosa and Lules basins together with the objective of fostering private and public investment in the generation of hydroelectrical energy, rivers regulations and exploitation of water. On the other hand, a project of generation of electrical energy from solar energy is being assessed with the purpose of eliminating the thermal generation by diesel in the western area (Calchaqui Valleys) and thus transfer the surplus into the wholesale electrical market (MEM).

**Bioethanol.** The provincial government has promoted the modification to the national biofuels law 26.093 that allows the mixture of bioethanol, obtained from sugar cane, with petrol. This regulation lays down the compulsory cut of 5% of ethanol from January 2010. To fulfill these goals, the Argentine mills pledged to produce 270 million liters of alcohol. With this stimulus, the Tucuman sugar industry began a strong investment process for the adaptation and building of new distilleries and dehydrating of alcohol, mixing of fuels and other investments. The new facilities will allow Tucuman mills, participating this year of the program, to deliver to the oil companies about 136 million liters of ethanol for blending with petrol. In the coming years, the production of bioethanol must allow a petrol cut of 20-25% of ethanol.

The production of electricity and gas, using agricultural waste and industrial waste energy, is already underway. Tucuman was the first province in cogenerating electricity using bagasse from sugar cane and biogas production from the use of residues from the citrus industry. Investments are also being assessed for electricity generation from crop residues of sugar cane, RAC, which is planned to generate about 70 to 100 megawatts (MW).

**Cogeneration.** The sugar industry began a process of investing heavily to increase its energy efficiency. This will enable the passage from the self-generation to the cogeneration of electricity. By the year 2009, one of the Tucuman mills was the first factory in the country to generate electricity from the bagasse from sugar cane, for public use. The plant will produce 11 megawatts in the first stage: approximately half of this generation is used to supply its own consumption and the rest is marketed on the national interconnected system. There is also advance in the investment of a new venture for the cogeneration of 30 MW, which will start its production in 2011.

In the coming years, investments are being assessed in this regard to increase the cogeneration of electricity to get to cover 40% of the provincial consumption. The investments already made and planned by the Tucuman mills will turn these factories into real energy plants.

**Biogas.** In 2009 it was inaugurated in Tucuman the first biogas plant in Argentina for the treatment of effluent of the citrus industry by capture and exploitation of the biogas produced. Thus a renewable resource such as biogas is used to partly replace the gas consumed by industry in the industrialization process of the lemon. The company that began operating the plant will produce about 3.25 millones cubic meters of biogas which will allow to reduce by 25% in the natural gas consumption which contributes to improve the energy balance of the province and the region contributing thus to environmental sustainability.
Main Activities | Sugar

Generation from non renewable sources

Tucumán, is the province with the largest installed capacity for the generation of electricity in the North West of Argentina (NOA).

The installed capacity exceeds 1,000 MW, primarily high performance power plants operating on natural gas: 45 MW corresponding to hidroelectric power plants. This power generation accounts for 4 % of the total energy produced in the country from power plants, both hidroelectric and nuclear.

For the year 2011 it is expected to start operating a new thermal plant with capacity to generate 120 MW, equivalent to just over 25 % of the total provincial consumption which has currently reached a maximum of 460 MW. This implies that in the province there is three times more energy than what it is consumed.

This generating capacity turns Tucuman into a node from which power is distributed to the North Western region (NOA) and other provinces through the national interconnected system. In this sense, a 500 kilowatts extra-high voltage stretched line, is being built joining the North Western region (NOA) with the Northeastern Argentine region (NEA) allowing the transport of energy produced in Tucuman and in the south of the country to this region.

SUGAR

The production of sugar cane and the sugar industrial complex are one of the most important productive sectors of the economy of the province.

Tucumán is the first domestic producer of sugar and in the year 2009 produced 64 % of the total production in the country.

In the primary stage where more than 226,000 ha grow with sugar cane, there is a heterogeneous agrarian structure with a significant presence of smallholder sugar cane growers, a layer of independent producers, medium to large, and mills vertically integrated. The industrial sector is comprised of 15 mills that have a heterogenous milling capacity, where the largest mills grind 20 % of the total cane and the lower capacity grinding mills 3% of the total.

The sugar market was heavily regulated since the early '20s. This policy continued with different nuances until 1991 when the activity was deregulated.

In 1992, in order to establish a system to give security to the sugar industry because of the International market distortions, it was adopted a special scheme for mobile rights that complements the “ad-valorem” tariff. Through the law 25.715 of 2003, it was established that the import tariffs remained in force until otherwise provided by law of the nation.

Since deregulation, there have been many changes in all stages of the production and the relations between agents. There was an increase in productivity of sugar cane plantations, mantaining and even increasing production despite the decline in acreage.
Main Activities | Sugar

In the industrial sector, new companies that use sugar or alcohol among their resources, buying or leasing mills that were owned by traditional operators have been incorporated. This vertical expansion process has been deepened by the acquisition of sugar plantations by firms producing candies and agrochemicals.

In a first stage, the most significant investments of the mills were destined to improve productivity in the cane fields and incorporated integral, mechanical harvesting to reduce production costs. The mills have invested in plants and manufacturing processes in order to improve their productive efficiency.

One example this is the reduced demand for natural gas of all the mills, diminishing gas consumption by 33% from 2000 to 2009 even though sugar cane milling increased a 28% in the same period.

Currently, investments are focused on the bioethanol and the cogeneration of electricity with the aim of transforming the sugar mills into energy production units and the sugar cane into renewable energy not only into a food source but into renewable energy as well.

This will allow the industry to stop depending on a commodity, like sugar and transform the sugar agroindustrial activity in a more predictable and sustainable activity.

There are reasonable investment expectations for the coming years, which would bring the combined power of 200 MW and increase the ethanol production to reach a cut of bioethanol with petrol, a 20 to 25%.

In 2009, the domestic production exceeded 2.1 million tons of sugar, with a 64% for the domestic market. The remaining production is exported to comply with the allocation “American share” which is sent to the United States and the surplus is exported to traditional markets of Argentina, particularly Russia, Chile, India, Syria, Arabean Emirates, Uruguay and other countries.

The record production of sugar for Tucuman was of 1,525,190tn. In 2009, the production reached 1,365,343tn, with an increased estimated for 2010 over the previous year, so that production could decrease from 1.4 to 1.5 million tn.

Exports of refined sugar, raw cane and molasses totalized US$169.3 million FOB price, in 2009, which represented just over a 200% increase in sugar exports from 2008.

The activities strongly linked to the sugar industry are the products of:

**Alcohol:** Together with the development of sugar some mills have distilleries producing undenatured ethyl alcohol from cane molasses. The main current target is export. In 2009, it was exported at a value of US$12.8 million FOB price.

**Candy:** In the province it is installed a candy plant belonging to one of the major food companies in the country. This company expanded vertically, incorporating the production of its main raw material (sugar) to its production strategy. It has significant levels of competitiveness that allow entry to the world markets. It exports candies with its own brand apart from contracts with International firms for the development of several product lines. In 2009, the export of this sector amounted to US$25.3 million.

**Paper:** There is a major company located in the province that produces pulp from bagasse. It has made investments for diversification of types and grades of paper allowing the company to be inserted into the domestic market with a better competitive position. It produces corrugated cardboard, newsprint, and printing and writing paper.
The lemon producing complex is characterized by high vertical integration with primary large holdings of high performance production. Approximately half of the 35,000ha planted with lemon are owned by industrial companies to supply their modern packing plants.

In 2009, the production of lemon in Tucuman was of 1,207,000tn of which 78% was allocated to the production of concentrated juices, essential oil and dehydrated peel. The remaining 22% was marketed as fresh fruit and of that 88% was exported, targeting 12% to supply the domestic market.

Both in regard to the primary and industrial production, the lemon production activity in Tucuman is structurally exporting and thus has a high degree of quality standards certifications.

The supply of fresh lemons, from farm work, is targeted to obtain high quality fruit suitable for export. The processing industry devotes the bulk of its production to foreign markets. From the perspective of producers and agribusiness sector as a whole, complementarity of production (and marketing) of fresh lemon and its industrial by-products, is a key factor.

The packaging is an important link in the export chain. There are seven industrial plants and around 40 packing plants. Its technological characteristics such as selection, preparation, presentation of fruit and quality of packing are in accordance with requirements of major consumer markets.

Exports to the most demanding consumer markets since the mid-’80s enforced profound qualitative and quantitative changes in primary production leading to a rapid introduction of technological improvements in the field and the adoption of a system of traceability and quality health being monitored by the National Health Service and Food Quality (SENASA).

Fresh fruit exports reached US$351.7 million and, in 2009, due to the global financial crisis, it decreased to US$156.5 million.

The main destinations of the fruit were: Netherlands, Russia, Italy, Spain and Greece, among others. Currently, the necessary steps are being taken to enter with fresh fruit to markets in the United States and Japan.

This fall in the fresh fruit exports has been largely offset by increased exports of industrialized products destined almost entirely to foreign markets.

The concentrated juice is the first by-product of the processing of lemons and it is mainly used in the production of soft drinks and other beverages.

Production rose just over 20% of the 43,790tn in 2008 to the 54,984tn produced in 2009. The main destinations of exports of juice were: Netherlands, United States, Japan and other importers to a lesser extent.
Main Activities | Grain | Vegetables

The essential oil is used for the non-alcoholic drinks industry and to a lesser extent, cosmetics and pharmaceuticals. It is the highest unit value product of the production complex. In 2009, Tucuman produced little more than 25% over the previous year, reaching the 3,792tn that were exported to the United States, United Kingdom, China, Puerto Rico and Netherlands, among others.

Dried peel is almost entirely exported and the main destinations are: Germany, Denmark, France, México, Czech Republic and to other countries to a lesser extent.

Exports of citrus fruit in the province as a whole, exceeded US$432 million in 2009, representing 48% of provincial exports.

- **Grain**

  The area sown in the 2009 campaign stayed above the 500,000ha, with soya and wheat being the major crops. In order of importance, corn is the crop that increased 10% of the area occupied with farming. In the recent years, these products computed yields comparable with the rest of the country.

  The province has two distinct areas devoted to soybeans: east and south. The area planted with soybeans grew by over 130% in the last 10 years while production increased 189% in the same period showing the adaptability reached by this crop. Most of the soybeans production is destined for industrialization in the provinces of Santa Fe, Córdoba and Santiago del Estero.

  Corn cultivation is being expanded throughout the province though it is concentrated mostly in the departments of Burruyacu and Leales. In the last decade, the corn yields increased 25% kg/ha which greatly helped offset the total of corn produced that was of 226,780tn in the 2008/09 season. This represents a 18% less than what had been produced in 99/2000 when the cultivated area was 32% higher with a production of 268,000tn.

  Wheat is another grain that has reached a strong growth in the decade since it has had a strong expansion in the area under cultivation from the 55,000ha in 2000 to just over 176,280ha in 2009, with some recordings of ups and downs of production due to weather problems. Part of the production is consumed in the province where there are three flour mills and the remaining is sold to other provinces or exported.

- **Vegetables**

  The horticultor sector has a dynamic behaviour. In recent years, it has destined more than 30,000ha to its cultivation. Within the sector, potato for consumption occupies the largest area planted exceeding the 7,000ha. The production is concentrated in the departments of Chicligasta, Río Chico and Graneros. It is remarkable the certified seed potato production (around 350ha) which takes place in Tafi del Valle sufficient for self requirement of seed for the province production and the remaining is marketed to other regions in the
country. Next in importance is the production of maize for corn, peas, string, peppers, sweet potatoes, pumpkins, lettuce and other leafy vegetables.

These products are mainly for domestic market as fresh produce. Most of the horticultural production is marketed through the fruit and vegetable market concentration of Tucuman, Mercofrut, which is the largest and most important in the Northwestern region in the country. It has 52ha with more than 22000m² of covered surface and 600 stalls.

- **Tobacco**

The tobacco industry is developed in the south of the province in the departments of La Cocha and Alberdi with an area of 4,000ha.

The production of tobacco is based largely on the existence of small producers who coexist with medium ones, that own production units ranging from five to more than 30ha.

Tobacco –almost all of the Burley variety- has undergone several fluctuations in production with a maximum of more than 12,000tn in the 99/2000 season, stabilizing between 6 and 7,000tn in the last two campaigns (08/2009 and 09/2010).

The sale is made through traditional tobacco companies and a cooperative of small and medium producers with equipment for the accomplishment of a first industrial process. The production goes to the plants of manufacturing cigarettes and export.

- **Avocado**

Tucuman is the first national producer with an estimated production of 6000tn of fruit and around 1000ha planted on the lands of the piedmont. The Hass variety, the best known internationally, covers more than 90% of the implanted surface. In 2009, about 40% of the production was sold in foreign markets: Spain, Chile, United Kingdom, France, Paraguay and Netherlands.

This crop has also had an industrial development being Tucuman the only province in the country where avocado is industrialized for the production of high quality edible oil. This oil is obtained through the cold pressing of the pulp of the avocado. Currently, this product is sold in the local market.

- **Strawberry**

This activity has been consolidated by increases in the levels of production, industrialization and marketing of fresh and frozen strawberries together
Blueberry

Blueberry is a very popular fruit in Northern hemisphere markets. Among the benefits Tucuman has for the production of this crop, agro-ecological conditions can be mentioned as favourable for the counter-season production so that advantageous exports can be achieved in conditions scoop in comparison to other regions in the country which has stimulated the continued expansion of this crop in the province.

Currently, Tucuman is one of the major blueberries producing districts of Argentina with around 1,200ha planted. It ranks second in production in the country and is the first national exporter.

This sector has a strong development in Tucuman and its growth in recent years has shown a great potential in export and income generation for the province. This led to a direct exportation for the third consecutive year from Tucuman to Miami via air cargo. In 2009, 20 flights were loaded with a total of 910tn which represented 39% of the total exported blueberry. The direct export by air from the province is increasing and allows significant savings in freight costs to producers as well as the possibility of placing the fruit in the destination market just 24 hours after being collected from the plant.

Forestation

The province has excellent bio-ecological conditions for the exploitation of forestal resources with the addition of a marked reduction in the supply of wood in the domestic market so most of the volume consumed comes from other provinces.

Forestation is a productive alternative, both short and long term, with significant profitability. Tucuman has approximately 220,000ha land suitable for forestry and agroecological conditions that enable high growth rates of different species.

In order to encourage afforestation in the province, the national law Nº 26,432 regulates benefits for investments in cultivated forests. The provincial government has an important infrastructure in La Florida Nursery that supplies those who are interested in investing in new plantations with forest seedlings, indigenous and exotic species.
The metalworking industry has been greatly favored since 2002 due to a change in the economic system in Argentina. The currency devaluation allowed this industry to regain competitiveness, increasing its production and using the spare capacity available. A remarkable level of import substitution was achieved. Since the 90s things have greatly changed as some industries requiring their services used to import most of the elements required for their production and they currently find to purchase in the local market more conveniently.

Tucumán has the most developed metalworking sector in the Northwestern region.

It is currently formed by more than 260 establishments both micro and small companies, most of them workshops with diversified activities to support local industries as well as the construction sector with a high score in custom work.

Most of the companies are located in the departments of Capital, Chicligasta (location: Concepción) and Cruz Alta (location: Banda del Río Salí). Currently, the direct labor that the sector recruits exceeds 2,000 people.

Over 50% of the metalworking companies in the province specialize in meeting the demands of the consolidated sectors such as the sugar and citrus industries which have a seasonal demand and focus mainly on the following products: intermediate products, engineering services, foundry and machining of parts, assembly and manufacture of specialty products.

The medium and large companies of the metalworking sector become highly competitive in the manufacturing and maintenance of machinery and equipment for industries, the construction sector, automotive, energy and the manufacturing of parts and equipment to meet the increasing demand of the mining sector from neighbouring provinces, among others.

This sector has a great integration potential since the production of goods with greater added value, requires to a great extent, parts produced by the same sector.

The main raw materials for the metalworking sector are steel (in its various forms) aluminum, brass, some special alloys and other metallic elements in its diverse forms and commercial sizes.

Both the products and services these companies trade are designed to meet the local and regional demand. The production supplies customers from: Salta, Santiago del Estero, Catamarca, Jujuy, La Rioja, Chaco, Córdoba and Buenos Aires. Exports go to the neighbouring countries such as Bolivia, Paraguay, Chile, Brasil and Uruguay and to a lesser extent, to another countries like Ecuador, Perú, Mexico, France and Spain. Nearly 90% of the companies trade in the domestic market while a 10% of them sells its products either partly or fully abroad.
TEXTILES

The textile sector, which endured a major crisis in the past decade and the beginning of 2000, began its recovery when the peso devaluation in 2002. Tucuman is the most important textile producer in the Northwestern region with a production complex formed by six plants that belong to important textile firms in the country. These companies produce in the province specially yarn, raw cotton fabrics, sports footwear uppers, fabric and other special products. In 2004 and 2008, this sector experienced a period of important recovery reflected in the significant investments in machinery, exports and increased employment of labor. Investments in the country grew from US$100 million invested in machinery in 2004 to more than US$185 million in 2008.

In the province, this sector employs more than 3,500 permanent workers. In 2009, textile products were exported for a value of US$2.5 million FOB price.

AUTOMOTIVE

An important producer of trucks has been located in Argentina for more than 30 years. This international company has plants in Sweden, Netherlands, México and Brazil, that specialize in different products, keeping exchanges of parts and finished products among them. It is a modern company that produces with highly advanced technology.

As part of the production strategy in the International market, the plant located in the town of Colombres (Department of Cruz Alta) produces parts (gears for gearboxes, differentials, engine) which are used to supply and complement the production in Brazil and to a lesser extent, to those located in Europe, Australia, Latin America and Asia.

Exports of parts and truck parts had a significant decline in 2009 due to the international financial crisis that originated a sharp reduction in the market of new trucks, decreasing from US$147 million in 2008 to just over US$69.1 million of exports in 2009 representing 7.7 % of the provincial exports.

Scientific and productive development

Human Resources Training

Tucuman is prominent for its human, technical and professional human resources with highly qualified profiles, achieved through specific training. This training is provided by leading institutions of mid-level technical training for youth in various disciplines as well as the training and academic offer of four universities with 20 faculties and about 100 undergraduate level careers. These are: the National University of Tucuman (UNT) an institution of international standing near to be 100 years old since its inception in 1914; the Tucuman Regional School belonging to the National Technological University (NTU) more than 50 years old; the Universidad del Norte Santo Tomás de Aquino (UNSTA) more than 45 years old and the University of San Pablo-T which was recently created, all complete the educational sector with a prominent role in the development of science and vocational training.
Main Activities | Research

Research

In the province there is a wide experience in research. This is demonstrated in the results obtained by internationally renowned scientific institutions placed in Tucumán.

Among the subsidiaries of the national government we can mention: the Higher Institute of Biological Research (INSIBIO), the Reference Center for Lactobacillus (CERELA), the Industrial Microbiological Industrial Processes Pilot Plant (PROIMI) the National Institute of Agricultural Technology (INTA) and the Miguel Lillo Institute.

In the province, the Agroindustrial Experimental Station “Obispo Colombres” (EEAOC) founded in 27 July, 1909, is the oldest agricultural experimental station in Argentina still in operation, the only with agroindustrial activities and the only one that belongs to a provincial government.

It is an autarkic entity linked to the Ministry of Production of the government of the province of Tucumán. Its ultimate authority is a “honorary” board composed by representatives of different sectors of the agroindustrial activity in Tucumán. In technical and administrative aspects, the EEAOC is headed by a Technical Director supported by four Assistant Directors. Around 430 people work in this century-old institution, half of whom are professionals directly involved in research and services activities.

This experimental center has a 86ha headquarters where some facilities are located: laboratories, greenhouses, chambers of crossers, other special facilities, experimental fields, offices and a library as well as four experimental substations in different agroecological zones in the province.

Since its inception, the EEAOC has largely contributed through research and actions to the development of sugar and citrus agroindustries in the province and the Northwestern region of Argentina. It has also supported the productive diversification by introducing new crops and has made significant technological contributions to all the primary and agroindustrial productions in the province and the region.

In the EEAOC, research is based on independent programs and projects addressing major thematic areas defined by the institutional strategic plan. Currently, there are in force five programs and eight independent projects.

The Sugar Cane Program aims to develop key actions needed to ensure sustainability, productivity and profitability of the sugar cane. This involves the development of varieties through the selection of new local cultivars and an active introduction and evaluation of foreign clones with an outstanding...
productive and healthy behaviour and adapted to the local managing conditions. The development of new technologies are also very important in order to improve the capacity and quality of the production of raw material, promote lower costs and reduce environmental impact.

The Sugar Cane Industrialization Program aims to study the by-products of sugar cane by the selection, testing, improvement and generation of technologies that optimize the energy and economical balances and minimize environmental impact in order to improve the sugar cane agroindustry.

The Citrus Program aims to increase the profitability of the citrus farm by qualitative and quantitative increase of the production through the improvement of plant material and the cultural practices. Another aim is the economic control of pests and diseases that affect the production within the framework that international protocols require for export. Finally, it tries to open up new markets for the provincial production.

The Grains Program aims to increase the production of the major crops in the region: soybeans, corn, whea, beans, and others, by developing new cultivars that best suit the conditions of different areas and thus generating technologies that ensure a sustainable and integrated production system.

The Bioenergy Program recently created takes into account research papers of earlier decades, and works mainly in the production of biofuels. It tries to give answers to the energy crisis, both at a national and global levels, stating the expected depletion of fossil fuels.

Similarly, eight independent projects are in force referring to vegetables and other alternatives in production: agro-meteorology, tobacco, avocado, forage crops, quality assurance of analytical data, environmental studies of agribusiness in Tucuman and production of rum from sugar cane juice.

The work of the EEAOC markedly transcends the provincial boundaries to exert a strong influence in the region and some specific cases at the national level.

In terms of services and knowledge transfer, the EEAOC performs an intense work aimed at resolving and preventing problems that affect productivity, commercial quality and the supply capacity for local, regional and international production markets.

As part of an institutional policy of quality management, a number of laboratories providing services are enabled, credited and constitute a regional reference for national organizations such as the National Health Service and Food Quality (SENASA) and the National Seeds Institute (INASE).
The complex of laboratories in the Chemistry Section for Agroindustrial Products is certified under ISO 9001:2008 Standards by IRAM which regularly conducts the audit and maintenance of the Quality Management Section. It has also achieved accreditation IRAM 301:2005 (equivalent to ISO 17025) by the Argentine Accreditation Organization (OAA) to make determinations of pesticides residues applied to samples of fruit and lemon essential oils as well as blueberry and strawberry.

The laboratory is also renowned within the SENASA Laboratory Network for physical-chemical and microbiological evaluations in agrifood.

In this context, the role these laboratories have is of a key importance in order to establish sensorial, microbiological and physical-chemical determinations in sugar, juices, citrus oils, alcohol, avocado, grain and fodder as well as in metals and pesticides residues in agroindustrial products, water and industrial effluents.

The Phitopathology Laboratory provides diagnosis, management and control of vegetable diseases services. It is registered in the SENASA Network for the diagnosis of citrus diseases and is a reference laboratory for the Ministry of Agriculture, Livestock and Fishing of the Nation (MAGyP), for the National Program for Soya Rust and for the National Program for the Prevention of Huanglongbing (HLB).

The Laboratory of Agricultural Zoology meets the demand of national organizations and other regions of the country as well in the following areas: research, pests monitoring, diagnosis of nematodes in seed potato, etc. It has met SENASA requests for the development of heat treatments required by Japan for the export of citrus fruit and the training of the citrus fruit inspectors.

The Sanitate Center of Citrus is another institution worth mentioning since it contributes to the cleaning of citrus propagation material for the purpose of producing free virus citrus plants mothers bound for nurseries and producers. This center meets the performance standards required by the INASE.

The Laboratory of Soils and Plant Nutrition offers the service of physical-chemical analysis of soil, water, plant material, fertilizers and agricultural amendments. The lab adopted the analysis techniques of the Methodological Support System Network for the Soil, Water, Vegetables and Organic Amendments Analysis Laboratories (SAMLA) under the MAGyP.

The performance of consultancy, techniques Consulting and technological services provided by multidisciplinary working teams ensure relevant contributions for the development of the agriculture and industry and allow the generation of technological innovations for argentina and other countries. The sale of technology abroad, the design of equipment for the sugar industry and software for the monitoring of industrial processes are the other services provided by EEAOC.

It is important to highlight that these laboratories have become a unique center showing these characteristics in the country, due to the multidisciplinary and high complexity activities they perform.
Main Activities | Exports

- **Export promotion and investment**

The Productive Development Institute of Tucuman (IDEP) is the meeting point between the State and the private sector in order to agree, develop and implement productive development policies and tools for Tucuman. It also works in collaboration with other entities of knowledge and innovation, producers, commerce chambers and various public sector agents.

The IDEP is an entity managed by a joint board composed by twelve members, four from the public sector and eight representatives from the private sector belonging to different production sectors: Commerce and Services, heavy Industry, Light Industry, Tourism, Citrus, Sugar, Horticultural and the rest of the production sectors.

In order to promote and attract investments, the IDEP is working together with the private sector creating a bank of projects and the generation of useful information for the investor in a coordinated action, before, during and after the investment. There are also specific actions of “venture capital” allowing entrepreneurs from Tucuman to reach with their proposals to different investors. The IDEP is also currently developing an Investment Guide for the province which analyzes the details an investor should bear in mind when making an investment decision.

To qualify and promote exports the IDEP provides both training and fund to the companies and encourages participation in trade events (fairs, business meetings, business missions, etc). It tracks the export companies and in that regard, has recently created a directory of the exportable supply. The IDEP implements specific programs to facilitate the access to credit, quality standards and the formation of associative clusters with the purpose of promoting the creation and competitiveness of local firms.

In this regard, there is a Provincial Quality Program that cofinances access to national and international quality standards certifications.

- **Public-Private Partnership for Sustainable Development**

The province of Tucuman assumed that in order to fit in a modern productive scheme i.e. assuring quality and competitiveness, the environmental variable should be considered as a keypoint. In this regard, several programs and projects have been outlined and implemented together with local, regional, national and international organizations so as to fulfill with the principle of progressivity of the general law of environment in the pursue of constantly improving the processes and concomitant recovery of natural resources such as water, soil and air.
One of the proposed projects is the “Industrial Restructuring Program” (PRI) supported by the national government and which tends to produce environmental improvements in the short, medium and long terms. The magnitude of the envisaged steps of the program is such that in two years of implementation the associate industries have invested approximately 240 million ARS to bring their emissions into the atmosphere and reduce water and energy consumption with alternatives for the treatment and reuse of residues from cachaza (cane juice) and vinasse.

The obtained results are encouraging. The goals of progressive achievement that the companies had self imposed by introducing constant improvements as well as local and international technological innovation have been fully accomplished.

Amid a hard and even recessive national and international economic framework, companies have invested millions of pesos as a unique case in the region and the country.

In purely environmental terms, 92.4 % of the installed chimneys have wet filters (scrubber) to retain the particles. This means a strong reduction of air pollutants. For comparison, it is mentioned that before 2006 just less than 20% filters existed in boilers and chimneys.

On the other hand, and through the “Cachaza Zero Program” all the cachaza (cane juice) is reused as soil improvement and nutrient input. This means a reduction in terms of water pollution between 14 y 15 %.

In 2006, only 30 % of the mills had a cachaza management plan while currently that figure reaches the 100%.

With the “NO stillage to receiving streams” Program, distilleries have been forced to keep this effluent in tanks built on purpose or use it for fertigation, evaporation ponds or lagoons for treatment.

On the other hand, one of the citrus companies is currently generating biogas and two mills are installing devices to generate biogas from vinasse which could lead not only to a definite solution for this issue but to the notion of a local “know how” being generating related to bioprocesses.

There has also began a process of obtaining energy from a renewable resource such as bagasse: a mill generates electricity for their own processes and the remaining is delivered to be used by the National Interconnected System. Two more projects will be soon carried out in a promising perspective from the standpoint of energy and environment.

Tucuman is making great strides not only in the prevention and control of industrial effluents but it has been positioning as a benchmark in power generation from biomass such as bagasse for boilers, the use of vinasse for biogas or the use of citrus waste with the same purpose.

While it is true that environmental issues are not exhausted, there are some achievements to be shown highlighting that the key were the alliance with the production sector, progressivity and state control.

The works performed as well as the private money invested, the installation of official laboratories, the addition of fields devices, mobility and communications, training courses, financial and political efforts, reduction of air and water pollution and the controls made, all this show genuine official concern for environment and natural resources.
The areas are environments that have special legal and management protection intended to achieve conservation objectives and/or preservation of biodiversity. Tucuman has 12 protected areas that preserves the ecosystem of the phytogeographic provinces of the Yungas and the forests with a total surface of approximately 477,000ha.

These areas have two fundamental characteristics: they are the heritage of the community and the main reservoir of native species in the province. This last item is specially associated to the law Nº 26.331 of “minimum environmental protection for native forests” that provides land management of native forests since they are strategic areas to generate biological corridors and articulate the shore forests which will systematically be a guarantee for environmental protection.

Water is a fundamental natural resource for the development of towns and for their production activities both farming and industrial.

The hydrographic network that Tucuman has, both surface and groundwater, is one of its great potentials for production and human development.

Protected Areas and Hydrographic Network
Tourism

Tucuman was founded by Diego de Villarroel under the name of Ibatin in 1565. One of the most relevant events in the history of Argentina took place in this province. By 1816, the revolutionary process was seriously threatened. In that year, the Congress held a decisive meeting on July 9th declaring the independence from Spain. This landmark defined the national feeling being nourished since May 1810 and made the province be known as the “Cradle of Independence”.

Although it is the smallest province in the country, it has a great deal of cultural, natural and historical wealth.

The roots of Tucuman lead to the ancient legacy of its former indigenous inhabitants, the liberating action of the Creoles, the people who shaped the sugar industry and the intellectuals who transformed this province in the main center of the cultural movement in the North of the country.

Tucuman is mostly known because of its splendid landscapes but also for the valuable buildings, theaters, museums, squares and parks. Being one of the oldest cities in the country makes it a most attractive option for the discovery of historical sites and varied cultural activities.

Touristic sightseeings

Las Yungas

Freshness, variety and exhuberance are attributes to describe this particular route. The plant formation that rises to the top of the mountains is known as Nuboselva (cloud forest) or Yungas. This route links villages and beautiful landscapes most visited by tourists from all over the world.

Villa Nougués is one of the exciting villages in this circuit. It was built between hills and ravines, and home, among its wealth, a small stone chapel in Gothic style and the only golf course in height in the country (9 holes). It also has fine and well provided restaurants. Leaving the village, there is Loma Bola, a wonderful place to breathe fresh air and favorite destination for lovers of hanggliding.

The road turns into a zigzag up to San Javier a place with unparalleled views from its meadows and hills. A few kilometres away is Park Sierra San Javier, a recreation area with an easy access where to walk trails of varying difficulty. Over 200 species of birds fill the woodlands and forests in the park with the most varied sounds and colours.

The tour continues north to Raco, a small village framed by the forest landscape of the San Javier Hills and the Periquillo mountain. It is notable for being endowed by a beautiful landscape, with grass-scented forests (“paico” and “yerba buena”). Its cultivated hills, quiet streams and ancient residential houses are part of the history of Tucuman. Following this route, there is El Siambón where the Benedictine monks founded a monastery in 1956. They cultivate fruit trees and produce fine and delicious sweets and jams.

A cristal mirror of water marks the end of this circuit, The Damp El Cadillal, around which there is a quiet touristic village with a beautiful landscape and ideal waters for water sports and fishing.
Calchaquies Valleys

Tucumán is a land of contrasts, the most impenetrable jungle of the Yungas is followed, towards the west, by the aridity typical of high valleys. In this particular circuit, nature and history combine in a unique way for the delight of tourists.

The entrance to the magnificent valley of Tafi is a pleasure for the eyes. The nice combination of colours mixes with the particular climate of the area. The access to Tafi also leads to another beautiful village called El Mollar located at the foot of Ñuñorco mountain and beside the south bank of reservoir La Angostura. The resort has its own profile defined by the testimony of its standing stones (menhires) and the majesty of the lake.

The town of Tafi, enclosed between the Muñoz Mountain and the Mala Mala peaks, is crossed by the Tafi river. It reaches the 2,000m height. The tourist options in the valley are endless: visitors can stroll around the close valleys and visit the ruins of the attractive and ancient cultural legacy of the Jesuits that goes back over 300 years. Its folklore, rhythms and accents of deep and beautiful sounds together with the typical flavours of the local cuisine add an extra pleasure to the tourist’s stay.

Going along route 307 to Amaicha, vestiges of the Tafi culture can be seen alongside the ride in the archaeological reservation of La Bolsa. The Infiernillo, a historical place through which the first Spaniard made his way through these regions, reaches the highest 3,042m. The valley can be seen from this wonderful view, dominated by Ñuñorco Mountain sometimes covered by a cushion of clouds called by the locals “alpapuyo”. Downhill, there is a worth while place to visit: the astronomical observatory in Ampimpa, unique in the north of Argentina, also used for scientific research and educational camps and with shelters and cabins for accommodation.

Amaicha del Valle is a village best known for its pre-columbian history and the exquisite homemade wines. Every year, they celebrate the traditional Pachamama Festival in honour to Mother Earth (Pachamama). This town, where the sun shines the whole year round, conquists the visitor by its charm and mild weather.

After travelling 22km the Ruins of Quilmes emerge as one of the most important pre-hispanic settlements of Calchaquies Indians who lived there since 800 AD. Continuing north along route 40 a village called Colalao del Valle is located nearby the river Santa Maria. It has a cozy inn, an area for camping and a unique range of homemade wines. This small village with its dusty and quiet roads is ideal for those who enjoy the natural.
**San Miguel de Tucuman**

It is called a historical city since the independence was declared here so there is a lot for sightseeing in the capital of Tucuman. Its streets are witnesses of great historical events that marked the history of the argentians. The Independence Square is the heart of the city and scene of relevant and civil events so it has become a most precious space defined by the symbolic and historical memory and the architectural heritage that surrounds it.

The Independence House, that once used to belong to Doña Francisca Bazan de Laguna was the chosen place by the congressmen to declare the independence of the United provinces of Rio de la Plata on July 9th 1816. The room where this event took place still preserves the table on which the Act of the Independence was signed as well as portraits of the congressmen. It is a national Historic Monument with an outstanding heritage of furniture, silver and china.

It is also worth visiting the Provincial Historical Museum, also called Avellaneda House or “House of the 100 gates”, where a collection of 15,000 fine pieces can be seen. The church of La Merced, a few yards from the Squire too, keeps inside an ancient image of the “Virgin General” which Manuel Belgrano, a national hero of the battles for the independence in charge of the Army of the North, invoked before fighting against the royalists. This battle took place in the so called field of “Las Carreras”, currently named Belgrano Square.

“9 de Julio” Park is a historical, cultural and recreational landmark in the city. It has become a public heritage reference place of outstanding importance. It was designed by the famous french urban planner Carlos Thays and inside the building visitors can praise and walk among pergolas, fountains and replicas of classical sculptures. The House of Obispo Colombres is a current museum inside the park where to learn about the dawn of sugar industry.

A must visit is the former residence of the tucumanian master Miguel Lillo turned into a fantastic foundation for the care of native plants and species and which is named after this lover of nature.

In the exact spot where the old Town Hall used to stand –opposite the Square- now another building displays a high architectural french-like style: the Government House. On one of its sides there is another important building that belonged to governor José Frias. This house, called Padilla House is now a museum where to find important european furniture, carvings, paintings and china exposed in some of the 15 rooms that surround the courtyards.

San Francisco church is diagonal to the Square and shows magnificent iron gates and a neoclassic italian architectural style. It was a former temple and school of the Jesuits. Then in 1785, the Franciscan Order took charge of it and began its reconstruction.

The Cathedral is situated on the other side of the Square. The foundation cross is still preserved inside the building. The neoclassical style and beautiful architectural lines inspired many other churches in the country. It was declared national monument in 1941. A few yards away, there stands the Historical House, keeping inside its walls the most relevant event of the argentian history and major witness of the Independence.
Tourism

Rural Tourism

When visiting Tucuman there it comes an excellent opportunity to enjoy true outdoor activities in open fields. The rural lodgings offer the visitor a great opportunity to make numerous field outdoor activities such as horse-ridings, visits to cheese factories and dairy farms, typical food lunch, fishing and visits to sheep farms.

From the main resorts such as Tafi del Valle, Raco, San Javier and Calchaqui Valleys, some mountain villages can be reached by horse or on foot. These villages are: Las Arquitas, Anca Juli, Anfama, San José de Chasquivil, La Ciénaga, Lara, Mala Mala and Muñoz mountain, among others. The paths and roads that cross the territory of Tucuman are a unique beautiful experience, ideal for a horseriding tour lasting from 2 hours up to 5 or 7 days.

These rural areas provide an opportunity to stay and share farm activities with the locals: see how cheese, bread and the typical northern food are made and even collaborate in making them. They are unique and invaluable experiences both for the foreign visitor and those who are not able to be in close contact with the countryside and culture of northern Argentina.

These activities show the hospitalarian spirit of the peasant who willingly shares his/her routine activities with the tourist.

Adventure Tourism

For those who like dizziness, Tucuman offers idyllic scenery ideal for any kind of extreme and adventure Sports. The forest vegetation and climate are excellent for enjoying amazing rides. Rivers, streams and waterfalls that run off the rocks as well as thick jungles and peaks of different heights make of Tucuman the best place to experience the vertigo of adventure tourism.

At a height of over 1,800m the strong winds move the mirrored waters of La Angostura Dam an ideal place for practising windsurfing and the fishing of mackerel, among others. In the valley of Tafi the options are endless: horseridings, trekking or bird watching, rock climbing, rappel and for the most adventurous, 4x4 crossings. No matter the sport you choose or the level of risk it has, the important thing is the possibility of enjoying the immense richness Tucuman has.

Gastronomy

A first level culinary art is deployed throughout Tucuman: from the typical “empanada”, a small pie filled with pieces of meat or chicken, up to the tasty cheese and the creamy “humita”, a delicious meal made with corn, the regional typical food identifies the culture and customs of an entire province.

Each zone has its speciality: cheese, thin stripes of cheese called “quesillo”, “empanadas”, jams, homemade jams and pastries as well as sweet “empanadas” called “empanadillas” filled with fruit jams, are some of the variety that can be found in every corner of the Garden of the Republic, the name by which Tucuman is known. Apart from this, there are excellent restaurants, pubs and coffee shops for all tastes.
Tourism

**Tucuman, venue for events**

With an unprecedented growth in the last years, Tucuman has become an ideal pole for Business tourism. In 2008, it hosted the MERCOSUR Summit of Presidents. It has developed an important range of services that meets the demands of high quality tourism regarding accommodation, gastronomic services and human resources since it has a high tech professional logistics with an excellent cost-benefit equation.

**Connectivity: All at your fingertips**

Tucuman has a good accessibility by road since it is linked to the main centers in the country with a distance less than 1,200km (Buenos Aires, Córdoba, Rosario in the south and Salta, Jujuy and Bolivia in the north) through national routes such as the 9, 34, 38 and 157. These routes have many connection alternatives that allow flexibility in the traffic and facilitate the connection to every cardinal direction.

The province has three air lines that connect it with Capital Federal, Córdoba and Rosario and an international flight twice a week that connects it with Miami and Madrid.

**Commercial variety**

Visiting Tucuman makes a perfect opportunity for setting aside work activities and tour the different options the province has. There are four important shopping malls, numerous downtown arcades and a significant quantity of shops that offer options and prices for all tastes.

**Outdoor sports**

There are six first class golf courses with different characteristics which make the practise of this sport a unique challenge for players of all levels with the addition of a superb landscape surrounding each course. Handgliding can also be practised in one of the best tracks in the world for this sport located in Loma Bola, or rather enjoy a quiet and peaceful horseriding through a marvelous scenery.

**Night life**

As a dynamic center Tucuman has a great variety for amusement in its numerous and fancy coffee shops, pubs and restaurants. Folk clubs, discos and a leading casino are some of the endless activities the province can offer the visitor for recreation and amusement.
In 2009, the global financial crisis had a negative influence on foreign trade worldwide. In this context, Tucuman exports decreased only 13% compared to 2008, being this drop less than the national average. It was exported a total of just over US$899 million.

Foreign trade of lemon fresh fruit and truck auto-parts were the most affected. The offsetting of these decreases was the increase in raw and refined sugar and molasses exports that reached over 300% compared to 2008 with an export value of US$169.3 million. This was also influenced by the exports of lemon industry such as concentrate juice and essential oils.

The primary products were the most affected since they dropped from a 51% in 2008 to a 32% in 2009. Manufactures of Agricultural Origin reached 53% and Manufactures of Industrial Origin 15%. These are the figures for the more than 150 products produced in the province that were exported to 150 destinations worldwide.

The blueberry is in gradual growth and registered one of the fastest increases during 2009. According to official figures, the exports of this fruit increased 87% over 2008 with a total sale over US$17 million.

The European Union is the main destination of the exports of Tucuman with 31% of the total sales registering US$286 million. The second one is Asia with 18% and finally MERCOSUR and NAFTA with 14%. The first destinations out of the 150 of Tucuman exports in 2009 is the Netherlands with 15%, then USA with 12%, Brazil 11%, Russia 10% and China with the 6%.
### Production Statistics | Sugar Cane

<table>
<thead>
<tr>
<th>Harvest</th>
<th>Plantings surface (Ha.)</th>
<th>Average yield (Tn. Cane/Ha.)</th>
<th>GROUND CANE (Tn.)</th>
<th>SUGAR PRODUCTION (Tn.)</th>
<th>AVERAGE INDUSTRIAL YIELD (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>188,920</td>
<td>51.16</td>
<td>10,568,847</td>
<td>1,094,736</td>
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<td>2004</td>
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<td>10,518,534</td>
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<td>11,450,965</td>
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<td>2006</td>
<td>203,170</td>
<td>69.00</td>
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<td>2007</td>
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<td>2008</td>
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<td>226,140</td>
<td>59.84</td>
<td>13,531,645</td>
<td>1,365,343</td>
<td>10.09</td>
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Sources: Remote Sensors (SR) and Service of Geographic Information (SIG) - Obispo Colombes Agroindustrial Experimental Station (EEAO) - Tucumán Regional Sugar Centre (CART)

### Ground Sugar (in Tn)

![Ground Sugar Chart]

### Sugar Production (in Tn)

![Sugar Production Chart]

### Sugar Cane - Plantings surface (in Ha)

![Sugar Cane Plantings Chart]
Production Statistics | Strawberry

Exports: Secretary of Micro, Small and Medium Companies and Employment with data from Statistics and Census National Institute (INDEC) and qualified sources.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>PLANTINGS SURFACE (Hsa.)</th>
<th>EXPORTS (Tn.)</th>
</tr>
</thead>
<tbody>
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<td>2003</td>
<td>310</td>
<td>4,170</td>
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<tr>
<td>2004</td>
<td>420</td>
<td>5,241</td>
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<td>2007</td>
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<tr>
<td>2008</td>
<td>800</td>
<td>10,500</td>
</tr>
<tr>
<td>2009</td>
<td>600</td>
<td>6,702</td>
</tr>
<tr>
<td>YEAR</td>
<td>SURFACE (Ha.)</td>
<td>PRODUCTION (Tn.)</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td>2003/04</td>
<td>257,820</td>
<td>449,930</td>
</tr>
<tr>
<td>2004/05</td>
<td>257,100</td>
<td>567,577</td>
</tr>
<tr>
<td>2005/06</td>
<td>280,980</td>
<td>807,529</td>
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<tr>
<td>2006/07</td>
<td>281,450</td>
<td>914,713</td>
</tr>
<tr>
<td>2007/08</td>
<td>290,070</td>
<td>870,210</td>
</tr>
<tr>
<td>2008/09</td>
<td>293,220</td>
<td>797,230</td>
</tr>
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</table>

Sources: Remote Sensors (SR) and Service of Geographic Information (SIG) Obispo Colombias Agroindustrial Experimental Station (EEAOC).

* Production subject to adjustments of April.

**Soybean - Production (in Tn)**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>SURFACE (Ha.)</th>
<th>PRODUCTION (Tn.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003/04</td>
<td>257,820</td>
<td>449,930</td>
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**Soybean - Plantings Surface (in Ha)**

<table>
<thead>
<tr>
<th>YEAR</th>
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<tbody>
<tr>
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<td>290,070</td>
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<td>2008/09</td>
<td>293,220</td>
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</table>
## Production Statistics | Lemon

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Exported Fruit (Tn.)</th>
<th>JUICE (Tn.)</th>
<th>OIL (Tn.)</th>
<th>Dehydrated Peel (Tn.)</th>
<th>Domestic Market (Tn.)</th>
<th>TOTAL Production (Tn.)</th>
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<tbody>
<tr>
<td>2003</td>
<td>300,506</td>
<td>29,724</td>
<td>3,652</td>
<td>37,129</td>
<td>57,200</td>
<td>1,103,900</td>
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<td>2004</td>
<td>285,434</td>
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<td>3,569</td>
<td>29,286</td>
<td>68,420</td>
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<td>2005</td>
<td>331,630</td>
<td>43,643</td>
<td>4,707</td>
<td>30,324</td>
<td>55,805</td>
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<td>2006</td>
<td>279,684</td>
<td>39,615</td>
<td>3,711</td>
<td>39,237</td>
<td>75,900</td>
<td>1,316,300</td>
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<td>2007</td>
<td>330,600</td>
<td>53,511</td>
<td>3,690</td>
<td>50,743</td>
<td>75,100</td>
<td>1,328,300</td>
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<td>2008</td>
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<td>3,792</td>
<td>52,140</td>
<td>30,000</td>
<td>1,207,000</td>
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</tbody>
</table>

Source: 2003-2006 Obispo Colombres Agroindustrial Experimental Station (EEAO)
2007-2009 Tucuman Citrus Association (ATC).

### Lemon - Exported Fruit (in Tn)

![Graph showing lemon exported fruit (in Tn) from 2003 to 2009]

### Lemon - Juice (in Tn)

![Graph showing lemon juice (in Tn) from 2003 to 2009]

### Lemon - Essential Oils (in Tn)

![Graph showing lemon essential oils (in Tn) from 2003 to 2009]
### Production Statistics | Tobacco

#### Burley Tobacco - Production (in Tn)

<table>
<thead>
<tr>
<th>Year</th>
<th>Surface (Ha.)</th>
<th>Production (Tn.)</th>
<th>Yields (Kg./Ha.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plantings</td>
<td>Harvested</td>
<td></td>
</tr>
<tr>
<td>2003/04</td>
<td>6,400</td>
<td>4,580</td>
<td>9,335</td>
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<tr>
<td>2004/05</td>
<td>6,900</td>
<td>4,100</td>
<td>8,491</td>
</tr>
<tr>
<td>2005/06</td>
<td>5,000</td>
<td>4,500</td>
<td>9,274</td>
</tr>
<tr>
<td>2006/07</td>
<td>4,000</td>
<td>2,000</td>
<td>4,223</td>
</tr>
<tr>
<td>2007/08</td>
<td>3,118</td>
<td>3,100</td>
<td>6,070</td>
</tr>
<tr>
<td>2008/09</td>
<td>3,680</td>
<td>3,629</td>
<td>6,895</td>
</tr>
<tr>
<td>2009/10</td>
<td>4,162</td>
<td>3,800</td>
<td>5,632</td>
</tr>
</tbody>
</table>

Sources: Department of Agriculture, Subsecretary of Agriculture Issues and Food (SAAyA)

#### Virginia Tobacco - Production (in Tn)

<table>
<thead>
<tr>
<th>Year</th>
<th>Surface (Ha.)</th>
<th>Production (Tn.)</th>
<th>Yields (Kg./Ha.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plantings</td>
<td>Harvested</td>
<td></td>
</tr>
<tr>
<td>2003/04</td>
<td>100</td>
<td>70</td>
<td>96</td>
</tr>
<tr>
<td>2004/05</td>
<td>100</td>
<td>50</td>
<td>95</td>
</tr>
<tr>
<td>2005/06</td>
<td>100</td>
<td>80</td>
<td>167</td>
</tr>
<tr>
<td>2006/07</td>
<td>100</td>
<td>70</td>
<td>144</td>
</tr>
<tr>
<td>2007/08</td>
<td>100</td>
<td>100</td>
<td>182</td>
</tr>
<tr>
<td>2008/09</td>
<td>80</td>
<td>79</td>
<td>150</td>
</tr>
<tr>
<td>2009/10</td>
<td>70</td>
<td>70</td>
<td>101</td>
</tr>
</tbody>
</table>

Source: Department of Agriculture - Subsecretary of Agriculture Issues and Food (SAAyA)
### Production Statistics | Wheat

<table>
<thead>
<tr>
<th>YEAR</th>
<th>SURFACE (Ha.)</th>
<th>PRODUCTION (Tn.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>144,950</td>
<td>89,552</td>
</tr>
<tr>
<td>2004</td>
<td>201,340</td>
<td>297,183</td>
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<tr>
<td>2005</td>
<td>207,350</td>
<td>259,345</td>
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<tr>
<td>2006</td>
<td>220,010</td>
<td>269,693</td>
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<tr>
<td>2007</td>
<td>216,280</td>
<td>200,000</td>
</tr>
<tr>
<td>2008</td>
<td>214,200</td>
<td>158,240</td>
</tr>
<tr>
<td>2009</td>
<td>176,280</td>
<td>129,030</td>
</tr>
</tbody>
</table>

Sources: 2003-2008: Section Remote Sensors (SR) and Service of Geographic Information (SIG) - Obispo Colombres Agroindustrial Experimental Station (EEAOC)  
2009: Secretary of Agriculture, Livestock, Fishing and Feeding (SAGPyA)
Production Statistics | Blueberry

<table>
<thead>
<tr>
<th>Year</th>
<th>Plantings Surface (Ha)</th>
<th>Marketed Production in (Tn)</th>
<th>Exports (Tn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>60</td>
<td>S/D</td>
<td>S/D</td>
</tr>
<tr>
<td>2004</td>
<td>140</td>
<td>S/D</td>
<td>S/D</td>
</tr>
<tr>
<td>2005</td>
<td>460</td>
<td>271</td>
<td>68</td>
</tr>
<tr>
<td>2006</td>
<td>702</td>
<td>1,000</td>
<td>133</td>
</tr>
<tr>
<td>2007</td>
<td>900</td>
<td>1,500</td>
<td>322</td>
</tr>
<tr>
<td>2008</td>
<td>1,200</td>
<td>2,200</td>
<td>1,144</td>
</tr>
<tr>
<td>2009</td>
<td>1,200</td>
<td>2,500</td>
<td>2,337</td>
</tr>
</tbody>
</table>

Estimated production according to qualified sources; Association of Blueberry Producers of Tucumán (APRATUC)
Exports: Secretary of Micro, Small and Medium Companies and Employment
Governor of the Province of Tucuman
Jose Jorge Alperovich | Public Accountant

Minister of Production Development
Jorge Salvador Gassembauer | Public Accountant

Secretary of Production Development
Jorge Luis Feijoo | Engineer

Secretary of Environment
Alfredo Montalvan | Civil Engineer

Secretary of Micro, Small and Medium Companies and Employment
Julio Miguel Cerviño | Agronomic Engineer

Institute for the Production Development of Tucuman (IDEP)
Jorge Salvador Gassembauer | Public Accountant
www.idep.gov.ar

Obispo Colombres Agroindustrial Experimental Station
Chairman: Mr. Juan José Budeguer
www.eeaoc.org.ar

Tucuman Tourism Organization
Chairman: Mr. Bernardo Racedo Aragon
www.tucumanturismo.gov.ar

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