



INTI

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Industrial



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SMEs EXPORT

Argentine technology and innovation



MILK AND DAIRY PRODUCTS



INSTITUTIONAL RELATIONS AND COMMUNICATIONS OPERATIONAL MANAGEMENT

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CONTENTS



Milk and dairy products

INTRODUCTION

Page 5

EXPORTING POTENTIAL

CAPILLA DEL SEÑOR S.A., under the brandname Lombarde, making strides worldwide with its innovative lactose-free cheeses

Page 7

ESTABLECIMIENTOS SAN IGNACIO S.A., a global frontrunner in *dulce de leche*

Page 11

ALIMENTARIA CAPRINA S.R.L., powdered goat milk known as “La Primera”

Page 14

ADRAGNA L.F., Chocoleit healthy *alfajores*

Page 16

CREMIGAL S.R.L., original purity cheeses

Page 19

INTERNATIONAL COOPERATION

Page 21





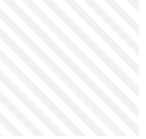
Introduction



At the National Institute of Industrial Technology (INTI), we help the agri food chain grow by supporting the production of cow's, sheep's, goat's and buffalo's milk throughout the country's dairy regions. In line with this goal, we provide innovative solutions, assist in technology development and transfer to small and medium-sized enterprises (SMEs), and offer comprehensive technical guidance to the sector.

In addition, we are proud to serve as the National Reference Laboratory for assessing milk quality, conducting sensory analyses, and monitoring pesticide residues. This feat is the result of a joint endeavor undertaken over half a century together with milk producers, associations representing small and medium-sized dairy farms, suppliers, government agencies, and private organizations. All this has turned us into leaders in our field, nationally and regionally.





Exporting Potential



CAPILLA DEL SEÑOR S.A., under the brandname **Lombarde**, making strides worldwide with its innovative lactose-free cheeses



Under the brand name “Lombarde,” Capilla del Señor S.A. has gained renown for its artisanal cheese varieties: soft, semi hard, hard, and spun paste. The company specializes in crafting low-fat cheeses with no salt added. Additionally, it offers soft and spun-paste cheeses enriched with vitamin E and phytosterols, contributing to lowering cholesterol levels. It also produces soft, semi hard, spun paste, and hard cheeses using milk sourced from pastoral systems and modified diets incorporating natural inputs. This approach yields a wholesome dairy product with high levels of conjugated linoleic acid (CLA).

Its hard cheese product line consists of the Sardo and Romano varieties. The soft varieties include the Cremoso (creamy) and Por Salud cheeses. The spun-paste varieties are Mozzarella and Provolone Hilado (spun cheese). As for semi-hard cheeses, the company produces the Danbo and Tybo varieties, which are internationally known as “Gouda” and “Edam”.

“INTI replicated the company’s regular manufacturing conditions in its laboratories and pilot plant and assessed different lines of research to obtain a lactose free, soft type cheese. This endeavor allows the company to market these cheeses with the said label as required by the Argentine Food Code. Subsequently, INTI extended the analysis to the semi hard, hard and spun paste types to afford them the lactose-free label”, explains Marcelo González, a member of the Process Development Department at INTI’s Food Technology Operational Submanagement.

In 2013, Lombarde became the first cheesemaking SME in the country to secure the ISO 9001:2008 standard. In 2019, the company underwent its third recertification with the ISO 9001:2015 standard, which is currently in force.



Data from Argentina's National Dairy Board show that between January and December 2022, dairy exports hit a record of \$1.67 billion, up 24.4% from 2021 and a total of 411,427 tons of products, representing an increase of 4.1% over the previous year.

“We are the only SME recognized with the CAME Sustentable's triple impact certification (economic, social, and environmental). Our entire sustainable development model rests on trust. We pay close attention to the social impact of our activity. To this effect, that is what we refer to when we say we want to innovate. We drive innovation and development to offer healthier products. We are not competitors, we support the integration of SMEs so that they can produce our advancement”, says Álvaro Ugartemendia, the company's owner.

Since its inception, the company's commitment has been to supply both the local and the international markets and expand worldwide. **Today, 20% of its production is for export, reaching countries such as Brazil, Chile, China, Colombia, Korea, Peru, Russia, Venezuela, and Vietnam, among others.**

Currently, the company wishes to increase its presence in Mercosur, since shelf life considerations drive it to offer more relevant products, such as soft and gourmet cheeses, bringing together other dairy industries to the cheese consortium Sensaciones Queseras and offering customers a broader range of products by coordinating multiple shipments.



The main export destinations for Argentine dairy products in 2022 were Brazil (35.65%), Algeria (18.6%), Chile (6.0%), China (4.8%), and Russia (4.2%). Source: CREA.

The company also casts a keen eye toward Asia, since many of its imports come from Europe and the United States. As a result of the deep conflict in Eastern Europe, many importers have turned to South America, showing a willingness to trade with these countries.

The lactose-free mozzarella developed at INTI was recognized with the highest score within its category at the 2022 World Cheese Awards in Scotland, earning a bronze medal.

“We were the first to introduce low-fat mozzarella in the domestic market and exported it to Brazil. Today we are the first to export the lactose-free mozzarella developed by INTI to that country. **The Institute’s support has meant a differential in the national and international markets.** Lactose-free cheeses are only found in Europe; they did not exist in Latin America; we are disruptive in the international market with this line of products. As an SME aligned to create value for the consumer population, we process healthier products. Seven out of ten people have some degree of lactose intolerance, so I believe our cheeses are a fundamental contribution to healthy eating”, concludes Mr. Ugartemendia.



CAPILLA DEL SEÑOR S.A.

Villa María, Capilla del Señor, province of Córdoba

Manufacturing of artisan soft, semi hard, hard, and spun paste cheeses

-Plant: 2.000 m²

-Annual production capacity: 30-million liters of milk





• **HS CODE (NCM):**

- 0406.10.10 / Lombarde Mozzarella cheese
- 0406.10.10 / Lombarde lactose-free Mozzarella cheese
- 0406.10.10 / Lombarde low-fat Mozzarella cheese
- 0406.10.10 / Lombarde lactose-free, low-fat Mozzarella cheese
- 0406.10.10 / Lombarde low-fat Mozzarella cheese enriched with phytosterols
- 0406.90.20 / Lombarde Danbo cheese
- 0406.90.20 / Lombarde lactose-free Danbo cheese
- 0406.90.20 / Lombarde Tybo cheese
- 0406.90.20 / Lombarde lactose-free Tybo cheese
- 0406.90.20 / Lombarde Gouda cheese
- 0406.90.20 / Lombarde lactose-free Gouda cheese
- 0406.90.20 / Lombarde Edam cheese
- 0406.90.20 / Lombarde lactose-free Edam cheese
- 0406.90.20 / Lombarde low-fat Edam cheese
- 0406.90.20 / Lombarde lactose-free, low-fat Edam cheese
- 0406.90.20 / Lombarde Prato cheese
- 0406.90.20 / Lombarde lactose-free Prato cheese
- 0406.90.20 / Lombarde Spun Provolone cheese
- 0406.90.20 / Lombarde lactose-free spun Provolone cheese
- 0406.90.20 / Lombarde Sardo cheese
- 0406.90.20 / Lombarde lactose-free Sardo cheese
- 0406.90.30 / Lombarde Cream cheese
- 0406.90.30 / Lombarde lactose free Cream cheese
- 0406.90.30 / Lombarde Port Salut cheese
- 0406.90.30 / Lombarde lactose-free Port Salut cheese
- 0406.90.30 / Lombarde low-fat Port Salut cheese
- 0406.90.30 / Lombarde lactose-free, low-fat Port Salut





ESTABLECIMIENTOS SAN IGNACIO S.A., a global frontrunner in dulce de leche

Acknowledged as a Cultural and Gastronomic Heritage of Argentina, *dulce de leche* is highly estimated in world cuisine, embodying the essence of local gastronomy. In this sense, San Ignacio has expanded its footprint in more than 23 countries spanning the Americas, Asia, Europe, and Oceania. **It is Argentina's largest exporter of dulce de leche and second-largest exporter of blue cheese.**

"INTI has provided comprehensive training to the company, including compliance with the Good Manufacturing Practices (GMP), the Hazard Analysis and Critical Control Points (HACCP) system, and international standards set forth by the British Retail Consortium (BRC). Furthermore, our team has extended technical guidance for *dulce de leche* production and the assessment of sensory attributes, consistently striving to refine and standardize processes to meet demanding national and international quality benchmarks. Our collaborative efforts ensure the company's adherence to export requirements both in terms of end-product quality and observance of rigorous food safety standards. At the same time, these endeavors enhance the company's personnel technical expertise", says Joselina Karlen from the Subproduct Valuation Department at INTI's Food Technology Operational Submanagement.

Established in 1939, San Ignacio has been in the market for over 80 years, catering to several domestic and regional supermarket chains and the industrial sector.

It stands as the sole dairy company in Argentina with BRC certification. Its farms adhere to international standards, and **it is the only dairy company in Argentina allowed to export to the European Union.**



 Recent data unveiled by the Secretariat of Agriculture, Livestock, and Fisheries of Argentina show an annual production capacity of 128,000 tons of dulce de leche nationwide.

Establecimientos San Ignacio S.A. is actively committed to extending its global footprint with its blue cheese. This variety features a homogeneous distribution of molds and cavities, intentionally free from any surface irregularities, an attribute that is highly regarded in several markets. It is available in wedges of 120 to 180 grams. The company has three *dulce de leche* product lines that are marketed globally: one is the traditional whole or low fat, crafted with skimmed milk and packaged in 450 and 400 gram jars, as well as in three, five, and ten-kilogram buckets. The other two are the confectionery and ice cream artisanal products complete the lines for international markets in five and ten-kilogram buckets.

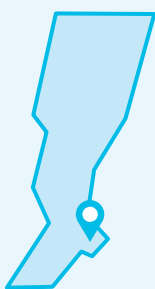
“INTI provides valuable insights that enhance our knowledge, product integrity, and safety, taking proactive steps to address environmental, technical, and production challenges”, comments Alejandro Medina, the company’s industrial manager.

The company exports to global destinations encompassing Brazil, Bolivia, Canada, Chile, Dubai, Europe (Germany, Austria, Spain, England, Italy, Switzerland, the Netherlands, and Russia), the United States, the Philippines, Israel, Mexico, New Zealand, Paraguay, Peru, Syria, South Africa, Uruguay, and Vietnam.

 According to data from the Argentine Dairy Chain Observatory, the sector houses 670 companies, collectively orchestrating an annual production capacity of over 11.5 billion liters, representing an annual per capita consumption of 187.8 liters of milk.

“We are one of the global leaders in the realm of *dulce de leche*. San Ignacio holds a privileged place in the so called ‘nostalgia market’: notably, 80% of our international customers are of Argentine origin. They seek sensory experiences that evoke cherished childhood memories. As our journey unfolds, our ambition is to grace an even higher number of tables, introducing these customers to indelible and unparalleled flavors”, adds Mr. Medina.

Presently, the company is actively addressing emerging sectoral challenges, underscoring its commitment to the circular economy paradigm and the maximization of byproduct value.



ESTABLECIMIENTOS SAN IGNACIO S.A.

Province of Santa Fe

Dulce de leche and blue cheese manufacturing

-Production capacity: 27,000,000 liters of milk to produce dulce de leche, cheese and fresh products

-Sauce Viejo Plant: 5,000 m²

-Hipatía Plant: 2,500 m²

• HS CODE (NCM):

-1901.90.20 / Dulce de leche

-0406.40.00 / Blue-veined cheese and other cheeses with veins produced with *Penicillium roqueforti*





ALIMENTARIA CAPRINA S.R.L., powdered goat milk known as “La Primera”

Amidst the mountains of Traslasierra, in the province of Córdoba, Alimentaria Caprina S.R.L. is best known in the sector as “**La Primera**”. The company specializes in the collection, cooling, and processing of goat’s milk, pioneering as the sole Argentine farm that produces export grade, long life powdered goat’s milk, with a year long shelf life.

Approved and regularly audited by the Argentine National Food Safety and Quality Service (SENASA), it is one of the few Argentine SMEs certified B since it complies with strict, verified social and environmental performance standards, transparency and responsibility standards. It is considered organic in transition under LETIS SUE standards, holds Kosher approval granted by Ajdut Kosher, and has been accredited as gluten free by the Food Directorate of the province of Córdoba.

The company is interested in entering the international market with its whole and partially skimmed powdered milk in 25 kilogram bags, long-life milk in one liter packages, and goat’s milk *dulce de leche*.

Jorgelina Díaz, head of the Food Analysis Laboratory at the INTI’s Agri-Food Engineering department for the Argentine Northwest (known as “NOA region”), comments that the first approach they had with the company was to work on a proposal for updating the information contained in the labels of its different products, which is mandatory according to the new Argentine food code. From this first meeting arose the need to implement a food safety system. Work was done on the implementation of Good Manufacturing Practices (GMP) to obtain ISO 22000 certification, which allowed a greater opening to new markets. These were applied specifically to the collection and storage of fresh milk, achieving effective organization of information and traceability, which made it possible to generate safety throughout the production system by making decisions when defining new strategies and increasing confidence in the entire production system.

“Our milk is sourced from a network of over 100 small producers located within a distance of 50 kilometers. Some may have 200, others only 10 goats. They milk the goats manually from November to March, respecting their natural cycle. There are collection circuits set up for the milk, which then reaches the cooling room”, explains María José Freire, the company’s technical director.





According to the Argentine website “Producción Animal”, over 50% of the world’s population consumes goat’s milk. Asia is the continent where this product is most consumed, particularly in India.

Because of strategic market factors, the company intends to set foot in Asia, where there is a notable demand for goat’s milk, since these areas display reduced tolerance for lactose and cow’s milk protein, and goat’s milk is more easily digestible.

“Our greatest challenge is to add value to this product that until just over a decade ago was discarded by producer families living in pristine forests. There, the goats feed on pastures and wild fruits, far from pollution, and free from diseases, antibiotics, agrochemicals, and genetically modified feeds. This endows the milk with richer properties, and its collection requires strict quality and health controls from milking to the store shelves”, reflects Ms. Freire.

Juan Ruiz, La Primera’s manager, notes that the company adheres to fair trade: the same price is paid per liter, whether it’s 1 or 200, as the aim is to level the playing field for small producers and foster a sense of ownership in their work.

“We operate within the new food paradigms, where consumers seek genuine products. There is a current interest in knowing the origins of the food one consumes; conscious eating is on the rise, and we are on that path. Those who purchase our milk know what they are consuming. Our nutritional label features few ingredients, minimizing confusion. What’s inside the package is a natural and original product”, concludes Mr. Ruiz.



ALIMENTARIA CAPRINA S.R.L.

Paraje Santo Domingo, province of Córdoba

Manufacturing of powdered and long-life goat’s milk

- Powdered milk plant: 3,600 m²
- Long-life milk plant: 3,200 m²
- Dulce de leche processing plant: 600 m²
- Annual production capacity: 400,000 liters per season, representing approximately 30 tons of powdered milk.

• HS CODE (NCM):

- 0402.21.10 / Powdered whole goat’s milk, in 250 gram packets
- 0402.21.20 / Powdered partially skimmed goat’s milk, in 250 gram packets
- 0401.20.10 / UHT, long life whole goat’s milk, in 200 milliliter Tetra Pak packages
- 0401.20.10 / UHT, long life whole goat’s milk, in 1000 milliliter Tetra Pak packages
- 1901.90.90 / Goat’s milk dulce de leche, in 454ram glass jars
- 0402.21.10 / Powdered whole goat’s milk, in 25 kilogram bags
- 0402.21.20 / Powdered partially skimmed goat’s milk, in 25 kilogram bags





ADRAGNA L.F., Chocoleit healthy *alfajores*



As Argentina continues to leave its footprint in the international dairy commodities market, there is a shift in the range of products crafted. Exports are no longer limited to milk or cheese. Today there is a growing demand for products with fewer calories and higher nutritional quality. Among the SMEs rising to this challenge, Chocoleit Argentina S.A. is carving out a niche on the shelves as an excellent healthy option.

The company produces two varieties of a confection known as “alfajor”—one with semi sweet chocolate coating and another with white chocolate coating. Both are filled with gluten free, sugar free *dulce de leche*, with under ten calories per portion size and a higher protein content amounting to seven grams in 50 grams of product. By contrast, traditional *alfajores* typically have between one and three grams of protein for the same portion size.



According to the Argentine Association of Confectioners and Related Distributors (ADGYA), the country consumes a billion *alfajores* annually, making it the top-selling treat.

The company is interested in penetrating the foreign Latin American market, of special interest being Brazil, Paraguay, and Uruguay due to logistical reasons.

“To expand its presence in the market, the company received assistance to **develop a sugar free confectioner’s dulce de leche with a low glycemic index, as well as a traditional sugar free dulce de leche, resulting in two low carbohydrate products**”, explains María Laura Castells, head of the Process Development Department at INTI’s Food Technology Operational Submanagement.

Furthermore, INTI also worked on **the development a peanut based filling without added sugars**. Unlike other products in the market, this one replaces added sugar with more strategic ingredients, which render similar textures and sweetness with the advantage of providing natural fats inherent to the raw material.

“It is a unique product in the country since other versions currently available in the market have higher levels of added sugar and hydrogenated oils, sacrificing the nutritional quality found in natural peanut paste. The formulation developed by INTI allows this food to be used primarily as a filling in our clients’ *alfajores* and other baking and confectionery items, potentially promoting the generation of new sweet foods in a healthier version. This innovative development enables the company to expand its product catalog and presence in new markets both at the national and international levels”, explains Lourdes Landoni from the Process Development Department at INTI’s Food Technology Operational Submanagement.

“We have developed the only dough without flours or sugar, replacing traditional ingredients with unsweetened cocoa powder, skim milk, egg whites, and Stevia”, says Liliana Francisca Adragna, owner and director of Chocoleit Argentina.

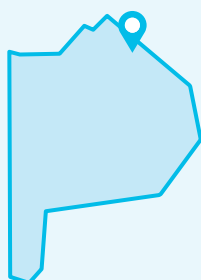
All the company’s products are approved by the National Administration of Drugs, Foods, and Medical Devices (ANMAT). Ms. Adragna holds that there are only two *alfajor* companies in the country that are recognized by the FSSC 22000 scheme, and Chocoleit is one of them.

It was awarded a bronze medal in the healthy alfajor category at the first Alfajor World Cup in 2022.





“Chocoleit is the only company in the world producing a flourless, sugar free, healthy, delicious, and protein rich *alfajor*, bringing forth sensory experiences that delight the body and soul. We target celiac and diabetic consumers and those who, by necessity or choice, need to consume less added sugar without depriving themselves of these kinds of sweets. What sets us apart is our patented dough recipe, with innovative ingredients and process”, concludes Ms. Adragna.



ADRAGNA L.F.

Lanús, province of Buenos Aires

Alfajores factory

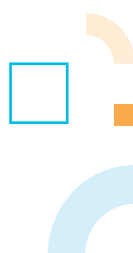
-Production plant: 300 m²

-Annual production capacity: 2,000,000 units

• HS CODE (NCM):

-19059090490N / Low-fat, chocolate coated chocolate alfajor with *dulce de leche* filling. No sugar added. Gluten free.

-19059090490B / Low-fat, white chocolate coated chocolate alfajor with *dulce de leche* filling. No sugar added. Gluten free.





CREMIGAL S.R.L., original purity cheeses

Cremigal S.R.L. has a long standing history of collaboration with INTI through an annual plan of technological assistance. Such a plan involves internal audits at the company's industrial plants, a review of the quality management documentation system—with on-site training in dairy production technologies included, and food safety management systems.

“All these activities aim at improving and standardizing production processes to meet the essential product quality and food safety guidelines required for competitiveness in national and international markets”, says Leandro Aguilar, a member of INTI's Subproduct Valuation Department.

With 35 years in the market, Cremigal S.R.L. manufactures over 60 products across five production lines: cheeses, melted and spreadable products, ultra high temperature (UHT) long life milk, yogurt, *dulce de leche*, and dried products (whey and milk in 25 kilogram bags); all products are gluten free.



Of the total cheese exports in 2022, most were soft-paste cheeses, accounting for 56.2%, followed by semi hard paste cheeses (33.6%), and hard paste cheeses (9.6%), according to the CREA's latest sector report.



Sourcing its raw materials from over a hundred regional dairy farms, **the company's varieties Tybo, Creamy, and Mozzarella stand out as potential exports.**

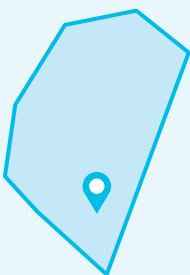
“While we manufacture our cheeses on an industrial scale, we uphold the quality of artisanal production. Notably, our Tybo cheese dries exceptionally well and is not overly gooey, facilitating slicing. The Creamy and Mozzarella cheeses undergo an adequate maturation process devoid of additives, and this is clearly appreciated when tasting their authentic flavors”, emphasizes Belén Patiño, the company’s quality manager.

With 20 years of export experience in dry products like powdered milk and whey, its primary destinations include Saudi Arabia, Algeria, Brazil, Cameroon, China, Colombia, Costa Rica, the Philippines, and Syria. It has also exported its cheeses to Paraguay, and now, due to logistics, the company aims to introduce such products to other destinations in Latin America.

 **With an annual production of 500,000 tons of more than 300 varieties of cheese, our country is the main consumer in South America, with an average of 13 kilos per person per year.**

In pursuit of expanding its export initiative, the company engaged in internal audits this year with INTI. This joint effort resulted in the company’s successful HACCP recertification by Bureau Veritas, a remarkable accomplishment.

“We are a company with a rich history nationally and internationally. Our products retain purity from the very first day. Those who try us out come back not only because our products are delicious but also to experience the feeling of consuming dairy without secrets. We are a family owned enterprise, consistently bringing our products to the dining tables of Argentine households every day, and we intend to reach international consumers”, concludes Celeste Valenti, the company’s Managing Partner.



CREMIGAL S.R.L.

General Galarza, province of Entre Ríos

Dairy farm

-Plant: 10,000 m²

-Annual production capacity: 125,000,000 liters of milk

• HS CODE (NCM):

-0406.90.30.190D / Cream cheese

-0406.10.10.199Q / Mozzarella cheese

-0406.90.20.299U / Tybo cheese

-0404.10.10.00.000P / Whey powder

-0402.21.10.900M / Milk powder



International Cooperation



The project Se4All, Se-Biofortified Alfalfa For Se-Enriched Dairy Products, is a collaborative global endeavor to enhance the attributes of these foods with selenium (Se), a natural micronutrient. To this end, selenium is naturally added into alfalfa pastures, the primary feed for dairy cows. The goal is to ensure that the resulting milk intrinsically contains this essential mineral without supplemental additives during the manufacturing process and to quantify the actual presence of this nutrient within the milk.

Launched in 2021, this project is a joint endeavor executed through a consortium led by the Universitat Autònoma de Barcelona (UAB), from Spain. INTI is an integral member of it, together with the Universidad Nacional del Litoral (UNL) and the Instituto Nacional de Tecnología Agropecuaria (INTA), from Argentina; the Università degli Studi di Roma La Sapienza, from Italy; the Consorcio para la Construcción Equipamiento y Explotación del Laboratorio de Luz Sincrotron (ALBA), from Spain; the ReDinn Srl from Italy, and the Beal Organic Cheese Limited SME, from Ireland.

The project is organized into six distinct work packages. One of them, led by INTI, aims to assess the technical viability of selenium-enriched milk. Building upon this assessment and several physicochemical parameters, standardized protocols for the biofortified dairy product manufacture will be developed considering technological aspects, quality benchmarks, sensory evaluations, and other relevant factors.

Today's project activities involved visits to food pilot plants and dairy farms, discussions with local academic institutions, and cheese production test at INTI's headquarters in Rafaela, province of Santa Fe, involving researchers and educators from UAB. As this phase concludes, forthcoming technical meetings in Buenos Aires are anticipated to address the progress made and impending challenges.

Supported by the European Union's Horizon2020 research and innovation program, the project operates under the auspices of the Marie Skłodowska Curie Actions (MSCA).



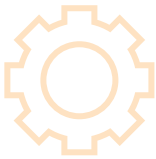
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