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SMEs EXPORT

Argentine technology and innovation



PLANT-BASED FOODS



INSTITUTIONAL RELATIONS AND COMMUNICATIONS OPERATIONAL MANAGEMENT

Institutional Relations Deputy Management



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Introduction



This edition will showcase our technical capabilities for developing plant-based, vegan, and vegetarian ingredients and foods.

At INTI Foods, we have a team of professionals, testing laboratories, and pilot plants to assist in new product developments in line with market trends and consumer needs.

Our physicochemical tests can be used to characterize foods, elaborate nutritional labeling, verify compliance with regulatory requirements, certify food safety, identify the presence of allergens, and assess stability over time.

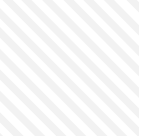
We support the development of the segment by contributing technology, providing training and participating in the Vegan-Vegetarian Food Promotion and Productive Development Board, which gathers associations, certifiers, and Government agencies convened by the Secretariat of Agriculture, Livestock, and Fisheries through the National Directorate of Food and Regional Development.

Mariana Sánchez

HEAD OF TECHNOLOGICAL ASSISTANCE

DEPARTMENT FROM THE FOOD TECHNOLOGY OPERATIONAL SUBMANAGEMENT





Exporting Potential

**ARIES S.A., Dehydrated vegetables, a nutritious and trendy option**

In the era of healthier and more sustainable food choices, dehydrated vegetables have made their way to the forefront as a culinary trend that is quickly gaining momentum around the world. By retaining most of their nutrients—including vitamins, minerals, and antioxidants— they are a concentrated source of micro and macro nutrients, with longer shelf life and natural flavor. Additionally, they allow their use as ingredients in the preparation of juices, smoothies and expanded snacks.

In this sense, Aries S.A. is an Argentine SME that in view of the relevance that the world gives to plant-based foods has broadened its product offering, and today it is firmly established in this sector.

The company stands out for its dehydrated carrot products, which come in a variety of presentations such as flour, different levels of granules, pellets, and chips, which acquire the shape of slices once they are dehydrated. This makes them versatile and suitable for a number of culinary preparations. They are also marketed as flakes to be consumed as snacks.



In 2021, the global plant-based food market was valued at 39.4 billion dollars and is forecast to grow to 103.5 billion dollars by 2027.

Source: Research And Markets

In addition to carrots, the company also dehydrates garlic, onions, and beets. These vegetables are also available in other presentations such as flour and different types of granules, which make them easy to use in various recipes and processed foods. For example, garlic powder is increasingly used as a salt substitute.

Mariana Sánchez, head of INTI's Technological Assistance department from the Food Technology Operational Submanagement, says that **in order to meet regulatory requirements and expand its product range both domestically and internationally, the company decided to turn to INTI to carry out physicochemical, microbiological, and functional analyses of its carrot and beet powders.**

A series of tests were conducted, including the analysis of pesticide residues, the determination of moisture, peroxide, acidity, and water content values and the assessment of powder content, color, flavor, and aroma as well as the quantification of vitamins, fiber and protein percentages, among others.

Upon vetting product suitability for both human and animal consumption, the possibility of using these dehydrated powders in dry pasta, cookies, and vegetable preparations was explored.

The purpose of this analysis was to ensure that the company's carrot and beet powders meet the required regulatory standards and are safe for consumption.

Ariel Ferrari, the company's Marketing manager, comments that the greatest challenge in its more than 20 years of experience was to face the dehydration project because it meant opening up new markets, developing new products, and reaching other commercialization channels.

Concerning foreign markets, he adds that **they are interested in entering the Arab countries, where they see a key commercial exchange relationship in the sector. They also see an opportunity in the Brazilian and Paraguayan markets, given that the level of consumption of dehydrated vegetables is on the rise.**



According to a Kantar Worldpanel report, not only 12% of Argentine population is vegan or vegetarian, but 78% would be willing to increase their consumption of these products.



Among the different methods for dehydrating fruits and vegetables, the company has adopted one that uses gas burners to measure the presence of moisture until the levels required for the final product are reached, resulting in a shelf life of more than one year when preserved in jars or vacuum-sealed bags.

“We implement organizational strategies in manufacturing and decision-making systems designed to manage performance yields. Our products are made with healthy, economical nutrition in mind, so that we get nutrient- and vitamin-rich dishes. Aries' ultimate goal is to promote foods that enhance life quality,” concludes Mr. Ferrari.

**ARIES S.A.****San Martín, province of Mendoza, Argentina**

Manufacture, conditioning, and packaging of vegetables.

- Production plant: 120 m² plus a 20-hectare field
- Annual production capacity: 50 tons of dehydrated carrots and 10 tons of garlic, onion, and beets
- Presentation: vacuum-sealed bags from 5 to 50 kg and in bulk

• HS CODE (NCM):

-0712.90.90.920Z / Carrot - Other vegetables; Mixed vegetables. Dried vegetables, including cut, sliced, crushed, or in powder, but not otherwise processed.





ELEMENTA FOODS ARGENTINA S.A., Innovative, healthy, and sustainable vegetable proteins



In search of noble materials for a healthy diet, Elementa Foods sources from the soil different types of proteins that are on trend worldwide. One of them promises a bright future. **It is a non-GMO variety of lupine, which has over 50% protein in grain, essential amino acids, antioxidants, low alkaloids, neutral flavor, and great versatility for different applications in the food industry. Another of its innovations is a nutritious, innovative chickpea-based snack that is marketed nationally and has international market potential.**

The company is present in all stages of the production chain since it offers a traceability system from grain genetics to the final product for the consumer. Its portfolio includes **pulses (some with their own genetics) and their by-products such as raw and precooked flours, textured products, concentrates, protein isolates, and snacks.**

As for the assistance provided, Florencia Iglesias, a member of the Institute's Food Technology Operational Submanagement, comments that the company sought to diversify its product range. To this end, they approached the Institute to develop a gluten-free snack using chickpea flour. This initiative aimed to enhance market choices by providing a higher-protein alternative. This is particularly important as most existing snacks rely on corn flour.





Experts from INTI ran the process through the use of twin-screw extrusion technology. They worked on the formula and the elaboration process, resulting in a pleasant flavor and the desired texture, with raw materials of national origin.

Milagros Calvi, the company's Quality and Innovation manager, says that they resort to INTI laboratories whenever they seek to develop and validate raw materials, thus ensuring quality. **She underscores the valuable opportunity the Institute provides for the company to work with focus on both domestic and international new markets.**

Elementa Foods has an interesting line of snacks marketed under the brand name Maity, which consists of **nachos made from chickpeas** that they also harvest. These products stand out for having a clean label and for their high protein content, sustainability, taste, and simple composition, since they contain four ingredients: chickpeas, corn, and sunflower oil, in two presentations -with salt or paprika-.

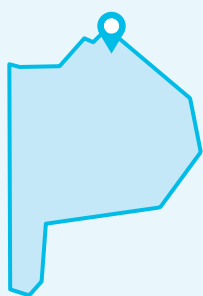
Its products include **yellow pea flour and textured yellow pea, used in the meat analog industry such as hamburgers and sausages.**

As for foreign markets, the company has a significant track record in grain exports to destinations such as Algeria, Canada, China, Colombia, Costa Rica, Ecuador, Egypt, the United Arab Emirates, the United States, the Philippines, France, Greece, Indonesia, Liberia, Morocco, Mexico, and Turkey, among others. **The company aims to expand its presence in Brazil, the United States, and Europe since these regions have a burgeoning demand for its product offerings.**

Emiliano Benito, founding partner, says, "Our wish is to position ourselves as a global benchmark supplier of vegetable proteins, always aligned with sustainability. **We practically stand alone in the market since our legume has the highest protein content and a neutral flavor. In this way, we provide the market with a versatile ingredient for all kinds of developments.**"



“In only four years the company has managed to position itself in a trending industry thanks to the promising potential of the **lupine**. This legume may rival soybean in the future since as a substitute for meat protein, it promotes health-conscious consumption, it is non-genetically modified, and it boasts a lower carbon footprint. Elementa Foods Argentina has entered the scene to anchor this growth with wholesome and sustainable products,” Mr. Benito states.



ELEMENTA FOODS S.A.

Tigre, province of Buenos Aires

Production of raw materials and development of plant-based products.

- Production plants: provinces of Entre Ríos, Buenos Aires, Santa Fe, and Córdoba
- Production capacity: 48,000 boxes of snacks (1 box = 24 units). Presentation in 70 g packages.
- Annual production: 10,000 tons of flour and textured products

• HS CODE (NCM):

- 1116.10.00.500T / Mung bean flour
- 1116.10.00.200B / Chickpea flour
- 1116.10.00.100W / Yellow pea flour
- 2116.10.00.000Z / Textured pea
- 2116.10.00.000Z / Textured chickpea
- 2304.00.10 / Textured soybean
- 1208.90.00.000X / Lupine flour
- 2116.10.00.000Z / Isolated (pea/lupine)
- 2116.10.00 / TSP
- 1005.90.10.219X / Pisingallo corn (popcorn) grain
- 0713.31.90.900N / Mung bean grain + split mung bean grain
- 0713.20.90.912V / Chickpea 8 mm
- 0713.20.90.913X / Chickpea 7 mm
- 0713.10.10.90.912F / Yellow peas
- 1214.90.90.00.900T / Lupine
- 1905.90.90.90.00 / Nachos - Maity





VALORASOY S.A., Transforming Grains in Protein Ingredients

The contemporary world is swiftly embracing a health-conscious, plant-based dietary shift, underscored by exacting standards. In this context, ValoraSoy S.A. boasts over a decade of expertise in turning grains into food components. The company specializes in the production of flours and textured products from legumes like soybeans and chickpeas, aligning with the latest culinary trends while offering exceptional nutritional value.

Its cutting-edge facilities are nestled in the soybean heartland. There, the company manufactures plant-based proteins that emulate meat texture, chewiness, and fibrousness.

Its product portfolio includes:

-Textured soy proteins: Conceptually, these serve as meat analogs or substitutes, closely resembling animal meat in consistency, texture, and protein content. They are ideal for canned foods, veggie dishes, nuggets, and more.

-Pregelatinized chickpea flours: They are designed for industrial applications in instant consumption products such as hummus. They are also a baking alternative for sliced bread, particularly suitable for gluten-free options.

-Expanded chickpea products: These offer the same protein and fiber functionality as our textured range, making them a perfect fit for the food service industry.





Its production plant complies with the Good Manufacturing Practices (GMP), the Hazard Analysis and Critical Control Points (HACCP) principles, and the ISO 22000 certification granted by the Argentine Normalization and Certification Institute (IRAM). It is also certified as Halal by the Islamic Center of Argentina.

Mariana Sánchez, head of INTI's Technological Assistance department at the Food Technology Operational Submanagement, comments that, in an effort to expand its presence in domestic and international markets, the company turned to the Institute in search of new industrial application alternatives within the value-added chain.

Work has been carried out in the development of two vegan chickpea-based products. On the one hand, a dehydrated, flavored premix, without spices or fat fraction for the preparation of **instant hummus**, and on the other hand, a reference standard formulation to prepare **vegan chicken nuggets**. This strategic move enabled the company to expand its core business from primarily producing high-protein pulses to serving both the food service and the hospitality industries, including hotels, restaurants, and cafeterias (HORECA in Spanish).



According to data from the Association of Plant-based Food Producers, at least 1,200 companies in Argentina manufacture exclusively plant-based foods, of which 150 export and 600 are about to do so in the medium term.

The company exports all its pulses textured products, **catering to 16 active markets across three continents. Those of Southeast Asia, Africa, and Latin America currently hold the most significant market share, and the company seeks to expand its presence there, due to its strategic importance and diverse customer base. Furthermore, the company wishes to enter the European and Middle Eastern markets given the substantial potential for pulses in those regions.**

With the support provided by the Investment and Foreign Trade Agency of the Argentine Ministry of Foreign Affairs, the chickpea and soybean products arrived at the food exhibition in Dubai to open a new line of business.



María Florencia Ricca, Quality and Institutional Relations manager, highlights that ValoraSoy is an ever-evolving company. Presently, it stands as the sole entity with the most extensive range of meat alternatives in its portfolio. The company's primary mission is to catalyze the global alternative protein industry.

María Victoria Ricca, Commercial and Product manager, explains, "We have recently merged with Moolec Science. Together, we will offer food products with the highest functionality and nutritional values, delivering meat-like attributes, from texture and flavor to protein content. We aim to become a reliable source for unique, science-backed ingredients, all while keeping labels simple and costs affordable."



VALORASOY S.A.

El Tío, province of Córdoba

Manufacture of protein ingredients.

- Plant: 1,000 m²
- Annual extrusion capacity: 6,000 tons
- Two production lines: vegetable extrusion and soybean processing.

• HS CODE (NCM):

- 2106.10.00 / Soybean textured products
- 1106.10.00 / Chickpea textured products and pregelatinized flours





VEGAN NATURE S.A., A referent in plant-based food



Different markets are seeing an increase in the relevance of vegetable proteins such as those from legumes—which are experiencing significant growth in this emerging industry—and some Argentine companies are at the forefront in this sector.

INTI has vast experience in assisting companies manufacturing this type of product. **Vegan Nature** is one of them. Known for its commercial brand **Casa Vegana**, it has more than twenty years of expertise producing this type of food with international projection.

Mariana Sánchez, head of INTI's Technological Assistance department at the Food Technology Operational Submanagement, says that the company approached the Institute to audit and validate an investment project to access a Non-Refundable Contribution (ARN) from the Ministry of Economy's Secretariat of Industry and Productive Development to increase its production for export. Thus, production issues were solved and the proposed freezing machine, which enables the company to produce frozen and refrigerated packaging on the same line, was assessed.

Additionally, she states, “These products are gaining popularity among consumers—primarily driven by growing awareness as well as environmental and nutritional concerns. At INTI, we possess the expertise to support the national food industry in these innovative endeavors.”

Vegan Nature dedicates more than 85% of its production to two key product lines:

-Toques: These pre-fried, ready-to-heat snacks are a **unique offering in both the national and international markets**. They are available in four varieties: Thai Toque, lentils Toque, tikka Toque, and chickpeas Toque.

-Baked Medallions: These medallions come in a range of 10 flavors comprising Hungarian adzuki, lentils, Asian millet, Mediterranean quinoa, Andean quinoa, adzuki and beet, Indian-curry quinoa, Green Moon, unsalted quinoa, and amaranth and brown rice. Notably, these products boast high nutritional value, are free from preservatives or artificial flavorings, and are devoid of flour, wheat, soy, or trans fats.

Both of these offerings are 100% natural. They are apt for consumers with lactose intolerance and have a shelf life of 9 months when stored in freezer. Casa Vegana also manufactures frozen and pre-cooked meals, ready for heating and consumption.



According to a U.N. Food and Agriculture Organization (FAO) report, plant-based food retail sales are expected to increase fivefold by 2030 compared to 2020, amounting to 162 billion dollars.

Francisco Piñero Pacheco, chair of the company and head of the Plant-Based Producers Association, says, “Vegan Nature represents an opportunity that embodies a commitment to ecological sustainability and environmental responsibility. Regional economies are adopting healthy eating trends, and our company translates these values into exceptional and innovative products, crafted from quality raw materials and free from preservatives, additives, or refined flours.”

Their export aspirations extend to the United States and Europe, where the market has witnessed a surge in the popularity of such products. Additionally, Latin America is on their radar given the cultural affinity, language similarities, and logistical considerations.

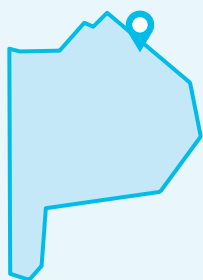




Vegan Nature S.A., a leading player in Argentina's plant-based industry, boasts an extensive network of over 2,000 sales points, including prominent retail outlets like Jumbo and Carrefour, both in stores and supermarkets.

"I am aware that the demand for these products is increasing; people want to eat healthy, and we want Vegan Nature to be known as a company that satisfies consumers' preferences in a tasty and healthy manner.

"We want the world to know us, and the joint endeavor with INTI has strengthened the company's capacity to enter foreign markets," concludes Mr. Piñero Pacheco.



VEGAN NATURE S.A.

San Martín, province of Buenos Aires

Manufacture of plant-based products.

- Plant: 2,500 m²
- Annual production capacity: 1,200,000 units
- Toques* line: packs of 20 units, 420 gr
- Medallion line: packs of 4 units, 480 gr

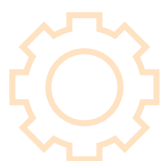
• HS CODE (NCM):

- 2004.90.00.990X / Medallions
- 2106.90.90.900Z / *Toques*



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