

Expand the seed encapsulation service to the United States and Brazil and Develop Capsules 2.0 and 3.0.

1.- DESCRIPTION

Global population growth is leading to a decrease in per capita arable land. It is estimated that by 2050, the global population will reach 9 billion, with only 0.15 hectares of cultivable land available per person. This necessitates an increase in agricultural productivity, a reduction in the use of inputs, and the restoration of unproductive soils. Since the 1960s, the industry has developed artificial seed coatings, primarily based on polymers, to improve seed quality. This market is currently valued at USD 1.9 billion and is projected to grow by 25% over the next five years. However, current technology has several limitations, as it does not protect seeds from excess or insufficient moisture, low soil temperature, phytotoxicity caused by pesticides, or prevent the release of dust or chemical particles, among other issues.

To address these challenges, Seed Matriz has developed a patented seed encapsulation technology that enhances seed handling and plantability. This technology serves as a platform that allows the addition of bio-stimulants, nutrients, and therapeutics, and also enables seeds to be detected underground, facilitating real-time monitoring of planting quality data. Furthermore, it provides early and accurate information about plant health.

Thus, each seed becomes a platform to integrate technologies that improve productivity, digitise agriculture, and reduce its environmental impact.

2.- BUSINESS MODEL

Seed Matriz has achieved the following developments:

- Capsule 2.0 (currently available on the market): A technological solution for the seed industry that enables the recovery of discarded seeds, the integration of new technologies, and the offer of differentiated products to producers.
- Capsule 3.0 (in development): This will allow for seed detection underground, enabling precision agriculture technology providers to add new digital data to optimise planting processes.
- Capsule 4.0 (under research): This will leverage artificial intelligence for plant-by-plant crop management, attracting clients such as producers, laboratories, insurance companies, seed producers, and other entities that rely on agricultural planting data.

3.- FUNDING

Seed Matriz has financed its project through the following:

- USD 16,000 (2018/9) from the provincial agency Córdoba Innovar y Emprender, which was used to develop the first prototype.
- USD 350,000 (2020-2021) in an initial funding round, with contributions from angel investors and entrepreneurs from the sector.
- USD 1,000,000 (2023) in a second funding round, led by a national investment fund.

The company is now seeking an additional USD 3 million in funding. Half of this amount will be allocated to the development of Capsules 3.0 and 4.0, as well as further studies, while 25% will be dedicated to expanding the business in the USA, Argentina, and Brazil.

4.- ROI AND INVESTOR PROFILE

The ideal investors for Seed Matriz are venture capital funds specialising in Agtech, corporate funds, and organisations that promote sustainable agriculture development.

5.- EXECUTION PLAN

The project has completed the following stages:

- Development of Capsule 2.0, with patents filed in both the USA and Argentina.
- Validation of the technology in maize, popping corn, sunflower, and sorghum, demonstrating productivity increases of between 3% and 10%.
- Capsule 3.0: Provisional patent filed.

Future expectations include:

- Commercial expansion of Capsule 2.0.
- Development of a commercial prototype for Capsule 3.0.
- Development of a laboratory-scale model for Capsule 4.0.
- Consolidation of commercial and R&D teams in target markets.
- Development of solutions for high-impact productivity challenges.

6.- ADDITIONAL BACKGROUND

- Agreement with Iowa State University for the co-development of Capsule 3.0.
- Agreement with the Danforth Plant Science Center for technological advancements.
- Collaboration with various departments of CONICET for research and trials.
- Partnerships with universities and research centres in Argentina.
- Recipient of the Arch Grants (USA) award to establish the company in St. Louis, Missouri.

Perfil

Seed Matriz is an Agtech startup founded in 2018 with the aim of developing cutting-edge technologies for the seeds of extensive crops, thereby improving efficiency and reducing the environmental impact of large-scale agriculture. The company is made up of a multidisciplinary team with extensive experience in business, rural sectors, and entrepreneurship.

Seed Matriz has formed numerous strategic partnerships, including with leading universities in Argentina and the United States, scientific excellence centres, and major agribusiness corporations.