Grace Breeding
green agro solutions

Grace Breeding
Nitrogen Fixation Technology Ltd. (NFT)

Q2 2023 Presentation

GRACE BREEDING

is an AgClimateTech company providing sustainable agricultural solutions for sustainable food supply

Replace climate-harmful, synthetic products

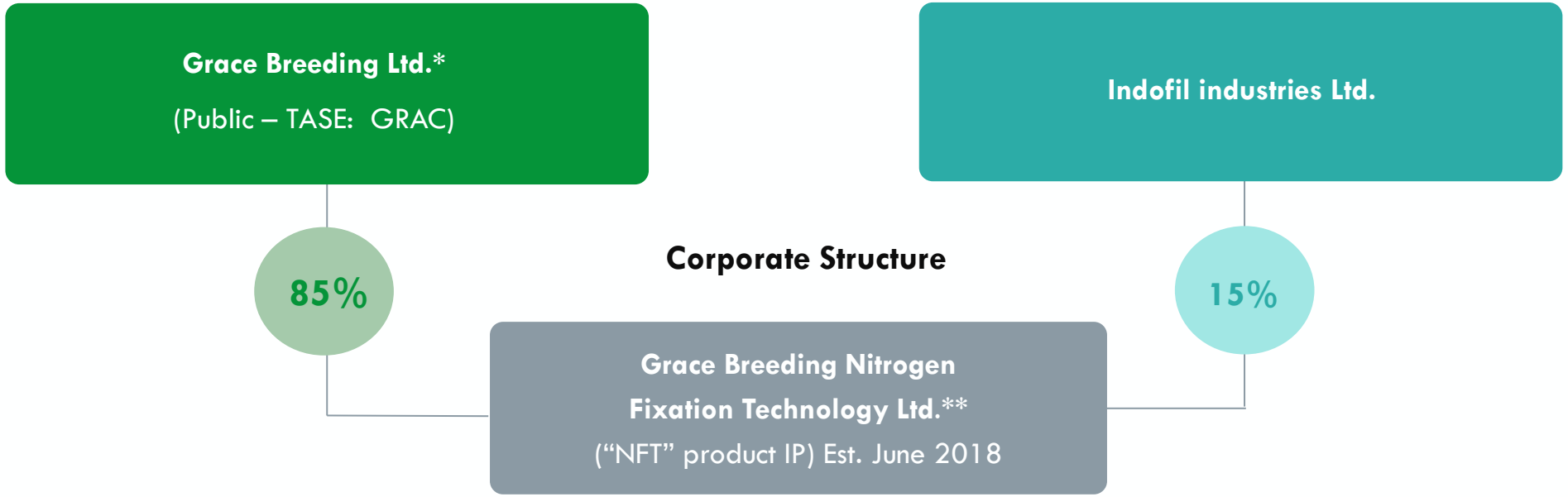
while protecting the environment

See our lab., greenhouse and field-level scientific and GTM trials

Video here

Company At-a-Glance

Established	2018
Headquarters	R&D center located in Israel's Rehovot's science park
Employees	12
Experience	Management with years of accumulated experience in the areas of Agtech, fertilizers, plant protection and food.



Investment Highlights

- **Emerging leader in agricultural technology** providing solutions for sustainable food supply
- **Operating in large and growing addressable end markets**
  - Biofertilizers represent a global TAM of $45 billion with a CAGR of 10.9%
- **Leading programs** a novel, patent-pending, biological environmental Biofertilizer
- **Reduce carbon emission and reduce reliance on synthetic fertilizers by 50%**
- **Powerful unit economics and economies of scale** through availability to procure raw materials efficiently
- **Simplified regulatory pathway,** enabling the company, according to the company estimation, to launch commercially in Brazil mid-2024
- **Strong IP protection** with four separate utility patent applications
- **Validating strategic partnerships** and close industry relationships support R&D and pre-commercial efforts
- **Seasoned management team** with decades of combined cumulative experience in fertilizers, plant protection, and food supply

Upstream Solution:
"NFT" (Bio-Fertilizer)
Replaces climate-harmful, synthetic urea

Management (Grace Breeding management)

Morris Zelkha, Chairman of the Board of Directors
Founder and former CEO of LycoRed for 24 years
head of new product development Negev Phosphate ICL

Assaf Dotan, CEO
Senior Manager at ADAMA Agricultural Solutions Ltd.; entrepreneur in the ag-innovative world; former CEO of Casterra Ag. Former Ag Investment Advisor for Fortissimo Capital and RDC

Amit Avidov, CTO
Innovative agronomist and senior plant breeder with more than 30 years of experience and over 600 registered plant varieties attributed to his work

Moti Mordehai, CCO
Global Senior Manager at ADAMA Agricultural Solutions Ltd.; GTM expert with launch-to-commercial life cycle management experience & a deep understanding of the relationships between producers, distributors and product end-users

Orly Shuster, CFO
Graduate of the CPA firm EY Israel with 20 years of experience in accounting and economic services for a variety of private, public and governmental entities

Ricki Lahav, COO
Formerly head of budgeting and strategy at Evogene, with over 20 years of experience in sales, travel and administration at high-tech and agricultural companies

Professor Yoram Kapulnik,
Scientific Advisory Board - brings over 40 years experience in Life Science Innovations Industry and is a global expert in nitrogen fixation.

Valdemar Fischer,
Advisory Board – brings decades of experience in agriculture and leadership as Non-Executive Chairman at Syngenta Latin America

Shaul Friedland,
Director, Business Consultant - brings over 40 years of commercial expertise in the agriculture industry. ADAMA Agricultural Solutions Ltd. and ADAMA Americas

The Advantages of Our Approach

GRACE BREEDING'S GREEN AGRO SOLUTIONS

- Climate stress resilience enhancement
- Biological source
- Nitrogenous technology
- Yield and quality
- Profitability
- Tolerance
- Provides ESG benefits to farmer

OTHER UNSUSTAINABLE COMPANIES

(examples of producers of legacy synthetic chemicals)

- Environmental pollution
- Environmental residue
- Resistance formed by crops
- Air pollution
- Water source contamination
- Higher priced

Over the last 20 years the investment in R&D expenditure of the conventional crop protection market has shifted

The global fertilizer market is estimated at $171 Billion

Biofertilizers TAM (urea-nitrogen only) – US$ 45 Billion

Conventional agrochemicals projected at 2.9% CAGR

Global biofertilizer market to witness a CAGR of 10.9%

Bio-stimulants market is booming: 11.9% CAGR forecast for 2023-2028

B2B Strategy Supports Core Environmental and Sustainability Pillars

Our B2B business model produces more robust and resilient industrial crops and improves distributor and farmer economics, while importantly, supporting ESG initiatives - responsibly reducing environmental impact with a lower carbon-footprint and lower greenhouse gas (GHG) emissions.

Environmental Pillar of ESG Reporting

- **Climate Change**
- **Natural Resources**
- **Pollution & Waste**
- **Environmental Opportunity**

Leaders at the United Nation's Intergovernmental Panel on Climate Change (IPCC) presented on 3/20/23 an Acceleration Agenda for developed countries to achieve zero emissions approaching 2030.

* The 8 elements are: Carbon emissions, water stress, toxi emissions & waste, product carbon footprint, biodiversity & land use, packaging material and waste, raw material sourcing, climate change vulnerability

Bio-Fertilizer: NFT business model

NFT Benefits:

1. Reduce reliance on synthetic nitrogen by 50% (Corn/Maize)
2. Reduce carbon emissions to earn carbon credits (Corn/Maize)
3. Increase nutrient availability (Soybean)

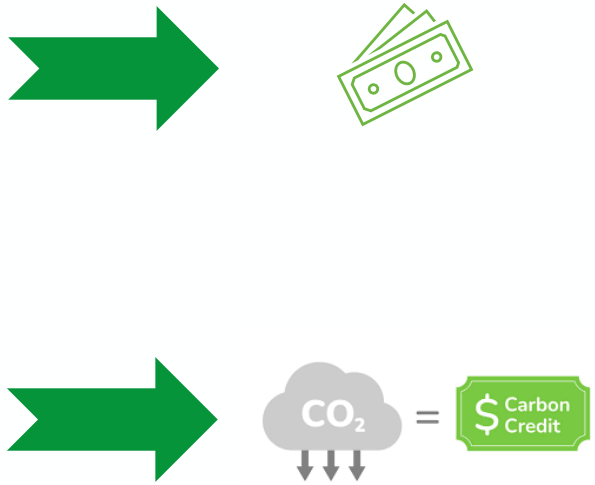
Business models:

1. **Direct**

Product benefits
Flexibility to deal directly to farmer or through a dealer

2. **In-direct**

Earn Carbon Credits
Farmland owners potentially move to farming carbon credits



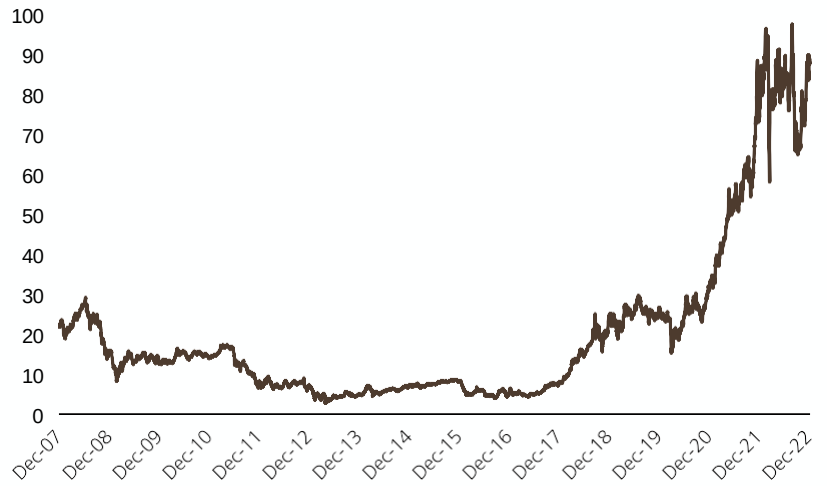
Climate Change May Cause Corn Yields to Fall;

A NASA study forecasts climate change to affect corn and wheat production as early as 2030.

With higher temperatures and surface CO2 concentrations as well as rainfall pattern changes, corn yields could **fall by 24%** from current levels

Farmland Owners May Move to Farming Carbon Credits

Figure 21: EU carbon allowance price



The price for EU allowances have increased nearly four times over the past two years

A more robust carbon credit market could set up competition for traditional agriculture.

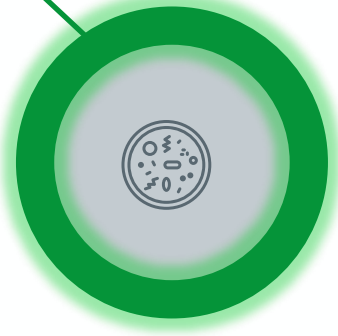
Source: NASA Scientific Visualisation Studio, EU Carbon Allowance Price Graph UBS Report: Q-Series, "Future of Farming", Gan, J., et al., January 12, 2023

Our Technology: How We Are Differentiated Within the AgTech Industry

Disrupting a multi-billion-dollar industry* with solutions to fertilize sustainably and enable crop tolerance and vigor

Grace Breeding

Market-accessible, widely-available, non-pathogenic **bacteria**



Grace Breeding's **Formulation of activated agent's**

Proprietary IP solutions that result from years of research evaluating a thousand biological molecules and their combinations with non-pathogenic bacteria

*World Fertilizer Market Nitrogen, No. 42 (418) 21 October 2021

NFT (Proprietary Bio-Fertilizer)

The Problem: The Use of Urea is Not Sustainable

- Urea (Nitrogen), is the most common fertilizer in agriculture worldwide
- 1MT of urea production in the U.S. = 1.84 MT of gas emissions (CO_2)
- Global production of urea = CO_2 emissions of 120 million cars annually!

$45 Billion

Urea's global market size

High Production Cost

Urea's production consumes high amounts of energy

Air Pollution

Urea emits more CO_2 than any other industrial chemical reaction

Regulation

Several EU countries already ban the use of urea

United Nations Climate Change Global Climate Action Summit 2021 . Nitrogenous Fertilizer Market Size | Global Industry Report, 2026. **World Fertilizer Market Nitrogen, No. 42 (418) 21 October 2021

The Solution: NFT

Naturally provides nitrogen to crops in synergy with available bacteria; reduction of 50% in use of urea

Environmentally-friendly to air, soil and the aquifer

In field trials, NFT demonstrated it was as efficient as and competitive with urea, suggesting it may be an ideal potential replacement

Farmer cost savings expected per:

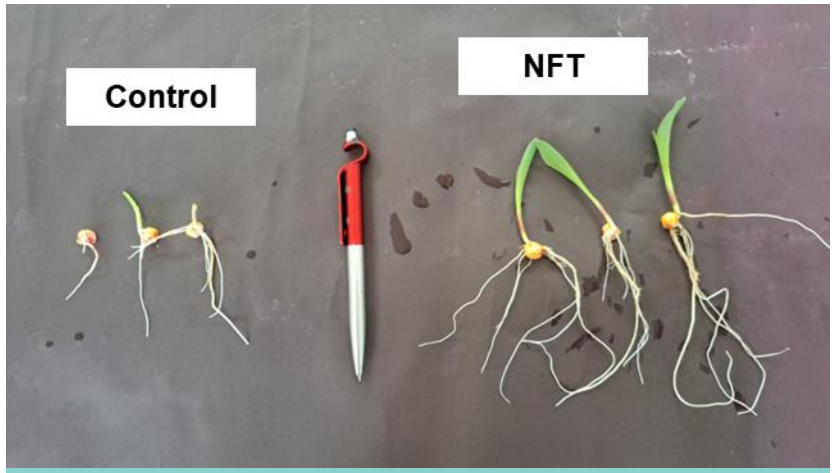
- Reduced volume and dose per Ha. (1:25)
- Reduced application frequency

Carbon credit:

- NFT use in corn reduce carbon emission
- Low-carbon-footprint-product with ESG benefits
- 1 Tone CO_2 = 1 Carbon credit

Distributor higher profit. Lower volume equals to less storage footprint & land transportation costs and margins higher than the standard 2-3%

NFT Field Trial Results



2023

Brazilian Study Results in corn seeds treated with NFT (UEL, January 2023)

- Potential reduction of more than 50% of nitrogen in corn cultivation.
- Reduced carbon emissions
- Outperforms standard nitrogen fertilizers in almost all parameters

2020 – 2021- 2022

Wheat trials results Sept 2022 (Israel)

NFT boosted grain yield and quality

- **18% yield increase**
- **16% biomass increase**

NFT Comparison to Urea in Maize (Corn)

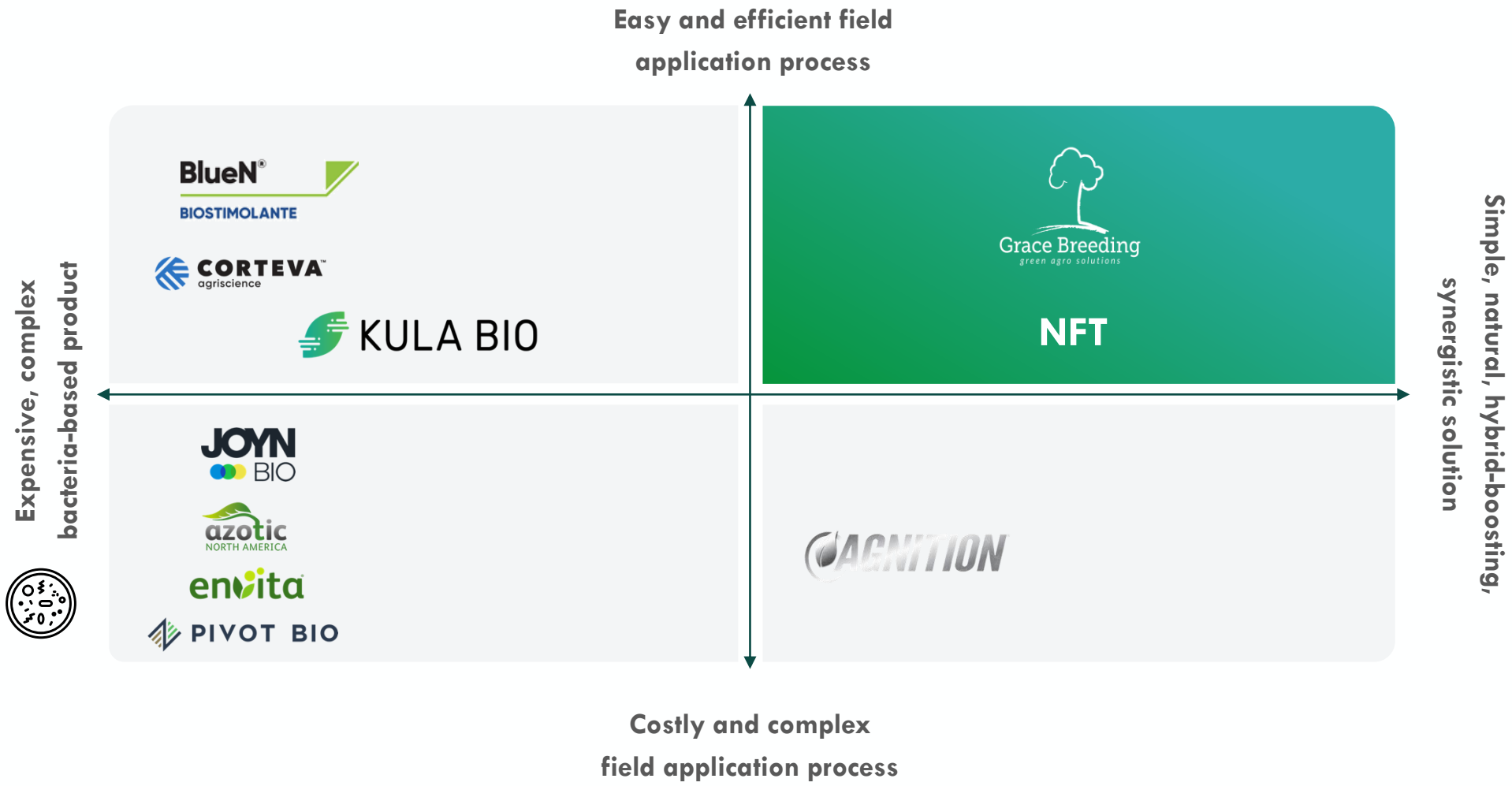
NFT amount applied per Ha.* – **20 L**

Urea amount applied per Ha. – **500 kg**

- ✓ Easy application method in the field. **Watch video here.**
- ✓ Farmer keeps similar agrotechnical tools and methodologies

* Reduction of 50% in use of urea

Bio-Fertilizer Approaches: Market Landscape



JOYN BIO

Joint Venture with Bayer Crop Science

BlueN BIOSTIMOLANTE

Joint Venture with Corteva

PIVOT BIO

$430M Series D @ $1.7B post-money valuation (July 2021)

azotic NORTH AMERICA envita

Private Investment by Koppert

KULA BIO

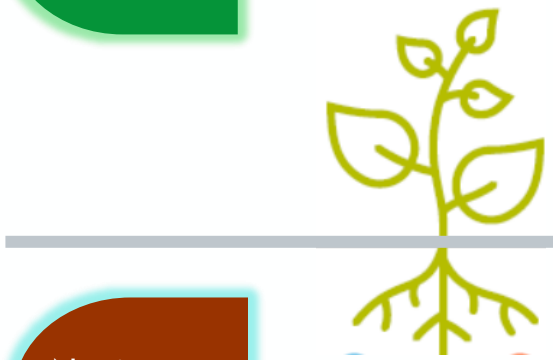
$50M Series A @ $210M post-money (Jan 2022)

- New startups have recently received multi-national investments
- https://blog.pivotbio.com/press-releases/series-d

Value Proposition

Biologicals market Product Positioning

Bio-Fertilizers and Bio-Stimulants



Improve quality

Abiotic stress tolerance

Nutrient use efficiency

Nutrient availability

NFT: Bio-Fertilizer

Value Proposition

Reduce 50% synthetic nitrogen:

- Reduce 50% of Synthetic nitrogen
- Reduce farmer operational costs
- Easy to apply
- 1:25 lower volume dose/Ha.
- ROI Increase profitability

Reduce carbon emission:

- Reduced CO2 pollution
- Restoring soil quality
- ESG - Environmental
- Lower carbon footprints
- Carbon credits

Increase nutrient availability:

- Trigger plant defense system
- Easy to apply
- Safe to the environment
- Increase yield
- Increase profitability

Target Market & Strategic Collaborators

Global Footprints

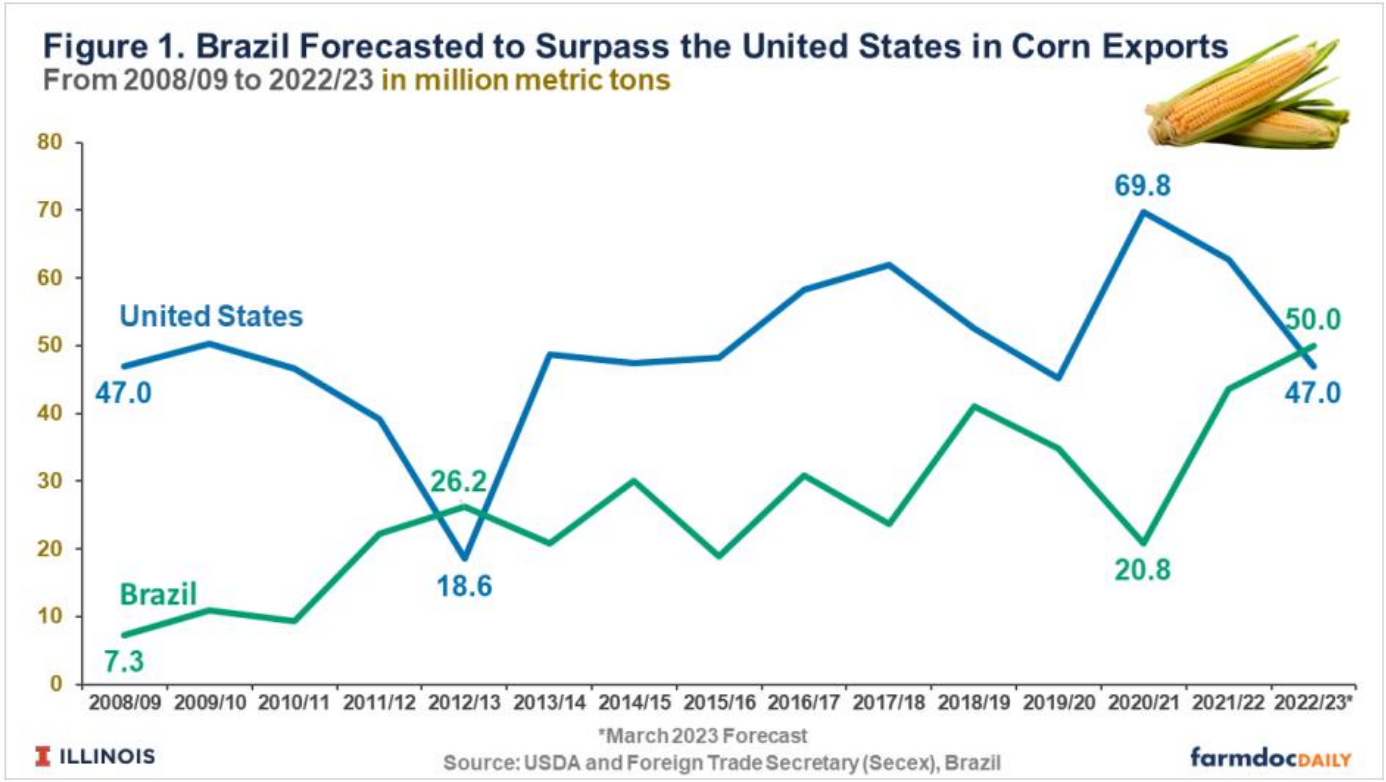
The company intends to start conducting field experiments and observations for marketing and sales around the world.

Brazil: Our First Strategic Market is An Agricultural Market Leader

- With 42 million Ha. of soybean and 22 million Ha. of maize (corn), **Brazil is one of the largest agricultural markets in the world.**
- Brazil is **the largest agricultural chemical market in the world,** with a turnover of 13 billion USD.
- **Brazil is a major importer of fertilizers: 95%** of the urea used in corn and 75% of the phosphorus used in corn and soybeans is imported.
- **23%** of Brazil's annual **imported fertilizers** are from Russia.
- Russia is planning to impose an **export tax of 23.5%** on all fertilizers.
- The market of **biological products grew 40%** this last year in Brazil.
- Grace Breeding announced a **strategic R&D collaboration** with the **University of Londrina** (UEL), based in Paraná State, Brazil (11/2022).

Geopolitical changes - Brazil is Forecasted to Surpass the U.S. in Corn Exportation

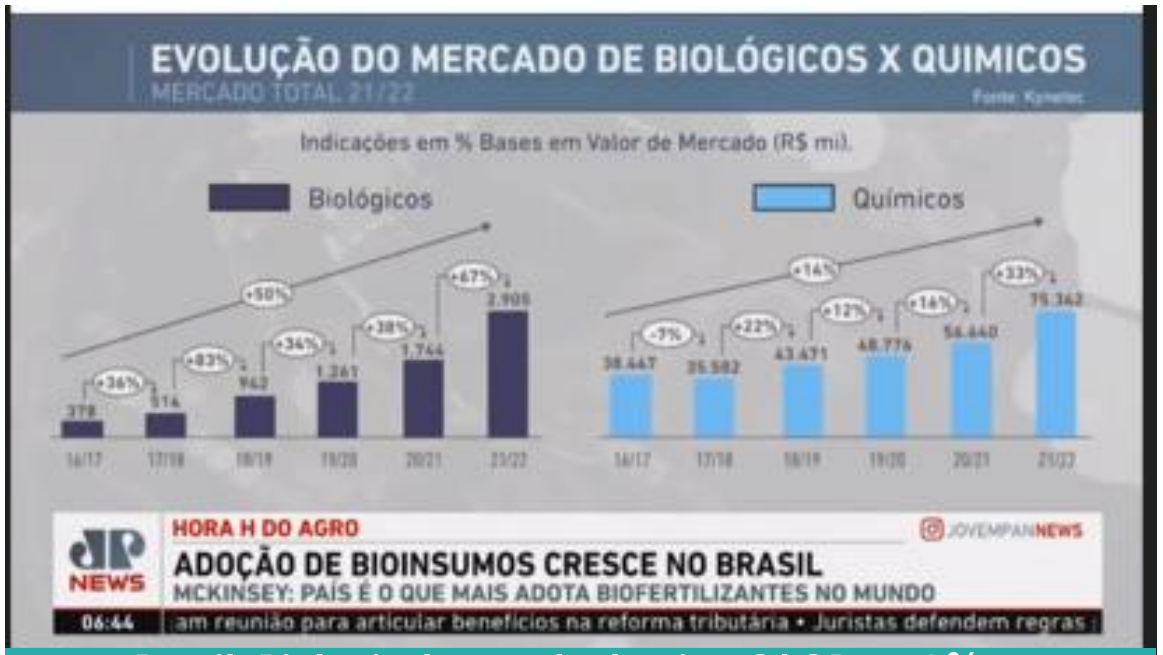
First shipment of Brazilian corn to China occurred in November 2022, after Phytosanitary agreement signed between the countries



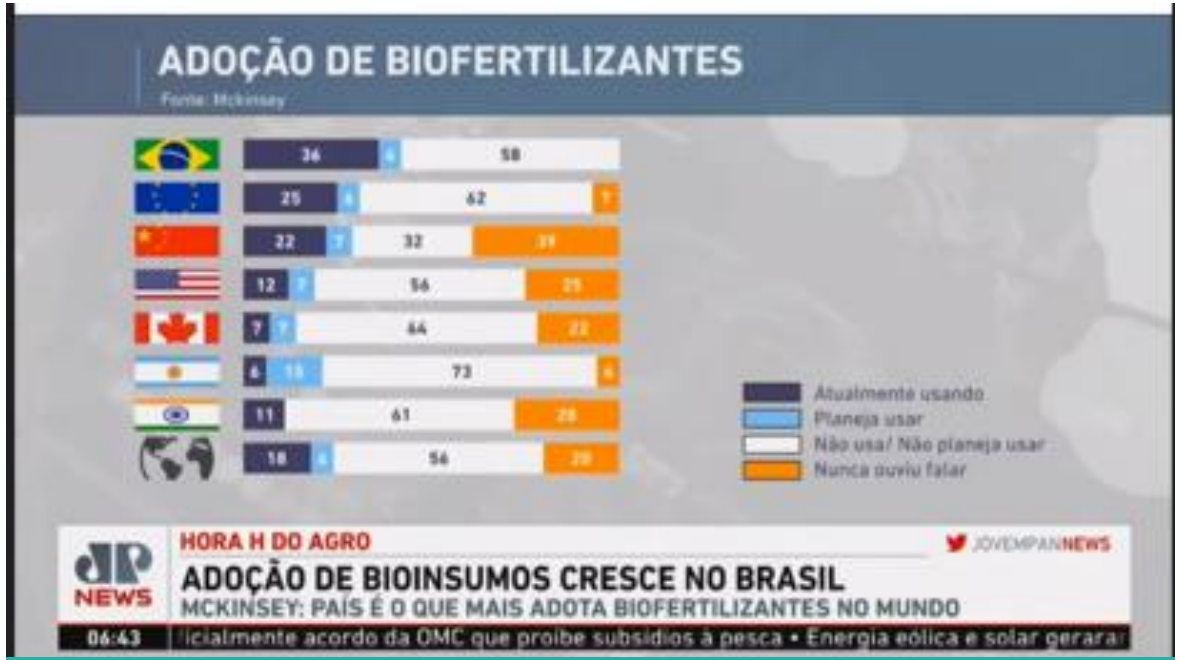
In the 2021-2022 marketing year, the primary destinations of Brazilian corn were Iran, Spain, Japan, Egypt & Colombia

Farmdoc daily (13): 48: "Will Brazil Emerge as the Number One Corn Exporting Nation?" (Department of Agricultural and Consumer Economics, University of Illinois, March 16, 2023.

Brazil is #1 in Biological Control Products Adoption and Bio-fertilizers Adoption



Brazil: Biological control adoption CAGR – 50%
Brazil: Chemicals CAGR – 14%



Brazil: #1 in bio-fertilizers adoption by farmers (36%)/Higher than the EU and US

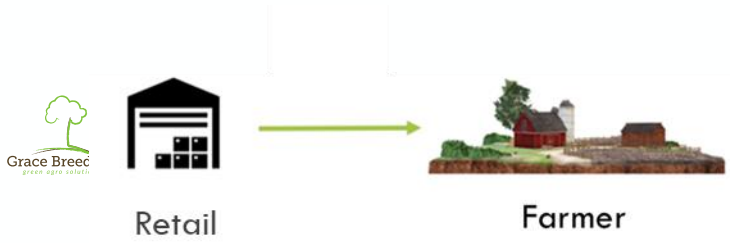
Source: Jovem-pan-news, McKinsey & Company, https://mente-do-agricultor.mckinsey.com (4.2023)

GTM

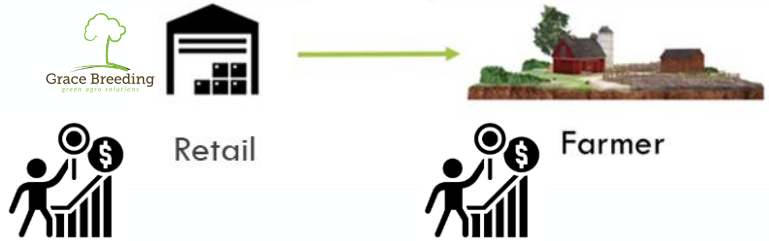
Implementing a Hybrid GTM Strategy

1. **Tier-1 Industry players**

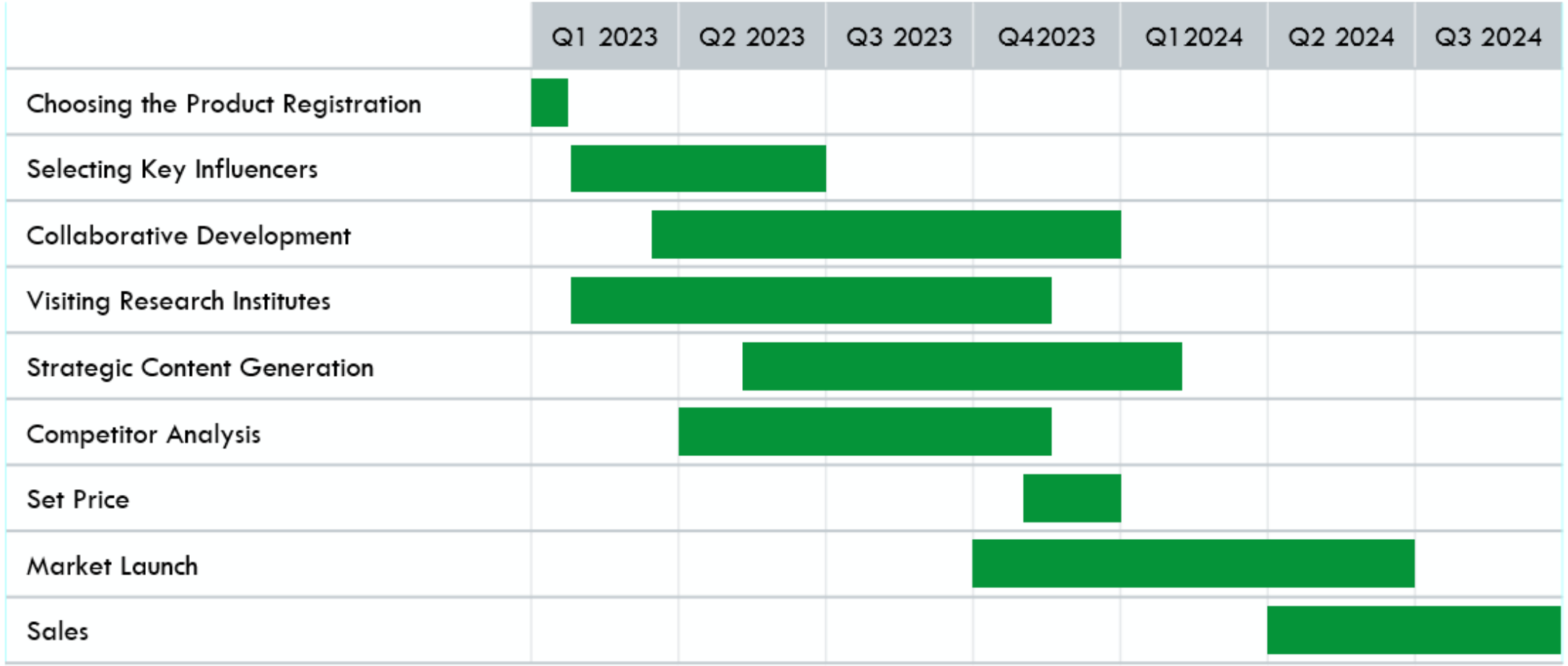
2. **Tier-2 & 3 Industry players**



3. **Acting on demand creation at the retail/farm level.**

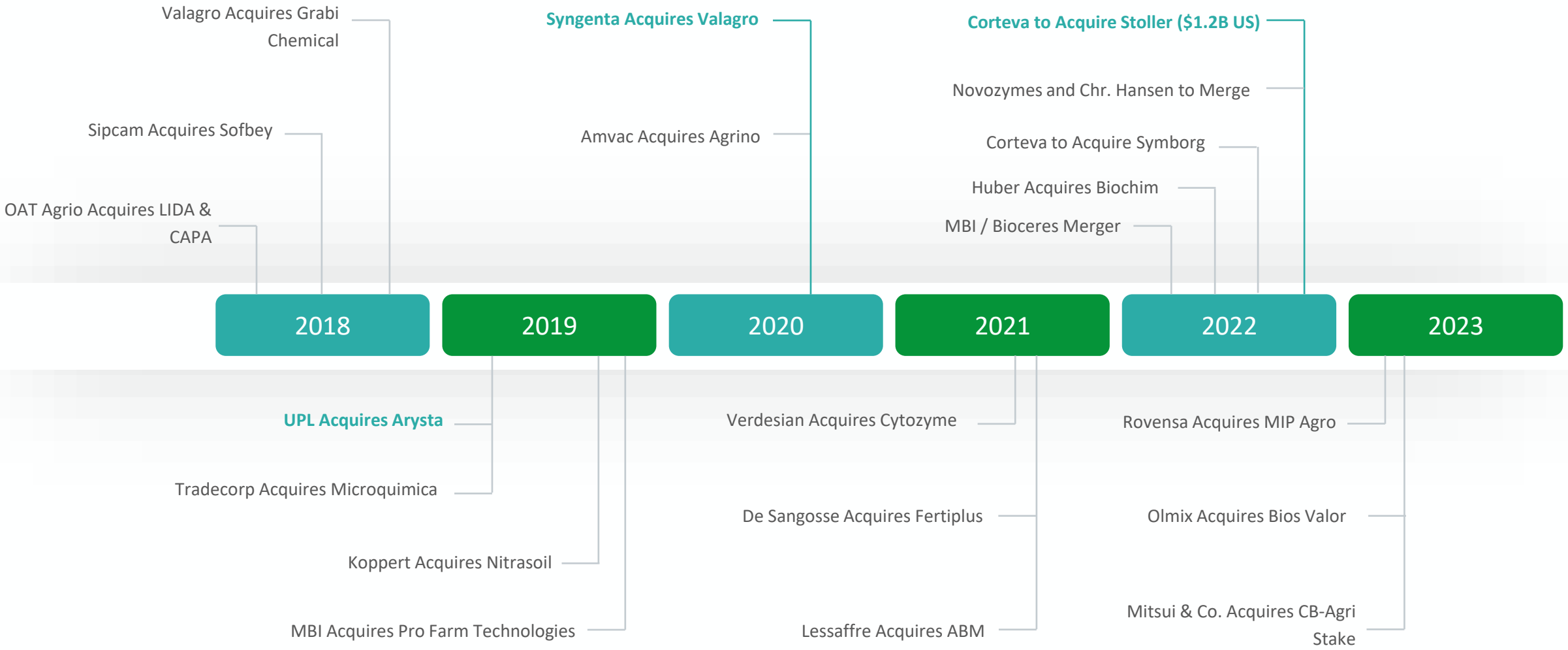


GTM Brazil Roadmap: NFT



Note: projected timing is based on the typical timelines for market and product development and registration approvals

BioStimulants Recent global M&A Activity



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THANK YOU!