Grace Breeding
green agro solutions

CORPORATE PRESENTATION

DECEMBER 2022

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GRACE BREEDING

is providing sustainable solutions for farmers in the $8TN agriculture industry to protect crops from the effects of climate change and enable crop health and vigor

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Our Mission
Create sustainable agricultural solutions for the earth
Improve crop health and tolerance solutions to support farmers and supply the overall economy

Company At-A-Glance

Established	2015
Headquarters	Rehovot's science park; R&D center in Israel
Employees	12
Experience	Management with years of accumulated experience in the areas of Agtech, fertilizers, plant protection and food.
IPO	Feb 2022 (TASE: GRAC) with a market CAP ~ 100 Million ILS

3 product lines

1. "NFT" (Bio-Fertilizer)
2. "WDS" (Wide Defense System)
3. Pollination Enhancement Candidates (R&D)

Management

Morris Zelkha, Chairman of the Board of Directors

Founder and former CEO of LycoRed for 24 years

Assaf Dotan, Chief Executive Officer

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, Chief Technology Officer

Innovative agronomist and senior plant breeder with more than 30 years of experience and over 600 registered plant varieties attributed to his work. Formerly CTO of Kaiima Ltd, Morning Seeds, Top Seeds. CEO of AB seeds.

Professor Yoram Kapulnik

Technology consultant
Director at U.S.-Israel Binational Agricultural R&D Fund (BARD)
Yoram brings over 40 years experience in Life Science Innovations Industry and is a global expert in nitrogen fixation. Retired CEO of The Volcani Institute - The Israeli governmental Agricultural Research Organization

Orly Shuster, Chief Financial Officer

Graduate of the CPA firm Ernst & Young Israel with 20 years of experience in accounting and economic services for a variety of private, public and governmental entities, and experience auditing multi-national industry companies like Intel and HP. Involved in IPOs with various companies on the TASE and other exchanges.

Ricki Lahav, Chief Operating Officer

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; Bachelor's degree in International Business Administration and a Master's degree in Law.

Shaul Friedland

Director, Business Consultant
who brings over 40 years of commercial expertise in the agriculture industry. Formerly Executive VP, Sales & Marketing at ADAMA Agricultural Solutions Ltd. and formerly President at ADAMA Americas

Investment Thesis

Leading programs are 2 novel, patent-pending, biological environmental stress protection and growth enhancement technologies:

NFT (Bio-Fertilizer) = proprietary non-disruptive biofertilizer

WDS (Wide Defense System) = proprietary biostimulant and nutrient enhancement technology boosts plants' immune systems

- **Large and growing** addressable end-markets for each product line
- Providing solutions to protect crops from the **ongoing effects of climate change**
- **Powerful unit economics and economies of scale**
- **Streamlined local production processes and distribution channel logistics**
- **Commercial path supported** through strategic collaborations and manufacturing and distribution advantages
- **Simplified regulatory path**
- **Environmentally friendly, sustainable, chemical-free**
- **Abundantly available** natural ingredients enable ease of raw material procurement
- **Strong IP protection**
- **Leading industry partnerships** and industry relationships
- **Strong management team** with many decades of relevant Agtech and food supply experience

The Advantages of Our Approach

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Grace Breeding's Green Agro solutions

Climate stress resilience enhancement

Biological source

Nitrogenous technology

Yield and quality

Profitability

Tolerance

DOW

MONSANTO
Food • Health • Hope™

BAYER

Cargill

(examples of producers of legacy synthetic chemicals)

Other Unsustainable Companies

Environmental pollution

Environmental residue

Resistance formed by crops

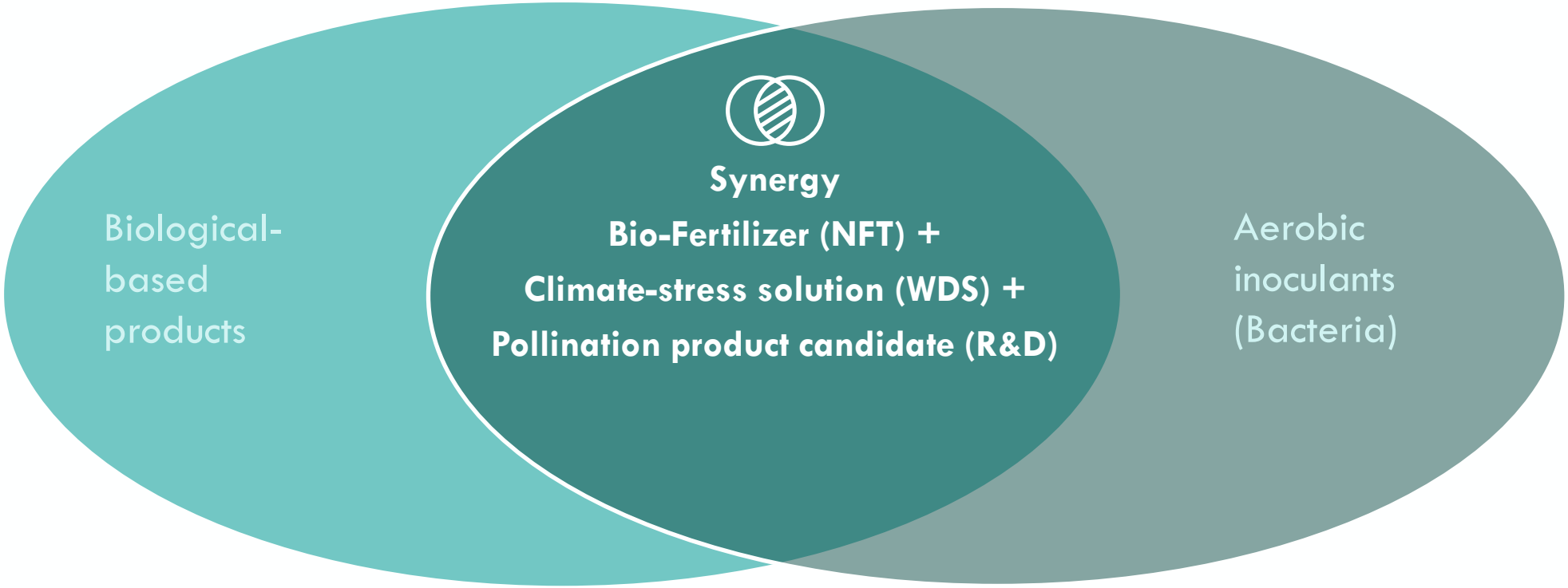
Air pollution

Water source contamination

Higher priced

Our Technology: How We Are Differentiated Within the AgTech Industry

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



Patent-pending for resulting products:

Widely available activating agents

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

Widely available Non-pathogenic bacteria

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

Our Pipeline

Three transformative product lines

Product Candidate	Indication	Discovery	Field Trial 1	Field Trial 2	GTM	Commercial*
NFT	Bio-Fertilizer					
WDS	Plant Protection Wide Defense System					
Enhancement Candidates (R&D)	Pollination Enhancement					

NFT = Natural replacement to synthetic fertilizer -> urea replacement; environmentally friendly to air, soil and the aquifer; naturally provides nitrogen to cereals

WDS = Bio-Stimulant; nutrient plant enhancement -> yield increase and improve quality

Enhancement Candidates = For honeybee enhancement to help honeybees to deal with Colony Collapse Disorder (CCD)

*Development consists of field testing 2-3 season cycles per crop

NFT (Bio-Fertilizer)

CO_2 Emissions From Urea Production Are Significantly Adding to the Global Warming Crisis

United Nations Climate Change
Global Climate Action

Total gas emission (CO2) produced through the annual global production of urea is equal to 120 million cars CO_2 emission per year

Producing 1MT of urea in the U.S.*, 1.84 MT* of CO2

***Yearly greenhouse gas emissions from a typical passenger vehicle in the US equal to 4.6MT of CO2**

https://www.statista.com/statistics/1063689/global-urea-production-capacity
**https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle

World Nitrogen Fertilizer Market

The global fertilizer market is estimated at **$171 billion**

Cereal grains (e.g., Wheat, Corn, Rice, Rye, Millet, etc.) represent **55%** of the world nitrogen fertilizer market

*

The Problem of Urea

Urea is the world's most common nitrogen fertilizer for grains (+70%) and is estimated at a market size of ~$45 billion.

Making urea is a multi-step endeavor that consumes copious amounts of energy and emits large amounts of greenhouse gases.

Urea leaches easily into what serves as the aquifer (water-bearing porous rock or sediment) and contaminates water reservoirs. Several EU countries already ban the use of Urea.

Combined reactions from the production and field application of urea emits more CO2 than any other industrial chemical reaction.

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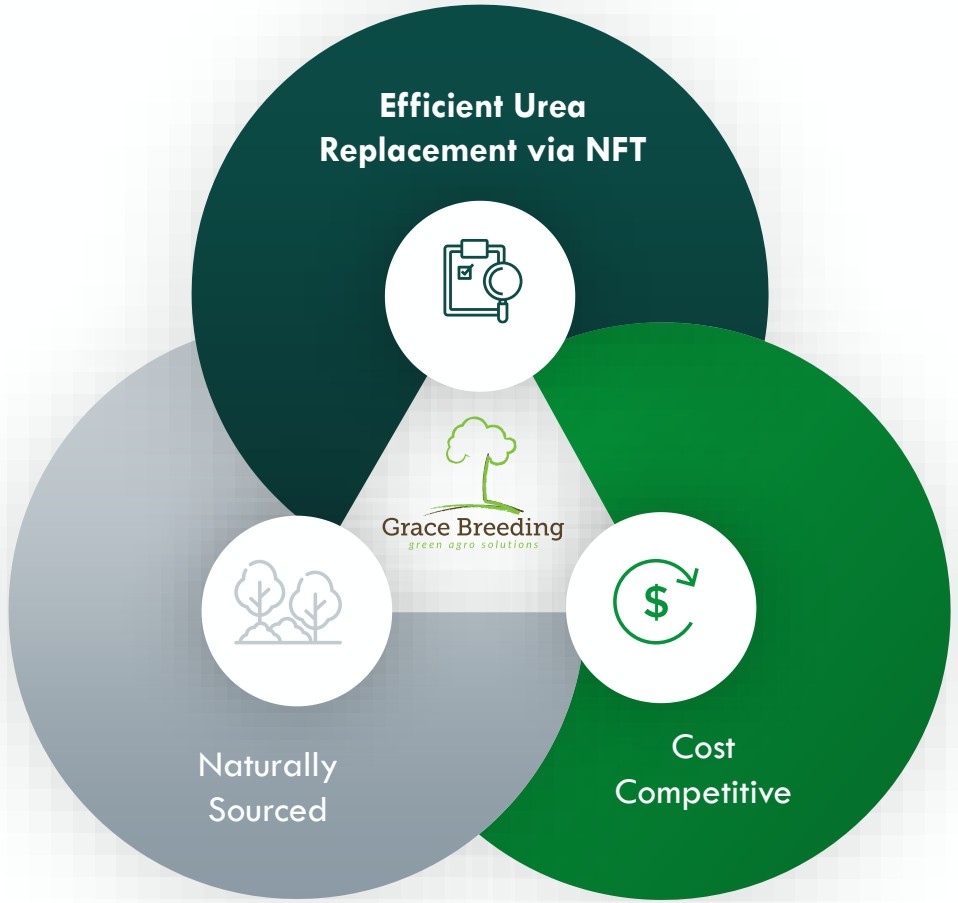
Nitrogenous Fertilizer Market Size | Global Industry Report, 2026. **World Fertilizer Market Nitrogen, No. 42 (418) 21 October 2021

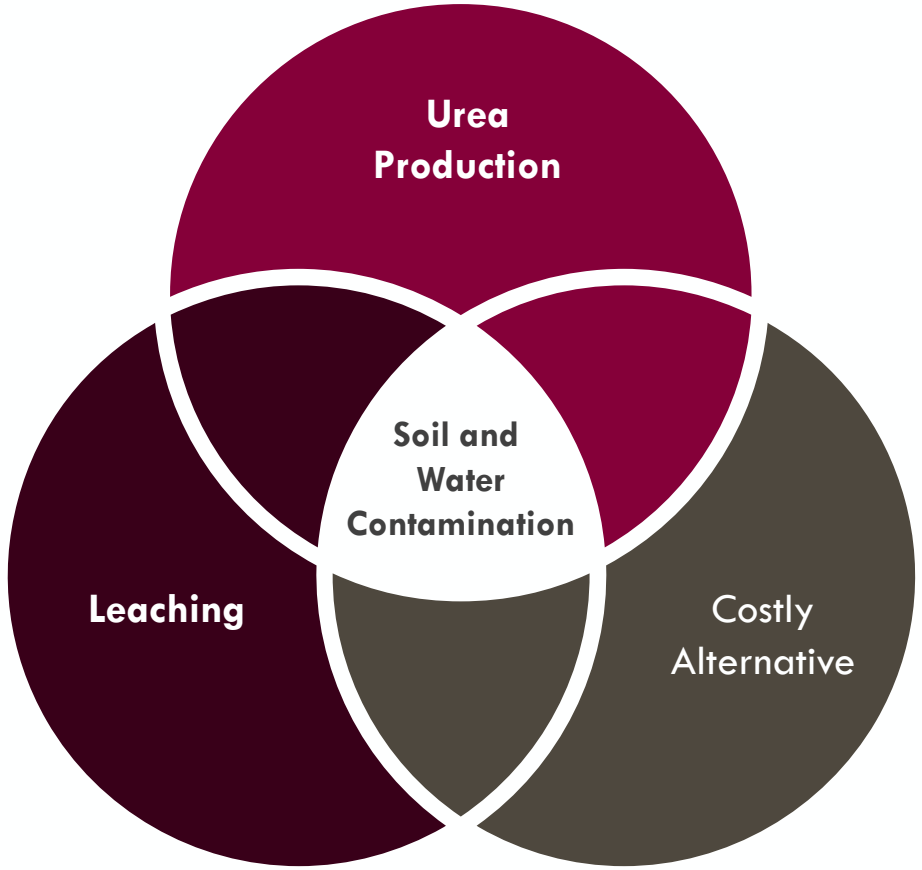
Sustainability Innovation

Green, Efficient, Bio-Fertilizer



Historical Treatment

Urea Synthetic Fertilizer



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

NFT: The Solution

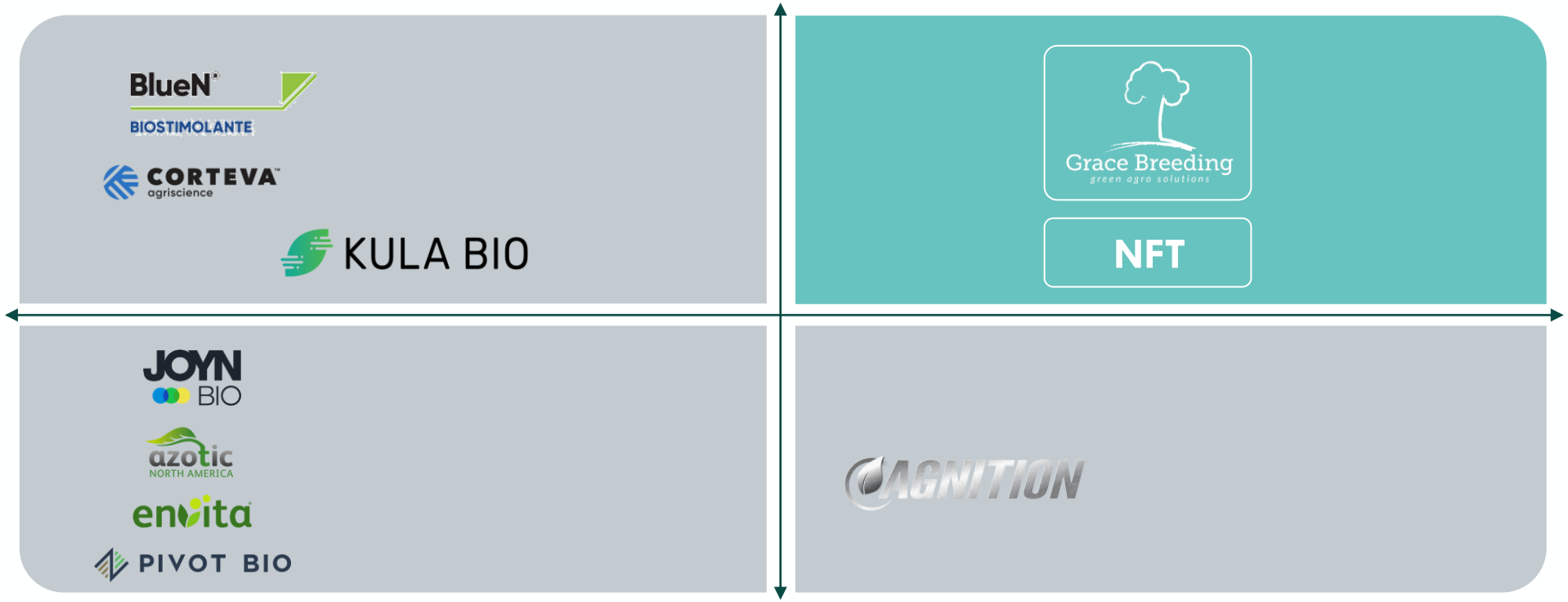
- Naturally provides nitrogen to grains (relies on various nitrogen-fixing bacteria)
- Cost savings expected per reduced application frequency
- Environmentally-friendly to air, soil and the aquifer
- Zero-carbon-footprint-product
- Reduction in use of urea provides a 50% cost efficiency (based on current urea prices)
- In field trials, NFT demonstrated it was as efficient as and competitive with urea suggesting its use as a potential replacement

Nitrogen Bio-Fertilizer Market Landscape

Nitrogen Bio-Fertilizer Approaches

Easy and efficient field application process

Expensive, complex bacteria-based product



Simple, natural, hybrid-boosting, synergistic solution

Costly and complex field application process

NFT Field Trials

NFT 2020/2021 field trials result (Israel)

- NFT focus is on wheat
- 2 field trials of 2 and 3 hectares of wheat
- Commercial field applied with urea
- **NFT provided a similar yield to urea**
- Additionally:
  - **7.5%** additional **protein** content was observed in grains with NFT treatment
  - NFT-treated grains were not affected by **cereal rust** (*Puccinia graminis*) compared to a high infestation on the urea-treated grains

Commercial Urea
Affected by Rust

NFT trial

Rohama 12 hectare seeding wheat with NFT (Dec. 2021)

Easy application method in the field.

Farmer keeps similar agrotechnical methodologies.

NFT – Field Crop Proof-of-Concept Trials With Grains (9/19/2022)

Corn-Israel

Wheat-Israel

Corn- Brazil

NFT Study at University of Londrina, Brazil (November 2022)

We announced a strategic research and development collaboration with the University of Londrina (UEL), based in Paraná State, Brazil. The University is evaluating Grace Breeding's NFT being developed to improve absorption of nutrients from the soil as well as increase the efficiency of nitrogenous feeding. This will allow farmers to significantly reduce their dependence on synthetic fertilizer.

Grace Breeding's Bio-Fertilizer in the News

Sections

THE SCIENCE TIMES

HOME > TECH & INNOVATION

Grace Breeding's Nitrogen Fixation Tech Boosts Grain Yield By 18% During Wheat Cultivation, Field Test Shows

Jess Thomas Sep 21, 2022 09:34 AM EDT

Grace Breeding, a forward-thinking agrotech company developing biological-based products, announces the results of a field test performed during wheat cultivation in Israel showing its unique Nitrogen Fixation

THE JERUSALEM POST

MOROCCO FORUM ISRAEL ELECTIONS 2022 ISRAEL NEWS HEALTH & WELLNESS WORLD NEWS

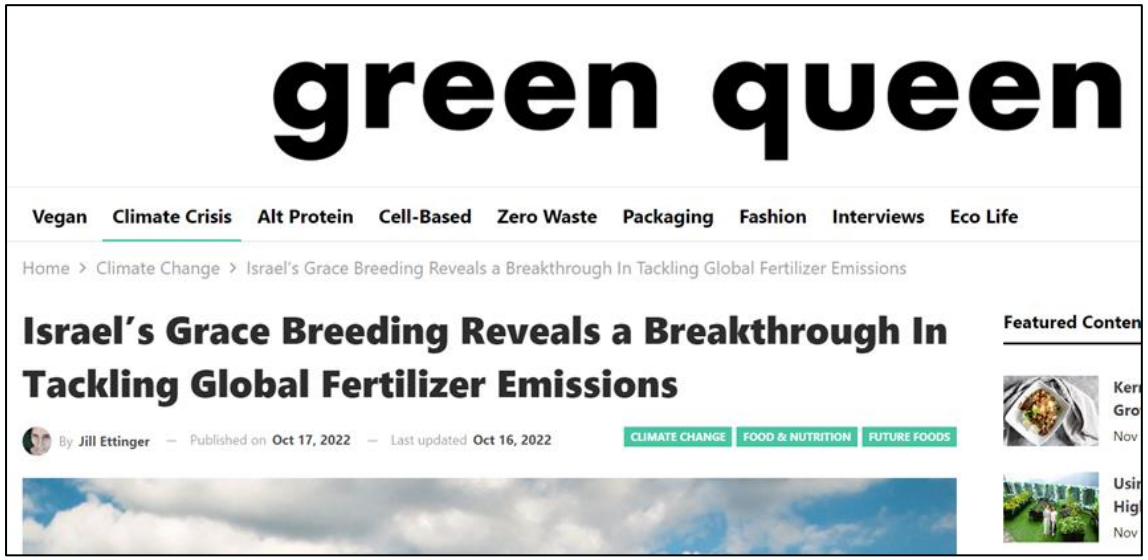
Jerusalem Post > Business & Innovation > Tech & Start-ups

BUSINESS B INNOVATION

Grace Breeding boosts grain yield by18% while cutting CO2 emissions

Tech Talk: Agrotech company Grace Breeding just announced the results of a field test it conducted for its nitrogen fixation technology (NFT), an organic alternative to harmful synthetic fertilizers.

By ARIEL SHAPIRA **Published:** SEPTEMBER 19, 2022 00:52



green queen

Vegan Climate Crisis Alt Protein Cell-Based Zero Waste Packaging Fashion Interviews Eco Life

Home > Climate Change > Israel's Grace Breeding Reveals a Breakthrough In Tackling Global Fertilizer Emissions

Israel's Grace Breeding Reveals a Breakthrough In Tackling Global Fertilizer Emissions

By Jill Ettinger — Published on Oct 17, 2022 — Last updated Oct 16, 2022

CLIMATE CHANGE FOOD & NUTRITION FUTURE FOODS

Featured Conten

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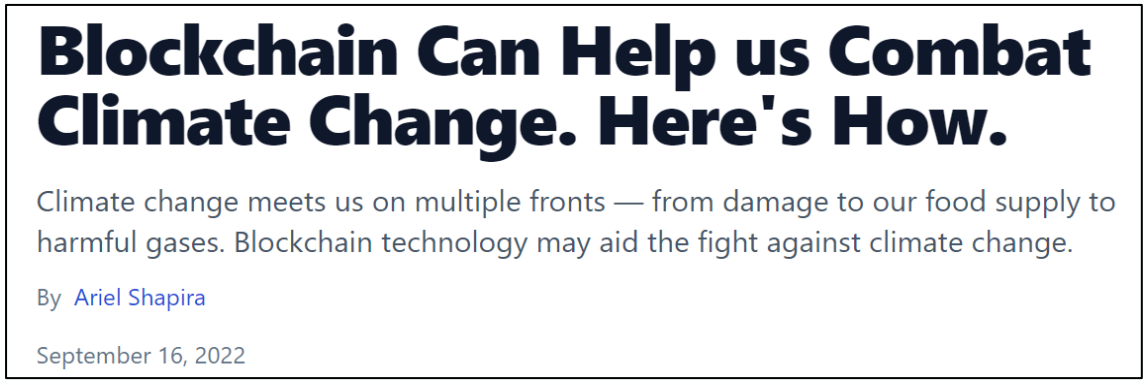


Blockchain Can Help us Combat Climate Change. Here's How.

Climate change meets us on multiple fronts — from damage to our food supply to harmful gases. Blockchain technology may aid the fight against climate change.

By Ariel Shapira

September 16, 2022

WDS (Wide Defense System)

How Climate Change is Affecting Global Crop Production

Rising levels of atmospheric carbon dioxide reduce the concentrations of protein and essential minerals in most plant species, including wheat, soybeans, and rice. **This direct effect of rising CO2 on the nutritional value of crops represents a potential threat to human health.**

- Changes in temperature, atmospheric carbon dioxide (CO2), and the frequency and intensity of extreme weather could have significant impacts on crop yields; if the higher temperature exceeds a crop's optimum temperature, yields will decline.
- Many weeds, pests, and fungi thrive under warmer temperatures, wetter climates, and increased CO2 levels.
  - Currently, U.S. farmers spend more than $11 billion per year* to fight weeds, which compete with crops for light, water, and nutrients.
- Changes in the frequency and severity of droughts and floods pose challenges for farmers and threaten food safety as well as disrupt ecosystems making it more difficult to grow crops.

*Source: EPA: *Climate Impacts on Agriculture and Food Supply*

WDS: The Solution

WDS is a bio-stimulant; a combination of naturally sourced ingredients with market-available bacteria

Protects against abiotic climate stressors, addressing the supply problem for the farmer and the pricing threat to the consumer

Increases yield and improves plant nutrient uptake and therefore fruit and vegetable quality. Provides a 20-30% increase in yield!

Widely applicable (legumes, industrial tomatoes, vegetables, grains); focus is on fruits (mangoes and avocado). In field trials, WDS helped farmers boost growth for industrial tomatoes in different plots amid various climate stress conditions

Simple and efficient once-per-season application via the irrigation system that adds an additional economic benefit

[1]Nature Food: https://www.nature.com/articles/s43016-022-00521-y

The Need for Environmental Stress Protection Solutions Has Increased With Episodes of Global Drought

Solution: Provide farmers with a higher yields and mitigate distribution challenges resulting from drought conditions

Example: Tomato Supply Shortage

- In the U.S., California is home to 90 percent of domestic tomatoes
- Legacy fungicides have issues with application, produce phytotoxicity and are only up to 70% effective
- In the consumer sector, there is an expected mass shortage of tomato-based consumer products, including ketchup and spaghetti sauce as a result of the water shortage from recent and ongoing droughts.
- The shortage presents a threat of price increases for the tomato processing sector, with supply expected to decline by 6% by 2050 in key regions[1]

[1]Nature Food

Climate Stress Protection (Defense) Landscape

WDS Fruit & Vegetable POC trials: 2020 - 2022

WDS

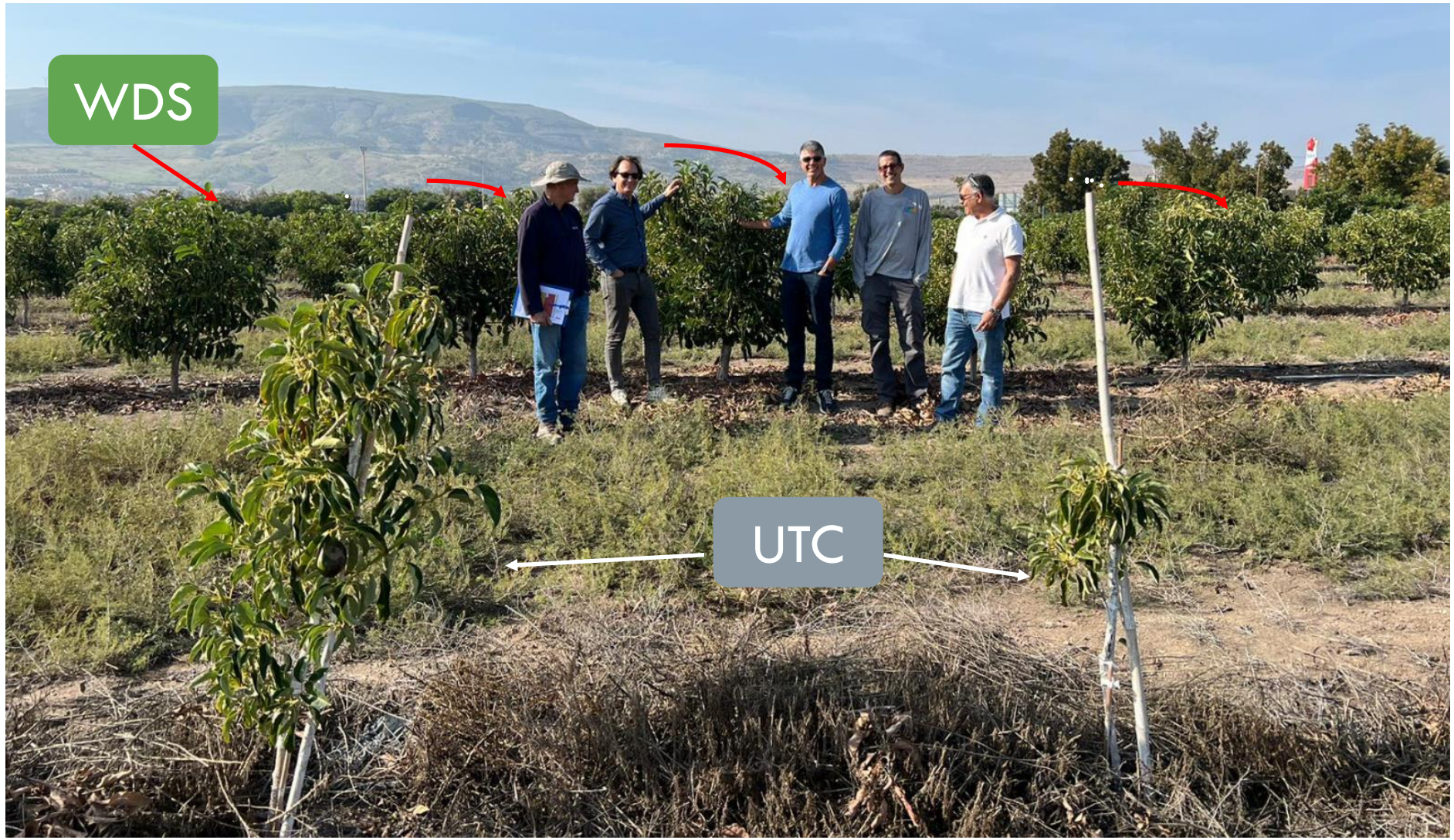
UTC

WDS Fruit & Vegetable POC trials: 2020 - 2022

WDS in Avocado

Farmer quote:

"The WDS application saves me 2 years of growing and the additional cost of re-planting; manpower and new plants."



GlobeNewswire by notified

WDS-Improves Industrial Tomato **Yield by 17%** Based on Field Trial Results (10/26/2022)

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1Nature Food: https://www.nature.com/articles/s43016-022-00521-y

WDS Field Trials 10/26/2022

Results of a field trial conducted in Israel found Grace Breeding's proprietary Wide Defense System (WDS) biostimulant formula improves industrial tomato yield by an additional 17 %

The field trial showed that the formula both boosted the growth of the tomato root system and improved the yield in amid harsh, arid weather conditions

Enhanced growth and improved nutrient absorption due to a larger root system are important components of the crop lifecycle since they result in improved yield and may extend shelf life for agricultural produce

Farmer quote: *"The WDS application increases the yield by 17% in stressed fields."*

Climate Stressor Defense Market Landscape

Bio-stimulant Approaches: Market Landscape

WDS provides dual benefit related to plant tolerance and yield

Climate stress defense benefits

Expensive, complex bacteria-based product

Simple, natural, hybrid-boosting synergistic solution

Direct Disease Control

Grace Breeding's WDS in the News

nocamels
ISRAELI INNOVATION NEWS

COVID-19 TECHNOLOGY SCIENCE ENVIRONMENT CULTURE NEWS BRIE

Download The Free eBook
Create Agile Test Strategies TestRail

Israeli Formula Increases Tomato Yields, Even During Droughts

By Ariel Grossman, NoCamels October 27, 2022 < 1 minute

An Israeli agtech startup helps tomatoes grow, even during times of drought. Photo by Thomas Martinsen on Unsplash

News Briefs

An Israeli agtech company has developed a way to grow tomatoes even in times of drought.

It boosts the growth of the tomato root system and improves nutrient absorption from the soil, improving yield and extending the shelf life of agricultural produce, even as droughts continue to strengthen.

GlobeNewswire by notified

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Grace Breeding Announces its Wide Defense System (WDS) Improves Industrial Tomato Yield by 17% Based on Field Trial Results

-WDS improves industrial tomato yield, creating meaningful increase amid harsh weather conditions -

October 26, 2022 07:00 ET | Source: Grace Breeding, Ltd.

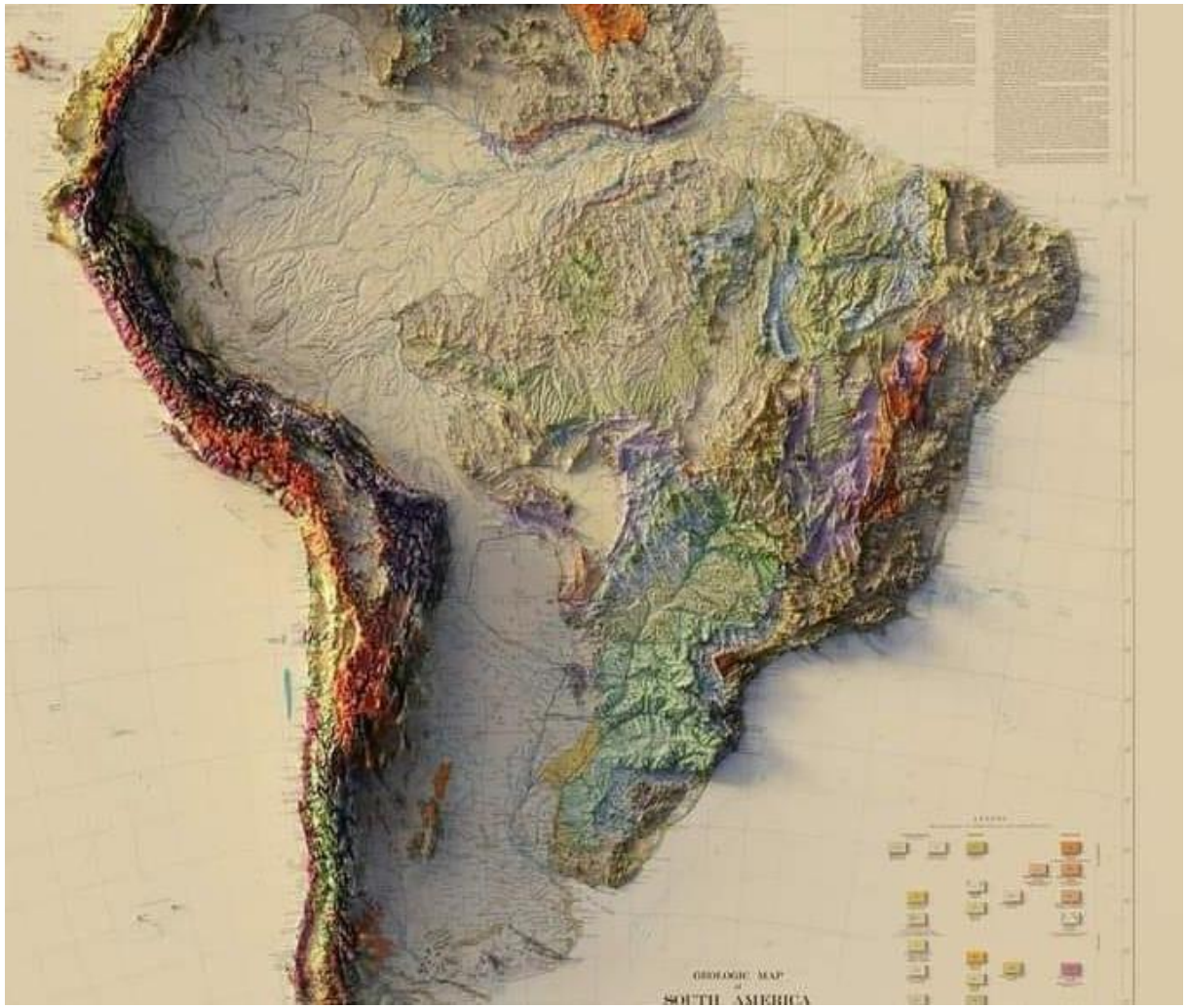
Major Partners

Multinational partners

GAIA Agrosolutions

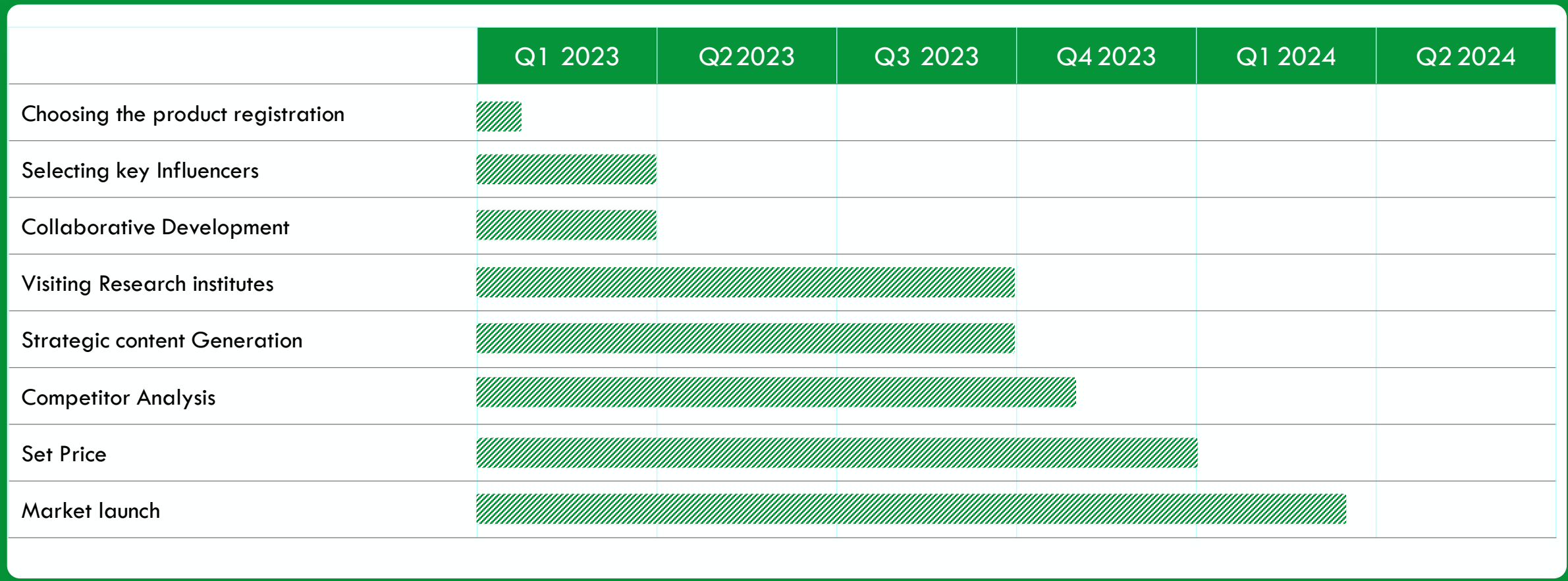
Universidade Estadual de Londrina

Brazil: An Agricultural Market Leader



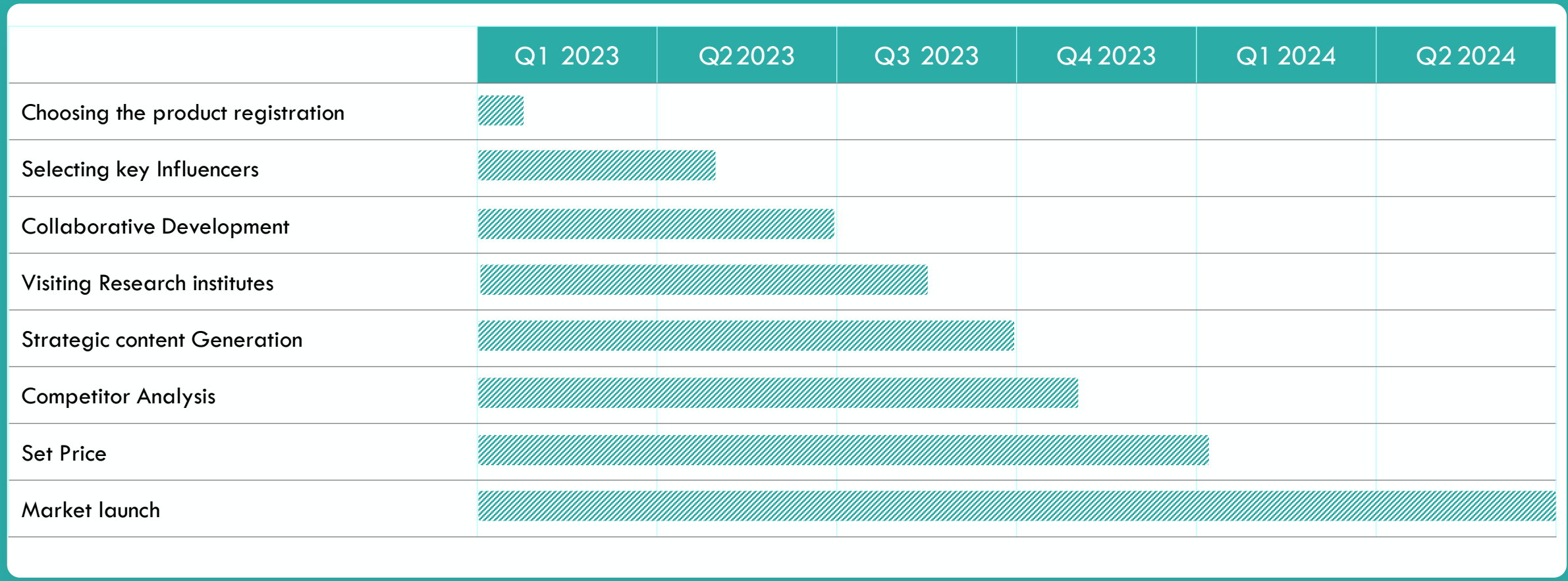
- Brazil is the largest chemical market in the world, with a turnover of 13 billion USD.
- 70% is sold through dealers and 30% direct farmers.
- 5 large companies have a large share of this market
- There are more than 600 companies selling foliar or seed treatment fertilizers.
- Brazil is a major importer of fertilizers. 95% of the urea used in corn and 75% of the phosphorus used in corn and soybeans is imported.
- The market of biological products grew 40% this last year in Brazil.

GTM Roadmap: NFT



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

GTM Roadmap: WDS



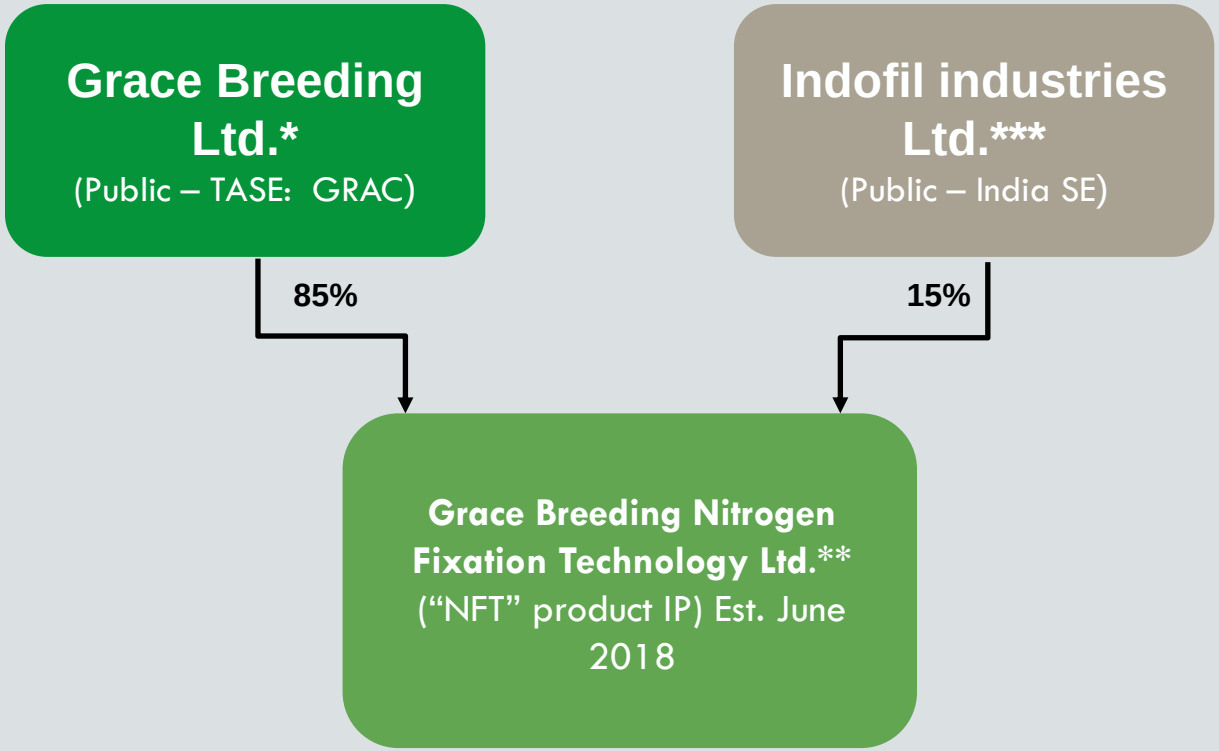
Note: projected timing is based on the typical timelines for market and product development and registration approvals

Our B2B business model produces more robust and resilient industrial crops and improves distributor and farmer economics, while reducing environmental impact (zero-carbon-footprint with reduced greenhouse gas (GHG) emissions).

GTM Strategy

- **Commercialization strategy via** local **distribution channels** and **strategic collaborations**
- **Led by management team with extensive experience in dynamic markets**
- **NFT has simple registration** and marketing path
- **WDS has a simple registration** and marketing path
- **Streamlined** local production processes
- **Abundantly available sourcing via** natural ingredients

Corporate Structure

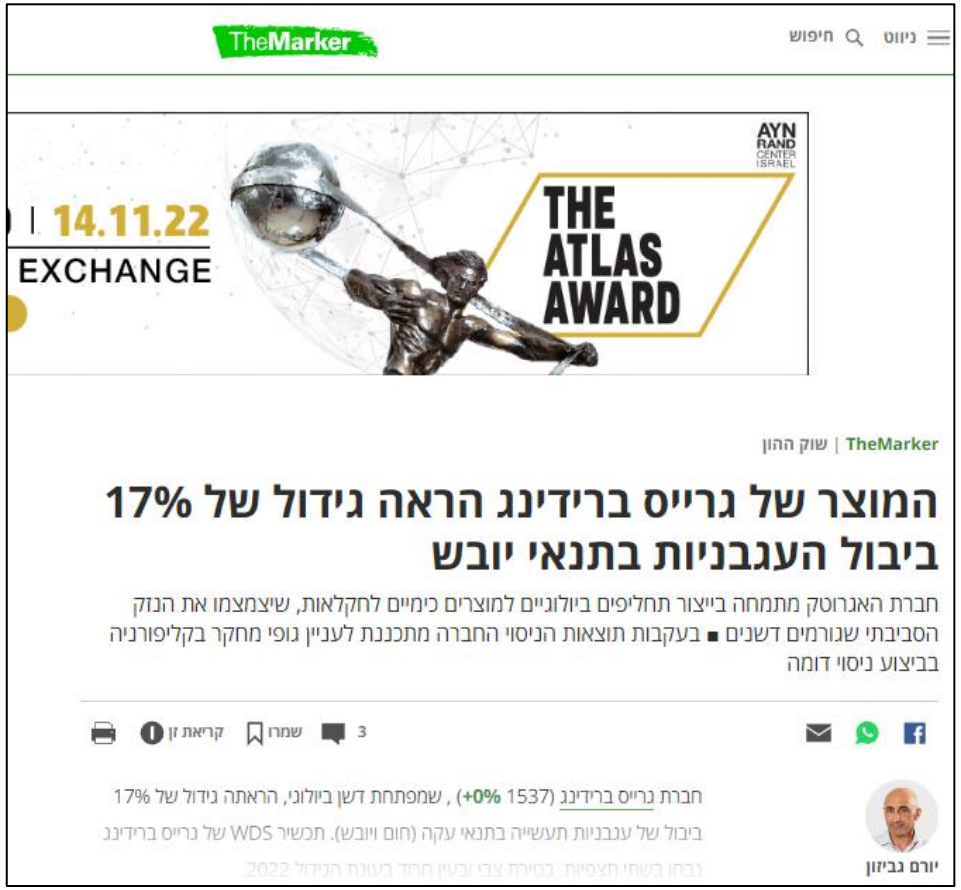


*Grace Breeding Ltd. - (Public – TASE: GRAC), established February 2022- Holds WDS and R&D technology IP (ex. NFT)
**Grace Breeding Nitrogen Fixation Technology Ltd. – Private company, established June 2018 –Holds NFT technology IP
** Indofil industries Ltd. – (Public – India SE)

Investment Summary

- **Large and growing addressable end-markets for each product line**
  - Sustainably reversing the threats of global climate crisis with bio-fertilizer and bio-stimulant technology solutions
  - Focus is on high-yield crops (soybean, corn, tomato)
- **Powerful unit economics and economies of scale;** High availability to procure raw materials
- **NFT (proprietary, non-disruptive bio-fertilizer)**
  - Proof-of-concept shown: enhances growth and improves nutrient absorption resulting in a 50% improved yield and a 50% reduction in bio-emissions and waste
  - Tapping a $45B USD urea market
- **WDS (proprietary biostimulant and nutrient enhancement technology boosts plants' tolerance to abiotic stress**)
  - Proof-of-concept shown: Provides a 20-30% increase in yield
- **Environmentally friendly, sustainable, chemical-free products** with expedited regulatory path for each program
- **Strong IP protection** with four separate utility patent applications
- **Strong industry partnerships and industry relationships** to support R&D and pre-commercial efforts
- **Strong management team** (former ADAMA Agricultural Solutions Ltd., Evogene, ICL and LycoRed) with decades of combined accumulated experience in the areas of fertilizers, plant protection and food supply

Grace Breeding in the News in Israel



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THANK YOU!