Marrone® Bio Innovations

Trends and New Market Opportunities in Ag Biologicals

Pam Marrone, PhD
CEO/Founder

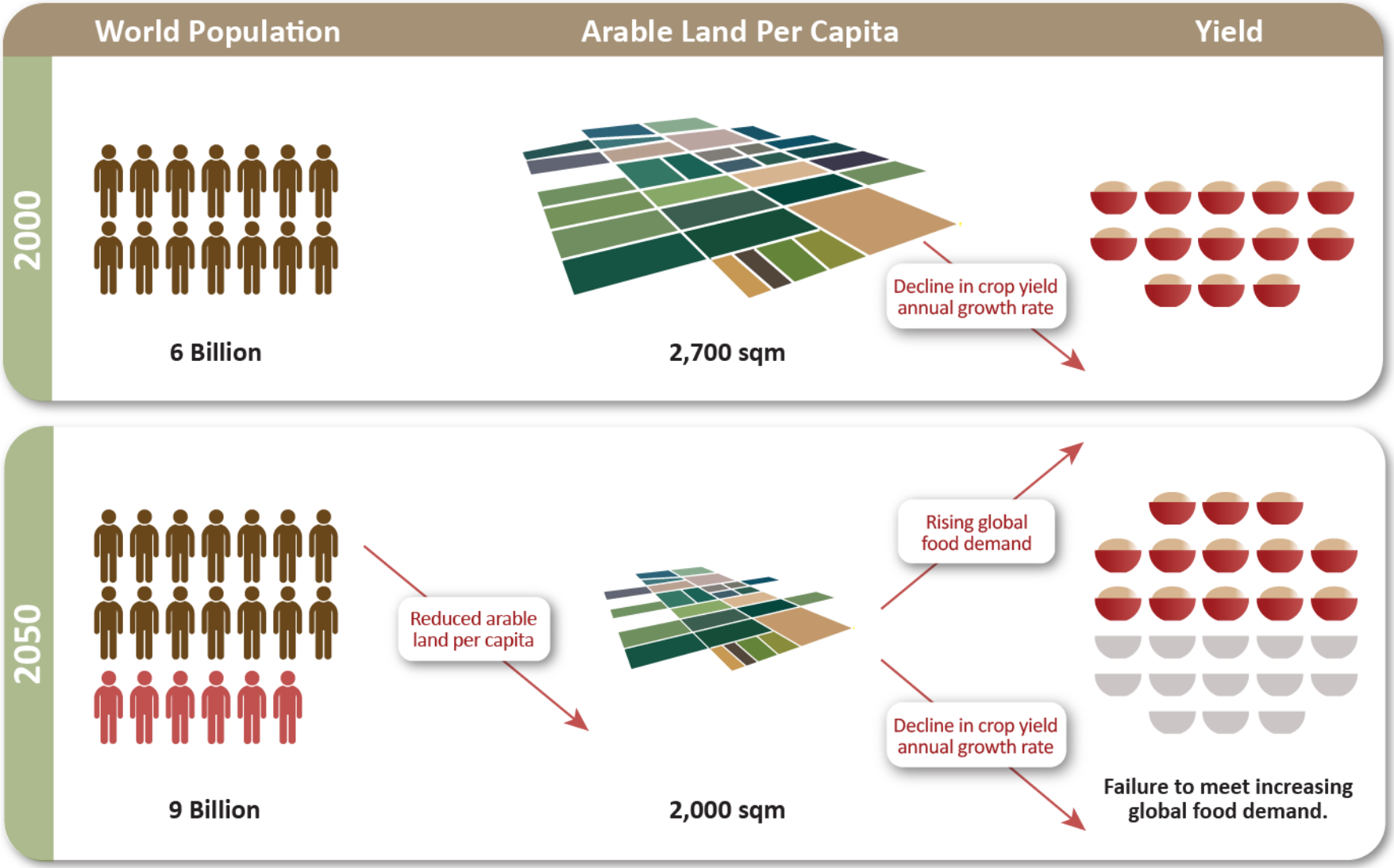
February 2014

Safe Harbor Statement

Forward-Looking Statements

This presentation may include forward-looking statements. These statements reflect the current views of the Company's senior management with respect to future events and financial performance. These statements include forward-looking statements with respect to the Company's business and industry in general, including statements regarding potential market size of Company products, anticipated product launches, target geographic markets, factors for the barriers to entry into the market, and strategies for growth. Statements that include the words "expect," "intend," "plan," "believe," "project," "forecast," "estimate," "may," "should," "anticipate" and similar statements of a future or forward-looking nature identify forward-looking statements for purposes of the federal securities laws or otherwise. Forward-looking statements address matters that involve risks and uncertainties such as the timing of and costs associated with the launch of products, the difficulty in predicting the timing or outcome of product research and development efforts and regulatory approvals. Accordingly, there are or will be important factors that could cause the Company's actual results to differ materially from those indicated in these statements. The statements made herein speak only as of the date of this presentation.

The Need for More Sustainable Food Production



Marrone Bio Innovations

Corporate Overview

Company Highlights

- Founded April 2006 in Davis, CA
- **3** commercial products, **1** add'l approved, **3** add'l submitted for EPA approval
- Library of **18,000+** proprietary microorganisms
- 151 FTEs (19 Ph.D.; 65 in R&D)
- Strategic investors: **DSM, Syngenta, Mitsui**
- Fermentation facility in Bangor, MI coming on-line (17 employees)
- Revenue anticipated to more than double in 2013*
- Listed on NASDAQ as MBII August 2, 2013

Commercial Products Today

REGALIA® GRANDEVO® ZEQUANOX®

Marquee Partners / Distributors

syngenta FMC Scotts CNI CHEM NUT, INC. IAP Integrated Agribusiness Professionals Simplot Crop Production Services ENGAGE AGRO TitanPro

Robust Pipeline

- Opportune™ bioherbicide targeted launch Dec 2013
- Venerate™ bioinsecticide, MBI-011, bioherbicide, MBI-302 bionematicide submitted for EPA approval
- Additional nematicides, herbicides, fungicides and plant health products in development
- 21 issued patents and more than 200 patents pending

**Guidance as of September 12, 2013 for fiscal 2013*

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Definitions

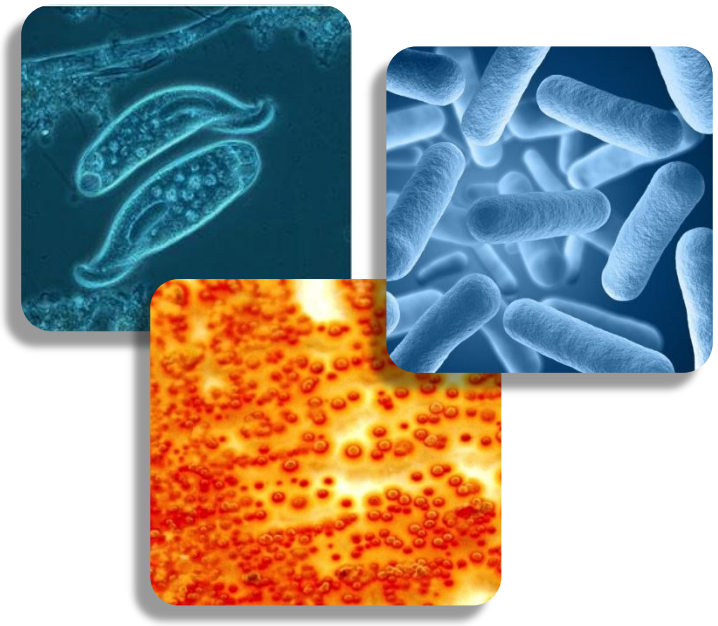
Biopesticides
Crop Protection

Biostimulants
Crop Enhancement

Biofertilizers
Crop Nutrition

What are Biopesticides?

Microbials



Fungi, Bacteria, Viruses, and Protozoa

Biochemicals

Plant Extracts, Pheromones, Soaps, and Fatty Acids

Biologicals are highly effective and less expensive to develop, safer and subject to less regulation than conventional chemicals (65 year history of safe use)

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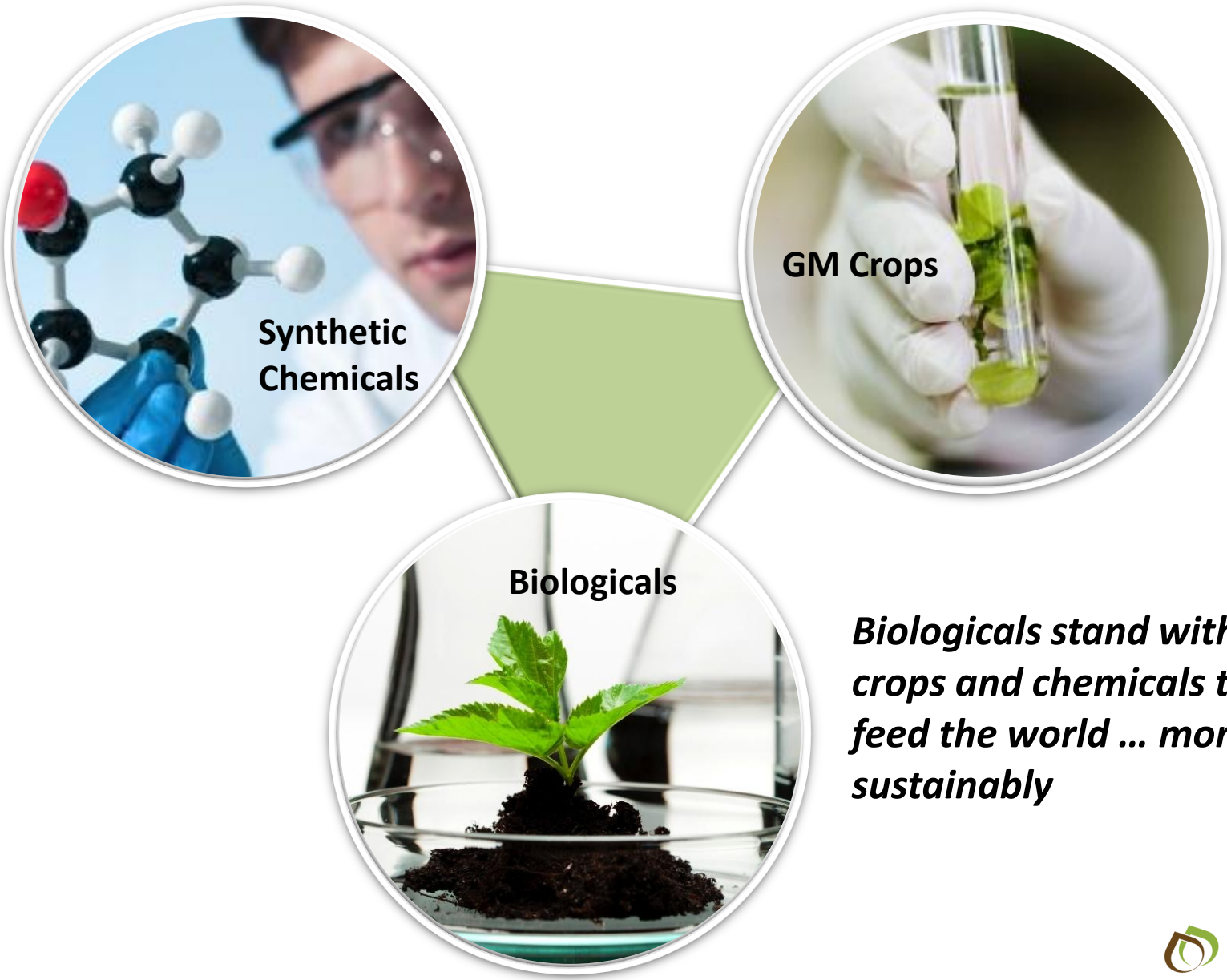
Biologicals –
The Third Leg of the Crop Production Toolbox



Biologicals stand with GM crops and chemicals to feed the world … more sustainably

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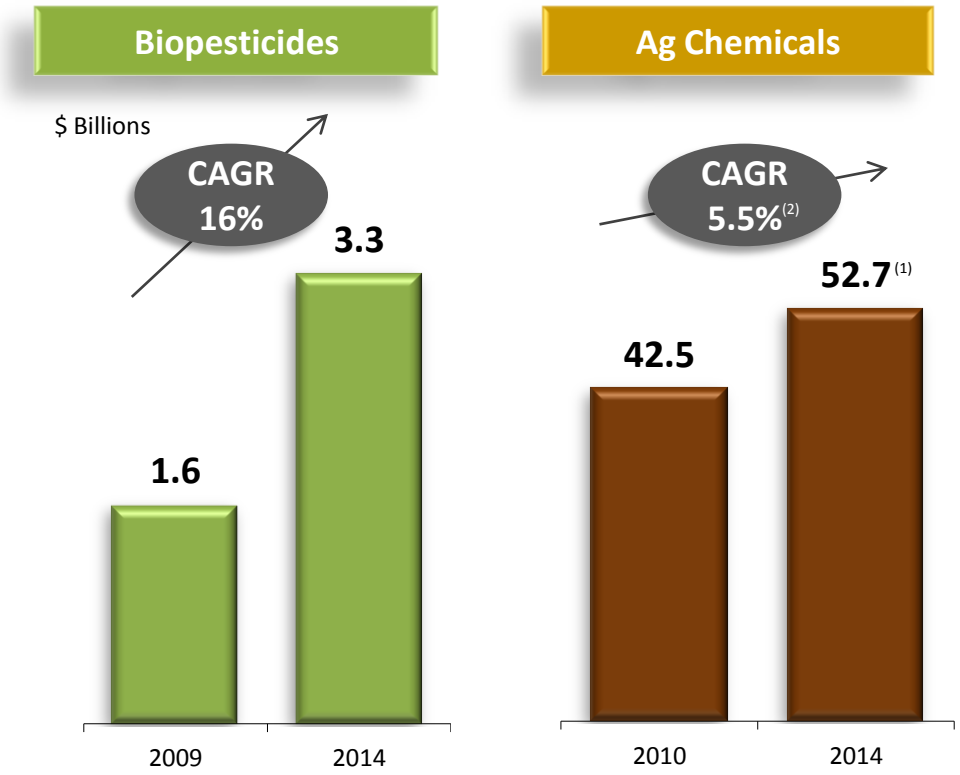
Compelling Value Proposition of Biopesticides

- Yield/quality
- Performance (alone or mixed)
- No residues
- Pest resistance
- Worker safety and production flexibility
- Environmental footprint
- Can be used in organic

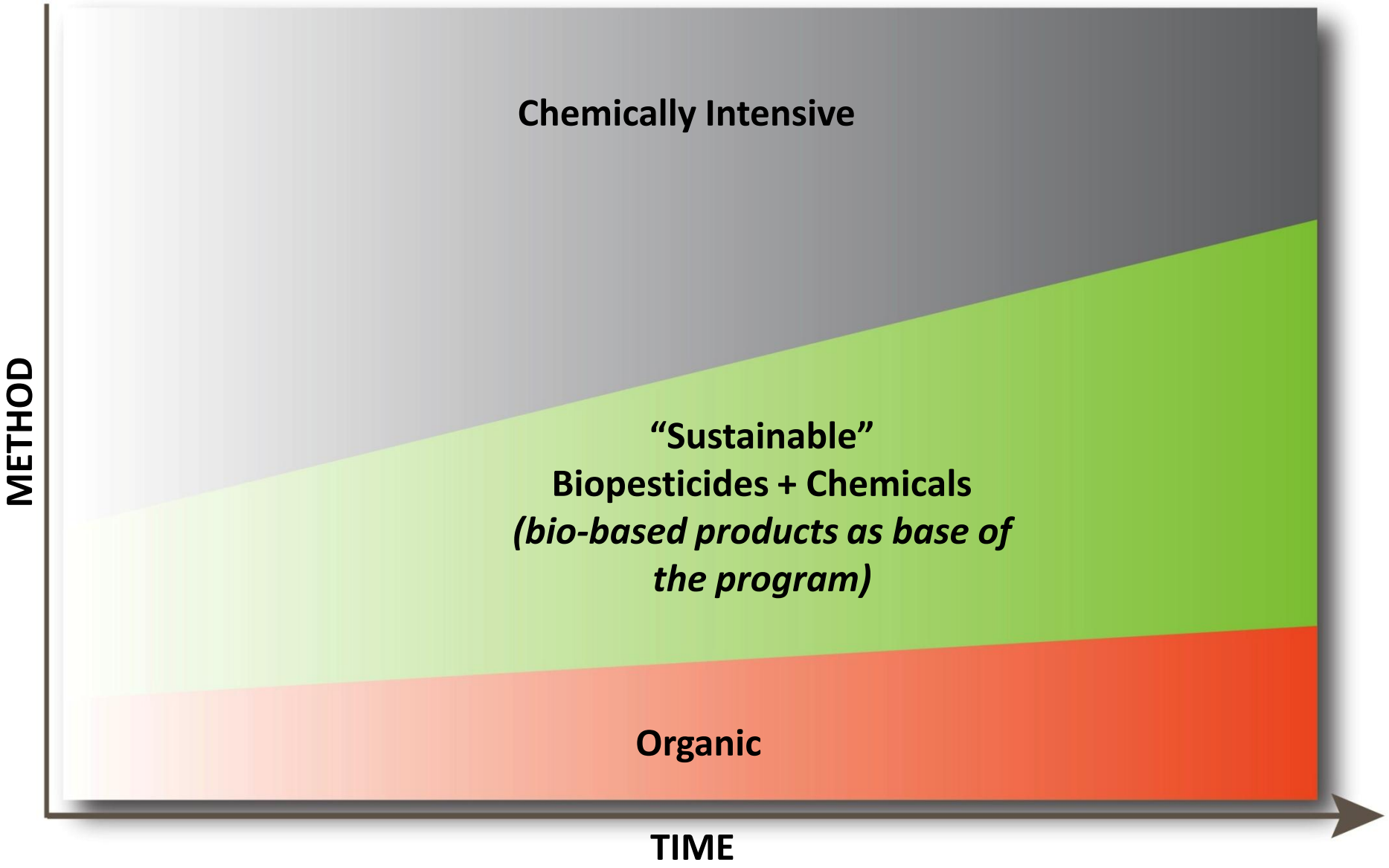


Source: BCC Research and AgroPages.

(1) To compare Biopesticides and Ag Chemicals growth, AgroPages' 2016E of $58.43B is discounted by two periods of the '11-'16E CAGR of 5.3% to yield an extrapolated value of $52.7B.

(2) The '10-'14E CAGR figure reported is calculated based on AgroPages' 2010A value of $42.47B and the extrapolated value of $52.7B (see footnote 1) to yield the 5.54% extrapolated CAGR.

The Shift to Bio-based Pest Management



Biologicals : Shorter Time and Lower Cost to Develop

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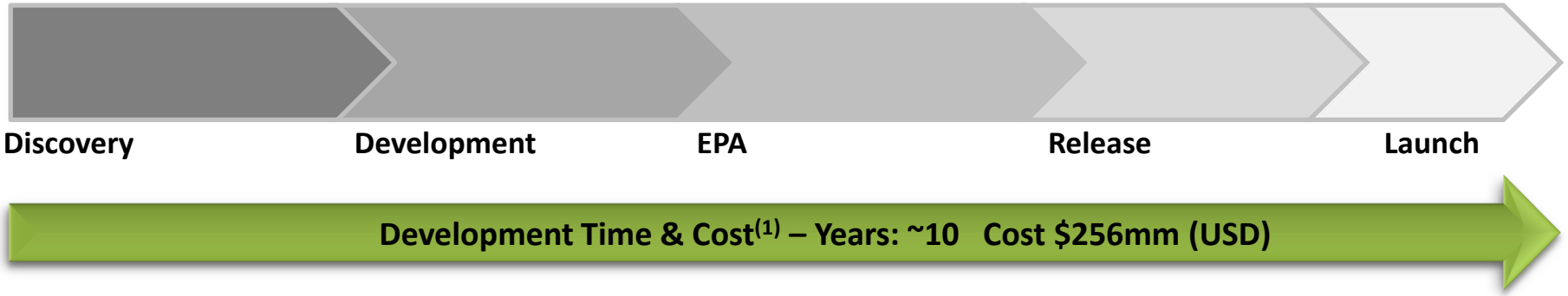
- ✓ Shorter statutory timeline for EPA approval of biopesticides
- ✓ Reduced toxicology requirements if no direct toxic effects
- ✓ MBI's experience allows shorter development time

Average Chemical Pesticide



(1) Source: Crop Life America.

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Big Companies Jump Into Ag Biopesticides (2012-2013)

syngenta

deVGen — $523 million

PASTEURIA bioscience — $123 million

BASF

BECKER UNDERWOOD — Inventing the Future

$1 billion

Bayer CropScience

PONCHO VOTiVO

prophyta

AgraQuest — better food. better world.™

$425+ million

novozymes

TJ TECHNOLOGIES

NATURAL INDUSTRIES

FMC — JV — CHR HANSEN

Center for Agricultural and Environmental Biosolutions

$300 mil

MONSANTO

Acquires Multipl RNAi Providers

agradis

novozymes

syngenta novozymes

Syngenta, Novozymes Ink Deal To Commercialize Taegro

Gowan®

... becomes exclusive distributor of Polyversum biofungicide

American Vanguard Corporation — TYRATECH — PUTTING NATURE TO WORK

American Vanguard Invests in TyraTech Natural Product Technologies

Why Biopesticides?

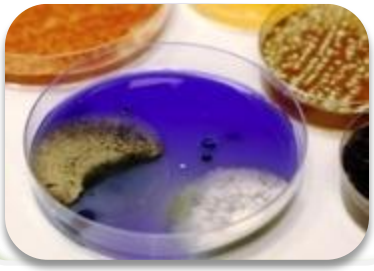
"Biopesticides are mainstream. We know we are all going to need a biopesticide play."

Biopesticides are increasingly required in pest management programs to meet customer needs	*e.g., Exported produce; Covered vegetables in Europe – retailers demand no or few residues. SYSCO, Wal-Mart and other food companies developing sustainable farming requirements.*
Biopesticides provide added benefits or fit where few chemicals exist	*e.g., Nematode control; Bayer's Poncho/Votivo seed treatment, MBI's ZEQUANOX for invasive mussels in open water; GRANDEVO for resistance mgt*
Biopesticides meet growing consumer demand for health and wellness	*e.g., Low or no residues; to expand garden pesticides segment; address Canada's bans on cosmetic pesticides*
Tightening chemical regulations and special governmental biopesticide initiatives	*e.g., Europe's Sustainable Use Directive, Canada bans, etc.; programs to accelerate biologicals in EU, Brazil, India, others*
Biopesticides are one of the fastest growing input segments	*e.g., 10-16% CAGR*

MBI: Natural Product Chemistry-Focused Discovery

Isolation

Samples from around the world from areas of high biodiversity are collected and cultured.

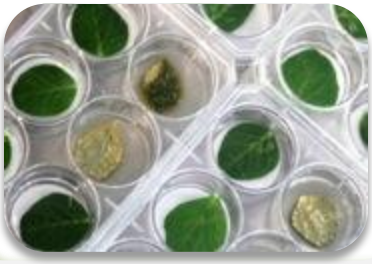


Fermentation

Microbes are grown in liquid commercial-like media
Water extracts of fermentation broths are prepared for bioassays.

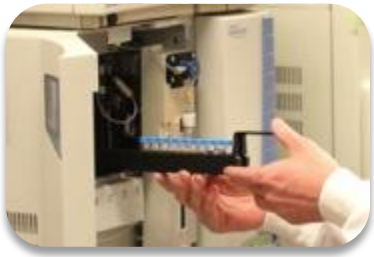
Biological Testing

Biological testing against weeds, insects, plant pathogens, nematodes, algae, and for growth promotion are performed.
Microbe/genetic ID.



Natural Product & Analytical Chemistry

Identify pesticidal compounds; eliminate harmful strains.
Develop analytical assays for mfg QC.



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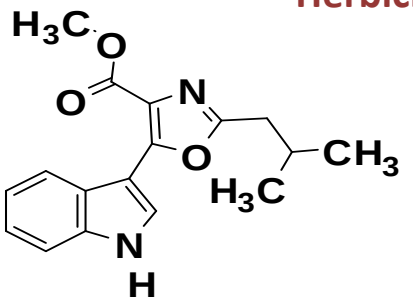
Unique Ability to Discover and Exploit Novel Natural Product Chemistry

DISCOVERY

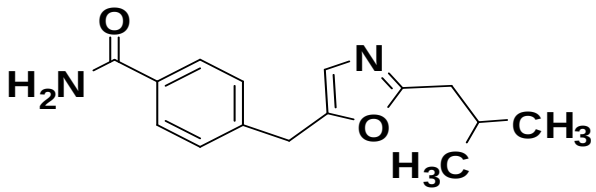
New bacterial species of *Burkholderia: Burkholderia rinojensis* sp.

Herbicidal/Algicidal



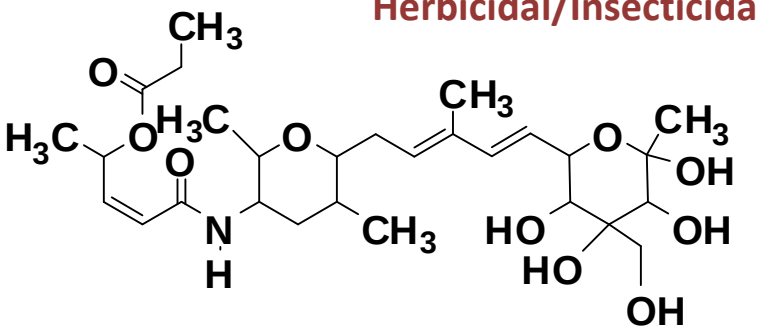
Templazole A

Herbicidal



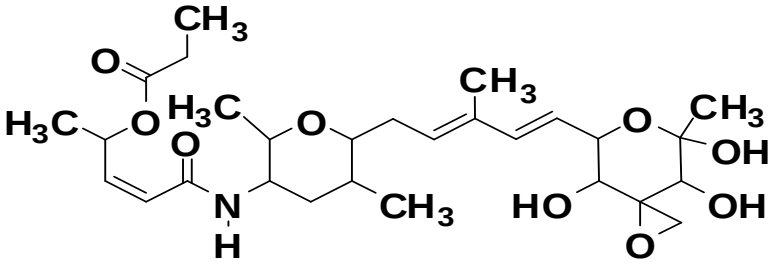
Templazole B

Herbicidal/Insecticidal



Templamide A

Herbicidal/Algicidal/Insecticidal



Templamide B

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MBI: Development - Delivering High Quality, Value-added Products

Getting to market …

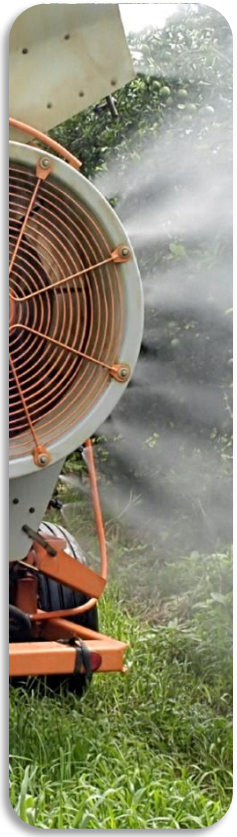
Goal –

- **Cost-effective**
- **Value-added**
- **Consistent efficacy**
- **Easy to use**

How -

- Optimize processes
- Scale up—pilot & manufacturing
- Field trials
- Registration package
- Develop user-friendly formulations & packaging
  - Wettable powder, granule, liquid suspension, etc.



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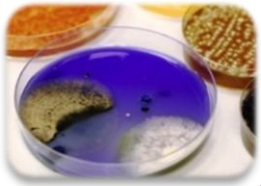
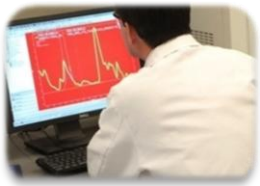
Strong Patent Protection of Biologicals

Microorganism



- Novel strains and species
- Pesticidal cDNA products
- Specific uses for pest management

Natural Product Chemistry

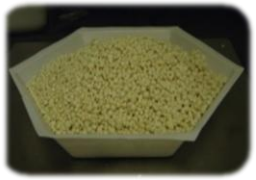


- Individual compounds produced by the microorganism and their use for pest management
- Novel mixtures of compounds
- Fermented and synthetic versions

Mixtures

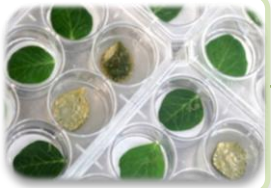
- With other biological and chemical pesticides

Formulations



- Granules, liquids, powders, etc. of the microorganisms and its compounds

Herbicide Discovery



- Enzyme assay for discovery of new herbicides from microorganisms

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Our Pipeline – Multiple Products in Parallel

		Discovery	Pre-Development	Development	Regulatory	1st Launch
Commercial	REGALIA	*fungicide / plant health*				2009
	GRANDEVO	*Insecticide/miticide*				2011
	ZEQUANOX	*aquatic molluscicide for invasive mussels*				2012
Near-term Pipeline	**Opportune™**	*herbicide*			*Targeted launch Dec 2013*	
	Venerate™	*insecticide*			*Pending EPA approval*	
	Haven™*	*anti-transpirant*				
	MBI 506/ 110/303*	*plant yield enhancer/drought tolerance*				
	MBI 011	*herbicide*			*Pending EPA approval*	
	MBI 302	*nematicide*			*Pending EPA approval*	
	MBI 010	*herbicide*				
	MBI 110	*fungicide and plant health*				
	MBI 601	*biofumigant*				
	MBI 303	*nematicide*				
	MBI 701	*algaecide*				

*Does not require EPA registration when used as a plant enhancer.

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Developing a Successful Biopesticide is Challenging

Challenging Environment for Potential New Entrants

- **Technical Capability**
- **Intellectual Property**
- **Grower & Field Specialist Relationships**
- **Team Expertise and R&D Culture**
- **Management Skills to Lead Development Process**

- Technical and market competencies are ***difficult and expensive to replicate***
- Range of necessary scientific & management skills are ***poorly understood and in short supply***
- Each microbe/plant extract is ***different with unique challenges*** so developing an ***entire pipeline*** is difficult
- ***Universities do not train*** for formulation chemistry and ***the combination of skills*** needed for the development & commercialization of biopesticides
- Field application experience is integral; ***limited number of field specialists have properly evaluated biological products***

Ag Sales, Marketing & Distribution Strategy

North America

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↓

Distributor/Retailer

Crop Production Services · WILBUR-ELLIS · ENGAGE AGRO

↓

Grower

International

Marrone Bio Innovations

↓

Distributor/Retailer

DE SANGOSSE · CBC GROUP

↓

Grower

Marrone Bio Innovations

↓

Branded Manufacturer

syngenta · FMC · Scotts

↓

Distributor/Retailer

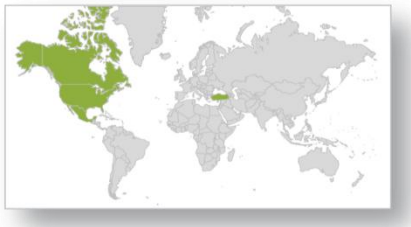
↓

Grower

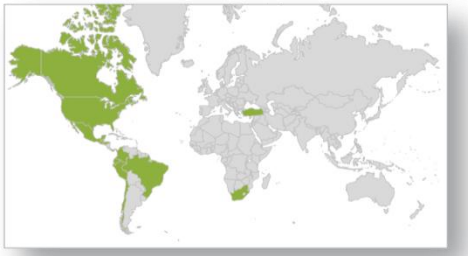
Growth Through Multiple Pathways

+ Launch of New Products
+ New Market Segments
+ Additional Geographies
+ Additional Crops
+ New Customers
+ Pocket Share

✓4 Specialty Crops
✓Ornamentals

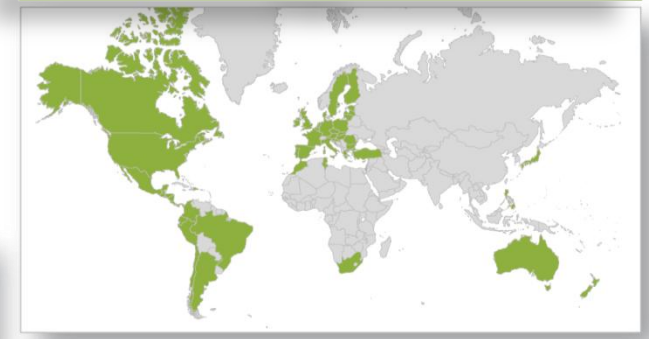


✓18 Specialty Crops
✓Ornamentals
✓Turf
✓In-Pipe Water Treatments



✓22 Specialty Crops
✓Ornamentals
✓Turf
✓Row Crops
✓In-Pipe Water Treatments

Target



✓30+ Specialty Crops
✓Ornamentals
✓Turf
✓Row Crops
✓Home & Garden
✓In-Pipe Water Treatments
✓Open Water Treatments

2009 | 2012 | 2013 | 2014 & beyond

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Marrone Michigan Manufacturing (M^3)

- Total $33 million investment projected
- $15.5 million through July 2014
- Construction for fermentation and plant-extract based products
- Fully operational first quarter

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Biologicals as Seed Treatments

- **Documented synergy with many conventional chemistries**. Most new biopesticidal seed treatments are deployed in "stacked" sets of active ingredients for improved pest management
- **Multiple modes of action** for pest resistance management.
- **Economically valuable** to the farmer
- **Can be used alone or in combination** with additional chemistries in priming, pelleting and film coating processes
- **Improve** seedling emergence, stand establishment, vigor and pest control.
- The earliest successful biopesticidal seed treatment is still on the market: *Bacillus subtilis (Bt)* (Gustafson) and remains one of the most widely used biopesticide seed treatments.

One of the First Seed Treatments on the Market Today

Kodiak® HB is a dry biological seed treatment.

Contains *B. subtilis* (6 X 10^9 viable spores per gm) for suppressing soilborne fungal diseases caused by *Fusarium, Rhizoctonia, Alternaria* and *Aspergillus* in cotton, peanuts, corn and ornamentals

Robust Rhizobial Inoculant

- Minimum guaranteed count of 10 billion (1.0 x 10^{10}) colony forming units (CFUs) of *rhizobia* pe ml.
- Highly effective and infective multi-strain *Bradyrhizobium japonicum* produced fresh for each growing season for maximum freshness and performance.

Patented Rhizobia Growth Enhancer

- After planting, patented biological performance enhancer works with *Rhizobia* to stimulate root nodulation.

Powerful INTEGRAL Biofungicide

- Extends suppression of yield-robbing *Rhizoctonia* and *Fusarium* fungal diseases.
- Complements other systemic fungicides to help promote better root structure and vigor.
- More vigorous roots mean improved nutrient uptake for added yield potential.

VAULT HP
the right choice

BioStacked

BECKER UNDERWOOD
Inventing the Future

BASF
The Chemical Company

Bayer CropScience

Poncho/VOTiVO employs a dual conventional - biological modes of action with a unique bacteria strain that lives and grows with young roots, creating a living barrier that prevents important nematode species from reaching the roots.

Poncho/VOTiVO also provides control of many critical early season insect pests.

ACTIVE INGREDIENTS:
Clothianidin 40.3%
Bacillus firmusI-1582 . . . . . 8.1%
OTHERINGREDIENTS: 51.6%
KEEP OUT OF REACH OF CHILDREN
CAUTION
Contains 4 .17 pounds clothianidin per U .S . gallon Contains 0 .84 pounds Bacillus firmus per U .S . gallon
(contains a minimum of 2 X109 cfu/ml)

EPA Reg. No. 264-1109

Clariva™ Complete Beans

Highlights

- Combines a nematicide with the insecticide and three fungicides of CruiserMaxx® Beans with Vibrance®
- Offers season-long activity against Soy Cyst Nematode as well as a broad range of early-season insects and diseases
- Complements SCN-resistant varieties and crop rotation and helps manage resistance by adding another mode of action
- Optimizes root health to deliver better emergence, stand, stress tolerance and overall performance
- Provides more robust and vigorous plants via the Cruiser® Vigor Effect
- Shows a consistent yield increase across multi-year field trials and improved return on investment potential for soybean growers

Pasteuria nishizawae

PASTEURIA bioscience

syngenta

MBI: Delivering The Next Generation of Biological Seed Treatments

REGALIA® BIOFUNGICIDE

Biofungicide that works as well as or better than chemicals; Enhances chemicals to increase yields in row crops

GRANDEVO® BIOINSECTICIDE

Broad spectrum microbial insecticide with novel chemistry and novel mode of action

ZEQUANOX® Invasive Mussel Control

Industry's only biological solution for invasive mussels; highly effective and selective

VENERATE™ BIOINSECTICIDE

New species of insecticidal bacteria with novel compounds as potent as the best chemicals

Suite of novel microorganisms that enhance plant growth ***(MBI-506, -110, -303, -401)***

Two new nematicidal bacteria that produce new classes of chemistry ***(MBI-302, -303)***

New systemic herbicides with novel chemistries ***(MBI-005, MBI-010)***

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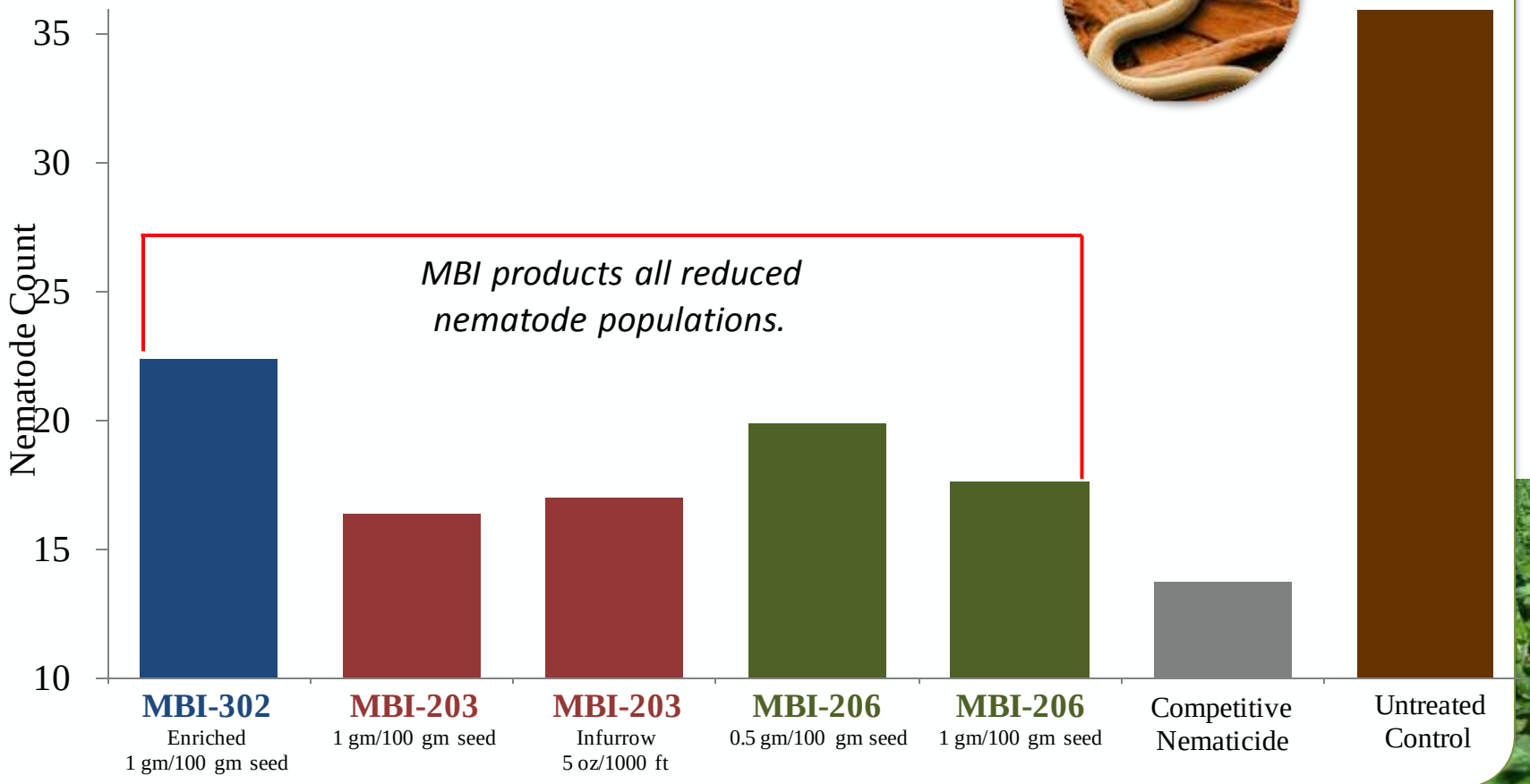
Soybean Seed Treatments – Nematode Counts

Soybean Cyst Nematode Control
(*Heterodera glycines*)
Nematode Count
Auburn University, 2013



- Treatments applied at planting on Jun 3.

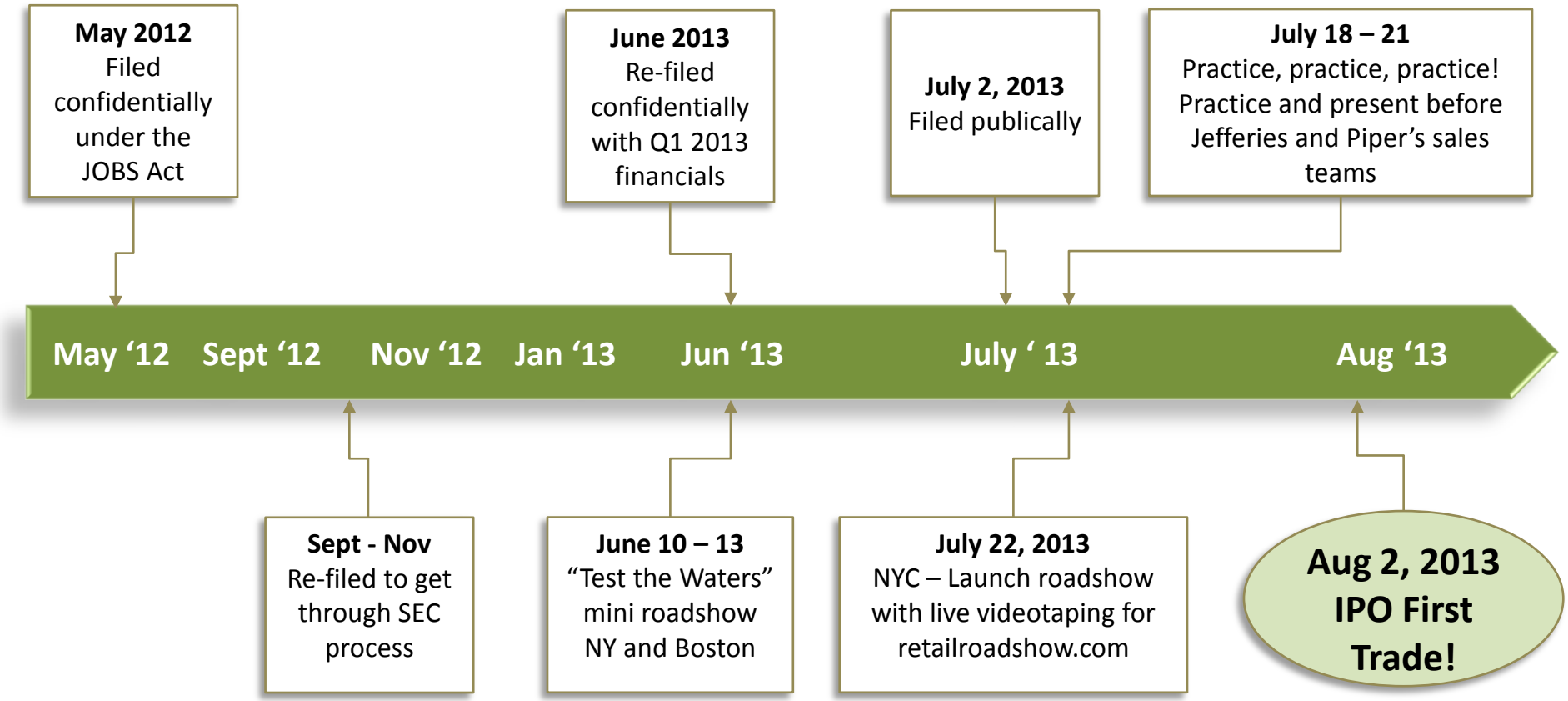
Soybean Seed Treatments – Yield

Soybean Cyst Nematode
(*Heterodera glycines*) Yield (gm/plot)
Auburn University, 2013

MBI products all increased yield over untreated and most treatments increased yields more than the commercial standard.

- Treatments applied on Jun 3.
- Yield evaluated on Oct 8.

IPO Timeline



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- ✓ 75 Investor one-on-ones
- ✓ 2 group lunches
- ✓ 10 days
- ✓ 11 cities!!


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NASDAQ

Matching Entrepreneurs and Investors

INVESTORS'CIRCLE

Patient Capital for a Sustainable Future

cleantech GROUP LLC

sarta AgStart

nutrition capital network

slow money

Ag Innovation Showcase

Larta Institute

connecting people to drive innovation

sarta CleanStart Showcase

Spotlighting Sacramento Clean Tech Business℠

GROWCalifornia

"Connecting Business With Opportunity"

SACRAMENTO ANGELS

The GPS for Start Ups℠

ASTIA

Springboard ENTERPRISES

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UC Davis is the Regional Gem for Ag, Engineering & Life Science Technology & Entrepreneurship

UCDAVIS
GRADUATE SCHOOL OF MANAGEMENT
PREPARING INNOVATIVE LEADERS FOR GLOBAL IMPACT

UCDAVIS
CHILD FAMILY INSTITUTE FOR
INNOVATION AND ENTREPRENEURSHIP

BIG BANG!
UC DAVIS BUSINESS PLAN COMPETITION

UCDAVIS
SUSTAINABLE AGTECH
INNOVATION CENTER

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Sacramento Region can be the Silicon Valley of Ag Tech

Ag Technologies to Create an Economic Growth Engine in the new Sac Region Ag Tech Valley

- Seed-related
- Food processing
- Nutraceuticals
- Robotics
- Software and big data
- Precision farming
- Irrigation technologies
- Biopesticides and related
- Farmer to consumer matching

Feeding 9 Billion

Our World Today

Our World with Biologicals

QUESTIONS?

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