Metabolix

Bio-industrial Evolution

AICHE New York

May 17, 2010

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CSO and VPR&D

Safe Harbor Statement*

Our presentation includes, and our response to various questions may include, forward-looking statements about the Company's revenues and earnings and about our future plans and objectives. Any such statements are subject to risks and uncertainties that could cause the actual results and the implementation of the Company's plans and operations to vary materially. These risks are discussed in the Company's filings with the S.E.C., including, without limitation, our Form 10-K filed March 12, 2009 and Form 10-Q's filed August 5, 2009 and November 3, 2009.

***Under the Private Securities Litigation Reform Act of 1995**

Recognized Leader in Industrial Biotechnology

Metabolix at a Glance

TODAY

Plastics (50 / 50 J.V.)

Metabolix Bio-industrial Evolution™ → Telles ← ADM

- Proprietary large-scale microbial fermentation system
  - Versatile family of biodegradable PHA plastics from corn sugar, branded under the name "**Mirel**"
- Telles J.V. funded by ADM – Commercial Facility:
  - 110 MM lb/yr design ($275 MM / yr potential)
    - December 2009 completion
  - Metabolix licensed the critical IP
- Metabolix shares equally in the economics once ADM recoups capital investment and any negative cash flow

TOMORROW

Robust Bio-Industrial Portfolio

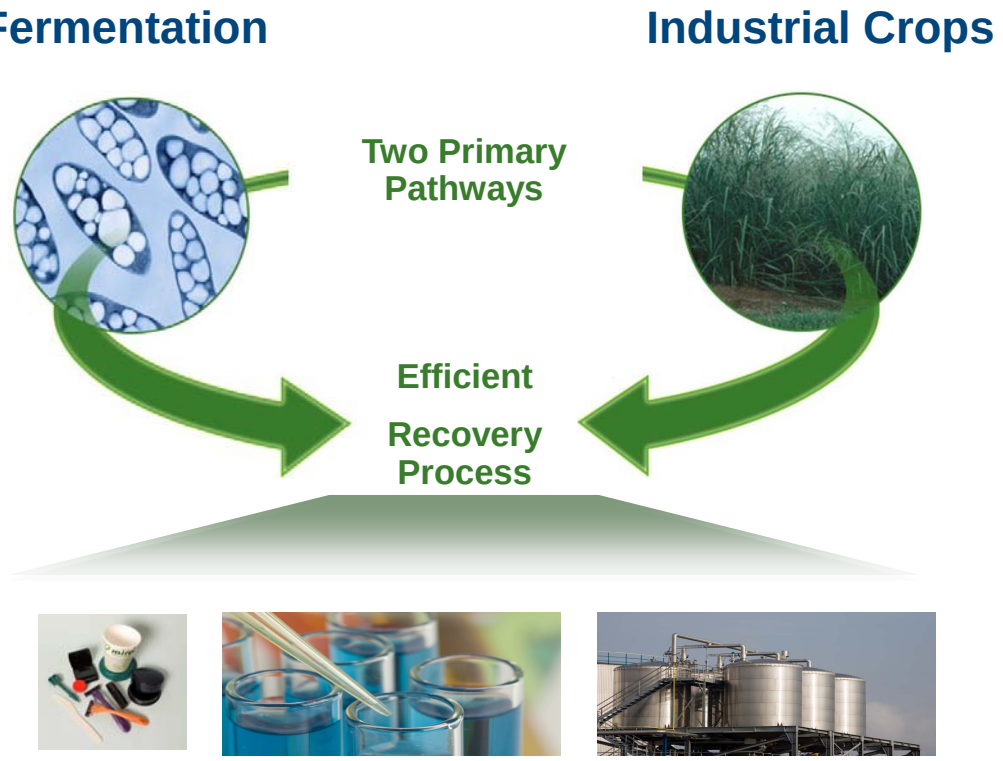
Telles | **Industrial Chemicals** | **Crops**



- **Robust biotechnology portfolio** offers numerous commercialization options
- **Substantially enhanced production economics** through manufacture of bioplastics and co-products in crops
- **Systems Perspective** - Focus on developing integrated whole production systems from gene to end product

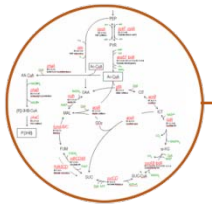
Our Core Capabilities

- Metabolic Engineering
- Multi-gene Expression
- Analytical Expertise
- Process Engineering
- Over 500 Patents Issued and Pending



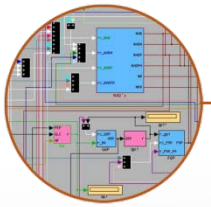
Strong integrated technical and operational expertise is at the core of our success

Foundations of Strain Development at Metabolix



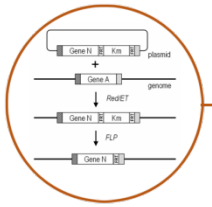
Bioinformatics

- Metabolic pathway design
- Gene target identification



Metabolic Modeling

- Production capabilities of the cell
- Bottleneck identification

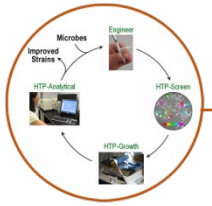


Gene Expression

- Gene systems design and deployment
- Precision genome engineering

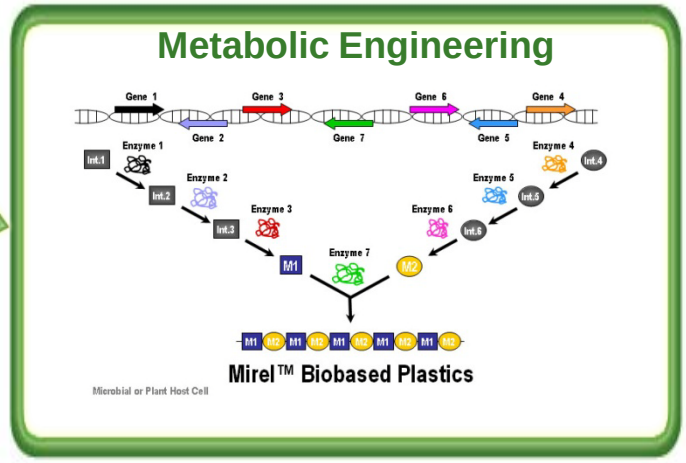
Systems Biology

- Transcriptomics: global gene expression
- Metabolomics: global metabolite levels
- Fluxomics: carbon flux analysis



High-Throughput Biology

- Screening for enhanced productivity
- Adaptive evolution to select robust strains



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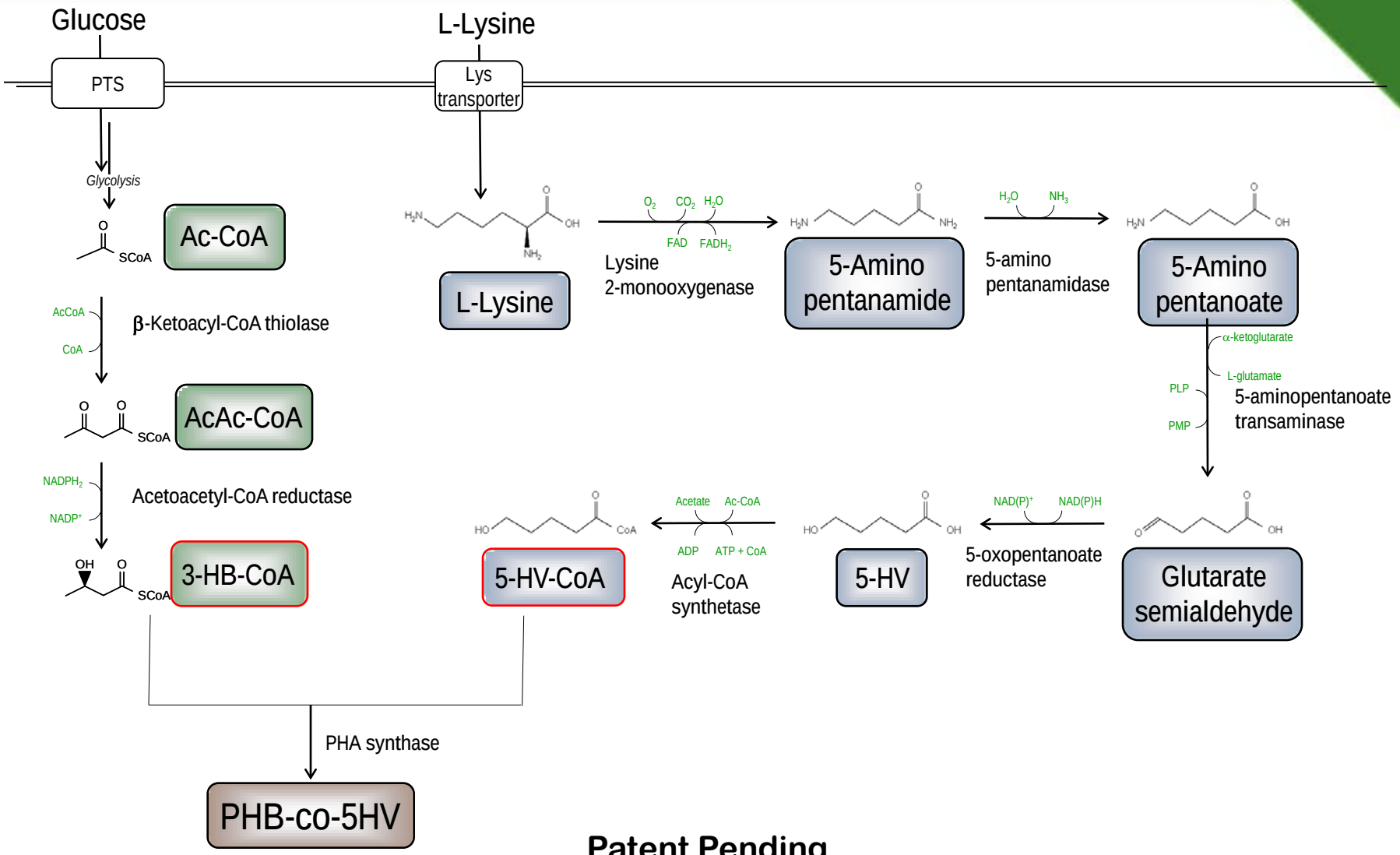
PHB-co-5HV from Glucose and L-Lysine



Patent Pending

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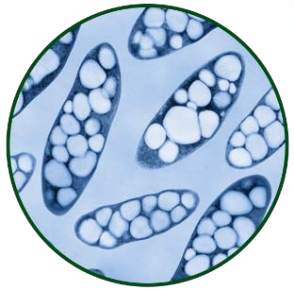
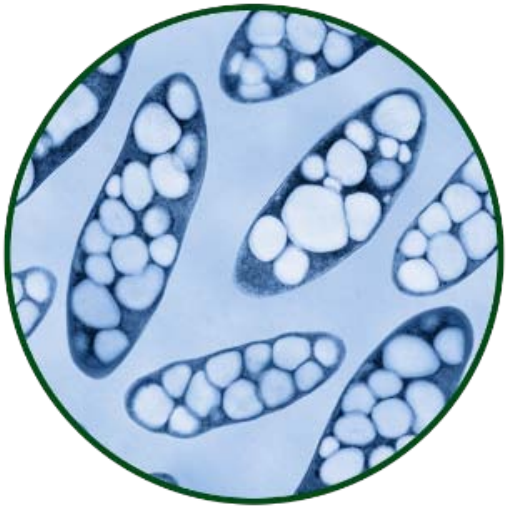
Industrial Strain Design Considerations

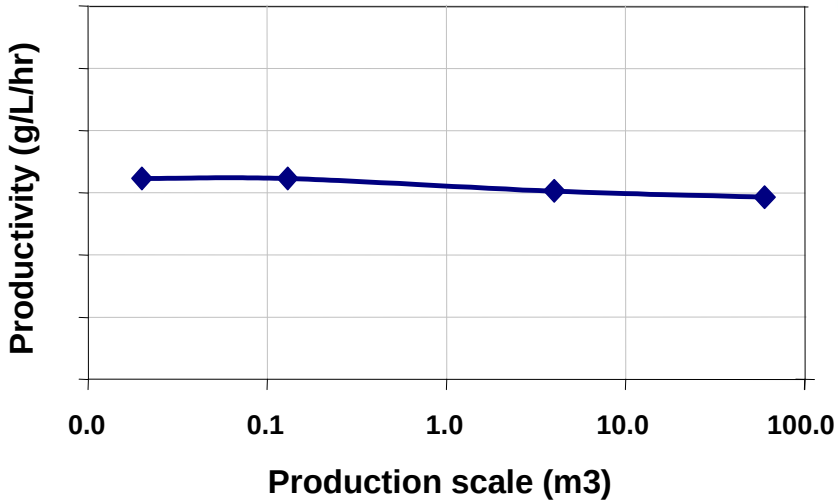


- Robust industrial strain
  - Strain is healthy (grows well)
  - Desired product is generated at a high yield and productivity on a consistent basis
    - Recombinant genes need to be stably expressed (no plasmids)
    - No or very little byproduct is generated
    - Strain is not prone to reversion towards unwanted genotypes / phenotypes
  - Production strains contain up to 16 combined, beneficial gene alterations
- Inexpensive growth media
  - Fully defined inexpensive minimal media
- Regulatory approval
  - Broad experience with potential issues through work with the EPA in the US
    - Approval time varies from days to months depending on recipient microbe and introduced genetic material
  - Design strains to facilitate regulatory approval

Commercial Scale Production of Mirel™



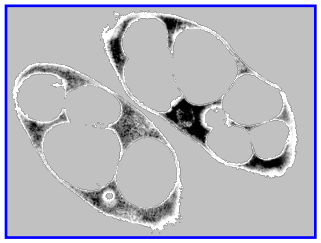
Microbes Accumulate
>80% *Mirel* by Dry Cell Weight

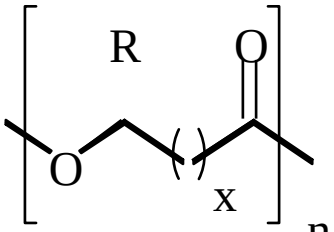


High Productivity
Irrespective of Production Scale

- Demonstrated at industrial scale
- Controlling the operation of the fermentor enables the tight quality control of the chemical composition of the polymer

PHAs : a Versatile Family of Biobased Plastics





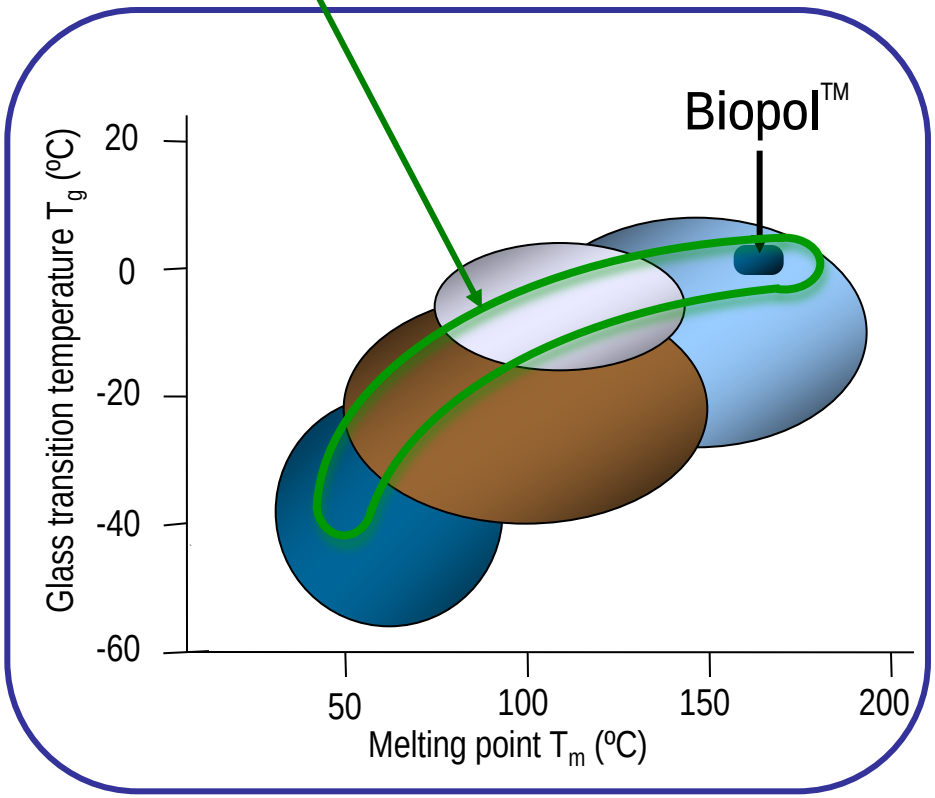
R = H, C_2 to $C_{8'}$

x = 1-3,

n = 500 to 2×10^4

- Thermoplastics
- Hot melt adhesives
- Coatings
- Pressure sensitive adhesives

mirel A Miracle of Nature Bioplastics by Telles



Thermal Properties

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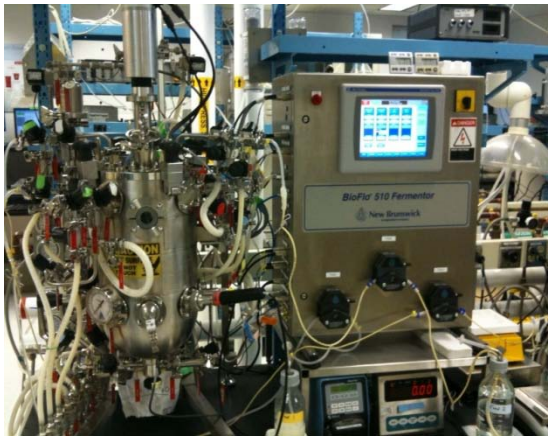
Process Development

Cambridge and Pilot Plant covers lab to pre-commercial scale



Fermentation: Strain Evaluation, Media and Platform Variables, Fermentation Control, Validation and Optimization for scale-up,

Analytical : Chemistry Support, Test Methods Development, Statistical Control, QC of Pilot Plant

Recovery: Lab Scale Recovery, Key Variable Development, Equipment testing, Flowsheet Documentation for Design, and Pilot Plant Operation

Metabolix IP Position

Broad and deep IP estate across entire value chain

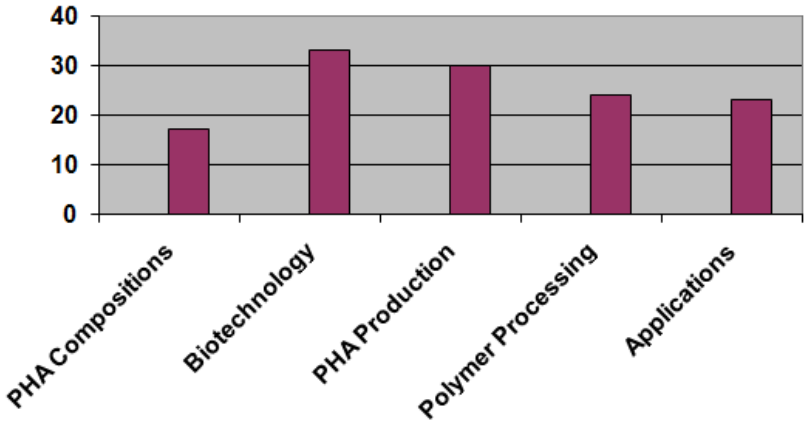
Metabolix Patent Estate at December 31, 2009

	US Issued	Non-US Issued	US Pending	Non-US Pending	TOTAL
MBLX in-house developed	53	178	27	102	360
MBLX Monsanto acquisition	57	147	1	5	210
Total MBLX owned	110	325	28	107	570
*Total Licensed	19	49	0	7	75
TOTAL owned + licensed	**129**	**374**	**28**	**114**	**645**

* Licensed patent data from 2008

- Biotechnology covers both microbial and crop production systems
- PHA production covers high Mw polymers and derivatives/chemicals
- Polymer processing know-how enables conversion at commercial rates using existing equipment
- Commanding patent position further strengthened with trade secrets and proprietary know-how
- Leading position with scale-up and learning curve

Metabolix Issued US Patents (Owned and Licensed)



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Telles – a Metabolix / ADM Joint Venture

Metabolix®
Bio-industrial Evolution™

MBLX Contribution

- Proprietary engineered microbes and other intellectual property
- Research & Development resources and expertise
- Product development and formulation expertise
- Sales & Marketing capabilities

50-50% ownership

Telles™
A Metabolix-ADM joint venture.™

mirel™
Bioplastics by Telles

The Mirel family of biodegradable plastics

ADM

ADM Contribution

- Operational expertise, with experience in operating large scale fermentation facilities
- Capital for the construction of Clinton 1
- Deep understanding and capability to source raw materials and manage logistics and commodity risks

mirel : Clinton Site, July 2009

Mirel – Versatile Family of Bioplastics

Superior to petroleum plastics

- Reduces petroleum dependence
- Biodegradable
- Enables new applications

Superior to other bioplastics

- Vincotte Certified biodegradability
- Moisture resistant
- Thermal stability
- Ease of processing
- Rigid to flexible

Broad commercial applicability

- Processed with existing plastics conversion equipment
- Wide range of processing technologies (sheet, film, injection molding) and vertical market applications

Telles Status Update: Facility Completed 12/09

Initial facility (Clinton 1)

- 30 Acres, 110 million lbs / year design capacity ($275 MM revenue potential)
- Adjacent to ADM corn wet mill - Integrated economics
- $300+ MM capital investment
- Operational December 2009

Room for expansion

- 4x capacity expansion potential
- $1+ bn revenue potential
- Future expansions at reduced costs per pound
- Rapid deployment and continued advancement of MBLX Mirel technology

Clinton 1 Commercial Manufacturing Facility

Clinton, Iowa

July 2009

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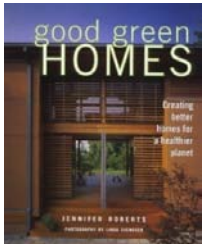
“Green Sells” – mirel A Miracle of Nature is in the Sweet Spot of the Trend

Corporate Drivers of “Green”

- Meet consumer demands
- Create value through greater profitability
- End of life options
  - Composting
  - Biogas production
  - Recycling

Strong Corporate Pull



Metabolix Has Developed the Right Solutions

Mirel , Marine Biodegradability Study, Whitney Laboratory, St. Augustine, University of Florida

Metabolix

Co-Branding Case Study: Paper Mate

- Valuable co-branding opportunities with customers
- Enables creation of Mirel Brand Value
- “Win-Win”

www.papermategreen.com

Mirel Customer Acquisition Model

Potential Opportunities	Core Prospects	Base Opportunities
3,000 Potential Opportunities in Pipeline	~100 Core Prospects Currently	~40-50 Target for Clinton 1

Gift Cards


Erosion Control


Mulch Film


Office Supplies


Coffee Cup Lids*


Compost Bags


Packaging

** Pending FDA Approval*

Very Robust Customer Development Pipeline

- Typical Customer Development Cycle: 9-15 months
- Historical Product Development Constraints Alleviated After Clinton Start-Up
- Pricing of $2.25 - $2.75 / lb discussed at all stages of development
- Six early-adopter customers on board reflecting diverse markets and processing technologies

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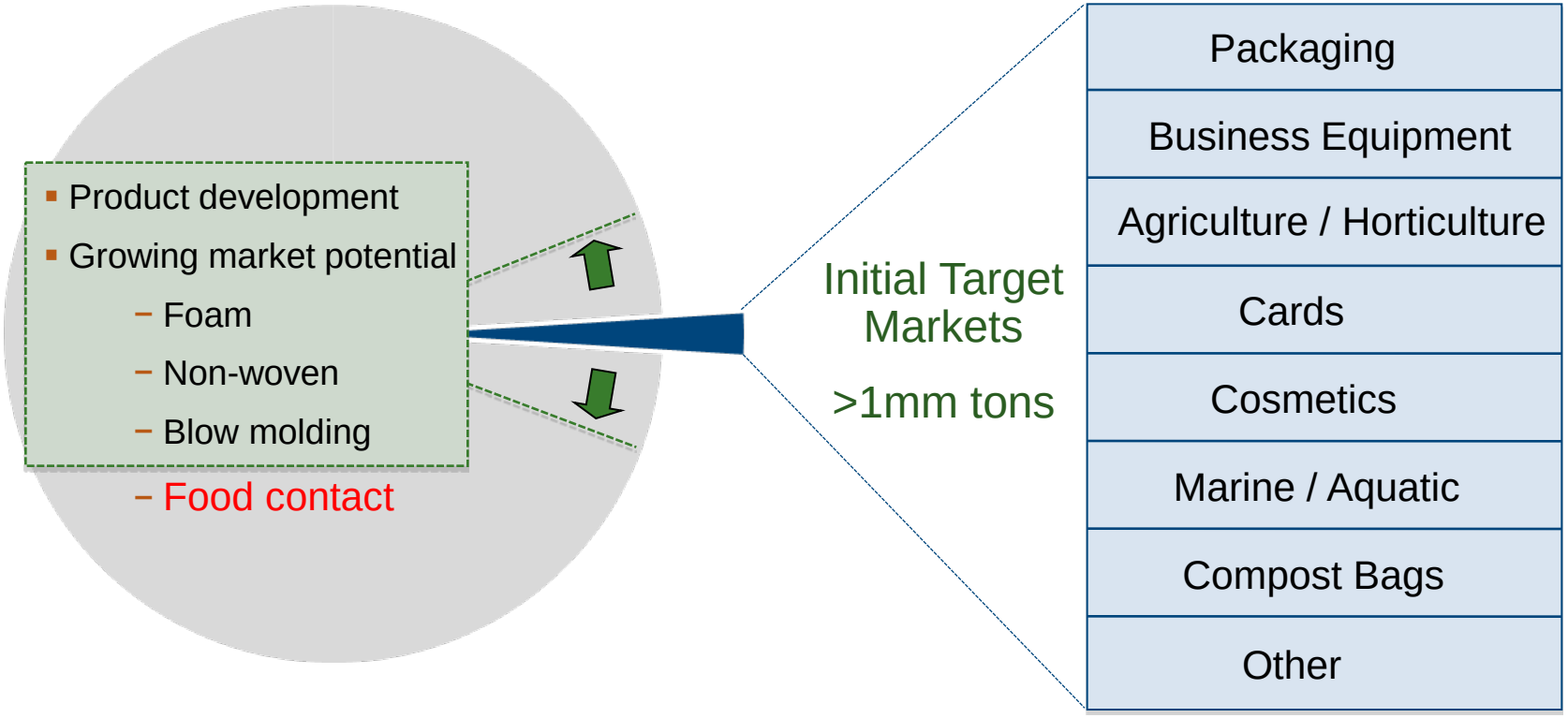
Mirel Addressable Market is Very Large

Market Opportunity Expanding as Product Development Proceeds

Global Plastics Market in 2008,

240 million tons

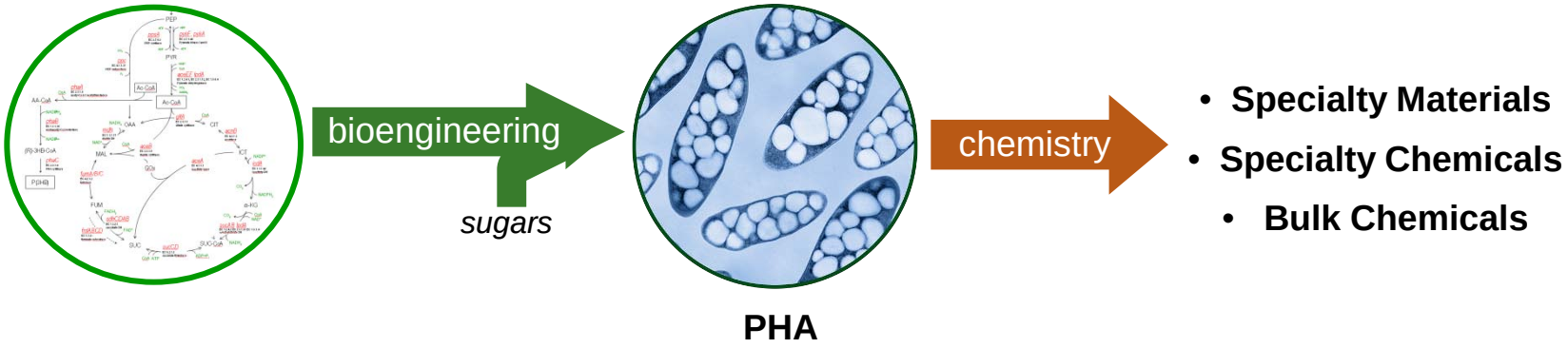


Source: Plastics Europe Association.

Metabolix Fermentation Chemicals

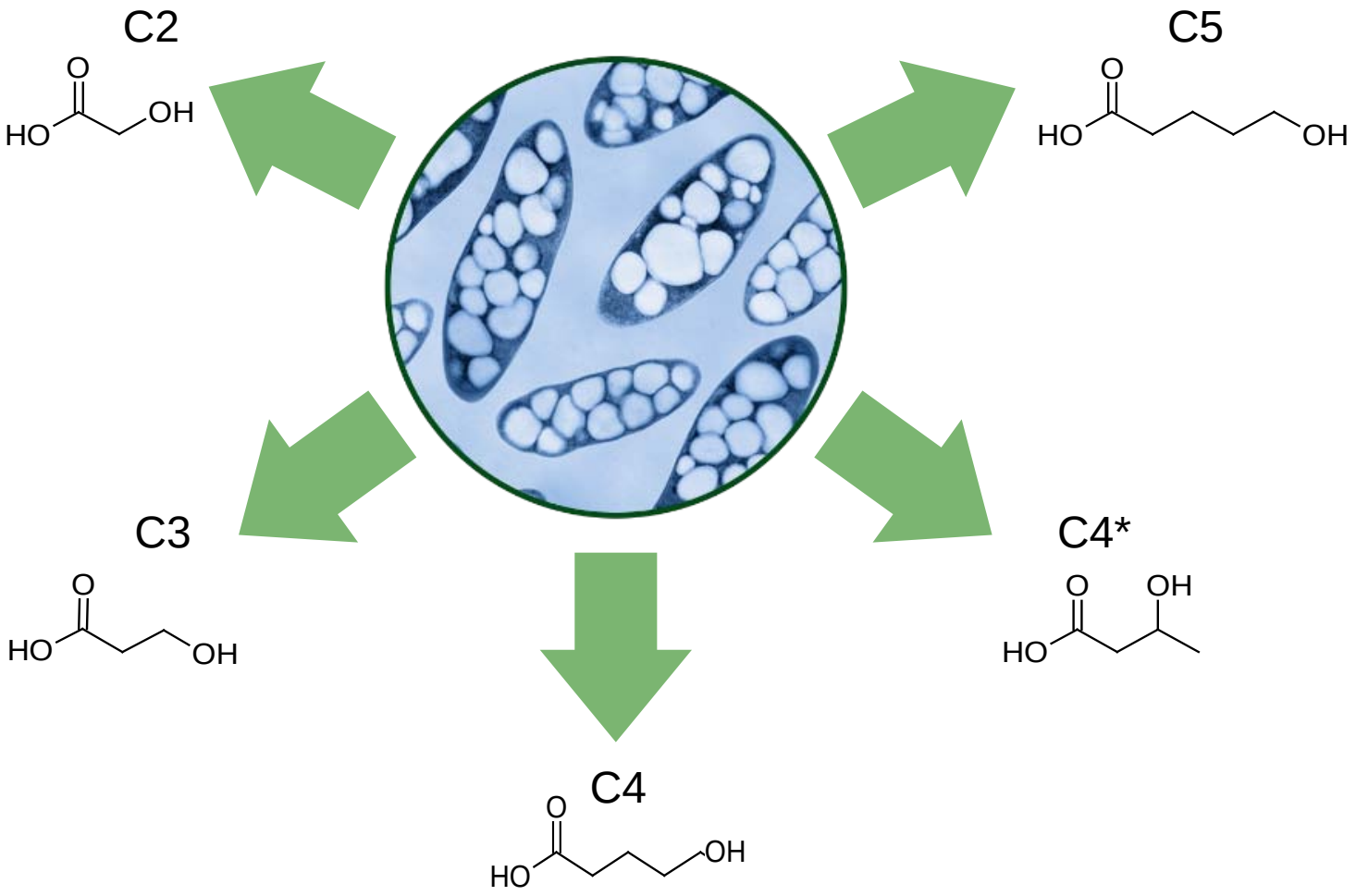
Unique approach via inert intracellular storage polymer

- Develop novel approach to produce chemicals as biologically inert insoluble granular inclusion bodies directly inside living cells



- Engineered strains that accumulate tailored PHA compositions
- Employ versatile polyester chemistry to convert PHA into a wide range of chemicals of commercial interest

PHAs: A Wide Range of Platform Chemicals Available



Platform of Sustainably Sourced Chemicals

- Platform technology allowing access to broad range of chemicals
  - C2: glycolic acid derivatives
  - C3: acrylic acid; 1,3 PDO
  - C4 chemicals
    - spandex fibers
    - polyurethanes
    - engineering resins
    - personal care products
  - C5: functional intermediates/materials
- Initial commercial focus on C4 chemicals
- Supported by $2 million award from U.S. Dept of Commerce-NIST
- All technical milestones met or exceeded
- Technology development and initial partner discussions underway

Commercialization Strategy – Chemicals

- Leverage existing Metabolix metabolic pathway engineering and industrial fermentation expertise to accelerate commercialization
- Initial focus on specialty products in C4 value chain
  - More robust opportunities in low oil price environment
  - Some options will offer additional functionality relative to incumbent petroleum based products accelerating adoption
- Low entry capital and mfg cost competitiveness at $60/bbl
- Currently defining commercial options and engaging potential partners with key strengths in chemical value chain
- Scale-up and project scope definition planned for 2010

Tomorrow : Crop production of PHAs

- Genetically modify crops to produce plastics directly in non-food crops
- Low cost pathway to plastics and fuels / numerous commercialization options
  - Expect commercially viable crops in field trials in 2-3 years
  - Reported first successful crop field trial in tobacco, October 2009

Biomass

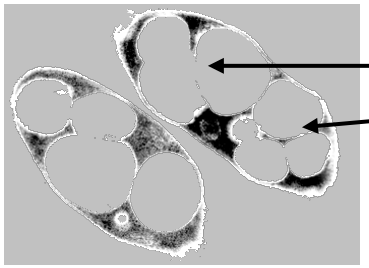
- Switchgrass / Sugarcane
- High density energy crops; very favorable carbon footprint
- Proof-of-concept bioplastic content level already achieved at 3.5-3.7% in leaves (commercial target ~7.5% in plant)
- Residual biomass to fuels or electricity
- Research collaboration with Australian research center for the production of plastics from sugarcane

Oilseeds

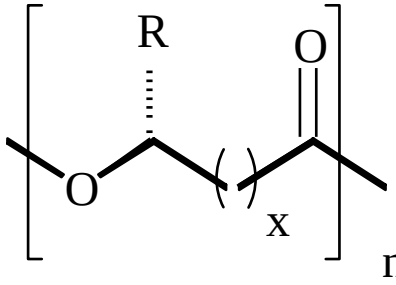
- Co-production of bioplastics along with vegetable oils and meal
- Leverage existing infrastructure
- Co-products targeted in non-food applications such as biodiesel fuel or oleochemicals
- Research collaboration with the Donald Danforth Plant Science Center, St. Louis, Missouri

Metabolix Plant Science Programs

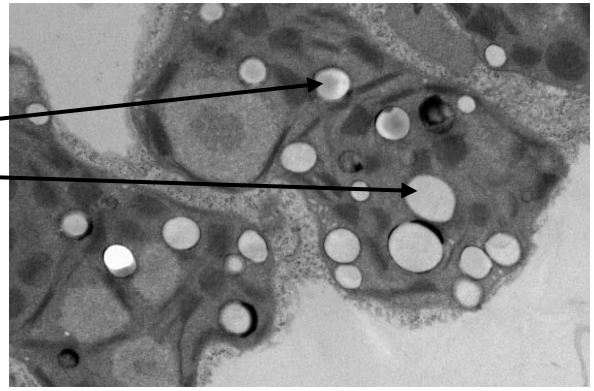
- Direct production of PHA polymers in plants: a disruptive industrial biotechnology
  - Provides the ability to store new chemistries in plant cells by polymerizing them as inert storage materials
  - Enables commodity scale and costs
  - Improves capital efficiency
    - Eliminate capital for sugar extraction and fermentation
  - Increases land use efficiency
    - Efficient extraction of high value chemicals from crop residue



Microbial cells



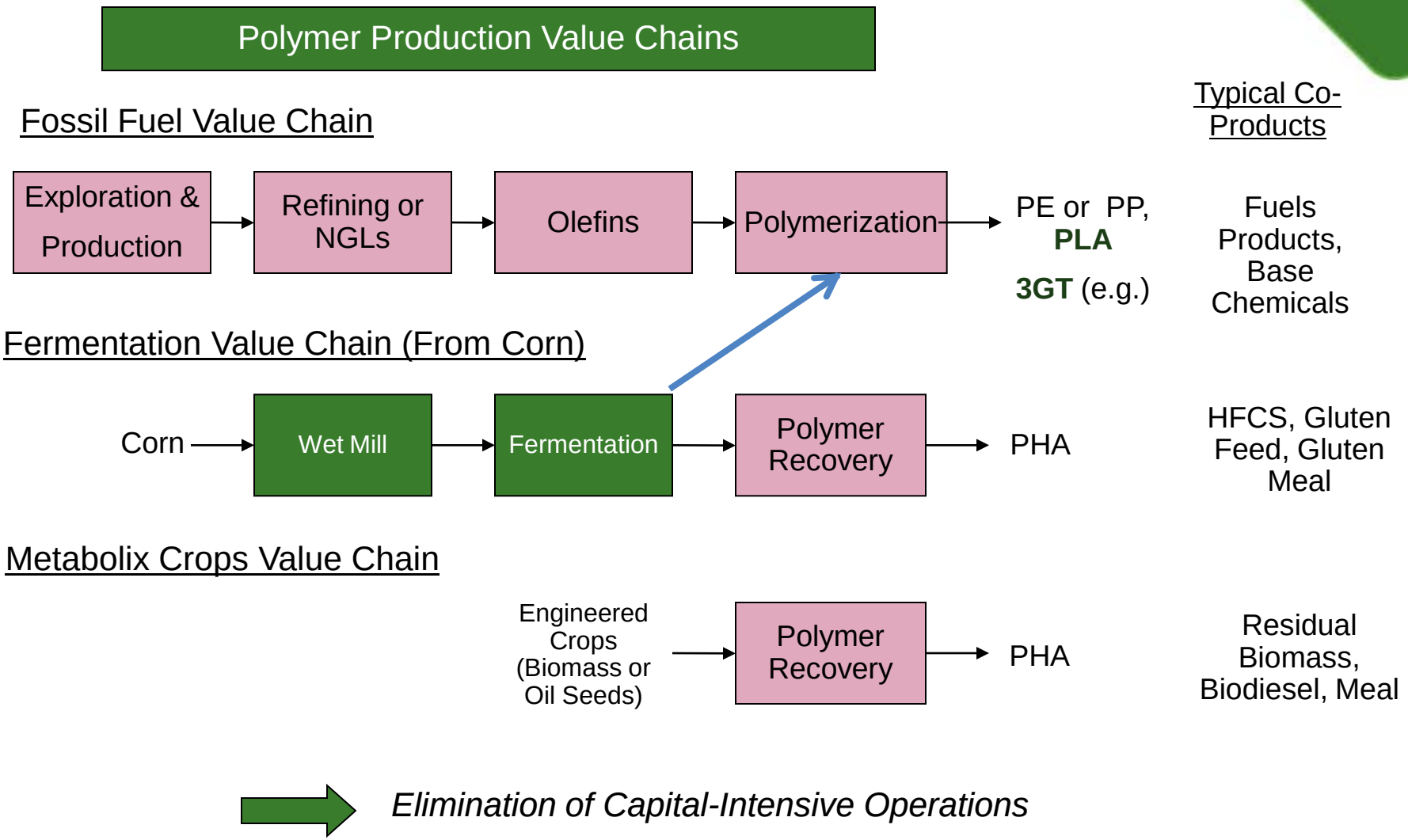
Polyhydroxyalkanoates



Plant chloroplasts

High Valued Crops

Enables Polymer Value Chain Breakthrough



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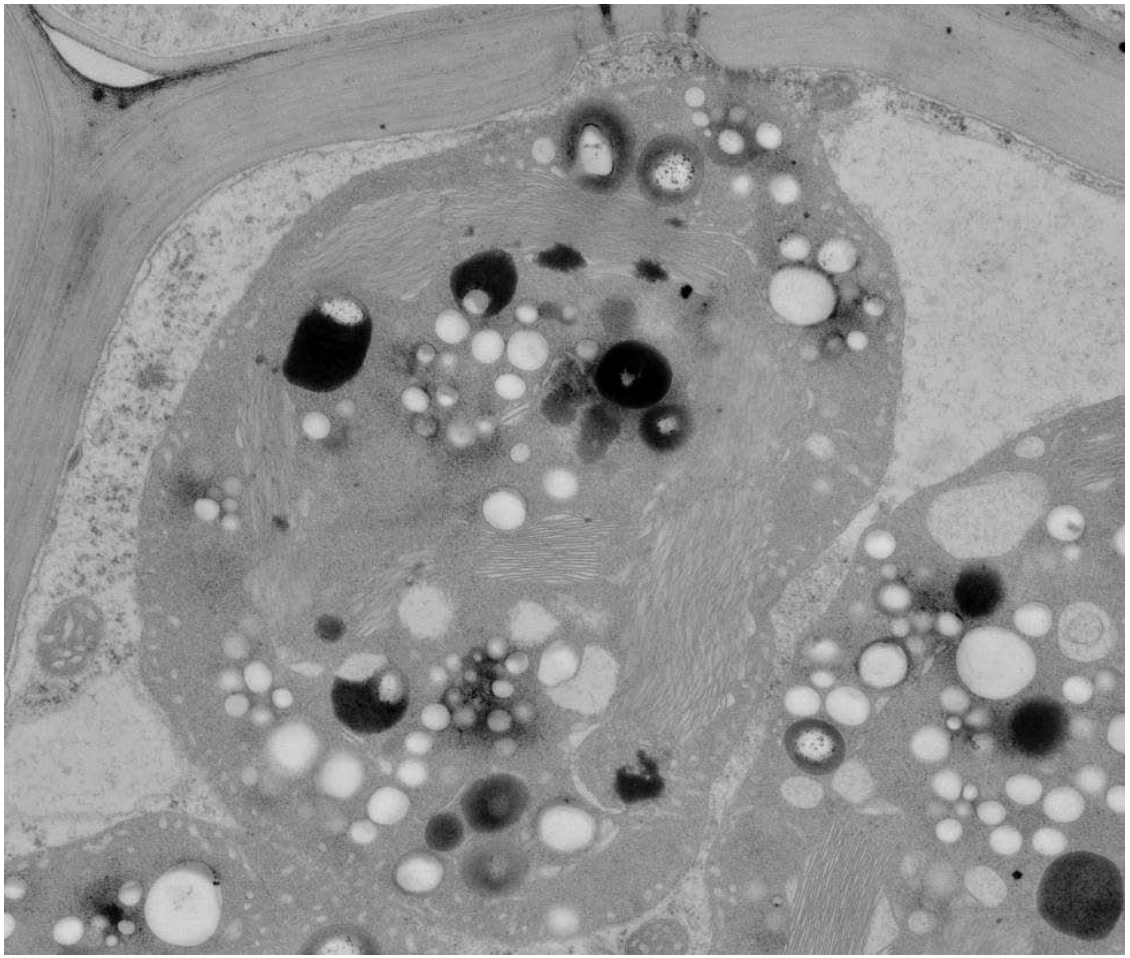
PHB Producing Switchgrass



Somleva et al., 2008, Plant Biotechnology

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Sugarcane Program

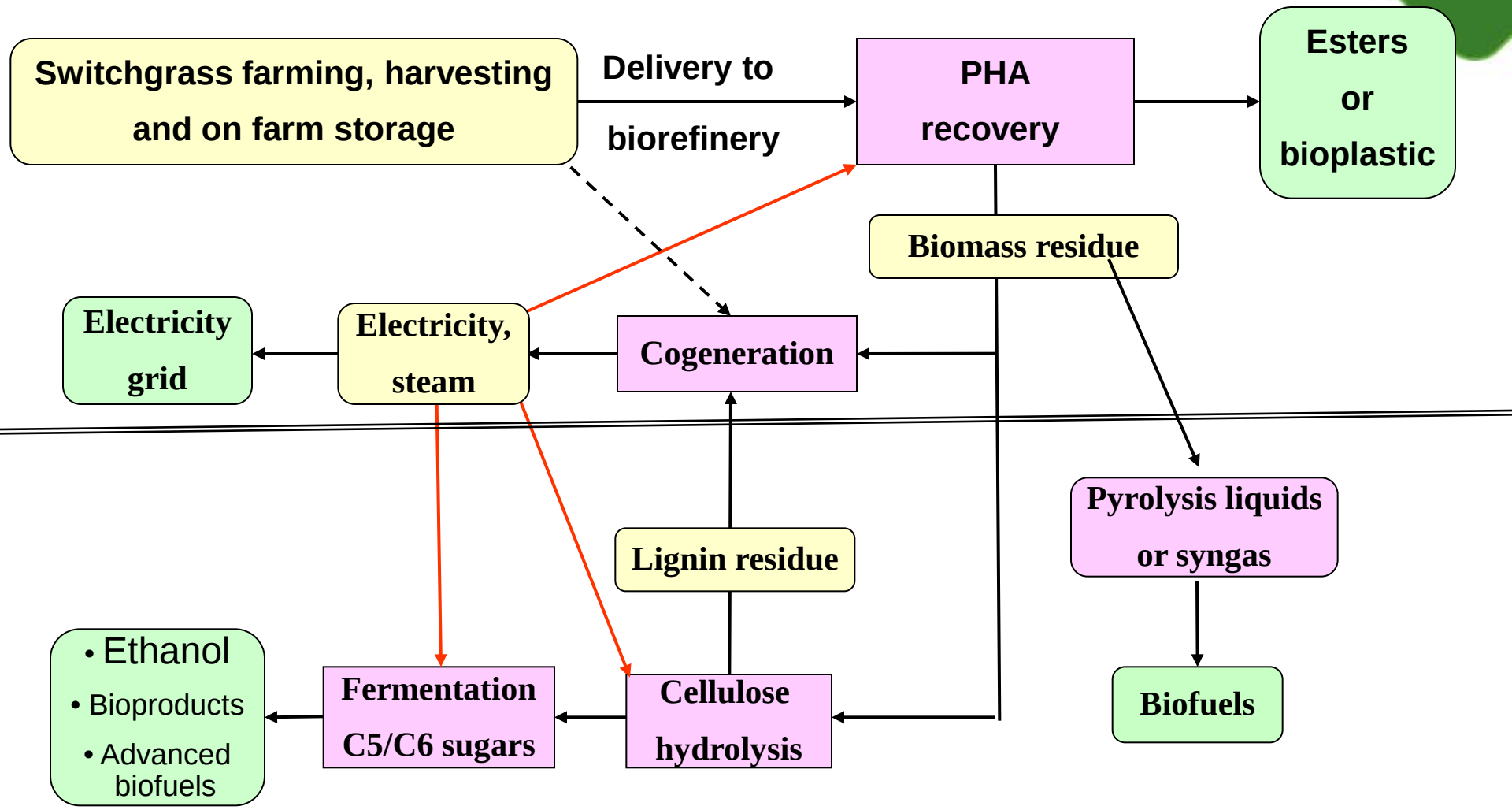
SIIB
CRC Sugar Industry Innovation through Biotechnology

THE UNIVERSITY OF QUEENSLAND

AIBN | AUSTRALIAN INSTITUTE FOR BIOENGINEERING & NANOTECHNOLOGY

Metabolix

Biorefinery Scenarios



Switchgrass & SugarCane

Integrated Biorefinery for Plastics, EtOH and Energy

Biomass

Biomass for Electricity

(Alternative)

C4 Grass Energy Crop

Integrated Biorefinery

- Switchgrass: 3.7% PHA in leaves (2008) 1.2% in entire plant
- Sugarcane: 3.5% PHA in leaves (2008)

Annual revenue

Biofuel

45 MM gal

$90 MM

Polymer

100 MM lb

$150 MM

Metabolix

Metabolix Summary

- Industrial Biotechnology Company based in Cambridge, MA
- Developer of integrated industrial biotechnologies
- Deep capabilities in microbial engineering, plant science, industrial bioprocess engineering and product/market development
- Focus on environmentally responsible bioplastics, biobased chemicals and bioenergy
- Proprietary technology, strongly patent protected, over 500 patents covering gene technologies, production processes, plastics products and processing
- Industry-leading Joint Venture partner, ADM
- Strong financial position