# Agrivida

*Leading Sustainable Energy Production from Agricultural Biomass*

Company Overview
Cambridge, MA

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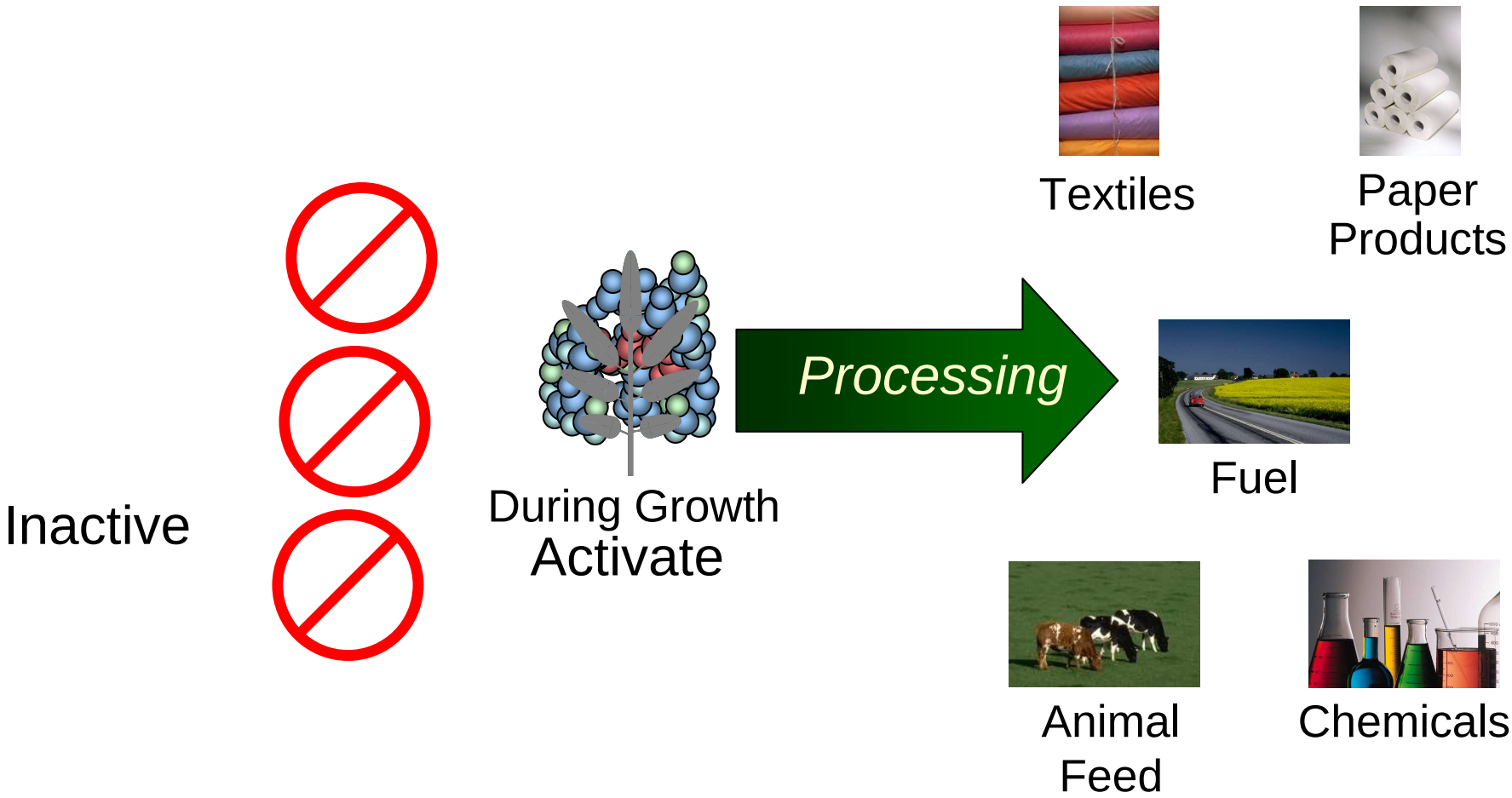
# Agrivida Product Technology

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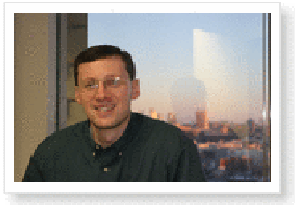
# Agrivida's Team



**Michael Raab, Ph.D.**
molecular biology background;
Merck Research Laboratories, MIT

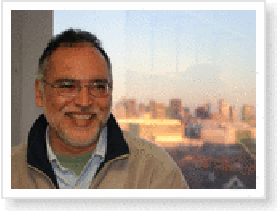
**Michael Lanahan, Ph.D.**
Syngenta Business Development, Monsanto;
Enzymes, Traits, Grain Processing

**Jeremy Johnson, Ph.D.**
process optimization;
National Renewable Energy Lab, MIT

**Karl Ruping, Esq**
15+ years in business development;
incTank, MIT

**Sairam Rudrabhatla, Ph.D.**
plant transformation & regeneration;
Aventis Crop Science, 20 years of professional experience

**Humberto de la Vega, Ph.D.**
plant molecular biology background &
25+ years of professional experience



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# Advisory Board

- **Dr. Fred Ausubel**, Harvard, NAS, Molecular biology & plant physiology
- **Dr. Elizabeth Hood**, ASU, Plant industrial enzyme production
- **Dr. Ken Keegstra**, MSU & DOE, Plant cell wall biology
- **Dr. Ray Goldberg**, Harvard, Agribusiness
- **Mr. Scott Pearce**, CEO BioFuel Energy, Ethanol production
- **Dr. Jeff Tester**, MIT, Renewable energy
- **Dr. Michael Ladisch**, Purdue, NAE, Ethanol production & bioprocessing

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# Ethanol Market

## Ethanol summary:

U.S. Ethanol is
- $10B market in 2006,
- renewable,
- clean-burning, and
- domestically produced

## Market challenges:

- **Reduce ethanol production costs and expand capacity**
- **Develop cost-competitive cellulosic processes**
  - **Use agricultural residues and non-food feedstocks**
  - **Expand feedstock acreage to be grown in diverse geographies and on marginal soil**

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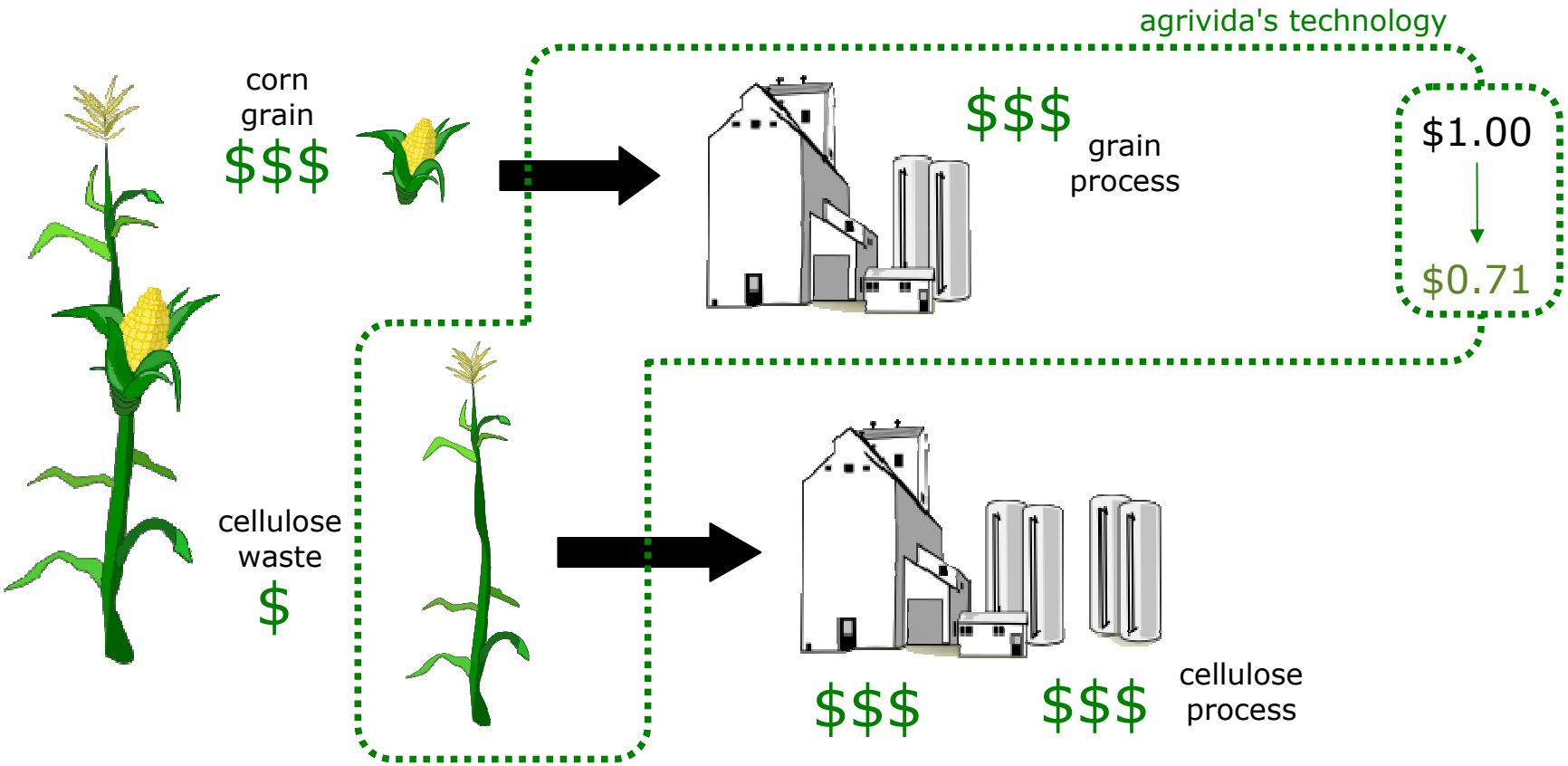
# Competitive Advantage




Agrivida can add over $1.5B/yr to the ethanol value-chain:

**Farmers:** 15% profit increase from selling waste

**Producers:** 29% OPEX & 26% CAPEX savings

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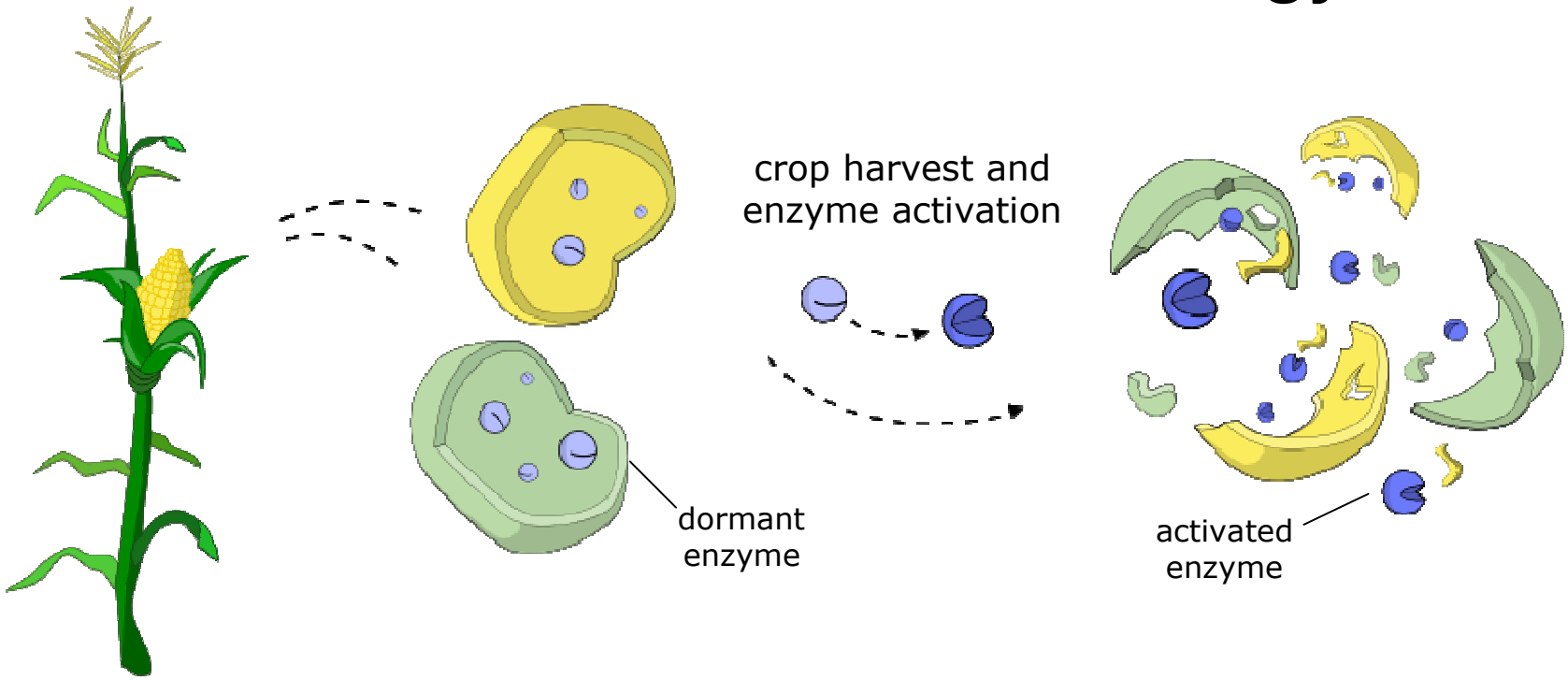
# GreenGenes™ Technology




1. GreenGenes™ crops produce dormant enzymes within the plant.
2. The dormant enzymes are activated after harvest.
3. The activated enzymes degrade the cell wall.

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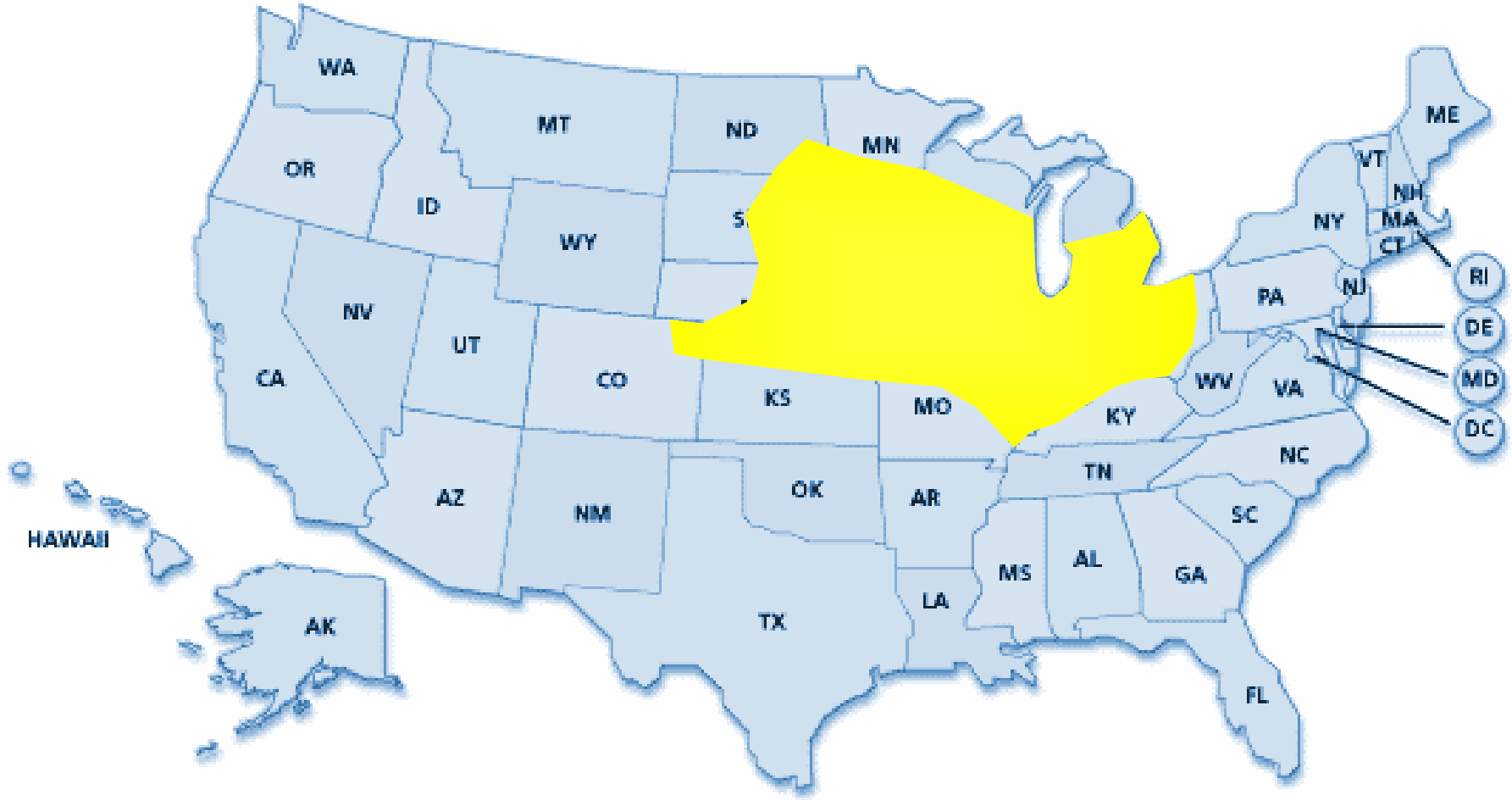
# Agrivida Technology

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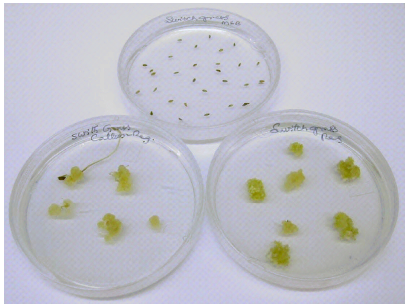
# Agrivida Technology

**Improved Transformation Methods**:
Increases transformation capacity. Reduces regeneration time by four months.

**Novel culture techniques**:
Potential applications in corn breeding and trait development.



**Stress Tolerance**:
Improved drought, cold, salinity tolerance.

**(After 2 hr at -6 C)**

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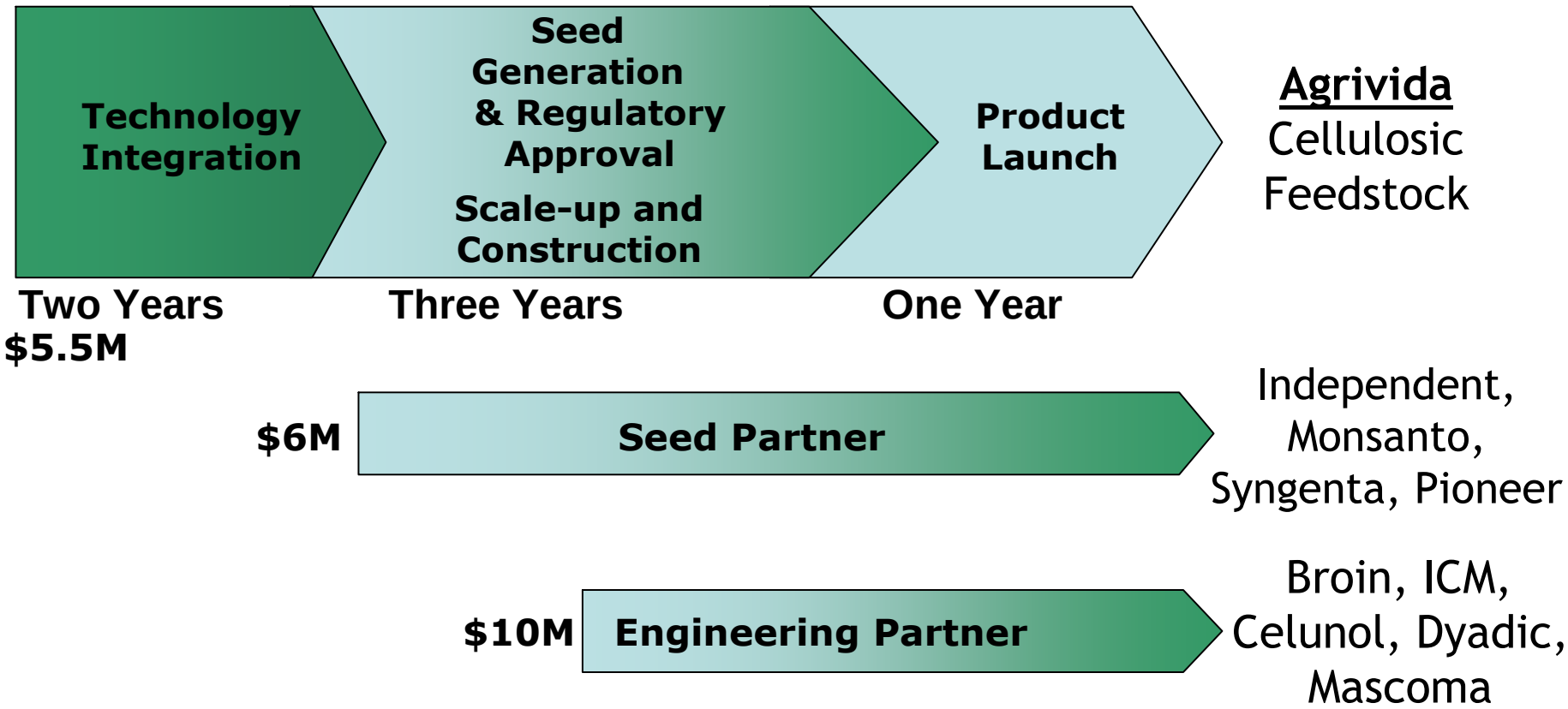
# Commercialization Strategy




Funding Sources: Venture Capital, Strategic Partners

*Government Funding*: NSF, DOE, USDA, State Agencies

*Intermediate Revenues*: Out-licensing

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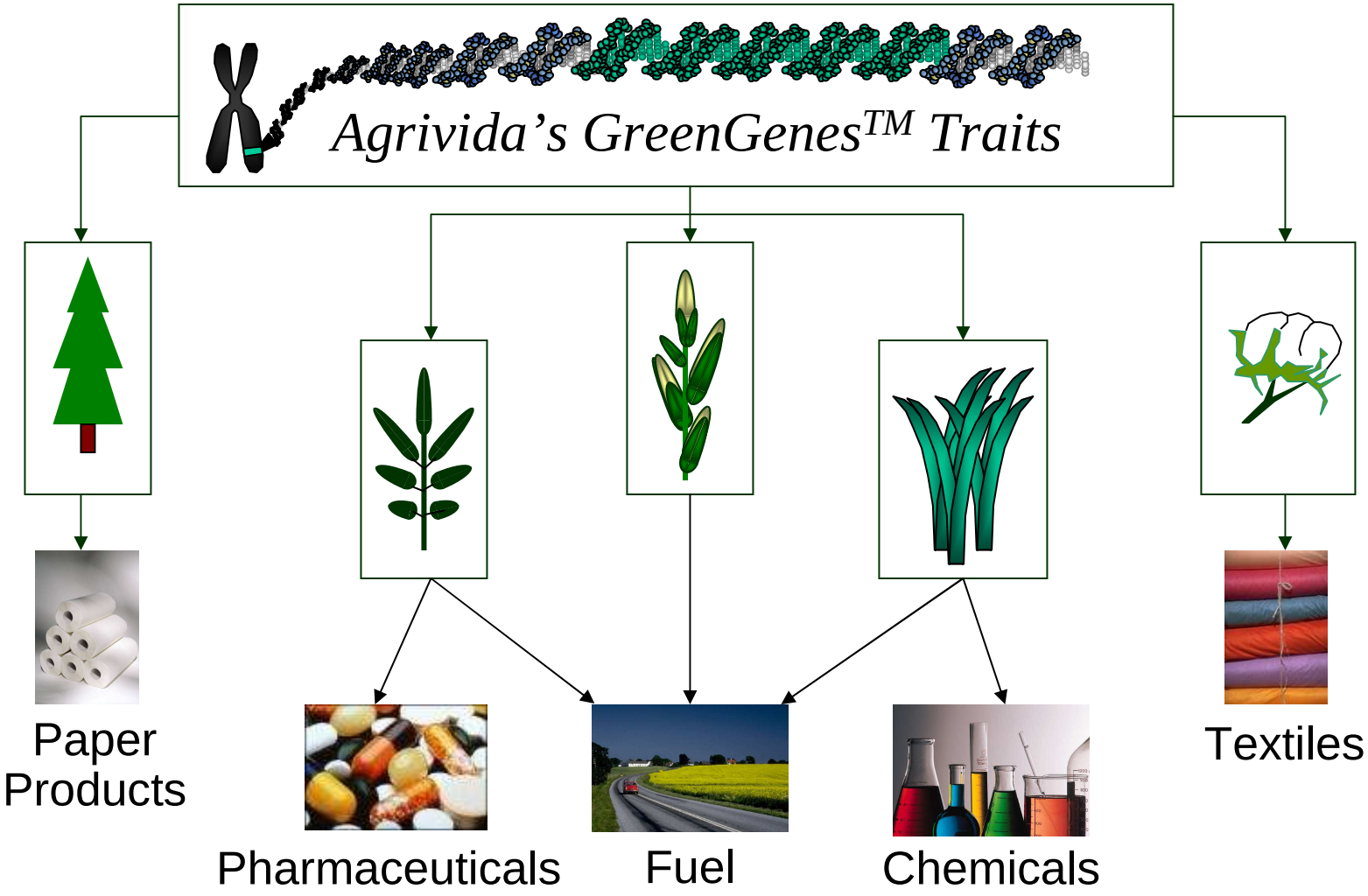
# Future Markets

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