A Perspective on the Sustainability of Biotechnology for Cotton

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Dow AgroSciences

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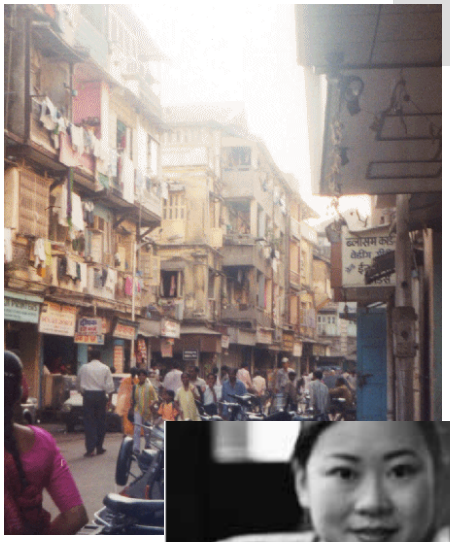
Agenda

- Good news on market trends
- Bad news on cotton & technology hurdle rates
- Dow current and historical efforts
- The future

Disclaimer: These are GT opinions and not necessarily reflective of Dow AgroSciences particularly those on the future.

Agricultural Market Situation



Global trends will drive demand for increased grain yields

Mega Trend	Summary
Population Growth	The pure mathematics of global population growth present a significant world challenge.
Emergence of Demand-Driven Agriculture	Globalization, supply and production capacity across agriculture creates the potential for unprecedented productivity needs.
Food, Feed, and Fuel colliding to compete for ag commodities	Energy and Ag products tightly aligned. Corn, sugar and gasoline are converging to the same energy equivalent levels.
Increasing Protein Demand	Improved standards of living around the globe create demand for higher protein diets. Diets with more protein, primarily from meat, require more grain.
Shrinking Land Base	As world population grows and urban areas expand, the quantity and quality of land available for agriculture declines putting significant pressures to boost crop yields.
Rise of China & India	Growth potential of the large BRIC economies translates to increased consumption and an expanding role in world ag trade

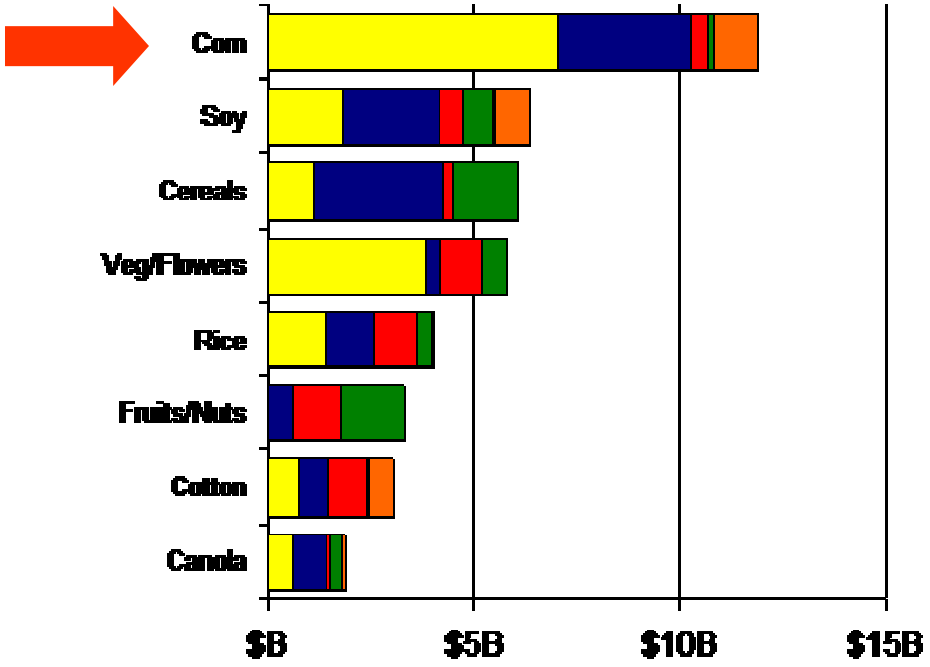
Seed Industry Overview

Global Spend by Input

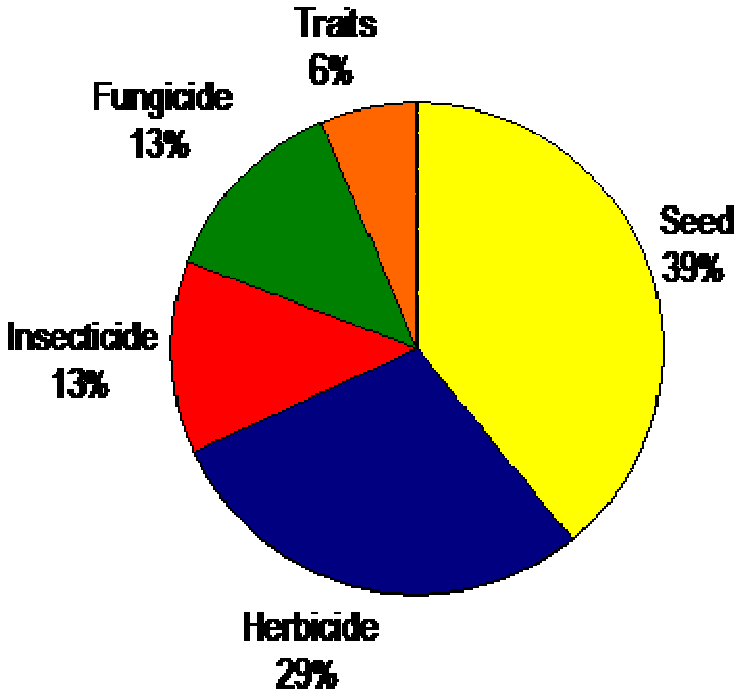
Field crops carry largest value in Agchem/Seed market
Participation in corn market required for top tier ambition

Major Crop Total Value Comparison

Seed-Trait-Agchem



Global Segment Spending



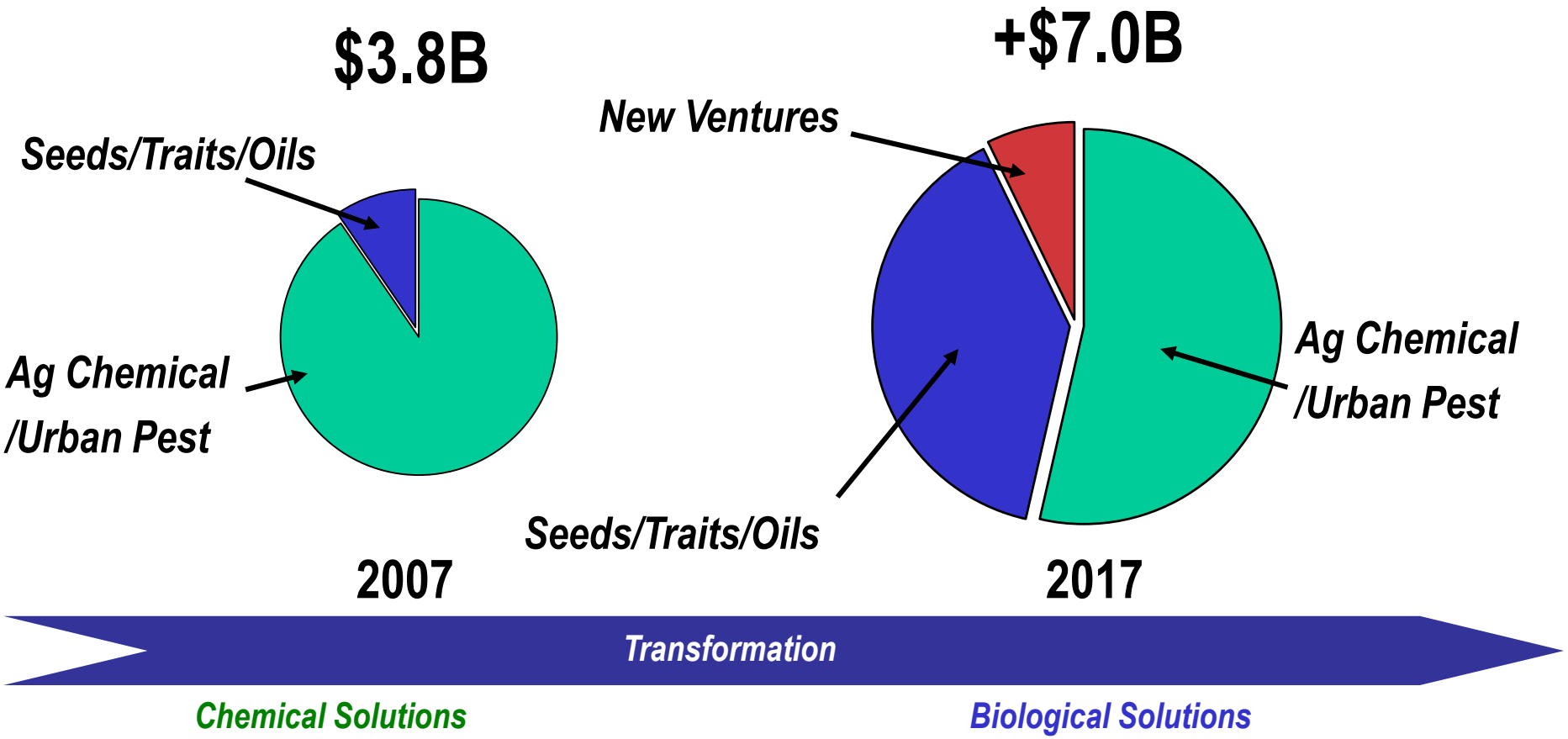
Agchem data: Agrowin database (last crop, last year) Seed data: Context; 2008 GSMD

The Bad News

- The cost of developing new biotech traits continues to increase
- U.S. Cotton's 2009 reduced market size can no longer justify a stand alone effort.
- However, there remain ways to leverage (spread the costs) across crops and geographies and things could change in the future

DAS Strategy

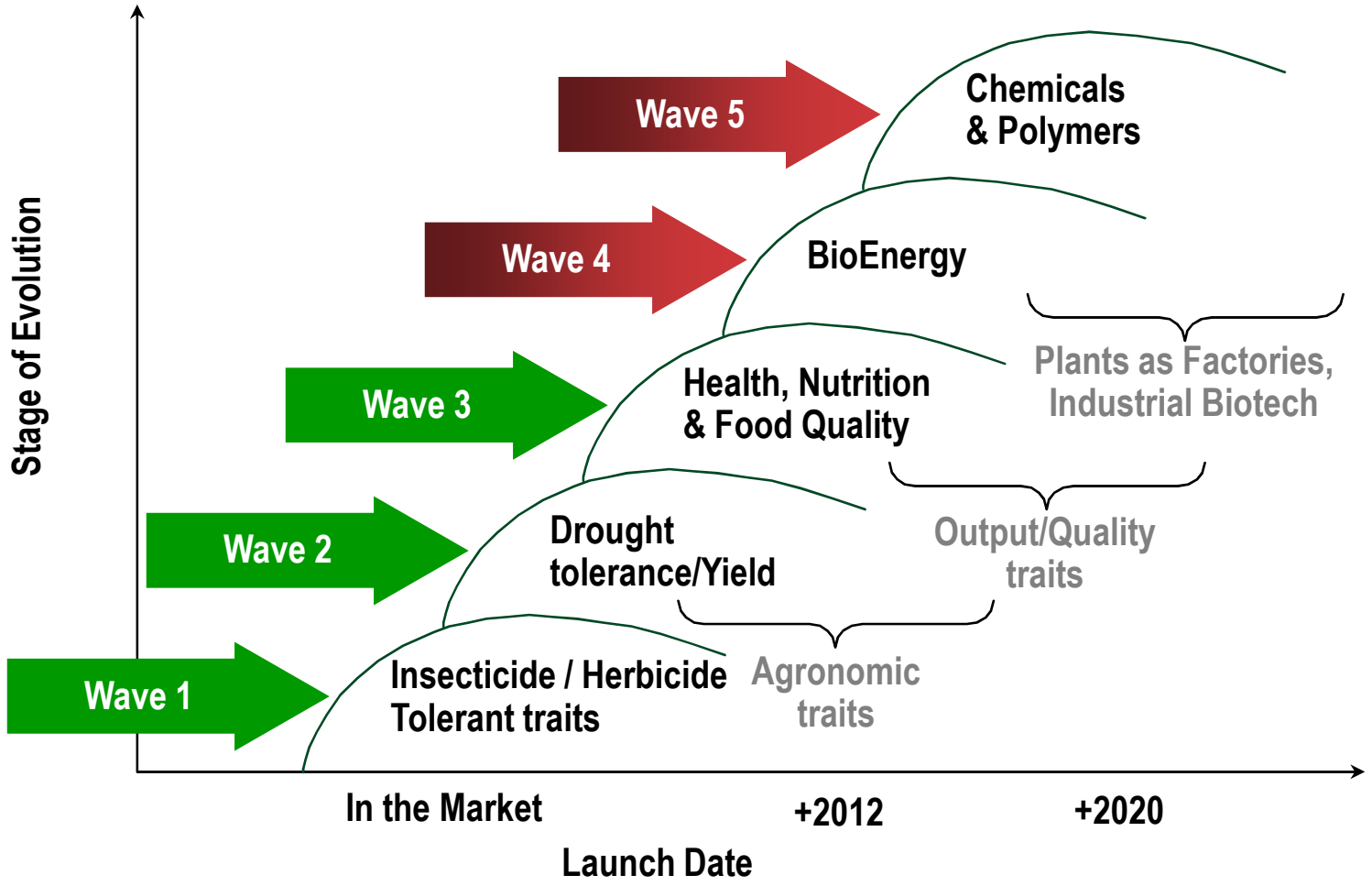
DAS Strategy Designed to Create Balanced, Solutions-Based Company For the *Long-Term*



DAS Strategy- ST&O

Dow AgroSciences

DAS Role is to Enable the Dow Vision of Leadership in the Plant Biotech, BioEnergy, and BioMaterials Markets



DAS Current Value from Seeds

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Key global focus: ***Branded Business***

NORTH AMERICA

- DAS-Canada (Canola, Sunflower)
- Mycogen (Corn, Soybean, Sunflower, Canola)
- Triumph (Sunflower, Sorghum, Corn)
- PhytoGen (Cotton)
- Dairyland (Corn. Soybean, Alfalfa)
- Brodbeck (Corn, Soybeans)
- Renze (Corn, Soybeans)
- Schillinger (Soybeans)

Mycogen SEEDS

Omega-9 Oils
Canola • Sunflower
Healthier Oils. Healthier Business.™

TRIUMPH

PhytoGen COTTONSEED

DS

EUROPE

- DAS (Corn, Canola, Sunflower)
- MTI (Corn)
- Duo Maize (Corn)
- SWS (Corn)

MTI

SÜD-WEST SAAT

LATIN AMERICA

- Dow AgroSciences Semillas Mexico (Corn, Sorghum)
- Dow AgroSciences Semillas- Argentina (Canola, Corn, Sunflower, Sorghum)
- Dow AgroSciences Sementes- Brazil (Corn, Sorghum)
- Agromen Technologia Brazil (Corn, sorghum)

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Agromen

Successful Trait Penetration

Dow AgroSciences

Genetically Modified

Cotton

WideStrike™ Insect Protection

Corn

- Herculex™
- FullTime™ Forage

WideStrike™ and Herculex ™ available with Roundup Ready® stack

SmartStax Launch in 2010 & DHT 2012

Traditional Breeding Traits

Canola – Omega-9 Oils Canola • Sunflower Healthier Oils. Healthier Business.™

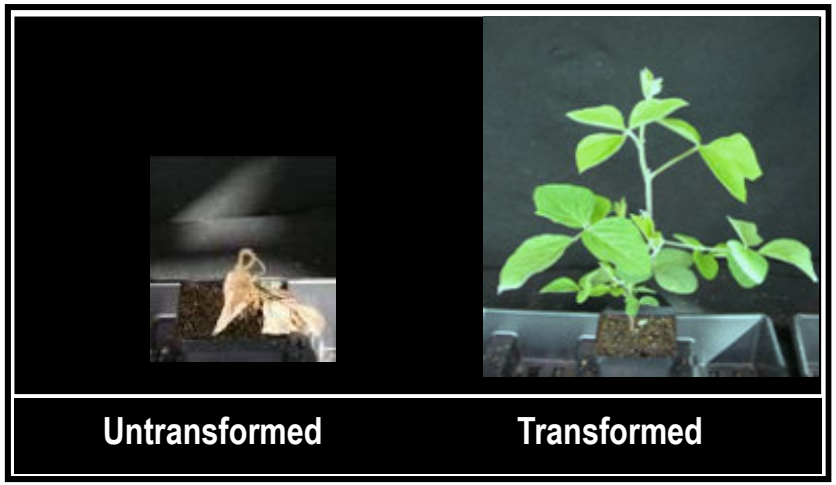
Nexera CANOLA Seed

Omega-9 Oils Canola • Sunflower Healthier Oils. Healthier Business.™ – **Sunflower**

Dow AgroSciences

Introducing a Family of Herbicide Tolerance Traits

- Revolutionary new family of traits with exceptionally robust performance
  - Currently validating in eight crops
- Likely the best competitive traits to improve the performance of herbicide-tolerant cropping systems such as glyphosate
- Provide tolerance to multiple classes of herbicides
- DHT1 trait in corn may be available to growers as early as 2012
- DHT2 trait in soybeans targeted for 2013 and cotton 2015



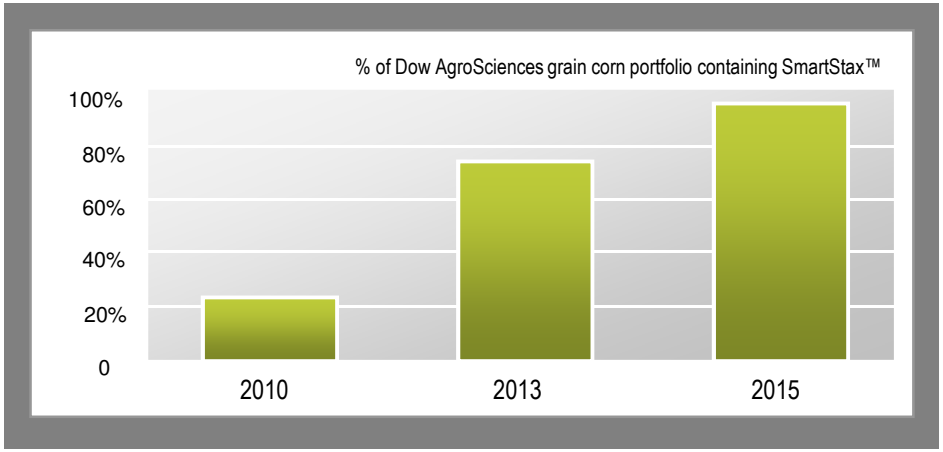
Biotechnology Innovations Can Change the Game

DHT Enables Herbicide Solution to Improve Performance of Glyphosate

glyphosate	89
2,4-D plus glyphosate	98

Mean % control of 11 Key Broadleaf weeds of corn & soybeans (18 trials, 2008)

SmartStax™ to Dominate Dow AgroSciences Corn Portfolio



Regulatory Milestones Being Met

™ SmartStax technology jointly developed by Dow AgroSciences and Monsanto. SmartStax is a trademark of Monsanto Technology, LLC.

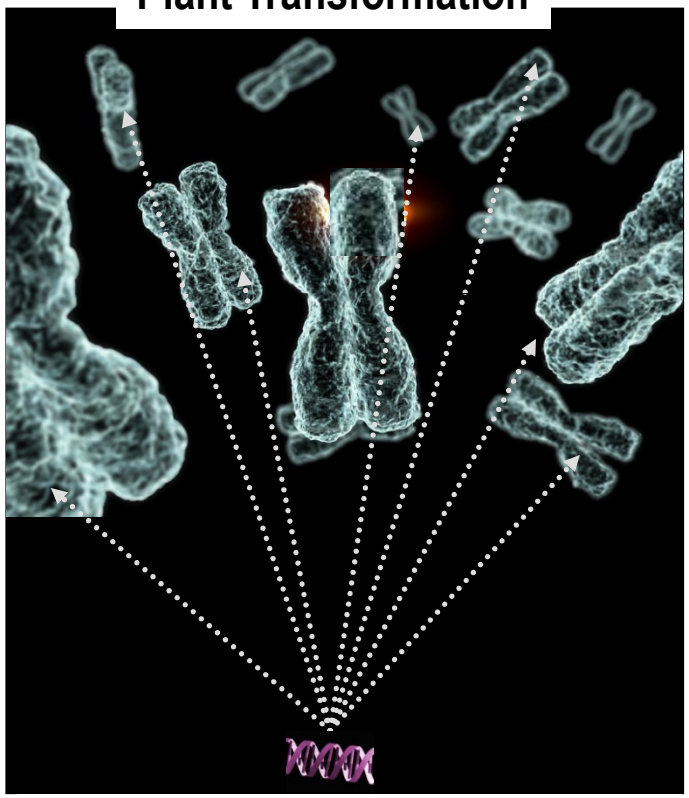
* Anticipated


Untransformed
Transformed

Dow AgroSciences

Precision Traits Through Exclusive Agreement with Sangamo BioSciences

Plant Transformation



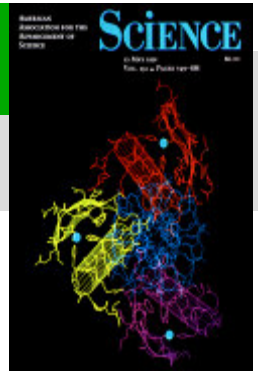
Random Integration

vs.

Gene Targeting

Surgical Precision

Technology Toolbox



Dow AgroSciences™

EXZACT™

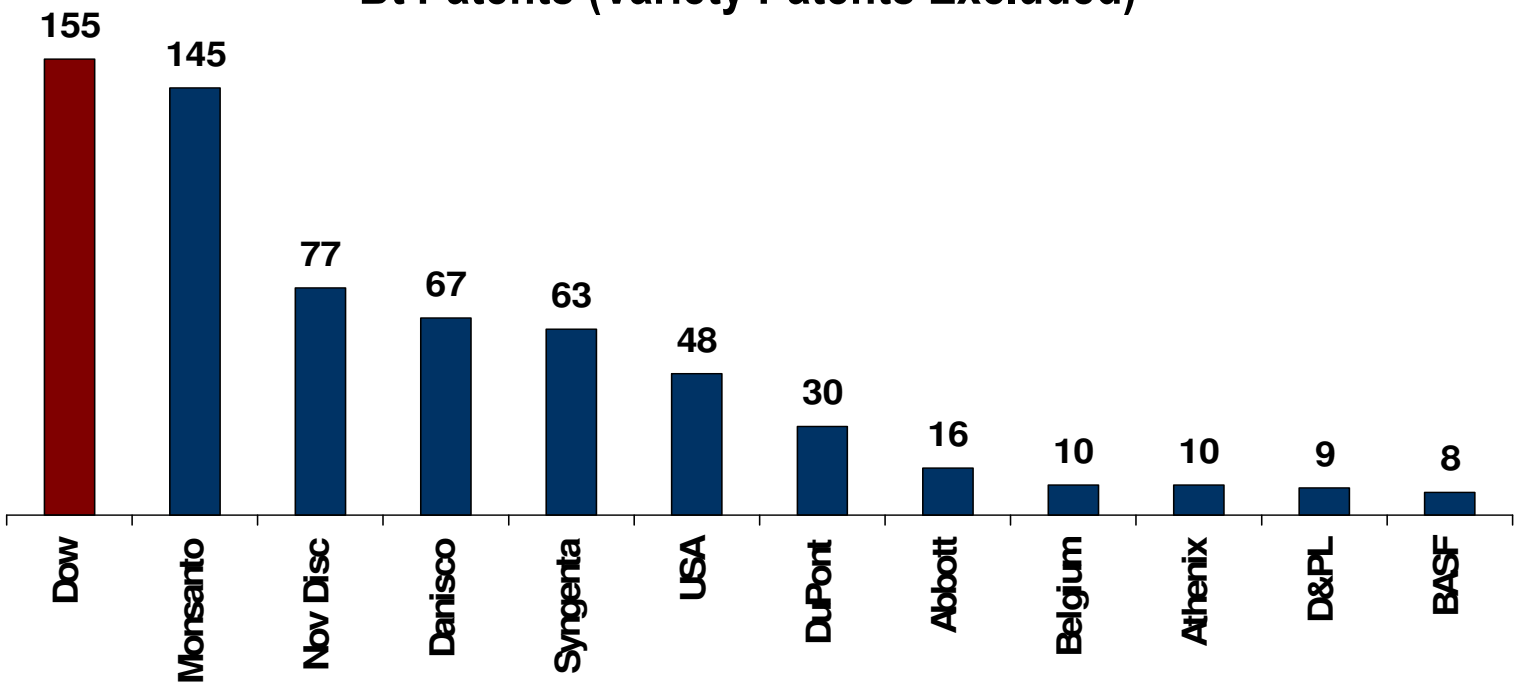
Targeting and **precision** technology to **naturally** improve crops

EXZACT™ PT **Pro**	Through a protein mediated biological process, EXZACT proteins can be used to target and remove undesirable plant traits.
EXZACT PT **Edit**	EXZACT proteins use a natural mechanism to edit DNA sequence for production of healthier plants and products.
EXZACT PT **Add**	Improves crops by using EXZACT proteins to target known specific DNA sequences in a plant and precisely add one or more beneficial traits
EXZACT PT **Tune**	Improves crops using EXZACT proteins to naturally fine tune plant traits.

Intellectual Property Toolbox

Dow AgroSciences

Dow Insecticidal Protein Library



Dow AgroSciences/Mycogen Seeds has the largest culture collection of *Bt* insecticidal proteins in the industry and a strong freedom to operate position

- Owns Herculex brand of traits (DAS trademark)
- Launched Herculex I, Herculex RW, Herculex Xtra, Widestrike Bt Traits
- Well poised to deliver additional Bt Traits/Bt Trait combinations

Source: U.S. Patent Office, 2006

Jan 2010 – Syngenta & Dow AgroSciences sign cotton technology licensing agreements

- DAS obtained a global license to develop and commercialize stacked combinations of Syngenta's COT102 event (Vip3A)
- DAS also obtained an exclusive license to a number of VipCot cotton varieties stacked with glyphosate tolerance, for sale in the U.S. under it's Phytogen cottonseed brand.

Meeting Unmet Needs – Ag Chem Pipeline

Dow AgroSciences

Sap-Feeding Insecticide Sulfoxaflor to Launch in 2012

Cotton treated with sulfoxaflor

Untreated cotton shows poor yield due to plant bug feeding

Okra treated with Sulfoxaflor

Untreated Okra

- Will control a broad spectrum of sap-feeding insects, including those that show multiple-insecticide resistance
- Complementary to our chewing insecticide portfolio
- No signs of cross-resistance to existing products

Addresses $2 Billion Market,
Need Currently Unmet By Biotech Solutions

PhytoGen COTTONSEED WideStrike INSECT PROTECTION

Dow AgroSciences

- PHY 315RF
- PHY 370 WR
- PHY 375 WRF
- PHY 425 RF
- PHY 440 W
- PHY 480 WR
- PHY 485 WRF

NEW

- PHY 367 WRF
- PHY 525 RF
- PHY 565 WRF

PhytoGen COTTONSEED WideStrike INSECT PROTECTION

PHY 565 WRF,

a new Mid-Full Season Variety from PhytoGen and Dow AgroSciences

The right choice in the field and at the gin.

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PhytoGen COTTONSEED WideStrike INSECT PROTECTION

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OPTIONS for 2010

- **WideStrike only** ← 2-Bt
  - PHY 440 W
- **WideStrike plus RR** ← not RF
  - PHY 370 W, PHY 480 W
- **WideStrike plus RF**
  - PHY 375 WRF, PHY 485 WRF
  - PHY 367 WRF, PHY 565 WRF
- **RF only**
  - PHY 315 RF, PHY 425 RF, PHY 525 RF

Conclusion

- Sustainability/Further Development of Biotechnology for cotton in 2010 is borderline and requires a leveraged response currently
- However, the long term macroeconomics for all of agriculture including fiber appears very favorable
- The globalization of cotton hopefully will come full circle, i.e. new mill in Lacassine
- The U.S. farmer will remain the most productive and will be the first recipient of all new technology


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