


Annual R&D Pipeline Review

R&D Pipeline Resource

January 6, 2011

MONSANTO®

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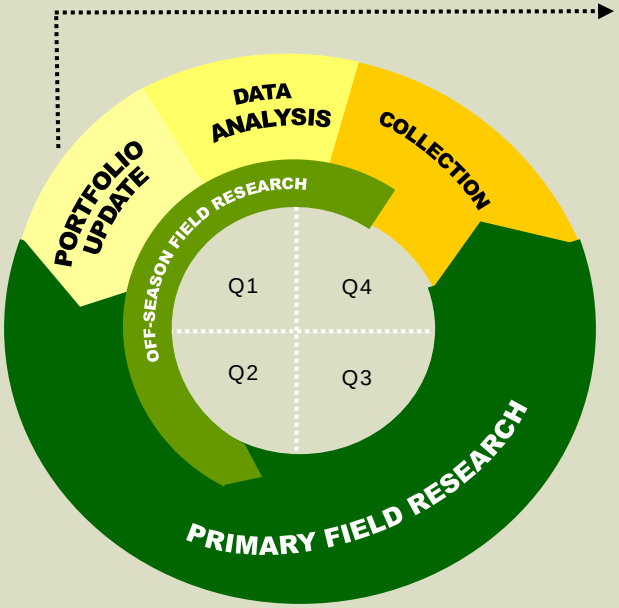
Monsanto's Biotech and Breeding Pipelines Progressing; Nine Projects Advancing Across Platforms, Crops, and Phases

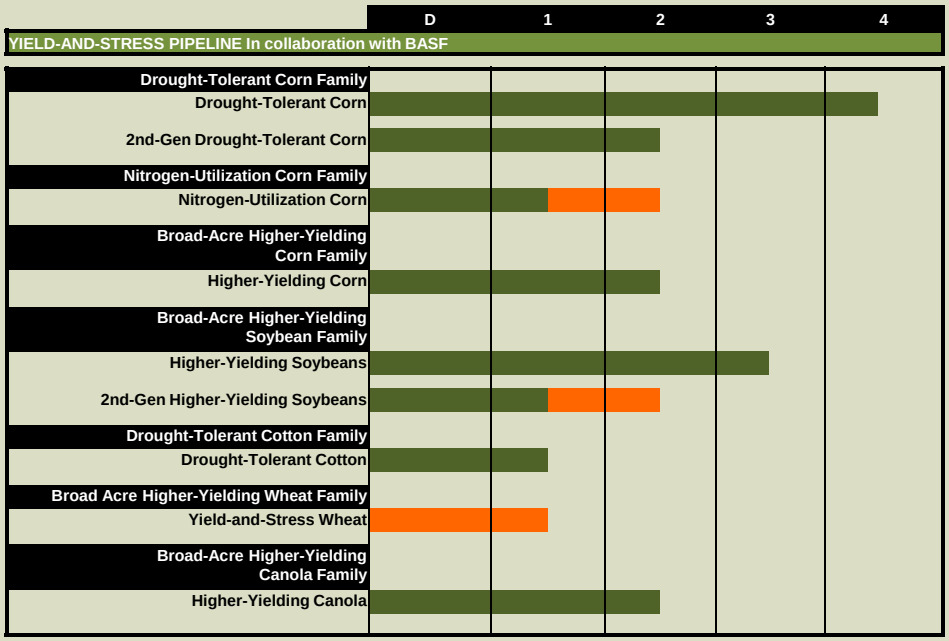


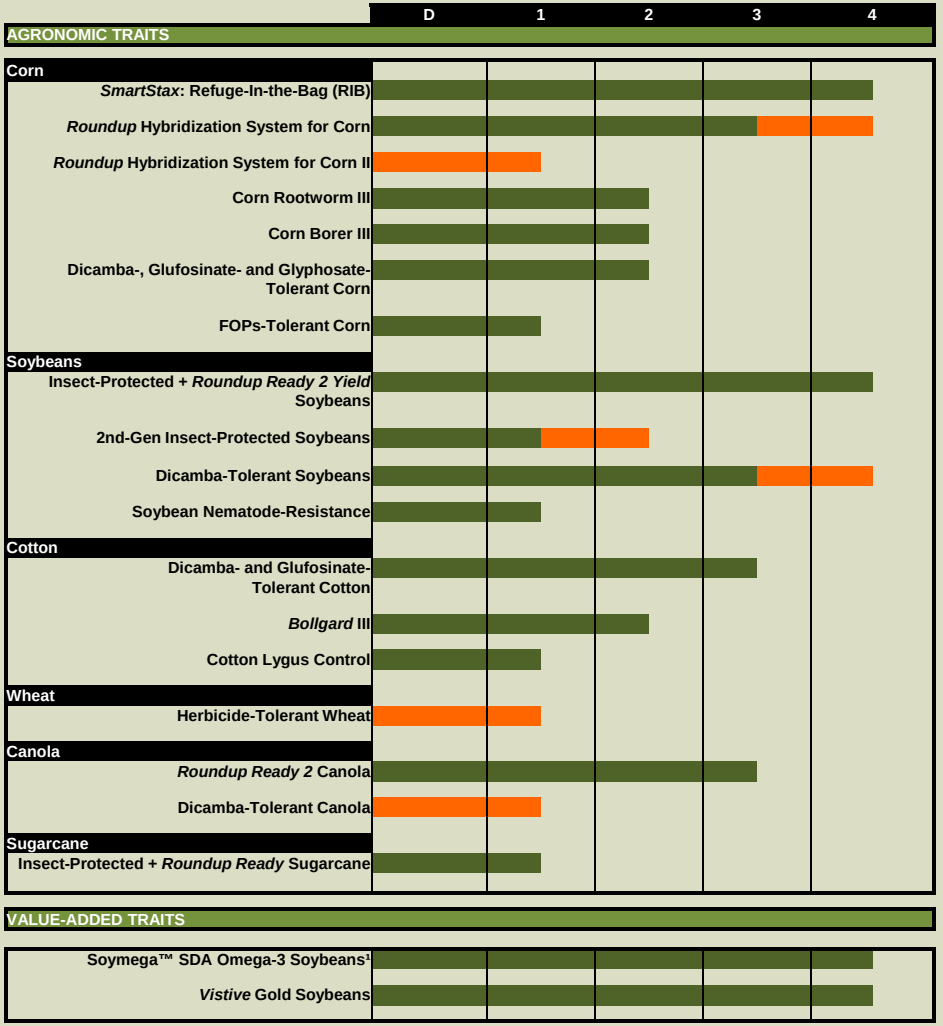
UPDATE: **2010 ADVANCEMENTS ARE BALANCED – ACROSS PLATFORMS, ACROSS CROPS AND ACROSS PHASES**

- **Nine Biotech Projects Advance**
  - *Two projects advance to phase 4*
  - *Nine projects added in the last two years*
- **Three Yield-and-Stress Projects Advance**
  - *Nitrogen-utilization corn advances to phase 2*
  - *2nd-generation higher-yielding soybeans advances to phase 2*
  - *Yield-and-stress wheat advances to phase 1*
- **Monsanto and BASF Expand Collaboration**
  - *Wheat added as fifth crop*
  - *Overall budget increased by $1B*
- **Executed >1,300 Technology Agreements**
- **Robust Breeding Pipeline Progressing and Furthering our Competitive Advantage**
  - *Opened a new cotton research megasite in Lubbock, Texas*
  - *Brought seed chipping technology to vegetables*
- **Realized 33 Regulatory Approvals of New Traits/ Combinations**

Nine Biotech Projects Advance – Pipeline Continues to Showcase Strength and Growth

UPDATE: 9 BIOTECH ADVANCEMENTS





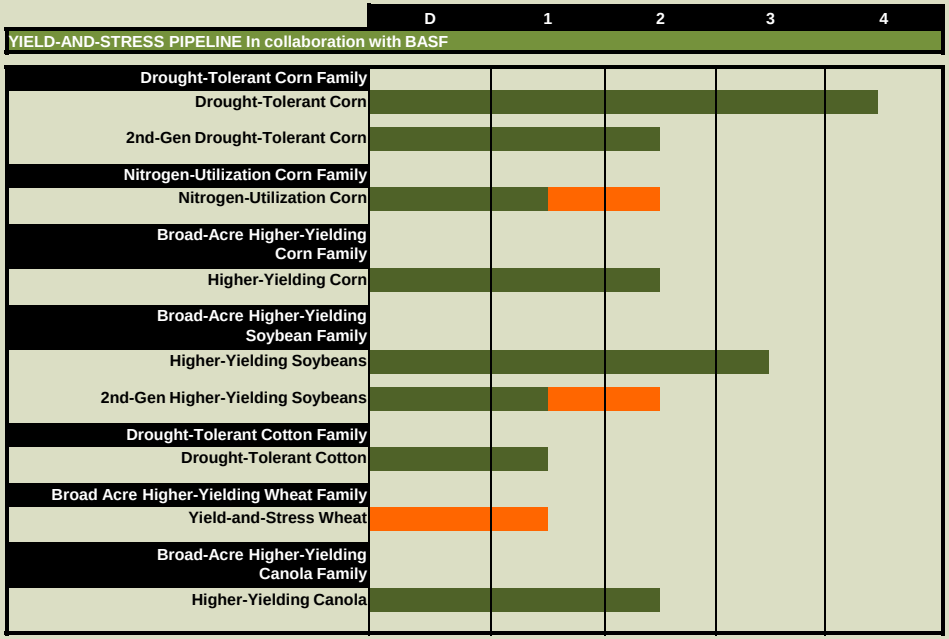
The colored bar associated with each project indicates which phase that project is in. It is not intended to represent the relative status of the project within a particular stage.

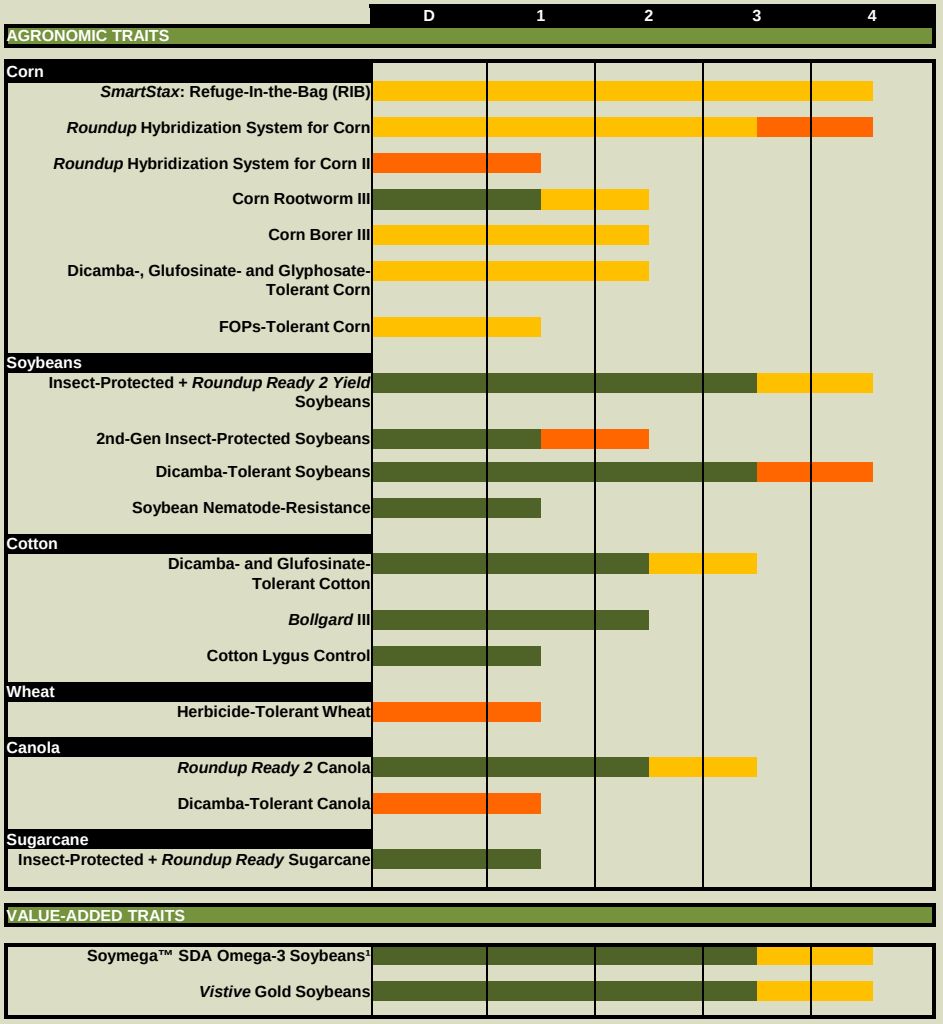
January 2011 Phase Advancement /Additions

1. Part of the Monsanto-Solae Collaboration

In the Past Two Years Almost Two-Thirds of Pipeline Has Advanced Phases

19 PROJECTS ADVANCED INCLUDING 9 PROJECTS ADDED IN THE PAST TWO YEARS





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January 2011 Phase Advancement /Additions

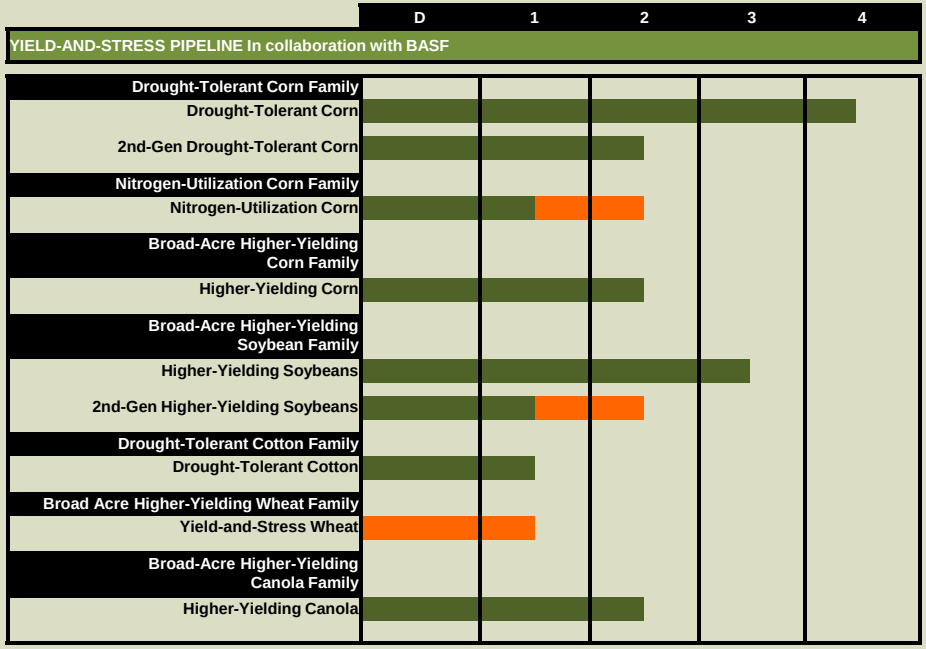
January 2010 Phase Advancement /Additions

1. Part of the Monsanto-Solae Collaboration

OVERVIEW

Monsanto's Collaboration with BASF Partners the Best Discovery and Research Platforms in Biotech Industry

UPDATE: 3 COLLABORATION ADVANCEMENTS



The colored bar associated with each project indicates which phase that project is in. It is not intended to represent the relative status of the project within a particular stage.

January 2011 Phase Advancement/Additions

COLLABORATION UPDATE

Collaboration Pipeline Progress is Accelerating

- Three advancements in core yield-and-stress projects
  - Nitrogen-utilization corn advances to phase 2
  - 2nd-generation higher-yielding soybeans advances to phase 2
  - Yield-and-stress wheat advances to phase 1

Collaboration Pipeline is Robust with Unique Nominations and Broad-scale Testing

- >95 percent of gene nominations were unique
- Planted yield-and-stress trials from projects in early phases in more than 170 locations

BASF Research Platform Fuels Progress

- Monsanto and BASF capabilities successfully interfaced
  - Tens of millions metabolic data points generated
  - Rice TraitMill extensively utilized in lead gene optimization

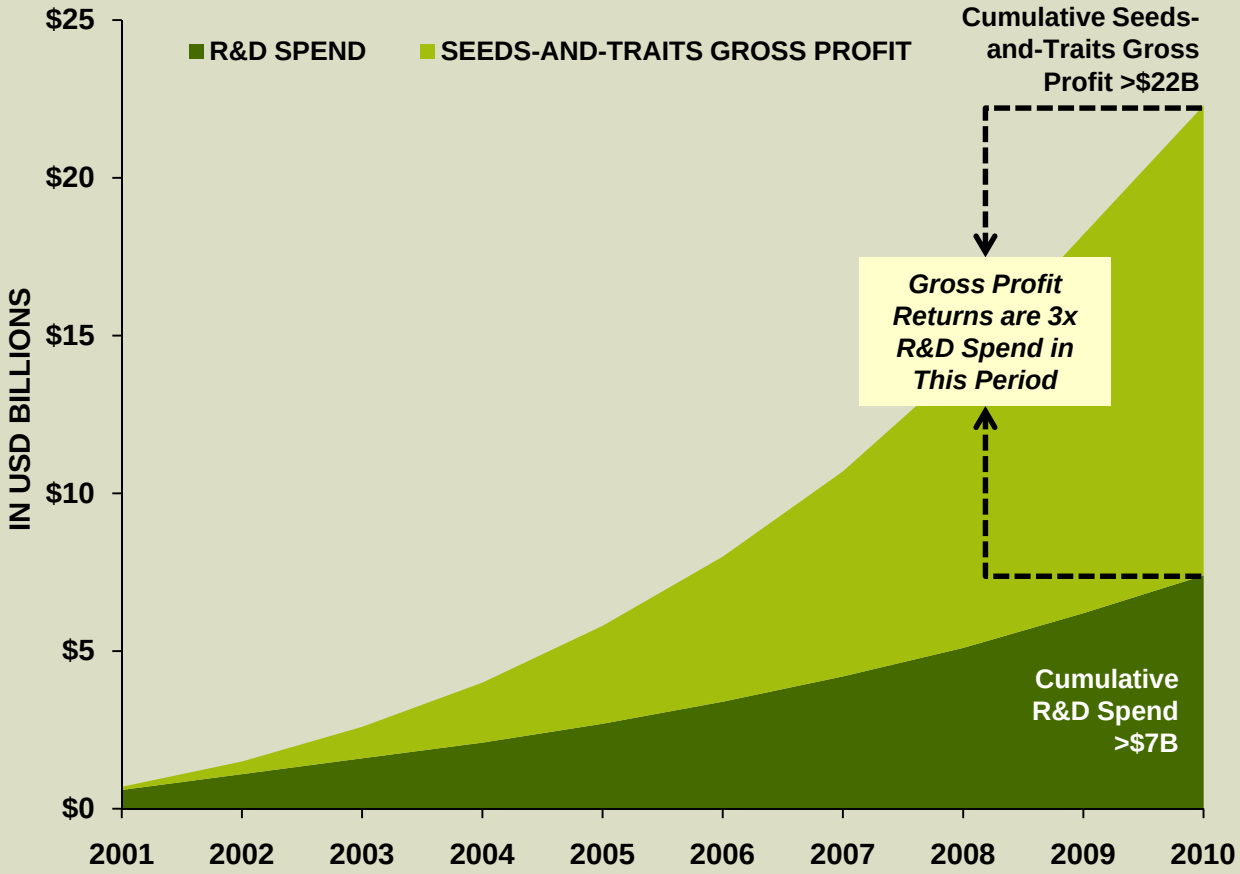
Monsanto and BASF Collaboration Expands

- With the addition of yield-and-stress wheat the collaboration expands to five crops
- Increased potential overall R&D budget from $1.5B to $2.5B

Investment in R&D Translates to Escalating Seeds-and-Traits Gross Profit

TOTAL R&D SPEND VS. SEEDS-AND-TRAITS GROSS PROFIT[1]

CUMULATIVELY 2001-2010



RETURN ON INVESTMENT

UPDATE

- ***Gross profit returns are three times the R&D spend for the past decade***
- ***Successfully launched 16 biotech traits***
- ***As current products in the U.S. move ex-U.S., gross profit will increase benefiting from past R&D expenditures***

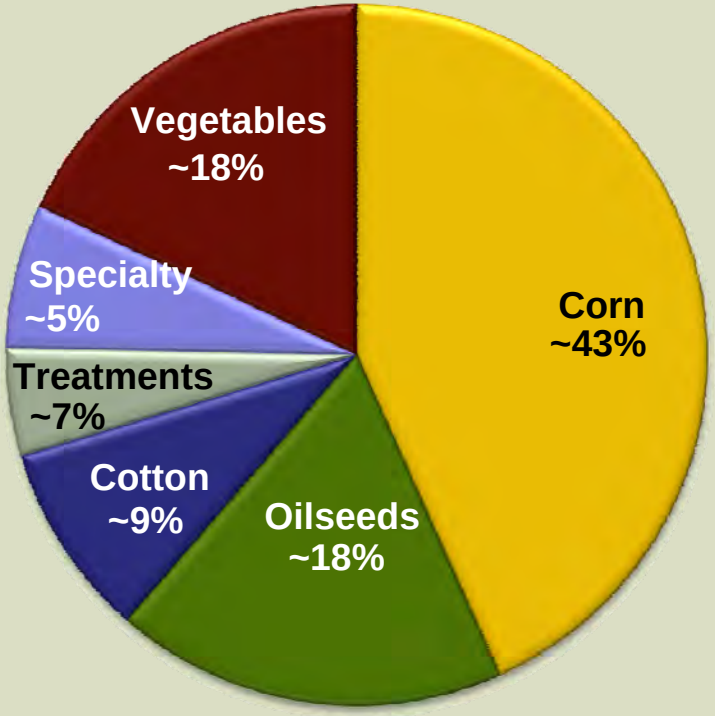
OUTLOOK

- **Ten biotech projects in phases 3 and 4 expected to create near to mid-term returns on investments**
- **Germplasm advantage is expected to remain strong from our continued investment in breeding and breeding technology**

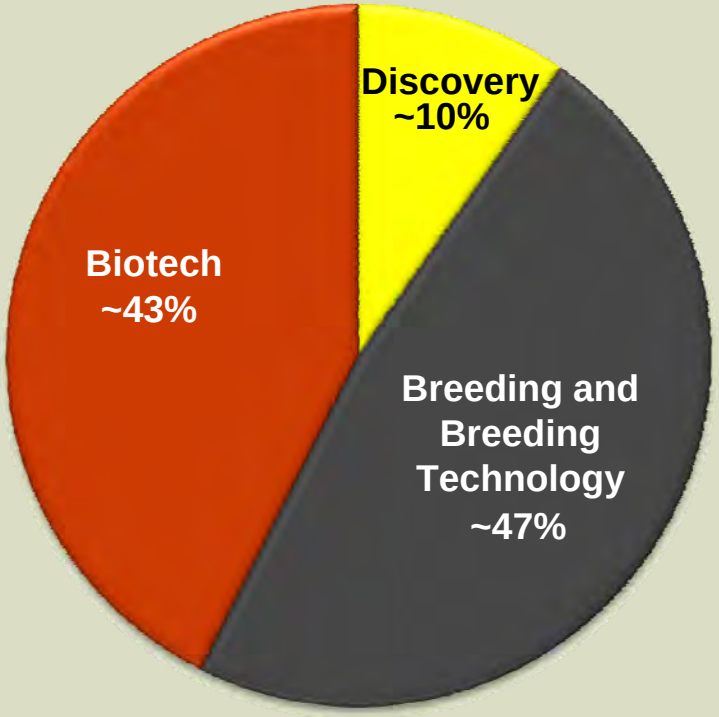
1. Seeds-and-traits gross profit plot excludes vegetables seed business gross profit contribution to this cummulative total balance. The R&D spend includes the vegetable seed and chemistry businesses.

Disciplined R&D Spend Focused on Areas of Growth and Competitive Advantage

R&D SPENDING BY CROP
2011F



R&D SPENDING BY CATEGORY
2011F



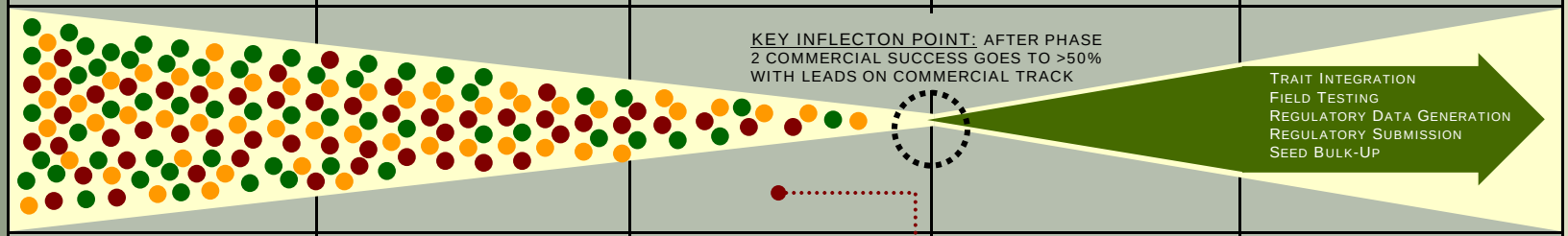
KEY SPEND DRIVERS

- *Biotech and breeding balance*
- *Corn leads crop spending*

Monsanto Dedicates More Resources in Earlier Phases to Scale Up In-Crop Field Testing and Generate More Data

BIOTECHNOLOGY PIPELINE PROCESS OVERVIEW

	DISCOVERY Gene/Trait Identification	PHASE 1 Proof Of Concept	PHASE 2 Early Development	PHASE 3 Advanced Development	PHASE 4 Pre-launch
AVERAGE DURATION[1]	24 TO 48 MONTHS	12 TO 24 MONTHS	12 TO 24 MONTHS	12 TO 24 MONTHS	12 TO 36 MONTHS
AVERAGE PROBABILITY OF SUCCESS[2]	5 PERCENT	25 PERCENT	50 PERCENT	75 PERCENT	90 PERCENT
GENES IN TESTING	TENS OF THOUSANDS	THOUSANDS	10S	<5	PRE-COMMERCIAL PRODUCT
KEY ACTIVITY	HIGH-THROUGHPUT-SCREENING MODEL CROP TESTING	GENE OPTIMIZATION/CROP TRANSFORMATION	TRAIT DEVELOPMENT PRE-REGULATORY DATA LARGE-SCALE TRANSFORMATION	TRAIT INTEGRATION FIELD TESTING REGULATORY DATA GENERATION	REGULATORY SUBMISSION SEED BULK-UP PRE-MARKETING



Applied Lessons: Pipeline Process on Yield-and-Stress

- **Increasing amount of testing done in the field versus the lab**
- **More resources put behind field work in early stages**
- **Average development cycle on the high end of duration estimates because of complexity of traits**

YIELD-AND-STRESS PIPELINE IN COLLABORATION WITH BASF

Increased Prominence of Phase 2 Work

- **Scale up in-crop, in-field testing for yield and stress in phase 2 to generate more data on gene-by-germplasm interaction**

1. Time estimates are based on our experience; they can overlap. Total development time for any particular product may be shorter or longer than the time estimated here.
2. This is the estimated average probability that the traits will ultimately become commercial products, based on our experience. These probabilities may change over time. Commercialization is dependent on many factors, including successful conclusion of the regulatory process.

Nitrogen-Utilization Corn Advances into Expanded Phase 2 Testing; Network Established For Critical Evaluation of Leads

NITROGEN-UTILIZATION CORN FAMILY

UPDATE	
NITROGEN-UTILIZATION CORN	
STATUS:	ADVANCED: PHASE 2

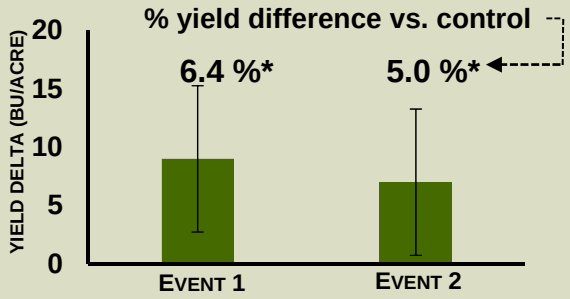
- **Project advances into expanded phase 2 testing to develop several years of data showing performance of the gene across environments, and across germplasm backgrounds**

OUTLOOK AND VALUE	
FAMILY LAUNCH-COUNTRY ACRES[1]:	45M – 55M
2020 FAMILY VALUE[2]:	$250M - $500M

- **Nitrogen-utilization targets ways that corn plants can use nitrogen more efficiently, exploring the potential to boost yield under normal nitrogen conditions or to stabilize yield in reduced nitrogen environments**

UPDATE: TOP NITROGEN LEAD PERFORMS ACROSS TWO YEARS OF TESTING UNDER NITROGEN LIMITATION

2010 Nitrogen-Utilization Testing



Error bars – LSD 10
* significant at p ≤ 0.1

Event mean shown
Control mean 140 bu/acre
(60 - 120 lbs N applied)

Events mean demonstrate a >5% yield increase versus control

Yield efficacy demonstrated across 17 environments in two years of testing under reduced nitrogen treatment

Nitrogen Field Testing: Jerseyville, IL - June 2010

Developed a multi-location managed nitrogen testing network to enable rapid identification and development of future products

1. Acre opportunity reflects acres where technology fits at Monsanto's current share in respective crops
2. 2020 value reflects gross sales opportunity of trait family in launch country in year 2020

IN COLLABORATION WITH BASF

Second-Generation Higher-Yielding Soybeans Advances; Designed to Enhance Yield Over First-Generation

BROAD-ACRE HIGHER-YIELDING SOYBEAN FAMILY

UPDATE

2ND-GEN HIGHER-YIELDING SOYBEANS

STATUS:	ADVANCED: PHASE 2

- **Consecutive years of consistent increased yield performance of gene across multiple environments**
- **Field testing data demonstrates that successive traits create an additive yield effect within product concept target**

OUTLOOK AND VALUE

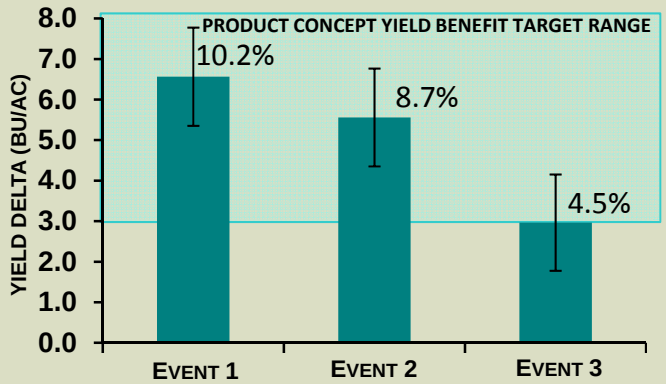
FAMILY LAUNCH-COUNTRY ACRES[1]:	35M – 45M
2020 FAMILY VALUE[2]:	$250M - $500M

- **This product is aimed at boosting the yield potential of soybeans through insertion of genes designed to increase soybean yields**
- **This is a second-generation product intended to be stacked with the first-generation product and designed to provide a step-change in yield potential over first-generation product**

UPDATE: GENE DELIVERS HIGHER-YIELDING SOYBEANS ACROSS YEARS, ENVIRONMENTS, AND DESIGNED TO BE STACKED WITH THE FIRST-GEN HIGHER-YIELDING SOYBEANS

2010 Comparator is Parental Line Without Gene

Second-generation yield lead efficacy demonstrated in two consecutive years across 14 environments



UPDATE: 2nd-Gen Stack Product Concept Testing

Stacks of first-generation with second-generation higher-yielding soybeans show up to 7 percent yield improvement over first-generation higher-yielding soybean trait

1. Acre opportunity reflects acres where technology fits at Monsanto's current share in respective crops
2. 2020 value reflects gross sales opportunity of trait family in launch country in year 2020

IN COLLABORATION WITH BASF

Monsanto and BASF Expand Collaboration into Wheat; Lead Genes Advance to Phase 1

YIELD-AND-STRESS WHEAT

UPDATE	
STATUS:	ADVANCED: PHASE 1

- In collaboration with BASF
- First-generation product is intended to stack yield-and-stress traits with herbicide tolerance

HERBICIDE-TOLERANT WHEAT

UPDATE	
STATUS:	ADVANCED: PHASE 1

- Two or three herbicide tolerant modes of action stacked with yield-and-stress wheat

OUTLOOK AND VALUE	
FAMILY LAUNCH-COUNTRY ACRES:	TBD when project enters Phase 2
FAMILY VALUE:	TBD when project enters Phase 2

- Historical lack of industry investment in wheat technology has resulted in reduced productivity compared to other major row crops
- Applying technologies from other crops expected to deliver a step-change in wheat yield productivity

UPDATE: LAB WORK CREATES FIRST WHEAT-TRAIT TRANSFORMATIONS

2010 Growth Chamber: Yield-and-Stress

Leveraging identified genes from other crop work in collaboration, the first yield-and-stress transformations in wheat were made within 6 months of initiation of wheat effort

2010 Greenhouse: Herbicide Tolerance

Plants with dicamba-and glufosinate-tolerant genes demonstrated good tolerance in 2010 greenhouse studies

HERBICIDE TREATMENT	DICAMBA	GLUFOSINATE	BOTH	NONE
	WITHOUT GENES	WITHOUT GENES	DICAMBA & GLUFOSINATE TOLERANT	CONVENTIONAL

First-Generation Drought Regulatory Submissions Complete; Post-Registration On-Farm Trials Help Build Out Portfolio

DROUGHT-TOLERANT CORN FAMILY

UPDATE

FIRST-GENERATION DROUGHT-TOLERANT CORN

STATUS:	PHASE 4

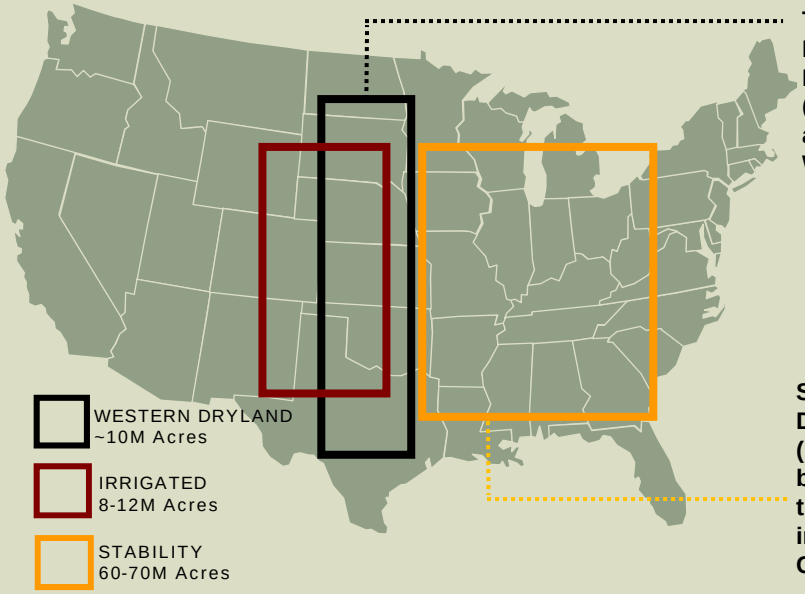
- **All regulatory submissions for planting and import have been made; on track for U.S. de-regulation on 2012 timing**
- **Third year of minimal drought conditions in the testing environment generated limited data**
- **Post-registration, Monsanto will apply the lessons of *Genuity SmartStax* to build hybrid portfolio to support drought availability**
- **In 2012, use on-farm plots with key growers to generate data on hybrid performance**

OUTLOOK AND VALUE

FIRST-GEN LAUNCH-COUNTRY ACRES:	~10M ACCESSIBLE MARKET: WESTERN DRYLAND CORN
FAMILY LAUNCH-COUNTRY ACRES[1]:	45M – 55M
2020 FAMILY VALUE[2]:	$250M - $500M

- **Reduce yield loss in water stressed environments**

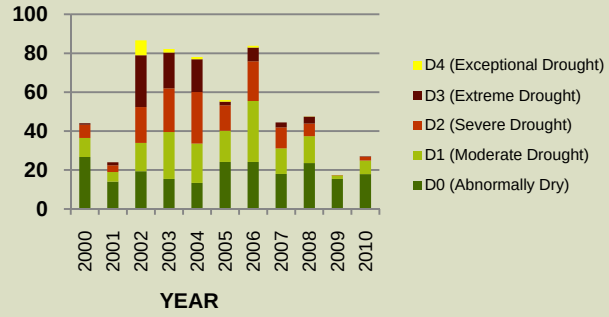
DROUGHT TOLERANCE: SEGMENTED VALUE BY GEOGRAPHY



Target geography for First-Generation Drought-Tolerant Corn (Phase 4) is the ~10M acre segment of the Western Great Plains

Second-Generation Drought-tolerant Corn (Phase 2) designed to build out the family of traits and reach the insurance acres of the Central Corn Belt

FACTOR: DROUGHT CONDITIONS: TESTING SEASON ENVIRONMENTS



Source: USDA Drought Monitor

Third year of minimal drought conditions across targeted geography in the Western Corn Belt – limiting ability to evaluate hybrids

- **In 2011, continued testing in South America and additional locations in Western Great Plains**

1. Acre opportunity reflects acres where technology fits at Monsanto's current share in respective crops
2. 2020 value reflects gross sales opportunity of trait family in launch country in year 2020

IN COLLABORATION WITH BASF

Dicamba-Tolerant Soybeans Advances to Phase 4; Significant Step Toward Providing Farmers Additional Tool for Weed Control

DICAMBA-TOLERANT SOYBEANS

UPDATE	
STATUS:	ADVANCED: PHASE 4

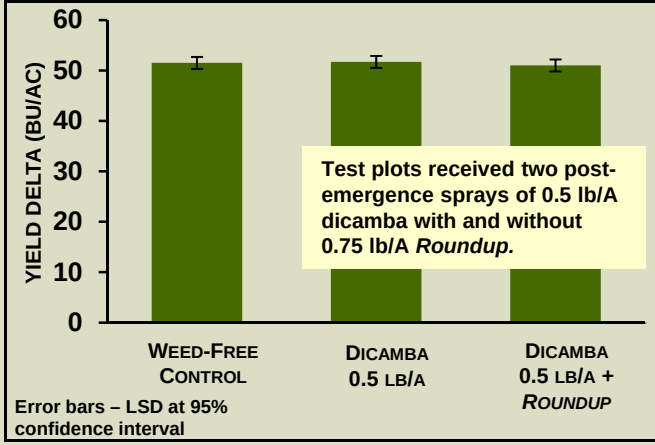
- **Regulatory submissions are in progress to support product launch**
- **Broad germplasm testing of *Roundup Ready 2 Yield*/dicamba stacked trait is under evaluation and will be confirmed before commercial varieties are identified**
- **Collaborating with BASF on new formulations of dicamba with improved performance**

OUTLOOK AND VALUE	
LAUNCH-COUNTRY ACRES[1]:	35M – 45M
2020 VALUE[2]:	<$250M

- **Additional tool for farmers to manage tough-to-control broadleaf weeds through the use of glyphosate, dicamba, or tank mix combinations of both herbicides for pre-plant burndown and in-season over-the-top applications**
- **Dicamba tolerance would provide soybean growers with an additional mode of action to control glyphosate-resistant weeds**

UPDATE: DICAMBA-TOLERANT/GENUITY *ROUNDUP READY 2 YIELD* SOYBEANS SHOW EXCELLENT TOLERANCE TO BOTH DICAMBA & GLYPHOSATE APPLICATIONS

2010 Dicamba-Tolerant by *Roundup Ready 2 Yield* Plots



Error bars – LSD at 95% confidence interval

Testing across 20 locations demonstrates excellent tolerance to both dicamba and glyphosate applications

Stanley, Kentucky – July 2010

Addition of dicamba control system allows control of glyphosate-resistant ragweed

Dicamba-Tolerant *Roundup Ready 2 Yield*
Treated with Glyphosate

Dicamba-Tolerant *Roundup Ready 2 Yield*
Treated with Glyphosate + Dicamba[3]

1. Acre opportunity reflects acres where technology fits at Monsanto's current share in respective crops
2. 2020 value reflects gross sales opportunity in launch country in year 2020
3. 0.75 lb ae/A *Roundup* PowerMax® plus 0.5 lb ae/A dicamba. Sprayed at planting and 4 wks post-planting. Photo taken 3 weeks after last application.

Second-Generation Insect-Protected Soybeans Designed to Expand Insect-Control Spectrum and Improve Durability

INSECT-PROTECTED + *ROUNDUP READY 2 YIELD* SOYBEAN FAMILY

UPDATE

2ND-GEN INSECT-PROTECTED SOYBEANS

STATUS:	ADVANCED: PHASE 2

- **Phase advancement comes on the heels of the Brazilian in-country approval of our first-generation insect-protected/*Roundup Ready 2 Yield* soybeans[1]**

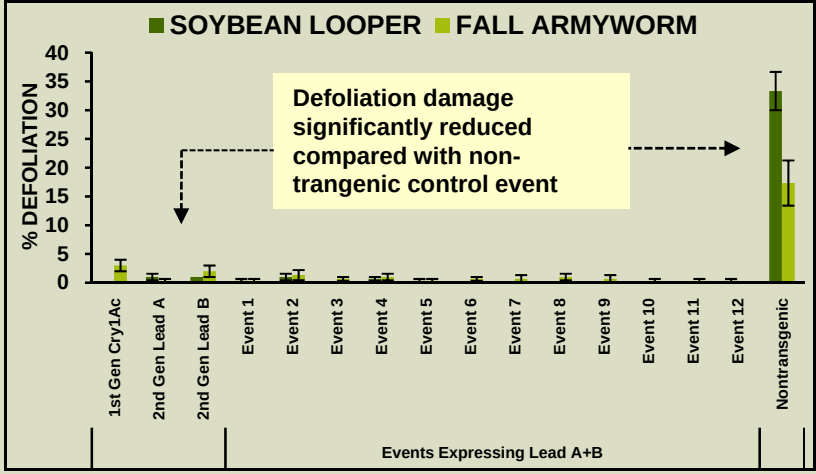
OUTLOOK AND VALUE

FAMILY LAUNCH-COUNTRY ACRES[2]:	BRAZIL 50M – 60M
2020 FAMILY VALUE[3]:	$250M - $500M

- **The second-generation insect-protected product is expected to contain multiple modes of action to improve durability**
- **Spectrum of protection expanded to include armyworms**

UPDATE: NEW EVENTS SHOW CONTROL OF TWO CRITICAL PESTS: SOYBEAN LOOPER AND FALL ARMYWORM

Screenhouse Trials: Jerseyville, IL – September 2010



These events are also being evaluated in field efficacy trials in Argentina against an expanded insect spectrum

Screenhouse Trials: Jerseyville, IL – September 2010

Tests show that the amount of damage from pests like the soybean looper is drastically reduced versus the non-transgenic check

Event Expressing Lead A+B | Non-Transgenic

1. First-generation insect-protected/*Roundup Ready 2 Yield* soybeans pending global regulatory approvals
2. Acre opportunity reflects acres where technology fits at Monsanto's current share in respective crops
3. 2020 value reflects gross sales opportunity of trait family in launch country in year 2020

EPA's Scientific Advisory Panel For *SmartStax* RIB Convened in Early December; On-Track to Support a 2012 Commercial Launch

REFUGE-IN-THE-BAG (RIB) RIB COMPLETE

UPDATE

GENUITY SMARTSTAX RIB COMPLETE

STATUS: PHASE 4

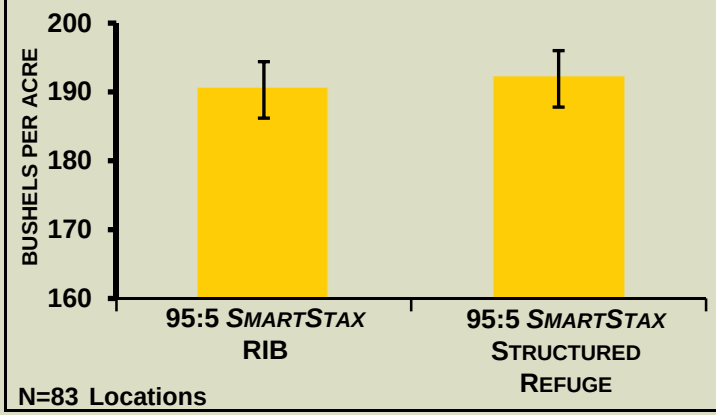
- **EPA's Scientific Advisory Panel convened in early December[1]**
- **Single-bag RIB expected in 2012 for *Genuity SmartStax* and *Genuity VT Double PRO***

OUTLOOK

- **Designed to maximize convenience and protection for growers in the Corn Belt**
- **One field, single-bag solution**
- **Ease of compliance with Insect-Resistance Management (IRM) requirement**

UPDATE: MULTI-YEAR TESTING CONFIRMS 5 PERCENT RIB CONCEPT

2010 *Genuity SmartStax* RIB Trials

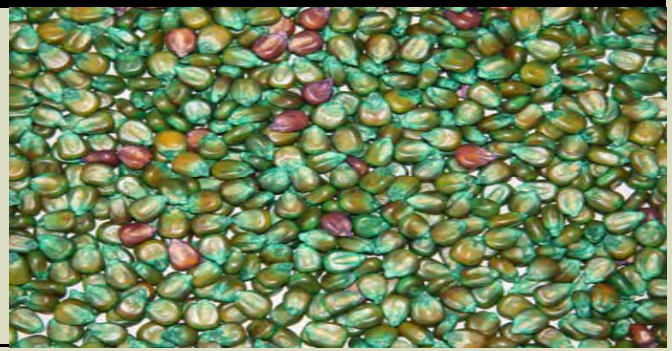


N=83 Locations

95:5 *SmartStax* Refuge-In-the-Bag system showed no statistical significant difference when compared with 95:5 *SmartStax* structured refuge

Example of RIB Complete with 5% Refuge[2]

Manufacturing capex on-track with nearly 60% of total investment spent in 2010



1. *SmartStax* RIB regulatory submission in collaboration with Dow AgroSciences
2. Refuge-In-the-bag RIB Complete is not currently a registered product. Commercialization depends upon many factors, including successful conclusion of the regulatory process.

Our Breeding Pipeline is Similar to our Biotech Pipeline; Capability Creates One of Monsanto's Significant Competitive Advantages

BREEDING PIPELINE PROCESS OVERVIEW

	DISCOVERY	PHASE 1 Proof Of Concept	PHASE 2 Early Development	PHASE 3 Advanced Development	PHASE 4 Pre-launch
AVERAGE DURATION[1]	12 TO 24 MONTHS	12 TO 24 MONTHS	12 TO 36 MONTHS	12 TO 24 MONTHS	12 TO 36 MONTHS
AVERAGE PROBABILITY OF SUCCESS[2]	25 PERCENT	35 PERCENT	65 PERCENT	85 PERCENT	95 PERCENT
KEY ACTIVITY	• GENE/TRAIT IDENTIFICATION • KEY GERMPLASM SOURCE IDENTIFICATION • SCREENING PHENOTYPIC ASSAYS DEVELOPMENT	• TRAIT EFFICACY DEMONSTRATION • ALLELIC DIVERSITY CHARACTERIZATION • DNA MARKER/TRAIT ASSOCIATION	• BROAD GERMPLASM EFFICACY TESTING • GENETIC REFINEMENT • HIGH THROUGH-PUT SELECTION FOR GERMPLASM IMPROVEMENT	• WIDE-SCALE PERFORMANCE TESTING • RAMP-UP SELECTION	• SEED BULK-UP • PRE-MARKETING

Path 1: Year-Over-Year Yield Gain

- **Annual effort to increase overall yield performance across crop portfolios**
- **Enables value opportunity by lifting performance of significant portion of new germplasm entering commercial offerings every year**
- **Example: Breeding effort that has established *DEKALB* germplasm as industry best in corn – which demonstrated >9.5 bu/ac advantage against all competitors for the third year in a row in 2010**

Path 2: Targeted Approach for 'Breeding Traits'

- **Targeted work to identify where breeding and breeding technology can make advances in areas like disease and fungal resistance on shorter-cycle or with better success than biotech approaches**
- **Examples: Monsanto's vegetable breeding; disease- and nematode-resistance breeding in corn, soybeans and cotton**

1. Time estimates are based on our experience; phases can overlap. Total development time for any particular product may be shorter or longer than the time estimated here.
2. This is the estimated average probability that the products will ultimately become commercialized, based on our experience. These probabilities may change over time.

2010 Harvest Data Underscores Broad Performance Advantage Across Monsanto Crops, Traits and Germplasm

HARVEST UPDATE:
YIELD DATA RESULTS BY CROP AND PRODUCT

SOYBEANS

GENUITY ROUNDUP READY 2 YIELD

- **3.8 bu/ac advantage over competitive *Roundup Ready* varieties on an annual and three-year rolling basis**
- **>200 varieties in 2011 from Class of 2010 and 2011 elite germplasm**

UPDATE: COTTON

***DELTAPINE* COTTON-SEED PERFORMANCE**

- ***Deltapine* classes of 2009 and 2010 momentum continues showing gemplasm advantage ranging from 5 to 7 percent in the Southern and Northern tiers**
- **Step-change performance advantage in Texas with yield advantage showing up to nearly 12 percent**

CORN

REDUCED-REFUGE FAMILY OF PRODUCTS
SIDE-BY-SIDE YIELD COMPARISONS EXCLUDING
WHOLE-FARM YIELD ADVANTAGE FROM REFUGE REDUCTION

Genuity SmartStax
- **3.6 bu/ac advantage over the current *YieldGard VT Triple* portfolio in key 90-105 relative maturities in Northern Corn Belt**

Genuity VT Double PRO
- **7.9 bu/ac advantage versus competitors**

Genuity VT Triple PRO
- **8.8 bu/ac advantage versus competitors**

***DEKALB* CORN-SEED PERFORMANCE**

- **The performance advantage of *DEKALB* seed continued in 2010; Germplasm advantage of 9.7 bu/ac versus all competitors**

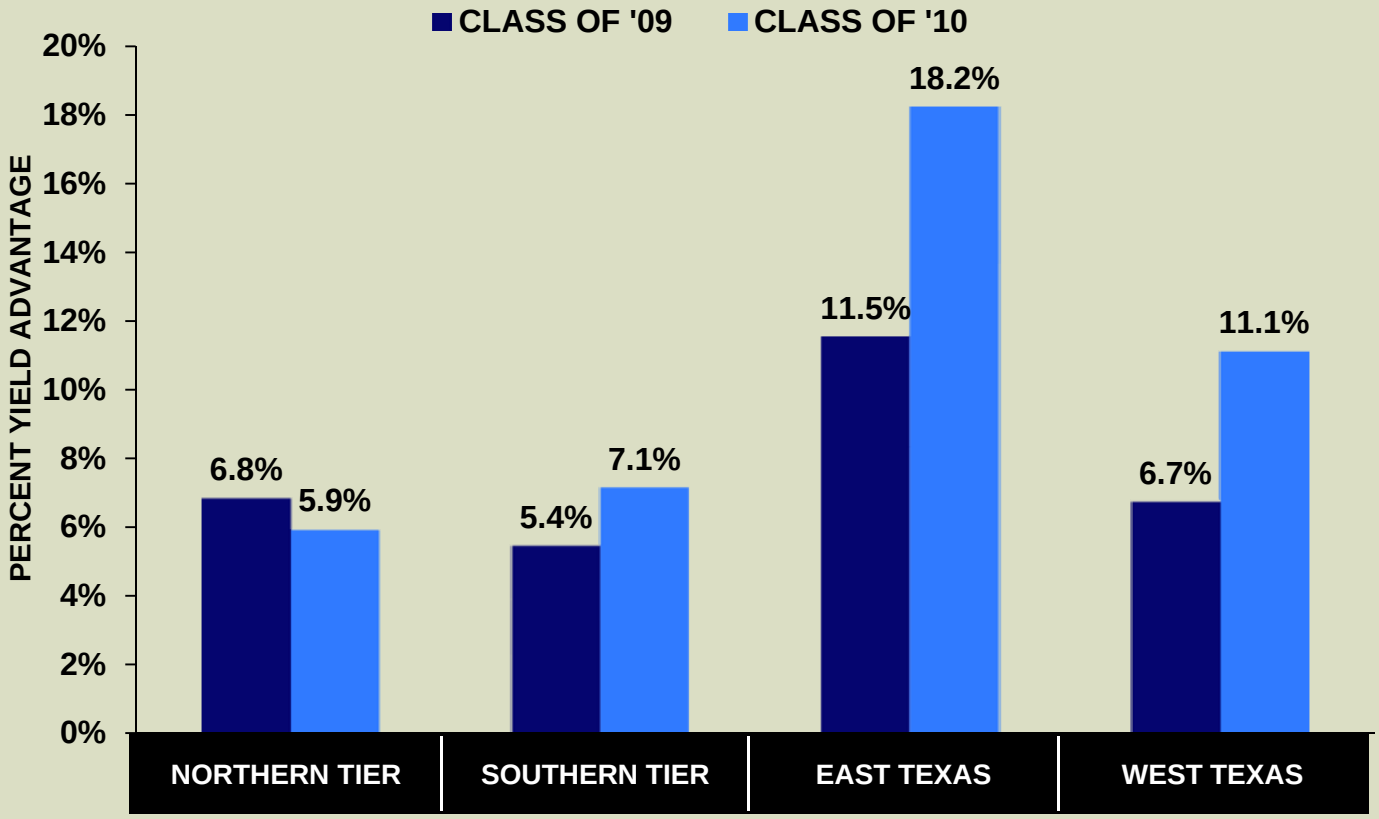
Cotton Germplasm Momentum Continues with Class of '09 and Class of '10 Unmatched Performance Across Geographies

DELTAPINE

2010 U.S. PERFORMANCE UPDATE

- ***DeltaPine*'s strong performance coupled with the Performance Plus program provide growers opportunities to achieve high yields while managing glyphosate-resistant Palmer pigweed**
- **For example, with the 2010 performance of Deltapine's leading varieties in East Texas, cotton growers could see an advantage of more than $77 per acre at today's cotton prices versus the competitive best**

UPDATE: CLASS OF '09 AND '10 VS. COMPETITORS[1] BY GEOGRAPHY



1. Data as of December 20, 2010. Annual yield advantage calculated each year comparing class of '09 and class of '10 commercially available leading DeltaPine products across geographies to leading commercially available competitive products with similar crop protection traits; Northern tier includes Mid-south and upper Southeast; Southern tier is lower Mid-south and lower Southeast.

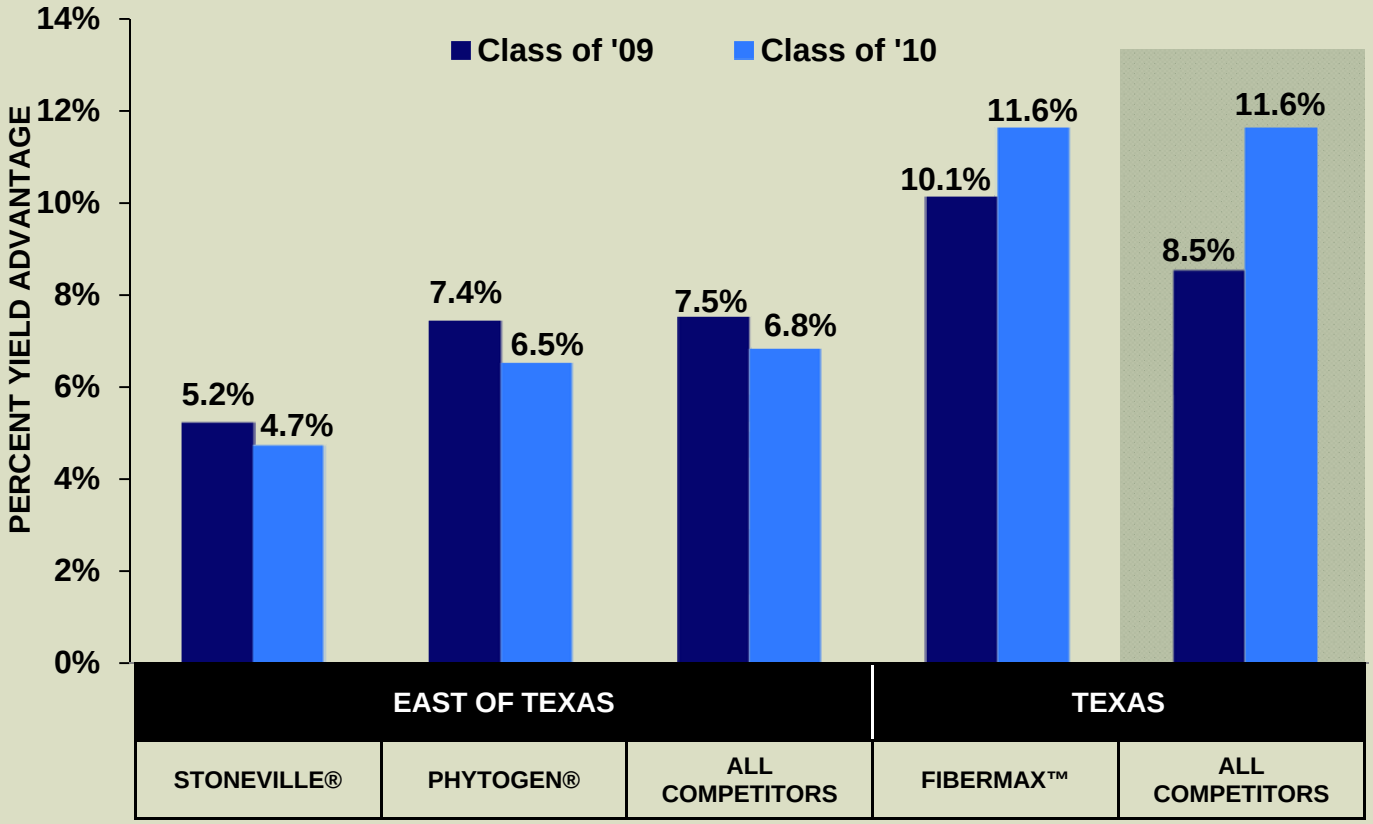
DeltaPine Cotton Germplasm Gaining Momentum Delivering Higher Yields Versus Competitive Brands in Texas

DELTAPINE

2010 U.S. PERFORMANCE UPDATE

- **Classes of '09 and '10 create step-change performance in Texas geography where significant yield advantage over FiberMax™ was demonstrated**

UPDATE: CLASS OF '09 AND '10 VS. COMPETITORS[1]
TEXAS REGION



1. Data as of December 20, 2010. Annual yield advantage calculated each year comparing commercially available leading *DeltaPine* products within the different geographies to leading commercially available competitive products with similar crop protection traits

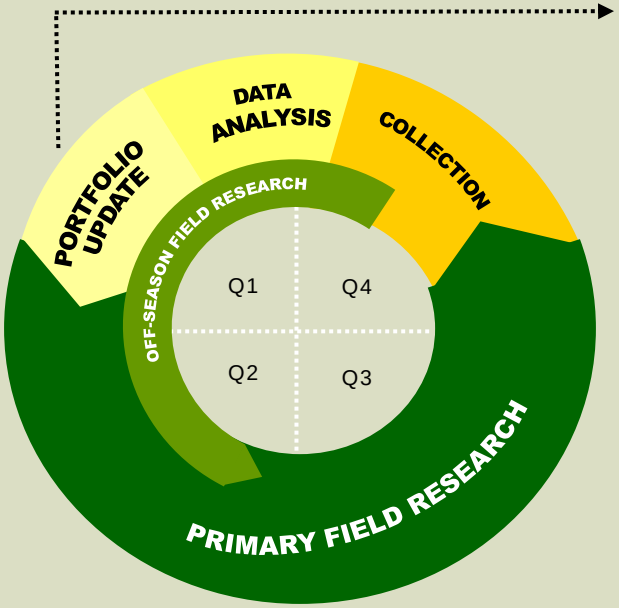
Breeding Pipeline Targets Disease and Nematode Resistance, and Improved Nutrition

SELECTED PROJECTS FROM MONSANTO'S BREEDING PIPELINE

	BREEDING PROJECT	PROJECT VALUE	PHASE
Corn 	Gray Leaf Spot Resistance	• Resistance to a fungus that affects substantial corn acres and can reduce yields up to 25 percent in Brazil	PHASE 2
	Goss's Wilt Resistance	• Enhance disease resistance against Goss's Wilt, a bacteria that reduces yields in the Western Great Plains and expanding areas	PHASE 2
Soybeans 	Aphid Resistance Family 2nd Generation	• Potential to reduce costs associated with scouting and insecticide use, aphid feeding causes plant damage and yield loss – First-generation will launch in 2011	PHASE 2
	Soy Fungal Resistance	• Focusing breeding and chemistry research on important soybean diseases including Sudden Death Syndrome, White Mold, Brown Stem Rot, Charcoal Rot, and Stem Canker to reduce yield loss	PHASE 1
Cotton 	Root Knot Nematode Resistant Cotton	• Develop genetic resistance to root knot nematode, a plant parasite that contributes to direct yield damage and increased disease risk	PHASE 2
	Reniform Nematode Resistant Cotton	• Develop genetic resistance to reniform nematode reduces cotton yield and is one of most significant nematode pests	PHASE 2
Vegetables 	*Beneforté* Broccoli	• Contains 2-3 times the phytonutrient glucoraphanin as a serving of other leading broccoli varieties, boosting the body's antioxidant levels at least 2 times more than other broccoli	PHASE 4
	Phytophthora Resistance Peppers	• Introduce phytophthora fungus resistance into commercial varieties to protect against yield loss and fruit damage	PHASE 2
	Downy Mildew Resistance Cucumber	• Develop disease resistance on downy mildew which affects slicing and pickling cucumbers causing yield loss and fruit damage	PHASE 2

SUMMARY

Monsanto's Biotech and Breeding Pipelines Progressing; Nine Projects Advancing Across Platforms, Crops, and Phases



UPDATE: **2010 ADVANCEMENTS ARE BALANCED – ACROSS PLATFORMS, ACROSS CROPS AND ACROSS PHASES**

- **Nine Biotech Projects Advance**
  - *Two projects advance to phase 4*
  - *Nine projects added in the last two years*
- **Three Yield-and-Stress Projects Advance**
  - *Nitrogen-utilization corn advances to phase 2*
  - *2nd-generation higher-yielding soybeans advances to phase 2*
  - *Yield-and-stress wheat advances to phase 1*
- **Monsanto and BASF Expand Collaboration**
  - *Wheat added as fifth crop*
  - *Overall budget increased by $1B*
- **Executed >1,300 Technology Agreements**
- **Robust Breeding Pipeline Progressing and Furthering our Competitive Advantage**
  - *Opened a new cotton research megasite in Lubbock, Texas*
  - *Brought seed chipping technology to vegetables*
- **Realized 33 Regulatory Approvals of New Traits/ Combinations**




Annual R&D Pipeline Review

Resource Appendix

January 6, 2011

MONSANTO®

Annual R&D Pipeline Review: Resource Appendix

APPENDIX CONTENTS

Dicamba-Tolerance For Canola Enters Phase 1, Extending Pipeline's Portfolio of Dicamba-Tolerant Crops

DICAMBA-TOLERANT CANOLA	
UPDATE	
STATUS:	ADVANCED: PHASE 1
▪ **Dicamba tolerance for canola has entered the proof-of-concept testing phase**	
OUTLOOK AND VALUE	
LAUNCH-COUNTRY ACRES[1]:	TBD when project enters Phase 2
2020 VALUE[2]:	TBD when project enters Phase 2
▪ **The dicamba tolerance trait designed be stacked with *Genuity Roundup Ready 2* canola and yield traits in canola to add flexibility to the weed control options available to growers**	

Mannville, Alberta, July 2010

1. Acre opportunity reflects acres where technology fits at Monsanto's current share in respective crops.
2. 2020 value reflects gross sales opportunity in launch country in year 2020.

Roundup Hybridization System Advances to Phase 4, Would Create Cost-of-Goods Benefit to Seed Production

ROUNDUP HYBRIDIZATION SYSTEM (RHS) FOR CORN

UPDATE	
STATUS:	ADVANCED: PHASE 4

- **Regulatory studies are complete and submissions are in progress to support product registration**

ROUNDUP HYBRIDIZATION SYSTEM (RHS2) FOR CORN II

UPDATE	
STATUS:	ADVANCED: PHASE 1

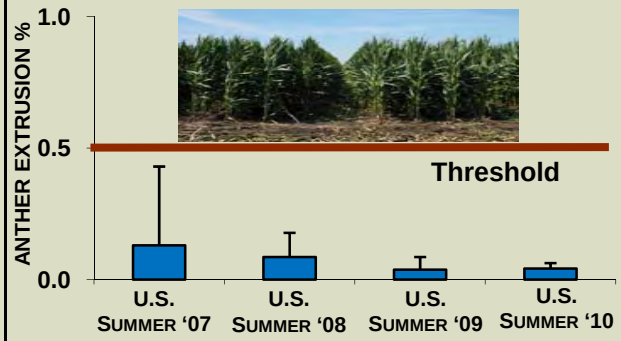
- **Demonstrates excellent glyphosate-induced sterility and cost-of-goods advantage by increasing inbred yield potential**

OUTLOOK AND VALUE	
FAMILY LAUNCH-COUNTRY ACRES[1]:	N/M
2020 FAMILY VALUE[2]:	<250M

- **Would lower production costs through increased production seed yield and increased applicability across germplasms**
- **Would allow manufacturing to eliminate detasseling with timed glyphosate applications**

UPDATE: 2010 NORTH AMERICA DATA CONFIRMS LEAD EVENT EFFICACY AND PROCESS IMPROVEMENT

Pilot Production Field, Williamsburg, IA



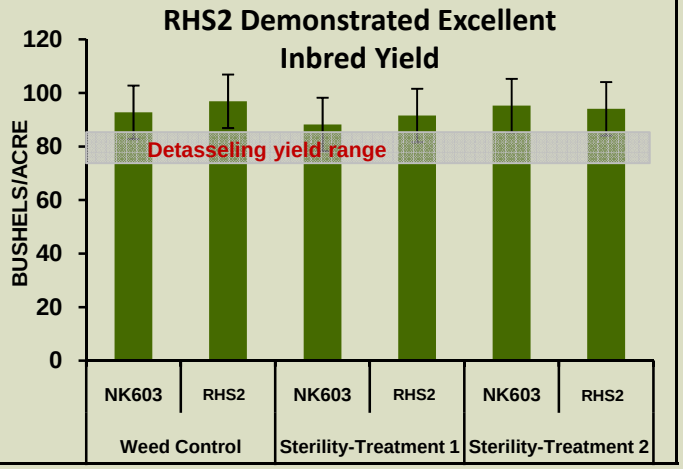
RHS Corn demonstrates commercial level sterility in four consecutive seasons across multiple germplasms

Self-pollination risk is below the threshold to ensure trait purity

Jerseyville, IL - 2010

Sterility treatment caused complete tassel and pollen sterility

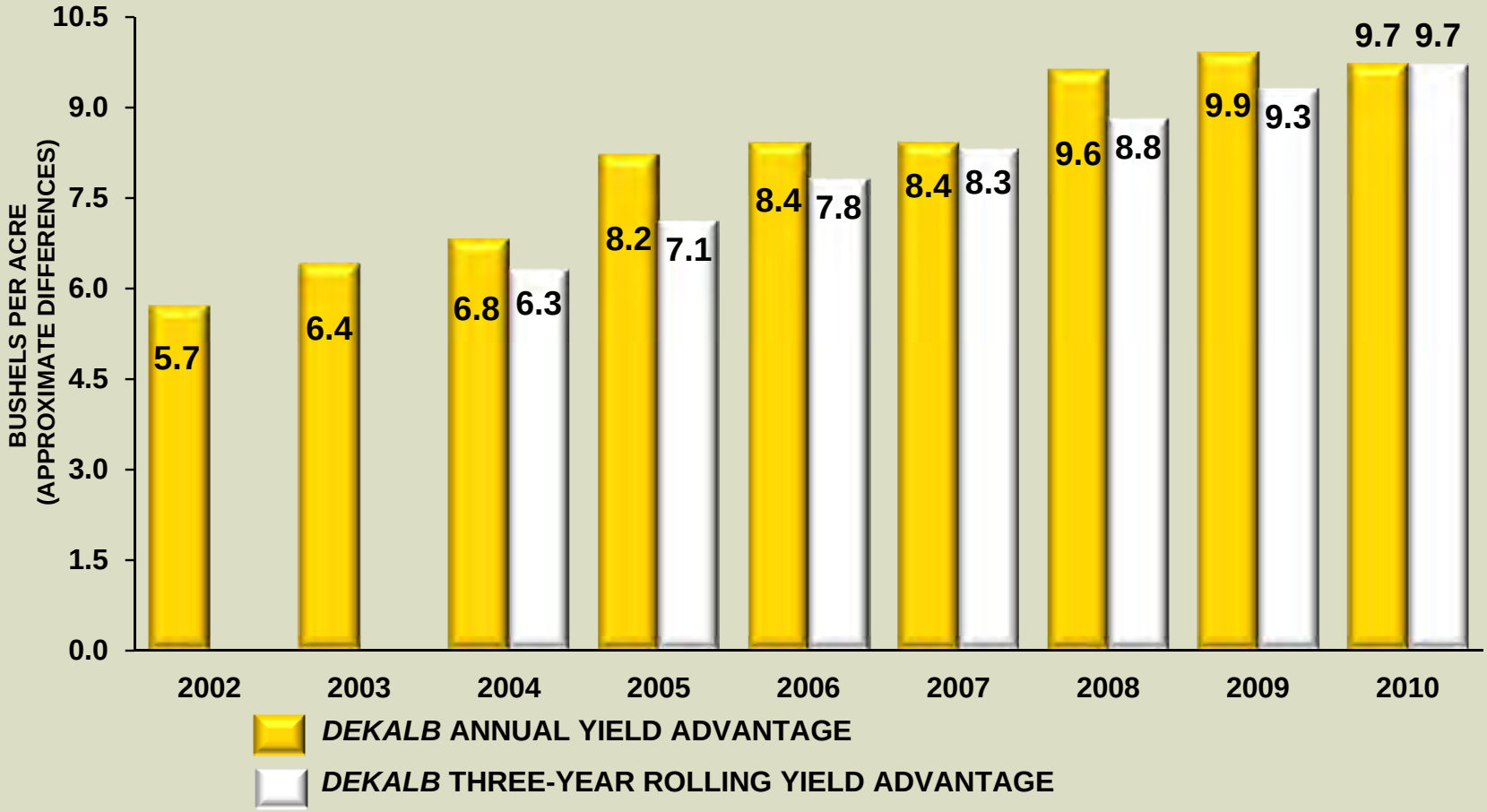
Four Locations, North America – 2010



1. Acre opportunity reflects acres where technology fits at Monsanto's current share in respective crops
2. 2020 value reflects gross sales opportunity of trait family in launch country in year 2020

DEKALB Seed Maintains Industry-Leading Yield Advantage in 2010, Continuing Competitive Advantage

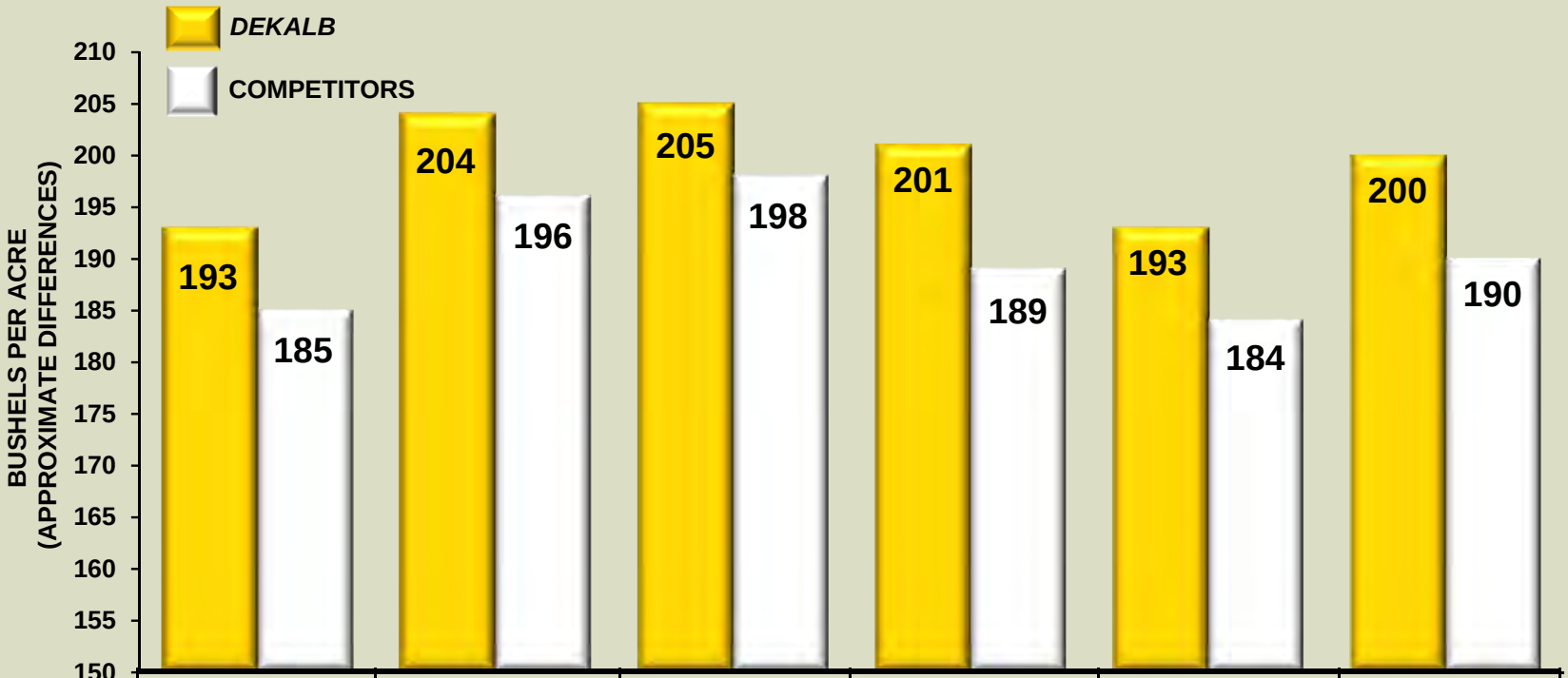
2010 U.S. COMPETITIVE CORN YIELD COMPARISON: *DEKALB*



Source: Annual yield advantage calculated each year by comparing 5 leading *DEKALB* volume products within each relative maturity zone to national competitor products (within 2 relative maturity days) containing similar crop protection traits as of November 1, 2010. Weighted average, calculated to 15% moisture. >200,000 comparisons represented in the 7 years of rolling averages.

Against All Competitors, *DEKALB* Continues to Demonstrate Better Than Nine Bushel-Per-Acre Advantage in 2010

2010 COMPARISON: *DEKALB* VS. ALL COMPETITORS

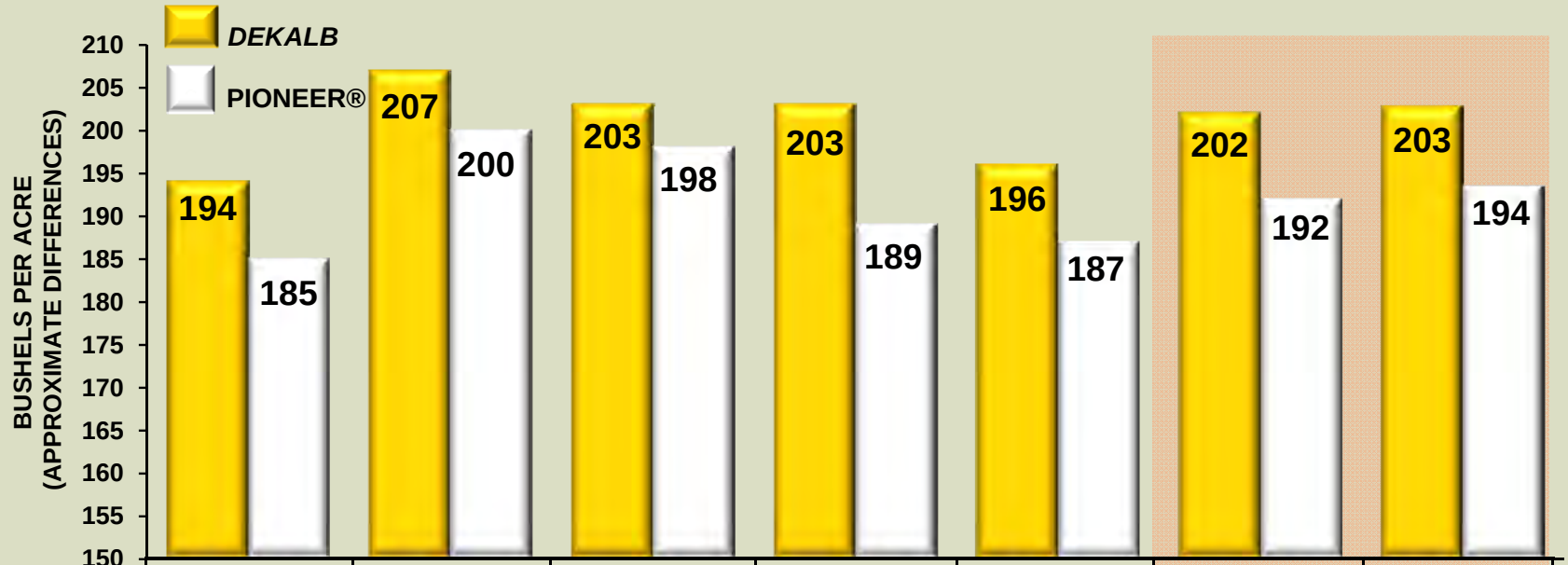


RELATIVE MATURITIES (DAYS)	90/95 RM	100 RM	105 RM	110 RM	115 RM	Overall
COMPARISONS:	>1,500	>1,100	>3,000	>6,400	>2,700	>14,700
APPROXIMATE BU/AC ADVANTAGE:	7.6	8.3	7.2	12.0	8.8	9.7

Source: 2010 Monsanto and third party head-to-head comparisons of 5 leading *DEKALB* hybrids within each RM zone to national competitor products (within 2 relative maturity days) containing similar crop protection traits as of November 1, 2010. Weighted average, calculated to 15% moisture.

DEKALB Yield Trial Results Demonstrate Consistently Strong Yield Advantage Compared With Pioneer®

2010 COMPARISON: *DEKALB* VS. PIONEER®

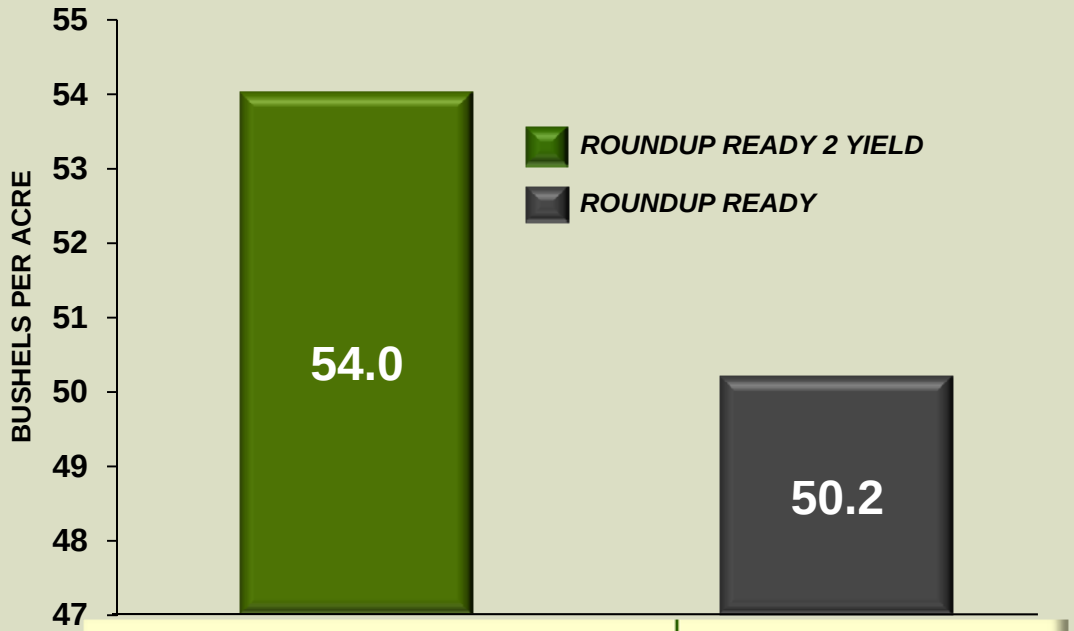


RELATIVE MATURITIES (DAYS)	90/95 RM	100 RM	105 RM	110 RM	115 RM	Overall	3-Yr Avg
COMPARISONS:	>600	>700	>2,100	>3,500	>1,500	>8,400	>22,000
APPROXIMATE BU/AC ADVANTAGE:	8.6	7.2	4.7	13.4	9.2	9.6	--
3-YR WTD AVERAGE BU/AC ADVANTAGE	11.1	9.4	5.1	11.3	8.4	--	9.3

Source: 2010 Monsanto and third party head-to-head comparisons of 5 leading *DEKALB* hybrids within each RM zone to Pioneer® products (within 2 relative maturity days) containing similar crop protection traits as of November 1, 2010. Weighted average, calculated to 15% moisture.

2010 Yield Data Confirms *Genuity Roundup Ready 2 Yield* Delivers Unmatched Performance Over Multiple Years

ROUNDUP READY 2 YIELD TRIALS VS. COMPETITIVE *ROUNDUP READY* PRODUCTS IN MULTI-YEAR SUMMARY[1]



RELATIVE MATURITIES	0 – 4
COMPARISONS:	>30,000
APPROXIMATE BU/AC ADVANTAGE FOR *ROUNDUP READY 2 YIELD*:	3.8

1. Source: Breeding and commercial strip trial data. All head-to-head comparisons are within +/- 0.4 day maturity, with equivalent seed treatments. Data is weighted equally by year. Multi-year summary (2008-2010) of the top five leading *Genuity Roundup Ready 2 Yield* products by maturity group. Includes high volume of Class of 2010 and 2011 products versus competitive products as of November 1, 2010. Class of 2010 products are represented in all 3 years, while Class of 2011 products are represented in crop years 2009 and 2010.

Goss's Wilt Resistance Targets Yield Protection in The Western Great Plains and Across the Corn Belt

GOSS'S WILT RESISTANCE	
STATUS:	PHASE 2
PRODUCT CONCEPT	
▪ **Develop genetic resistance for the Goss's Wilt bacteria that affects the Western Great Plains and is appearing across the corn belt**	
BENEFITS AND VALUE CREATION	
▪ **Reduce yield loss due to Goss's Wilt which can impair yields as much as 60 bushels per acre[1]**	

2010 FIELD DEMONSTRATION OF RESISTANT AND SUSCEPTIBLE HYBRIDS

SUSCEPTIBLE **RESISTANT**

1. Source: "Goss's Bacterial Wilt and Leaf Blight of Corn", Jackson, Harveson and Vivader, Univ. of Nebraska Extension, 2007

Beneforté Broccoli Provides Improved Nutrition Over Current Commercial Varieties

***BENEFORTÉ* BROCCOLI**	
STATUS:	PHASE 4

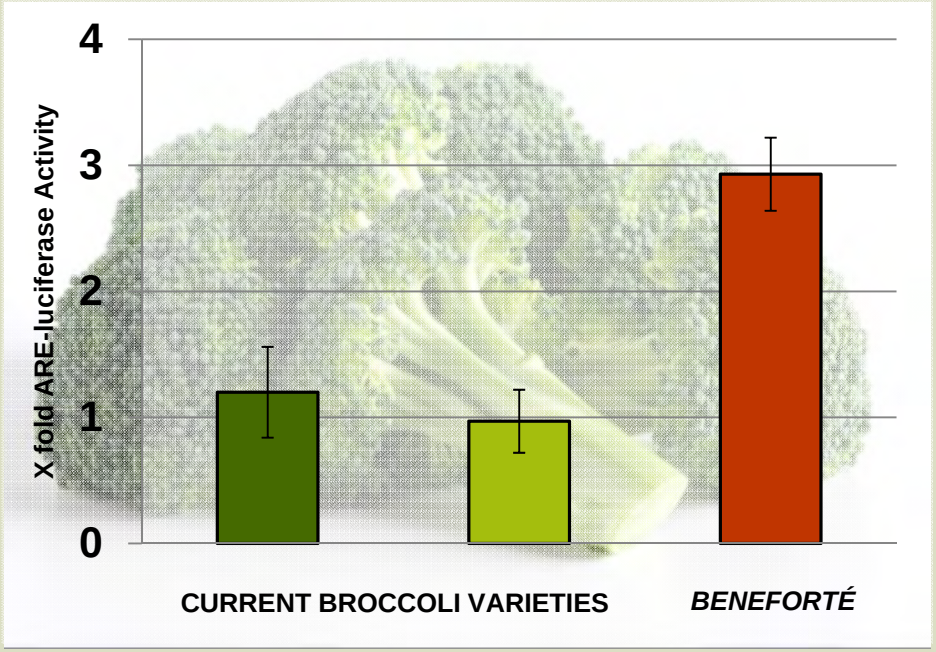
PRODUCT CONCEPT

- **Nutritional improvement over current commercial broccoli varieties**

BENEFITS AND VALUE CREATION

- ***Beneforté*** **naturally contains 2-3 times the phytonutrient glucoraphanin as a serving of other leading broccoli varieties produced under similar growing conditions, boosting the body's antioxidant enzyme levels at least 2 times more than other broccoli**
  - **Glucoraphanin naturally boosts the body's antioxidant enzyme levels, which help maintain the antioxidant activity of vitamins A, C and E in the body.**
- **Product launch in 2011 planned via partner Apio**

ANTIOXIDANT ENZYME BOOSTING ACTIVITY OF *BENEFORTÉ* IN HUMAN LIVER CELLS[1]



1. Monsanto 2009 Data

Soy Fungal Resistance Designed To Provide Protection Against Mid-Season Fungal Diseases

SOY FUNGAL RESISTANCE	
STATUS:	PHASE 1

PRODUCT CONCEPT

- **Develop solutions to mid-season fungal diseases with accelerated breeding and chemistry solutions**

BENEFITS AND VALUE CREATION

- **Would provide tools to decrease susceptibility to Sudden Death Syndrome, White Mold, Brown Stem Rot, Charcoal Rot, and Stem Canker**
- **Designed to provide better crop protection and reduce yield loss**

WATERMAN, IL – AUGUST 2009

WHITE MOLD MYCELIA

SDS LEAF SYMPTOMS

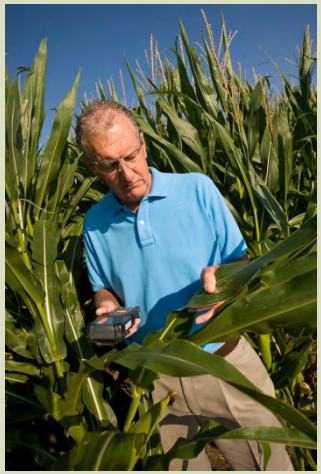
Root Knot Nematode Resistance in Cotton Targets Reduced Damage to Roots and Increase Yield

ROOT KNOT NEMATODE RESISTANT COTTON	
STATUS:	PHASE 2
PRODUCT CONCEPT	
▪ **Develop cotton varieties that are more resistant to nematodes, a parasitic soil organism**	
BENEFITS AND VALUE CREATION	
▪ **Would reduce root damage due to nematode feeding providing better crop protection and increases yields** ▪ **New solution needed as Aldicarb insecticide is phased out by EPA. Nematode control alternatives include crop rotation, which offers limited choices[1]**	

RESISTANT | **SUSCEPTIBLE**

1. Sources: http://www.lsuagcenter.com/en/crops_livestock/crops/Cotton/Diseases/Rootknot+nematode+in+cotton.htm and www.doacs.state.fl.us/pi/enpp/nema/nemacirc/nem185.pdf

Tools of Our Innovation



At the heart of our business is our science. But translating science into innovation — elevating basic research into breakthrough discovery — does not come easily. Success in research is the product of commitment. It requires that many elements work in concert to do more and to do it faster. Monsanto's leadership in research exists because we have the dedicated people, cutting-edge tools, and proven experience to make science work in new ways for agriculture.

In this section, we break down the tools of innovation and show you the sophisticated interaction between these tools as they are applied to bring new products forward in a company that sells seeds and traits.

Germplasm Is the Building Block of Monsanto's Seeds-and-Traits Business

DEFINITION

Germplasm is the genetic raw material contained in all the plants of a species. Within the germplasm are the basic characteristics that make plants what they are. Breeding is based on exploiting variation in germplasm to find the best combinations of characteristics that can make plants perform better.

GERMPLASM IS THE BUILDING BLOCK OF MONSANTO'S SEEDS-AND-TRAITS BUSINESS

To many people, seed is seed. Not so for farmers. Every type of seed is different. The characteristics a corn farmer in Iowa needs in his seed may be vastly different than the characteristics a corn farmer needs in Colorado. In fact, the characteristics the Iowa farmer needs are less likely to come from corn in Iowa than from places like Asia or South America.

GERMPLASM IS IMPORTANT TO MONSANTO

Seed germplasm in crops is analogous to bloodstock in thoroughbred race horses. Thoroughbred breeders breed the fastest race horses to get the benefit of their genes into the next generation. In the same way, seed breeders tap into the best pool of genes to create even better seed combinations. We target characteristics such as disease tolerance, heat and cold tolerance, and high yield potential to create a seed package that gives farmers reliable yield and boosts their profitability. Our germplasm bank — assembled from six continents and across all our crop areas — has greater breadth and depth than any other germplasm bank in the industry. Every year, our breeders exchange more than a million different "packages" of germplasm material, creating a global network to breed seed for local farmers. The strength of our germplasm allows us to deploy the other tools in our arsenal to breed the highest-performing products.

Genomics Probes Germplasm to Unlock Its Value

DEFINITION

Genomics is one of the tools we use to mine germplasm. We find the best combinations of characteristics that can be bred or introduced into plants for better products. Genomics allows us to map the genes of a plant to understand their structure and the role they play in the plant's function.

GENOMICS PROBES GERMPLASM TO UNLOCK ITS VALUE

Using automated, high-volume screening, we sequence literally hundreds of thousands of different genes. The map of a plant's genome sets in motion two research pathways. First, gene sequencing can identify very specific genes and their potential function. Those genes become targets for new traits, fueling our biotechnology research. Second, these maps provide insight into the order and relationships of certain sequences of genes. Through testing, those relationships yield markers that provide virtual signposts for certain characteristics. Breeders can use those markers within the germplasm to identify the best commercial prospects.

HOW GENOMICS APPLIES TO BIOTECHNOLOGY

Fundamentally, we search for new product opportunities by working backwards from a problem. We first identify a need and then look for ways we can use our tools to address it. As we learn about the function of particular genes through many different components of genomic function — including sequence analysis, expression profiling, phenotypic data analysis, and systems biology — we uncover genes that can become targets to address a particular problem. Genomics provides us with the tools and methods to characterize genes from a variety of sources and assign the relevant function based on their sequence characteristics. Using our biotechnology tools, we can introduce these genes into the crops where they can make a difference.

The automated systems central to genomics work have revolutionized almost every aspect of our research work. We've brought a new level of standardization to everything from the tools that make genes perform better to the quality testing we do to evaluate product candidates.

HOW MARKERS WORK

Markers are simply pieces of DNA that indicate where genes are located. Through sequencing, we generate tens of thousands of random markers. Through breeding experiments, we have been correlating those random markers with specific traits. We basically create an idealized map of a crop plant, identifying the markers for the key traits we want to breed for. Then we screen our germplasm against the idealized map, so our breeders can find the germplasm with the unique combinations of genes that will deliver the traits they need.

New Approaches Have Reinvented Breeding

DEFINITION

Breeding is the process of cross-pollinating plants with desirable qualities to develop improved plants in successive generations that combine all the desirable traits in a single individual. Molecular breeding is an enhanced tool that involves the use of DNA markers for genes in combination with physical measurement of traits to accelerate selection in plant breeding programs. Breeding, as we use the term, encompasses both conventional breeding and molecular breeding — or marker-assisted breeding. Breeding is one of the two core platforms of Monsanto's technology pipeline.

NEW APPROACHES HAVE REINVENTED BREEDING

Breeding is a shorthand term that encompasses a variety of approaches that can be used to refine germplasm to select the best attributes that exist within a crop's genetic stock. Our plant breeders select desirable traits from our unique germplasm library and combine them into a single crop plant with commercial potential.

HOW BREEDING IS DIFFERENT TODAY

For thousands of years, plant breeders have skillfully identified and selected plants with the best properties for cultivation. Traditional plant breeding methods have been effective, but they are slow.

Today, the use of breakthrough new technology has reinvented plant breeding. In the same time it used to take for traditional breeding work, our plant breeders can more than double the rate of "genetic gain" – the improvement in important characteristics such as yield and tolerance to environmental stress.

With the application of technology such as computer databases, molecular markers, and the tools of analytics, breeders improve the predictability in the inheritance of traits from generation to generation. This predictability has made breeding more efficient than at any other point in history. For us, the tools of molecular breeding have entirely replaced the notion of "conventional" or traditional breeding. Our standard for breeding is molecular breeding.

HOW BREEDING TRANSLATES INTO COMMERCIAL SUCCESS

Breeding technology today allows our plant breeders to make more informed decisions earlier in the process. So, by the time they get into field trials, we've already pre-screened and eliminated the least powerful breeding stock. That allows us to focus on the germplasm that has the best potential for offering a commercially viable combination of desirable traits.

The probability of finding the most effective combination of genes for a single trait controlled by just 20 genes is less than one in a trillion. With markers and other breeding technologies, however, we can get to that best combination faster, improving those one-in-a-trillion odds to as good as one in five.

The upshot is that we identify better products faster. Compared with conventional breeding, our breeding program today is doubling the rate of improvement in key genetic characteristics such as yield and important agronomic traits.

Targeting Specific Opportunities With Modern Biotechnology

DEFINITION

Biotechnology is the application of scientific knowledge to transfer beneficial genetic traits to enhance plants' growth or to provide nutritional or other benefits to farmers, food and feed processors, or consumers. Biotechnology is also one of Monsanto's two core technology research platforms.

TARGETING SPECIFIC OPPORTUNITIES WITH MODERN BIOTECHNOLOGY

Biotechnology has become shorthand for an extensive process that begins with the discovery of a new gene, proceeds through the introduction of genes into plants and through the extensive testing and regulatory review, and culminates in the delivery of breakthrough products. Biotechnology has led to entirely new products, that have not been available in agriculture until the last decade.

Monsanto pioneered the application of biotechnology to agriculture. For a decade now, biotechnology traits have been used commercially around the world, establishing a record of proven benefits for farmers, consumers and the environment.

WHERE DOES BIOTECHNOLOGY OFFER THE MOST VALUE?

With biotechnology, we're able to identify a particular trait that accomplishes something that may not be as efficiently possible by breeding or other means. For instance, scientists can identify and target genes that occur in nature that work against a particular insect. While those genes may not exist in the crop of interest, we can use the tools of modern biotechnology to refine and introduce that gene into a crop so that crop can also reap the advantage of insect protection.

That same targeted approach allows us to develop alternative oils for consumers, higher-value food and feed for processors, and even more traits that help make farmers more productive and profitable.

WHAT MAKES BREEDING AND BIOTECHNOLOGY COMPLEMENTARY?

The dual platforms of breeding and biotechnology offer us a choice as we approach a product concept. Breeding is largely oriented toward improving the overall package of genetic base of a crop. Biotechnology is uniquely focused on identifying a particular trait that produces a desired result more efficiently than would be possible just by combining the existing genetics in a crop type.

Often we can investigate a potential target through both biotechnology and breeding. Then, depending on what we're hoping to accomplish and which particular research pathway shows more promise, we may chose one platform to pursue. We may also choose to use both — combining specialized germplasm developed through breeding with a biotechnology trait. So, the advantage in having both platforms is that we're positioned to match the right approach with the right opportunity.

Understanding the Biotech Pipeline

BITOECH PIPELINE PROCESS AND PHASES

The product pipeline tracks through five phases. The early phases abound with investigative activity as our researchers systematically test concepts, models and leads for products whose commercial introduction may still be a decade away. Tens of thousands of candidates are screened and tested for every project that makes its way through all five phases, eventually reaching the market.

It is generally reasonable to think about each phase as a two-year stage, although that can vary depending on technical milestones and external factors like regulatory approvals. Whenever we discuss projects, we'll do so in terms of the phase it is in, rather than a specific launch date. This approach provides a better indicator of a project's actual status in the development process, and it acknowledges the variability inherent in the specific timing of any commercial launch.

Phase	Description	Average Duration[1]	Average Probability of Success[2]
Discovery	Conduct high-throughput screening of genetic database to identify valuable plant traits that can be used in our breeding program and valuable genes that can be used to improve plants. Apply screens to broad categories of interest, identifying multiple leads that can be investigated. Within each project category, there are specific research platforms that guide discovery work. The ongoing research within each discovery platform will generate new project leads, which are designated with a description and added in Phase 1.	24 to 48 months	5 percent
1	Test gene configurations in plants to screen for desired performance. Determine which product leads show the most promise for application to core crops.	12 to 24 months	25 percent
2	Conduct lab and field testing of genes in plants to select commercial product candidates and to meet regulatory requirements.	12 to 24 months	50 percent
3	Demonstrate efficacy of traits in elite germplasm. Develop regulatory data as appropriate.	12 to 24 months	75 percent
4	Develop plans for commercialization/ launch, and respond to regulatory processes as appropriate.	12 to 36 months	90 percent

1. Time estimates are based on our experience; they can overlap. Total development time for any particular product may be shorter or longer than the time estimated here.
2. This is the estimated average probability that the traits will ultimately become commercial products, based on our experience. These probabilities may change over time. Commercialization is dependent on many factors, including successful conclusion of the regulatory process.

Valuing the Biotech Pipeline

PIPELINE VALUATION

Valuation estimates are specific to the traits, regardless of the stacked combination in which it is sold. These estimates do not reflect value attributed to other traits or germplasm, nor do they include any potential value beyond the first country of launch from the additional geographic opportunities where the trait technology fits

- **Assumed launch dates coordinate with phase placement in the R&D pipeline** and normal progression timelines.
- **2020 value reflects gross sales opportunity in launch country in year 2020**
- **Launch country acres reflect areas where technology fits at Monsanto's 2010 share in corn and soybeans, for products launching in the United States**. For cotton and for products launching outside of the United States, launch country acres represent the total acre opportunity.

YIELD-AND-STRESS VALUATION METRICS

In 2010, Monsanto and BASF agreed to extend the collaboration established in 2007 by committing up to an additional $1 billion in research and development and adding wheat as the fifth crop. For projects in this segment of the pipeline, there are additional key criteria that factor into valuation:

- **Projects are valued as families** because individual projects never reach peak penetration before successive generation projects are commercialized. (For example, the gross revenues in 2020 for the Drought-Tolerant Corn family include revenues from the first-generation product that is targeted for the drylands, plus the estimated 2020 revenue from the second-generation broad acre product.)
- **The profit in Yield and Stress will be shared with BASF**, as the collaboration structure was established with a commercial-value ratio of 60 percent Monsanto – 40 percent BASF.

Understanding the Pipeline

SUMMARY VALUATION TABLE

Project	Phase[1]	2020 Value	Country of Launch[5]	Acreage Potential – Country of Launch[6]	Additional Geographic Opportunity
CORN PIPELINE					
Genuity SmartStax **Refuge In the Bag (RIB)**	4	N/M	U.S.	40M-50M	Brazil, Argentina
Roundup **Hybridization System for Corn Family**	4	LOW	N/M	N/M	N/M
Drought-Tolerant Family[2]	4	MID	U.S.	45M-55M	Brazil, Argentina
Broad-Acre Higher-Yielding Corn Family[2]	2	HIGH	U.S.	45M-55M	Brazil, Argentina
Corn Rootworm III	2	HIGH	U.S.	40M-50M	Brazil, Argentina
Corn Borer III	2	HIGH	U.S.	40M-50M	Brazil, Argentina
Dicamba-, Glufosinate-, and Glyphosate-Tolerant Corn	2	MID	U.S.	45M-55M	Brazil, Argentina
Nitrogen-Utilization Family[2]	2	MID	U.S.	45M-55M	Brazil, Argentina
FOPs-Tolerant Corn	1	*To be decided when project enters Phase II*			
SOYBEAN PIPELINE					
Soymega™ SDA Omega-3[3]	4	LOW	U.S.	<1M	N/M
Vistive **Gold**	4	LOW	U.S.	20M-30M	N/M
Insect-Protected + ***Genuity Roundup Ready 2 Yield*** **Family**	4	MID	Brazil	50M-60M	Argentina
Dicamba-Tolerant Soybean	4	LOW	U.S.	35M-45M	Brazil, Argentina, Canada
Broad-Acre Higher-Yielding Soybean Family[2]	3	MID	U.S.	35M-45M	Brazil, Argentina, Canada
Soybean Nematode Resistance[4]	1	*To be decided when project enters Phase 2*			

SUMMARY VALUATION TABLE

Project	Phase[1]	2020 Value	Country of Launch[5]	Acreage Potential – Country of Launch[6]	Additional Geographic Opportunity
COTTON PIPELINE					
Dicamba- and Glufosinate-Tolerant Cotton	3	LOW	U.S.	8M-11M	India, Australia, Brazil
Bollgard **III**	2	LOW	U.S.	8M-11M	India, Australia, Brazil
Drought-Tolerant Cotton Family[2]	1	*To be decided when project enters Phase II*			
Cotton Lygus Control	1	*To be decided when project enters Phase II*			
CANOLA PIPELINE					
Roundup Ready **2 Canola**	3	LOW	Canada	11M-14M	U.S., Australia
Higher-Yielding Canola[2]	2	LOW	Canada	11M-14M	U.S., Australia
Dicamba-Tolerant Canola	1	*To be decided when project enters Phase 2*			
WHEAT PIPELINE					
Yield & Stress Wheat Family[2]	1	*To be decided when project enters Phase 2*			
Herbicide-Tolerant Wheat	1	*To be decided when project enters Phase 2*			
SUGARCANE PIPELINE					
Insect-Protected + ***Roundup Ready*** **Sugarcane**	1	*To be decided when project enters Phase 2*			

2020 VALUE SCALE[5]	
LOW	**<$250M**
MID	**$250M-$500M**
HIGH	**>$500M**

1. Phase shown represents the phase of the latest project in the family 2. Part of the Monsanto-BASF Yield-and-Stress R&D Collaboration.
3. Part of the Monsanto-Solae Collaboration 4.Part of the Monsanto-BASF R&D Collaboration 5. 2020 value reflects gross sales opportunity of product or trait family in launch country in year 2020
6. Acre opportunity reflects acres where technology fits at Monsanto's current share in respective crops.