

# Measuring the Impacts of Federal Investments in Research

*Assessing Non-Market Impacts of Research*

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# Investment decisions informed by global megatrends

Increasing  
Food  
Production

Decreasing  
Dependence  
on Fossil Fuels

Protecting  
People, Assets  
and the  
Environment

Growth in  
Emerging  
Markets



# DuPont's diverse business portfolio



- Pioneer Hi-Bred
- Crop Protection
- Nutrition & Health



- Performance Polymers
- Packaging & Industrial Polymers



- Protection Technologies
- Building Innovations
- Safety Resources



- Titanium Technologies
- Fluoroproducts
- Chemical Solutions



- Electronics & Communications



- Applied BioSciences



- Performance Coatings



## Innovative solutions are required to meet food & agriculture production challenges of the 21<sup>st</sup> century



### 2000-2010 Global Crop Consumption <sup>1</sup>

Corn (+37%), soybean (+47%), canola (+53%), sunflower (+35%) and rice (+14%)



### Food Production Goals <sup>2</sup>

*Increase food production by 70% by 2050 to feed estimated 9 billion people*



### World Stock to Use Ratio <sup>3</sup>

*Unchanged to reduced in 2009-2010 for corn, soybean, wheat and rice*

<sup>1</sup> Pioneer World Ag Forecast, October 2010 ; <sup>2</sup> FAO: How to Feed the World in 2050; <sup>3</sup> FAO  
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# Strategic imperatives for production agriculture

## MAXIMIZING CUSTOMER PROFITABILITY & PRODUCTIVITY



Increase and protect  
yield

Improve input  
efficiency

Increase end use  
value



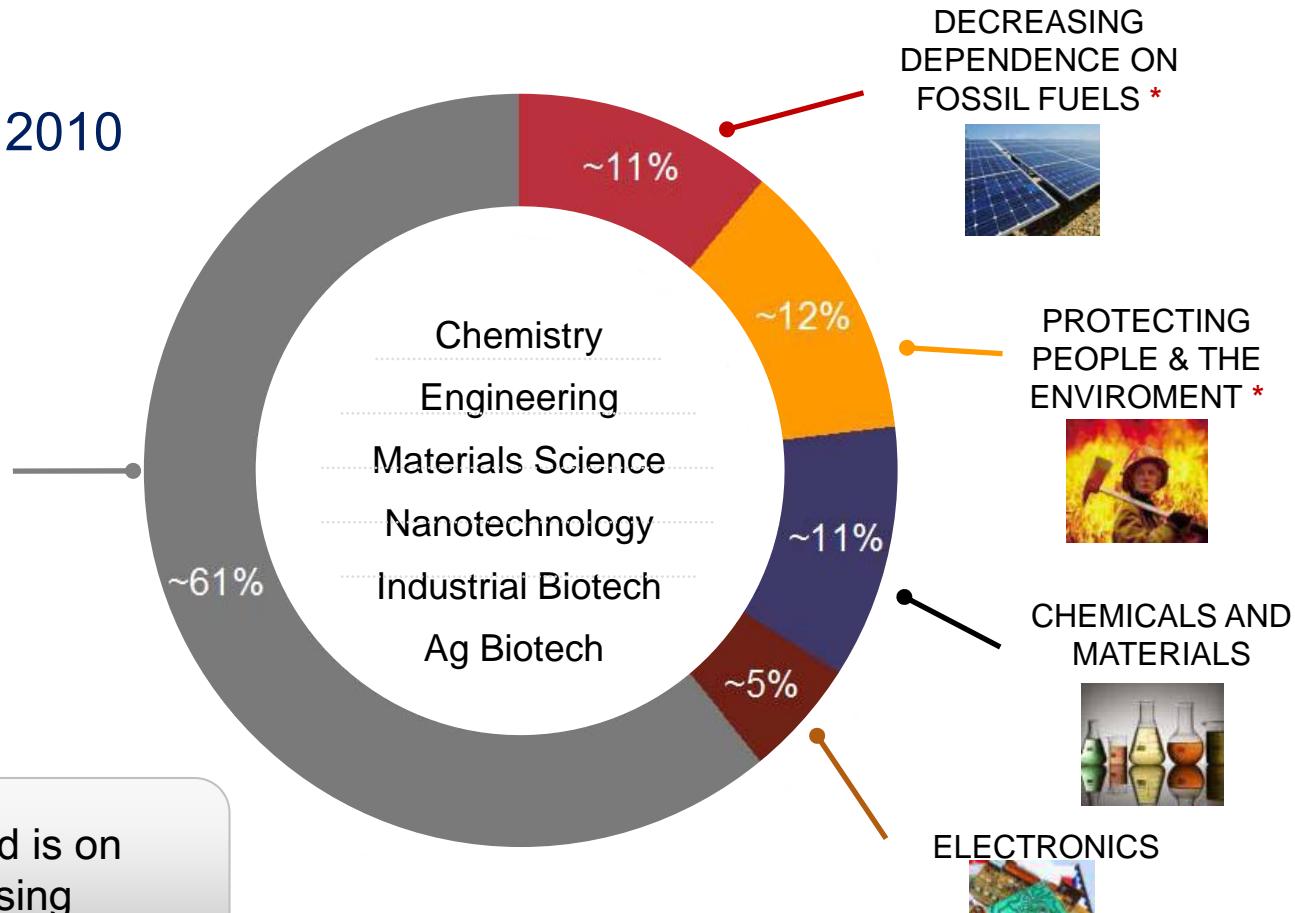
## R&D investment aimed at global megatrends

\$1.7 billion in 2010

FEEDING THE  
WORLD\*



85% of R&D Spend is on  
Innovation Addressing  
Megatrends\*



DECREASING  
DEPENDENCE ON  
FOSSIL FUELS \*



PROTECTING  
PEOPLE & THE  
ENVIRONMENT \*



CHEMICALS AND  
MATERIALS



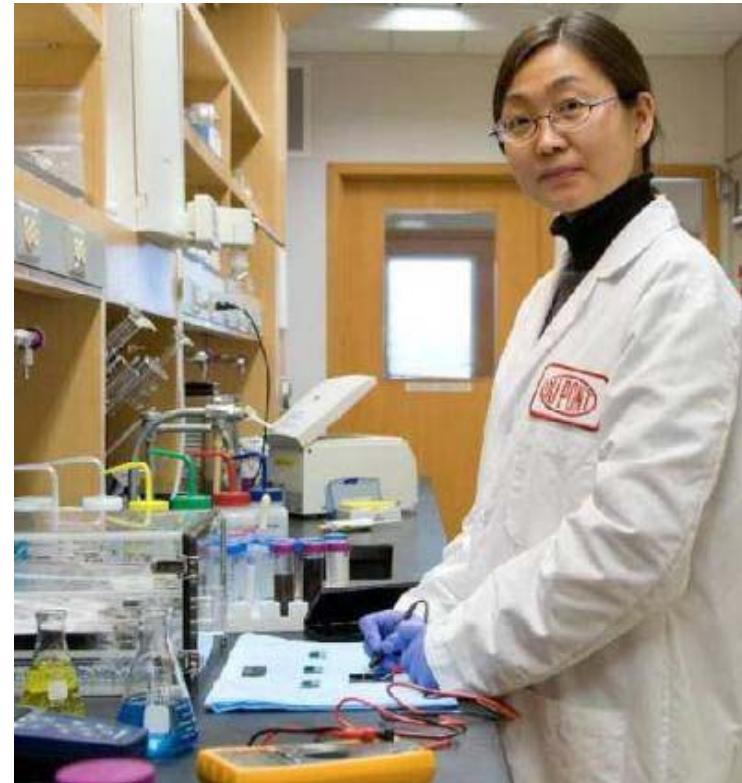
ELECTRONICS



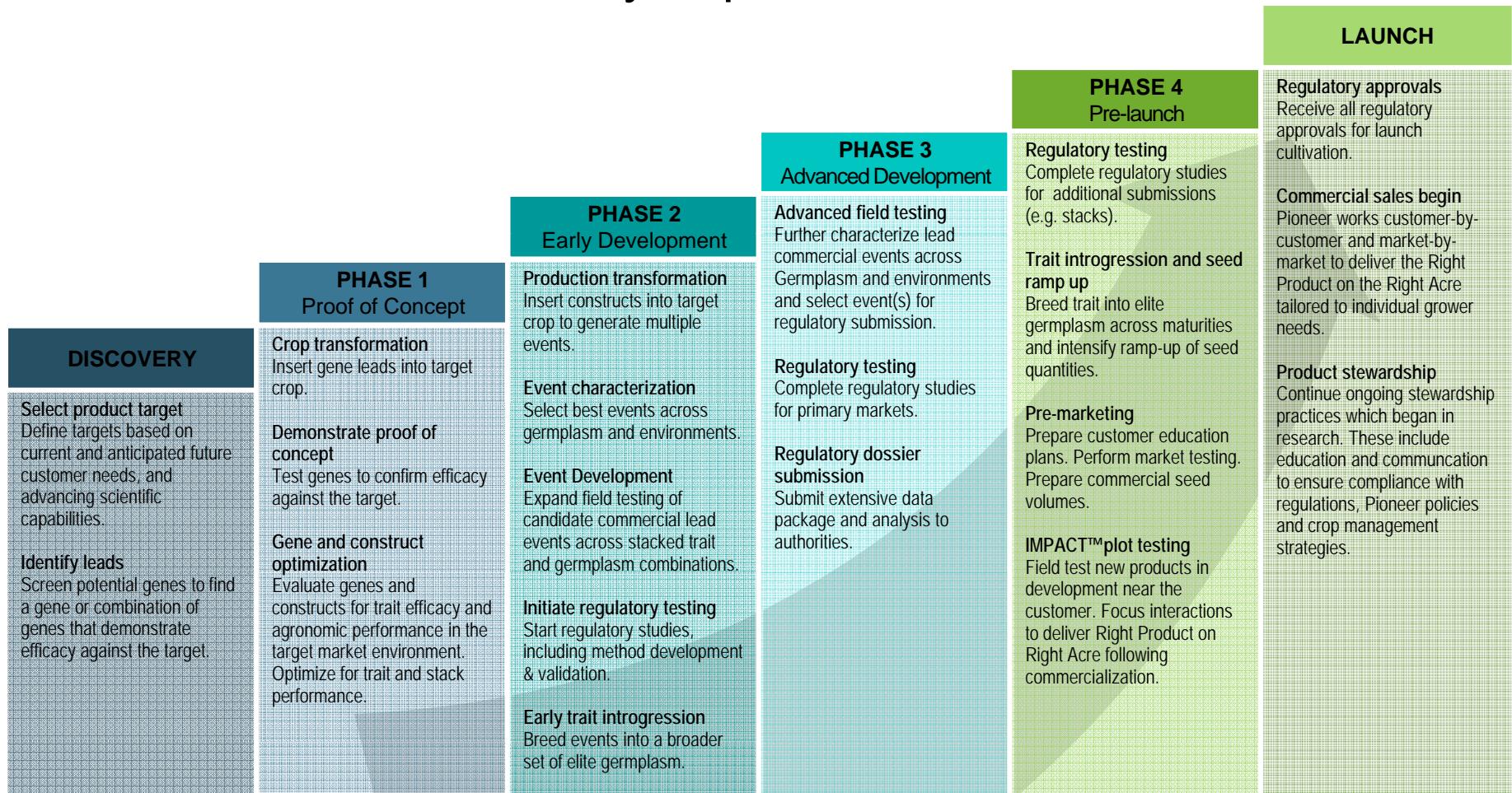


## 2010 Innovation metrics

- 1,786 new products introduced
- More than \$9.5 billion in revenue from products launched between 2007-2010
- 2,034 U.S. patents filed
- Global R&D expansion
  - **Photovoltaics** in Switzerland and United States
  - **Agriculture** research in Brazil, Ukraine, United States and Philippines
  - **Next generation biofuels and advanced protective materials** in Brazil
  - **Advanced protective, automotive lightweight , and bio-based materials and agriculture** in India
  - **Photovoltaics, bio-based materials, and automotive applications** in China



# A robust, stage-gated approach for R&D investment decisions from discovery to product launch





# 2011 Corn trait pipeline

PROGRAM	Primary (●) & Opportunity Market					Primary Market Acreage Opportunity	R&D Phase					Customer Benefit Targets			
	NA	EU	LA	AP	AF		D	1	2	3	4	Launch	Yield Increase	Efficiency	Input Use
<b>BROAD-SCALE AGRONOMICS &amp; DISEASE</b>															
Optimum® AQUAMax™ Hybrids	●	●				<30%					●				
Drought Tolerance II	●					30-70%									
Nitrogen Use Efficiency	●					>70%									
<b>INSECT PROTECTION &amp; WEED CONTROL</b>															
Optimum® GAT® Trait	●					>70%					●			●	
Optimum® AcreMax™ 1 and RW Insect Protection	●					<30%					●			●	
Optimum® AcreMax™ Insect Protection	●					30-70%					●			●	
Optimum® AcreMax™ Xtra Insect Protection	●					30-70%					●			●	
Optimum® AcreMax™ Xtra Insect Protection + Agrisure® RW Trait	●					30-70%					●			●	
Optimum® Intrasect™ Insect Protection	●		●	●		30-70%					●			●	
Lepidopteran/Coleopteran Molecular Stack	●					30-70%					●			●	
Next Gen. Lepidopteran Resistance	●		●		●	>70%					●			●	
Next Gen. Coleopteran Resistance	●					30-70%					●			●	
<b>VALUE-ADDED</b>															
Seed Production Technology Process	●		●		●	Production Efficiency									
Improved Feed & Processing Value	●			●		<30%									●

 **Agrisure® RW R&D Phase:** D=Discovery, 1=Proof of Concept, 2=Early Development, 3=Advanced Development, 4=Pre-Launch, Launch=Available for commercial sale or use. Agrisure® is a trademark of, and used under license from, a Syngenta Group Company. Each phase represents only the lead event for each program. Discovery and market evaluation is an ongoing process for all traits and projects in the pipeline. ©2011 PHIL. ■ Reflects "R&D Phase" advancements/additions 2/10-2/11.



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