

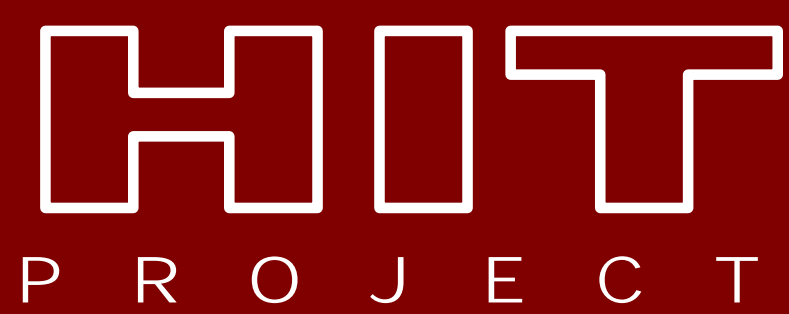
# Forward-Looking Statements

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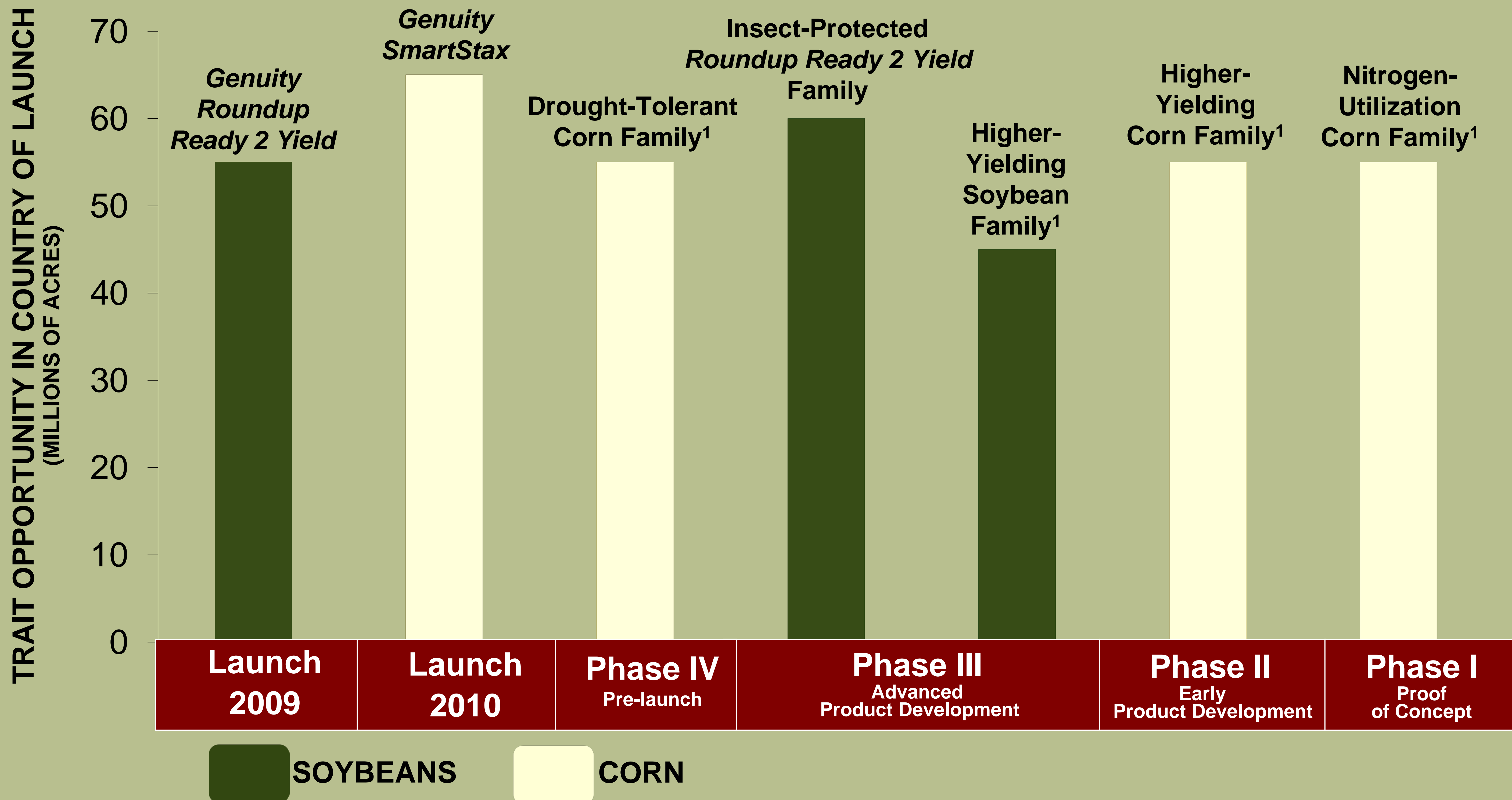
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# Significant Global Opportunity Exists for Next Wave of High Impact Technology Projects



High Impact Technologies include projects with more than 45M acres of market opportunity and \$300M or higher gross revenue potential in first country of launch by 2020. Phases denote the leading project in the project family, and trait opportunity reflects the total project family acre opportunity in 2020.



<sup>1</sup>Part of the Monsanto BASF Yield and Stress R&D Collaboration.

# Multiple Environmental Factors Affect Yield

## Moisture Stress

- Corn generally requires 0.25 inch of water per day during rapid growth
- Corn yields are reduced when transpiration exceeds water supply

## Temperature:

- Optimal temperature for corn growth ranges between 65 F and 75 F
- Corn productivity correlates with length of growing season, characterized by Growing Degree Day (GDD) accumulation, also referred to as “heat units”

## Biological Factors:

- Insects and diseases can significantly reduce yield

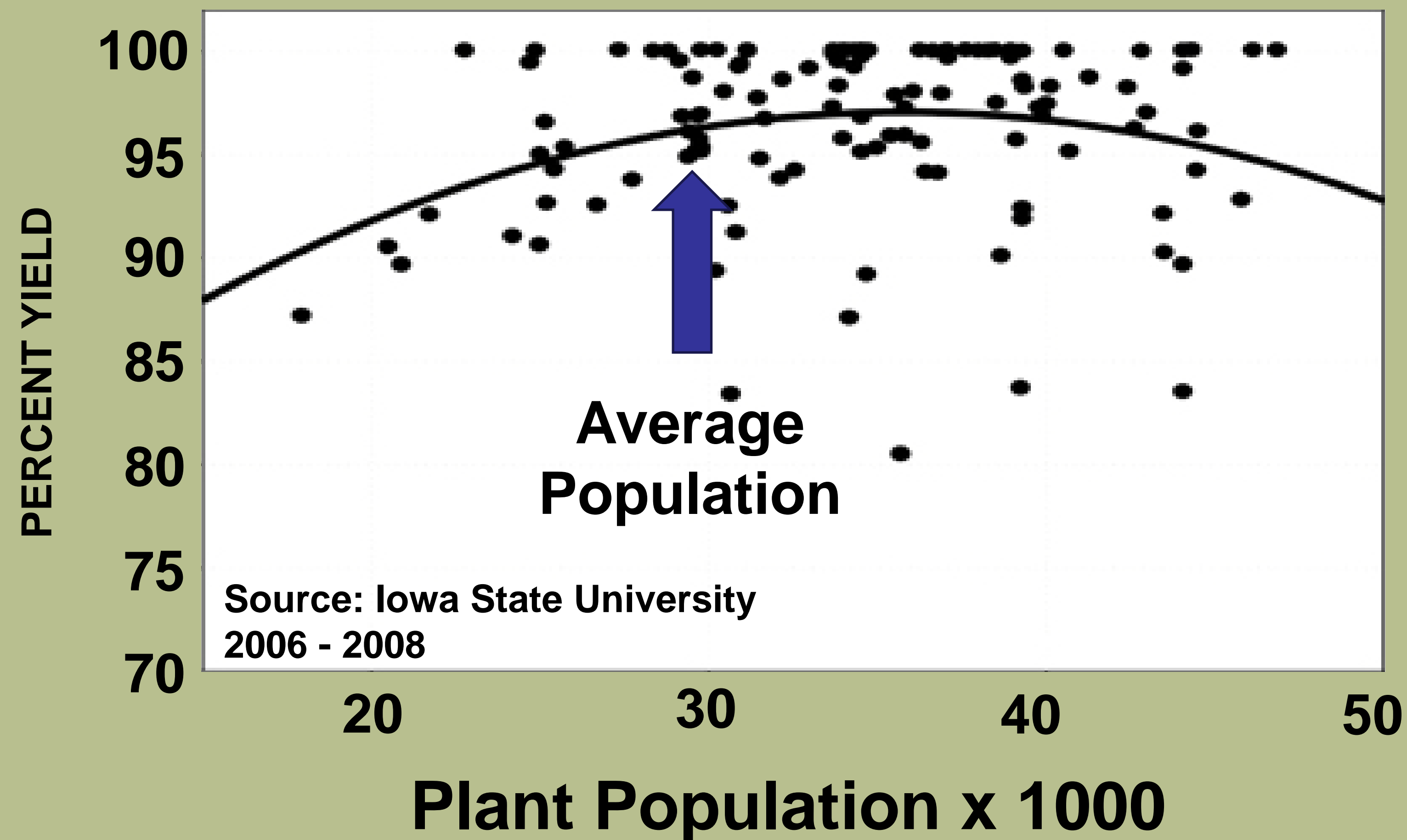
## Competition:

- Weeds compete with corn for nutrients, sunlight and soil moisture
- Adjacent corn plants also compete for nutrients, water and sunlight

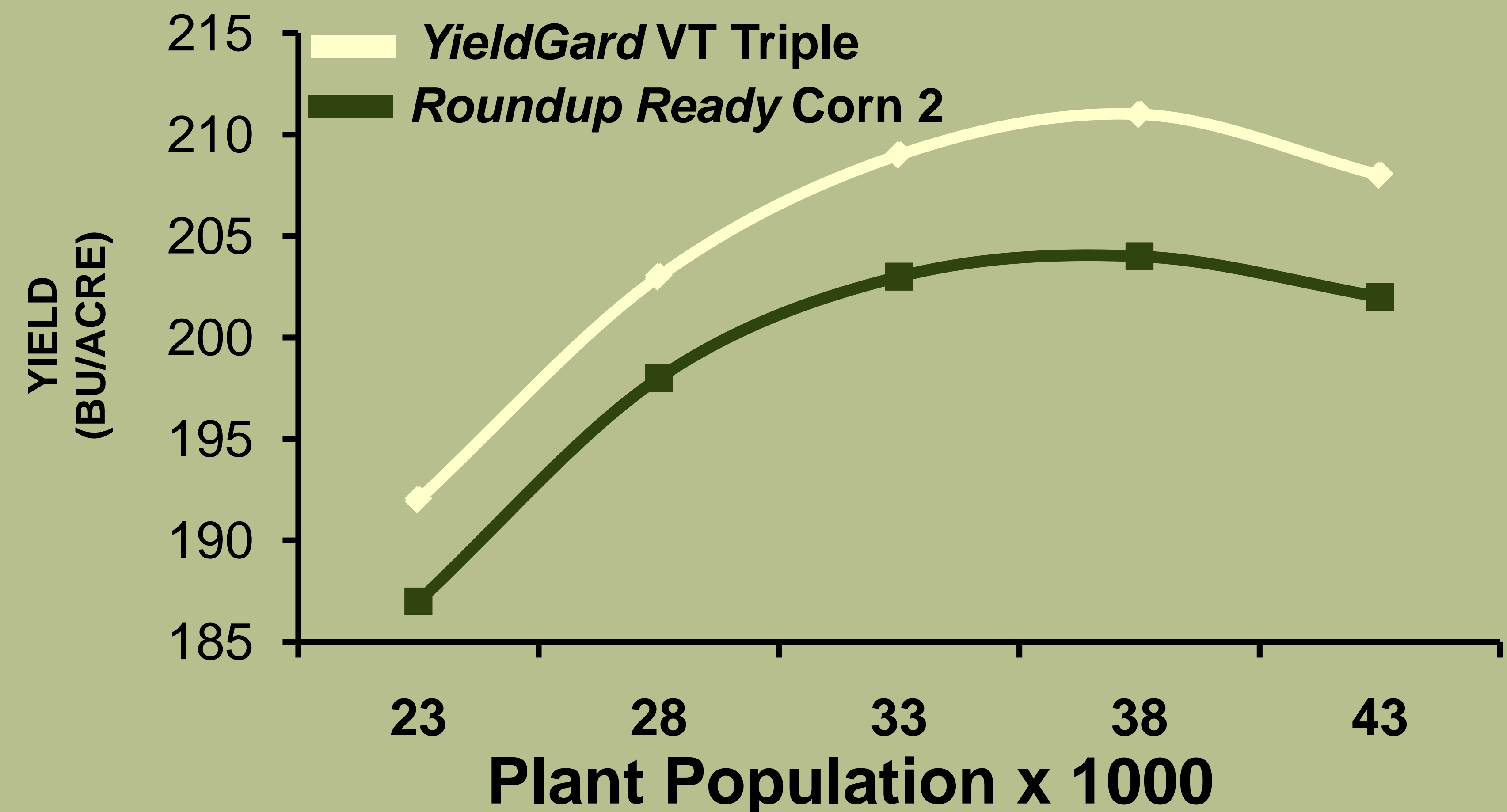


# Monsanto Research Confirms Greater Yields at Higher Plant Densities

Iowa Corn Grain Yield as Percent of Maximum Yield



YieldGard VT Triple vs. Roundup Ready Corn 2



- On average, maximum grain yields in Iowa occur between 34,500 and 37,000 plants per acre (ppa)
  - This population range is 2,000-3,000 ppa greater than what was found in plant population research 5 to 10 years ago
  - 25% of growers have not changed their planting rate over the past decade

- Monsanto research confirms greater yields at higher plant densities, including for stacked traits
- These traits mitigate several stress conditions, maximizing yield potential

# Scorecard of Key Metrics Reveals Progress and Power of Collaborative Efforts


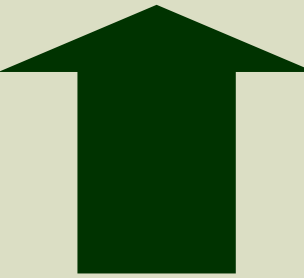

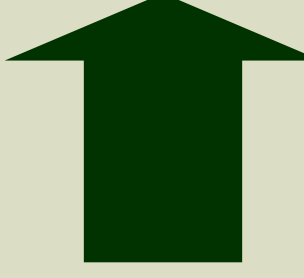
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COLLABORATION  
WITH



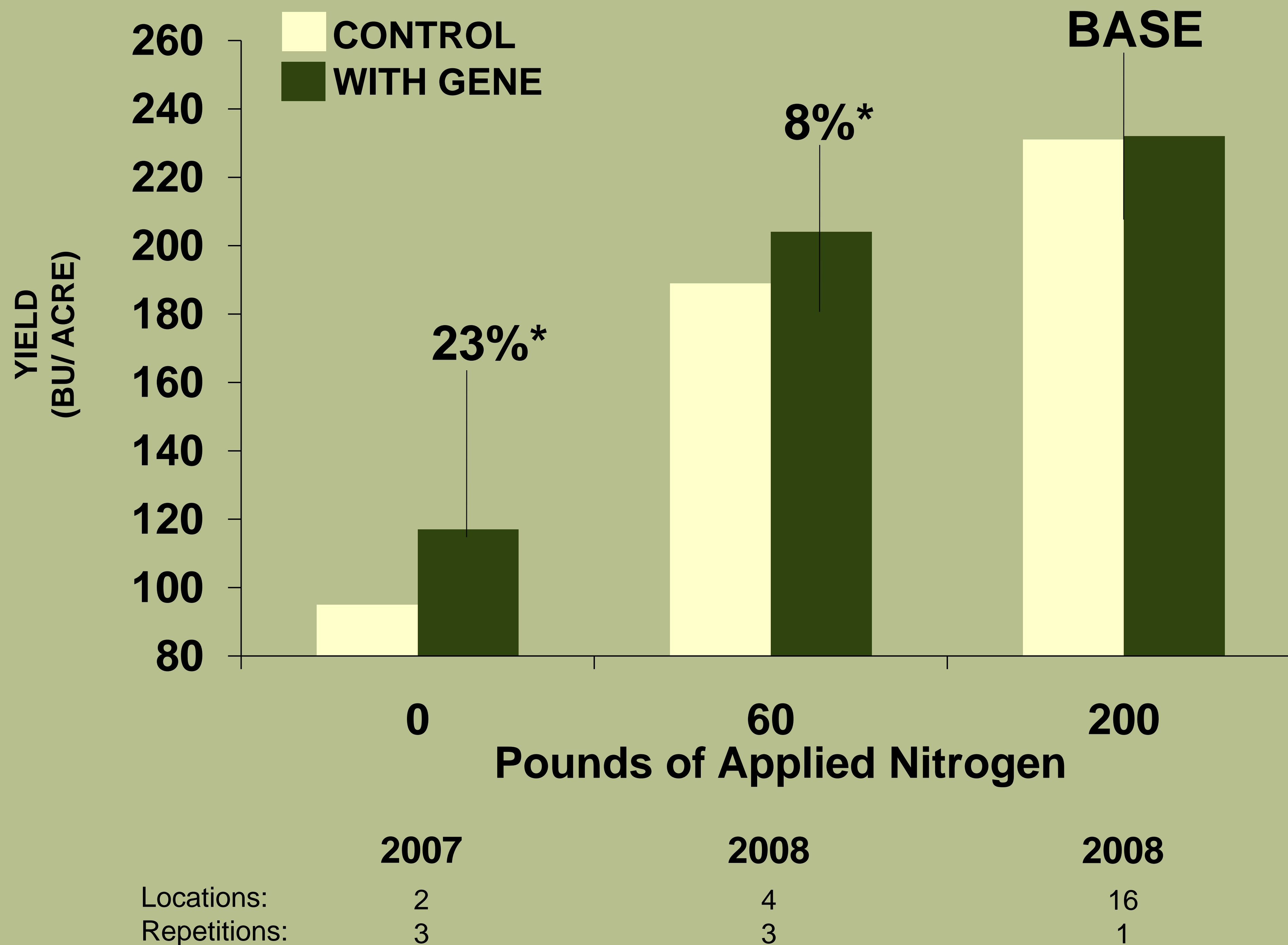
## YEAR TWO – APRIL 2008 TO APRIL 2009

CATEGORY	RELEVANCE	STATUS
Genes Nominated	Increase in number improves probability of developing new products.	<p>► More than <b>95%</b> of gene nominations are unique</p> 
Transformed Events	Once gene is nominated, construct created and transformed events generated. Additional measure of probability of success.	<p>► <b>~30%</b> increase in yield and stress transformations since start of collaboration</p> 
Gene/Events Evaluated	Events are evaluated via phenotypic and metabolic screens. Additional data points improve decisions for phase changes and stacking decisions, improving speed to market.	<p>► <b>&gt;20million</b> metabolic data points (cumulative since April 2007) gathered on yield and stress events</p> 
Field Trials	Field trials indicative of robustness of program and advancement of leads resulting in new products.	<p>► <b>More than 72</b> permits or notifications filed for collaboration field trials in 272 locations across 29 states in the U.S. in 2009</p> 

# Nitrogen Utilization Product Concept Aims to Produce Yield Sustainably

NITROGEN-UTILIZATION CORN FAMILY	
<b>HIT PROJECT</b>	<b>LEAD EVENT PHASE 1</b>
<b>VALUE:</b>	
<b>LAUNCH COUNTRY ACRES:</b>	55M
<b>2020 VALUE</b>	\$300-\$500M
<b>SOURCES OF VALUE:</b>	
1	<b>IMPROVED YIELD:</b> Yield improvement in normal nitrogen environments
2	<b>NITROGEN REDUCTION:</b> Improving yield in lower nitrogen environments

## NITROGEN-UTILIZATION CORN LEADS SHOW REPEATED YIELD ADVANTAGE



\*significant increase over control (p < 0.1)

# Higher-Yielding Soybeans Continue To Demonstrate Improved Yield over Conventional Controls

HIGHER-YIELDING  
SOYBEAN FAMILY

**HIT**  
PROJECT

PHASE 3

VALUE:

LAUNCH-COUNTRY  
ACRES:

45M

2020 VALUE

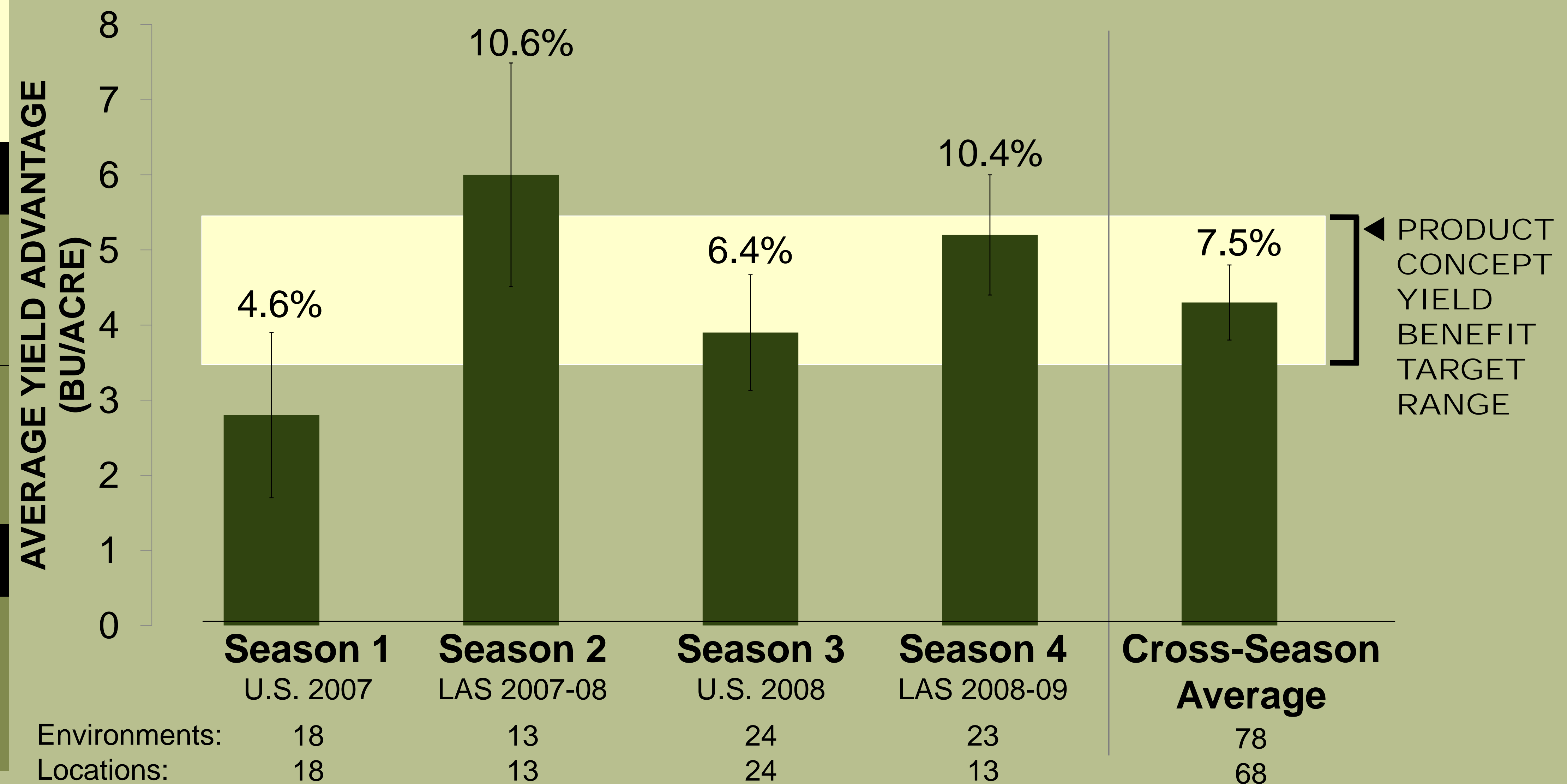
\$300-\$500M

SOURCES OF VALUE:

1

**IMPROVED YIELD:** Yield improvement targeting 6-10% through insertion of key genes

IN LATIN AMERICA TRIALS, HIGHER-YIELDING SOYBEAN LEAD EVENT DEMONSTRATED YIELD ADVANTAGE OVER CONTROL



# First Product from Higher-Yielding Corn Family Showed Improved Yield in 2008 Trials

HIGHER-YIELDING  
CORN FAMILY

**HIT**  
PROJECT

PHASE 2

VALUE:

LAUNCH-COUNTRY  
ACRES:

55M

2020 VALUE

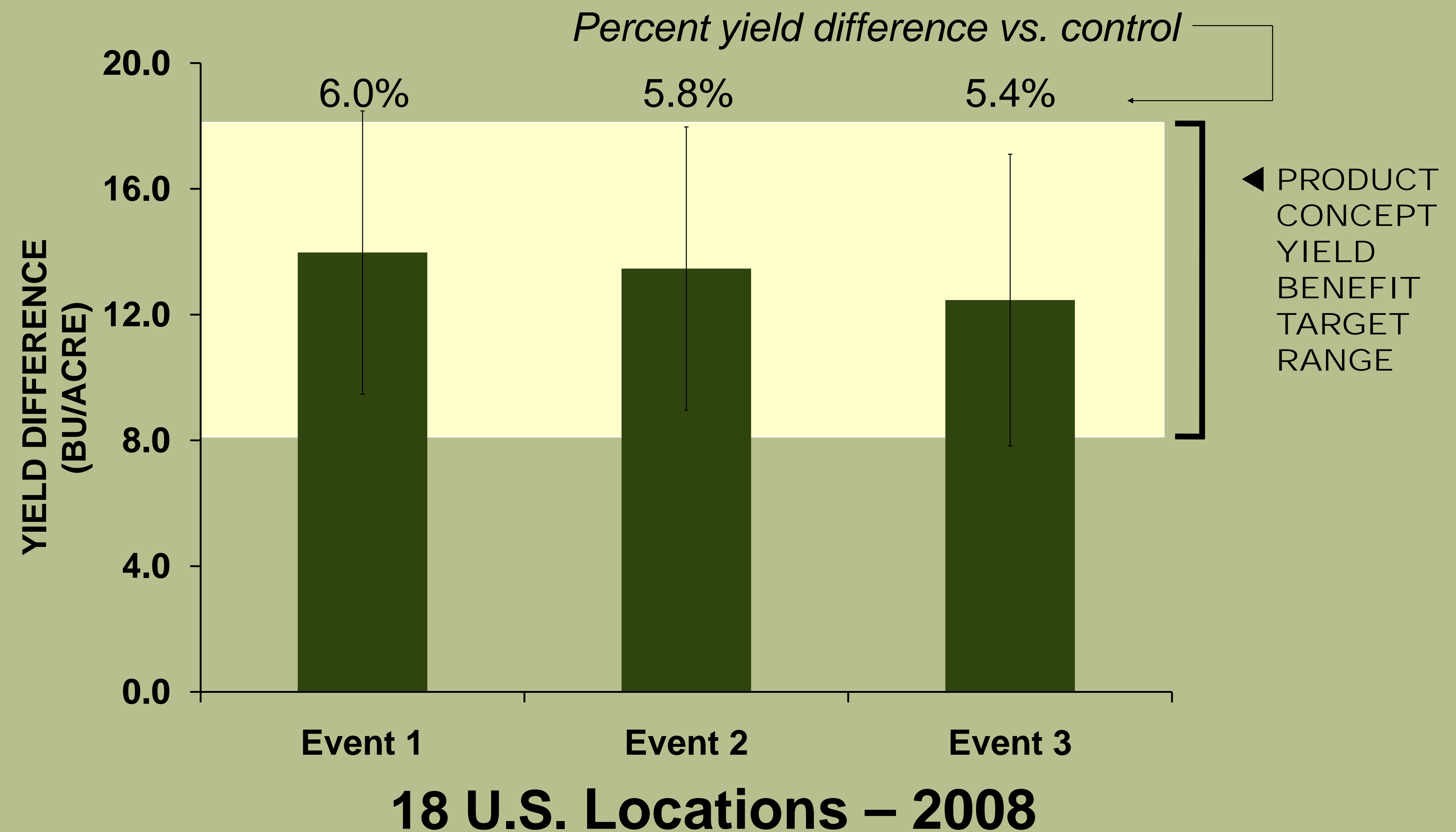
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SOURCES OF VALUE:

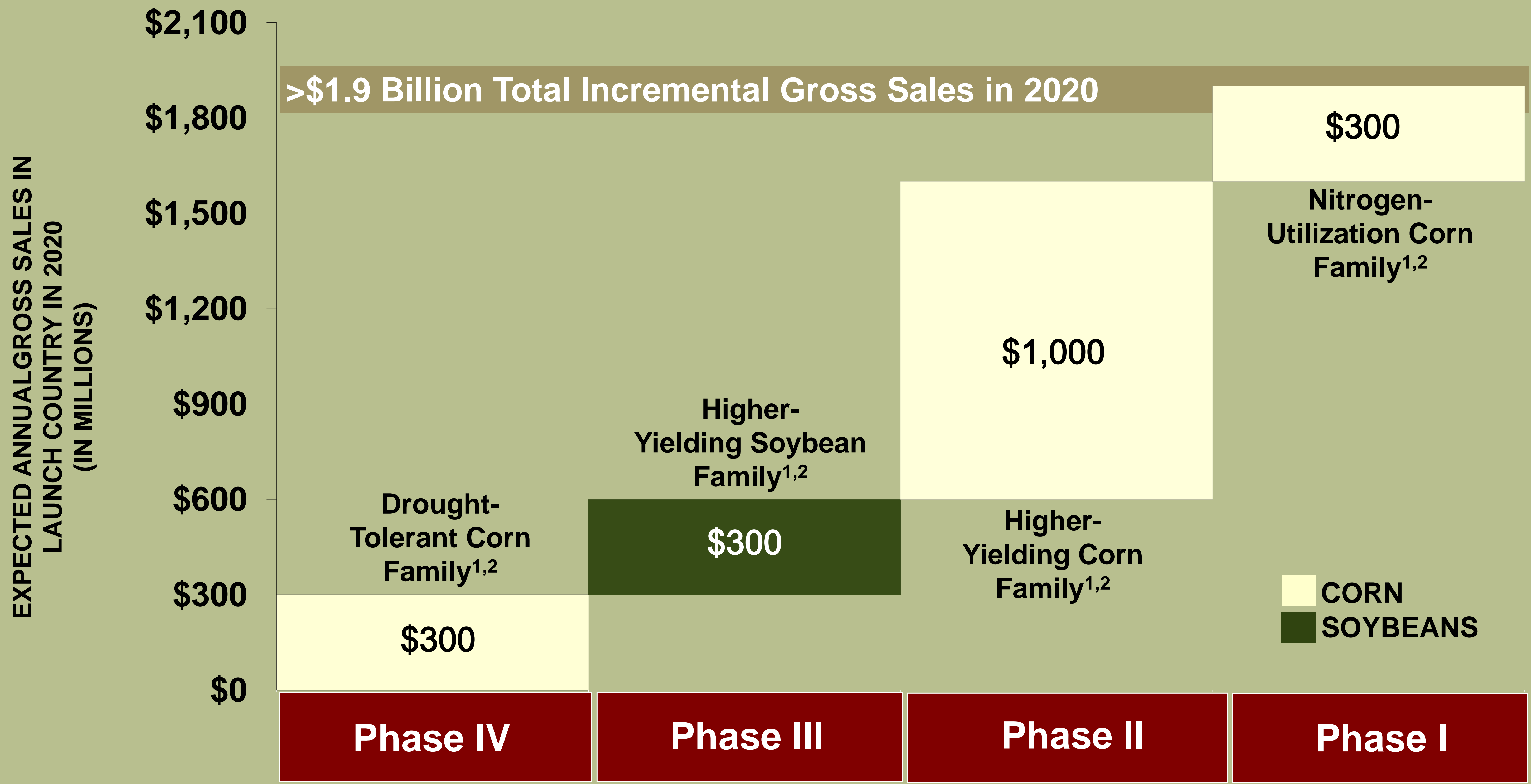
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IMPROVED YIELD: Yield improvement targeting 6-10% through insertion of key genes

## HIGHER-YIELDING CORN GENERATES YIELD ADVANTAGE VERSUS CONTROLS



# Yield and Stress Pipeline Has Potential To Generate More Than \$1.9 Billion in Gross Sales in 2020



R&D phase placement is for the most advanced project in the family. Values noted represent the low end of the 2020 revenue opportunity in launch country.

<sup>1</sup>Part of the Monsanto BASF Yield and Stress R&D collaboration  
<sup>2</sup>High Impact Technologies (HIT) project