

Excellence in Breeding Platform: Linkage with STMA

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Mike Olsen, Michael Quinn, Sarah Hearne, George Kotch,
Vincent Vadez, Kelly Robbins, Marianne Bänzinger



Excellence in Breeding Platform Objective

Accelerate rates of genetic gain by breeding programs targeting resource poor farmers and consumers

Vision of success

Crop and animal breeding programs are delivering higher rates of genetic gains to farmers in the developing world through cultivars and breeds that are more productive, resilient, nutritious, and desired by the market.



Excellence in
Breeding
Platform

Five focus areas = Modules

Module 1

Breeding program management

Module 2

Optimizing breeding schemes

Module 3

**Genotyping / sequencing
tools and services**

Module 4

Phenotyping tools and services

Module 5

**Bioinformatics, biometry and data
management tools and services**

**Creating
synergies to
accelerate
genetic gains of
breeding
programs
targeting the
developing
world**

The Toolbox

Opportunity

Institution

Leadership

People

Infrastructure

Resources

Germplasm

Optimization

Vision

Expertise

CRP-AFS

Strategy

EiB

Coordination

Price negotiation

Capacity Development

Technical Advice

Training



Excellence in
Breeding
Platform

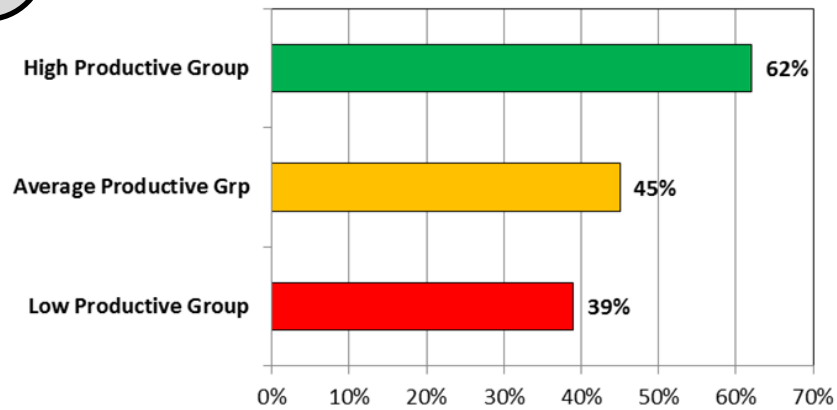
Direction Setting / Monitoring

- **Develop a common language** within the CGIAR/NARES networks
- **Increase Variety Turnover** through our CGIAR/NARES partnerships.
- **Maximize Speed to Market and focus delivery** through improved product management
- **Maximize client satisfaction** through better designed products
- **Breeding program improvements** through the implementation of metrics
- **Linking the CGIAR/NARES** in a common variety replacement focus.
- Switch from a **Tool/Trait Driven Breeding to Demand Driven Breeding**

What Does “Good” Look Like?

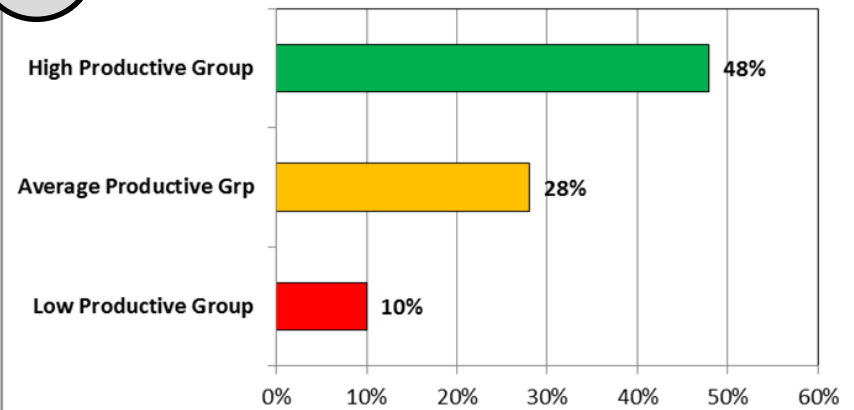
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Upfront Planning (1.6X)



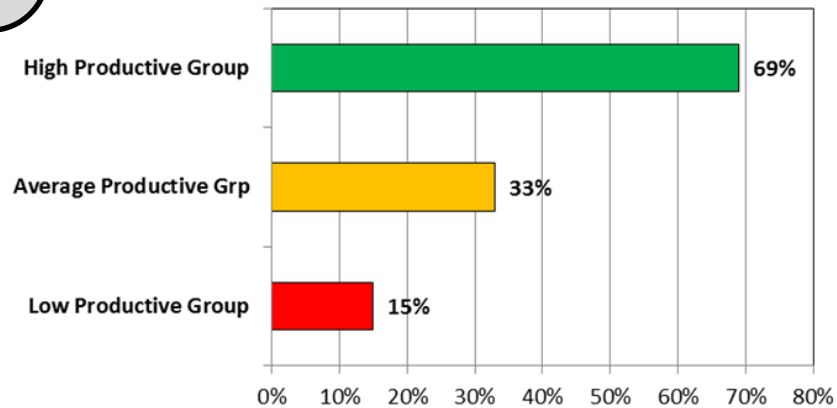
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Impact of Metrics (4.8X)



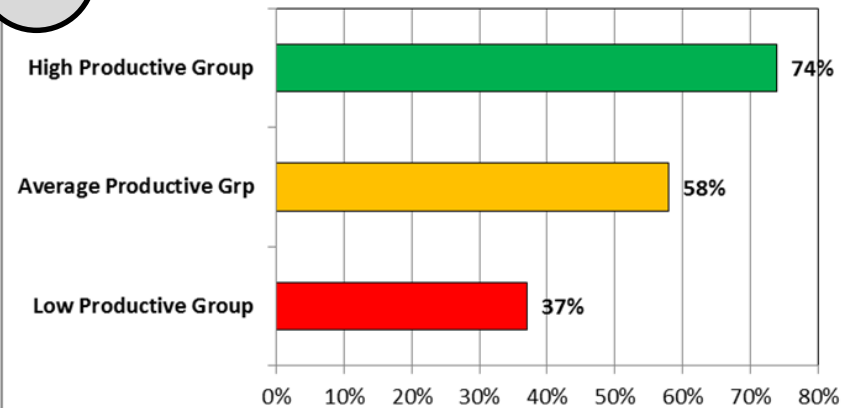
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Understanding the Customer (4.6X)



3

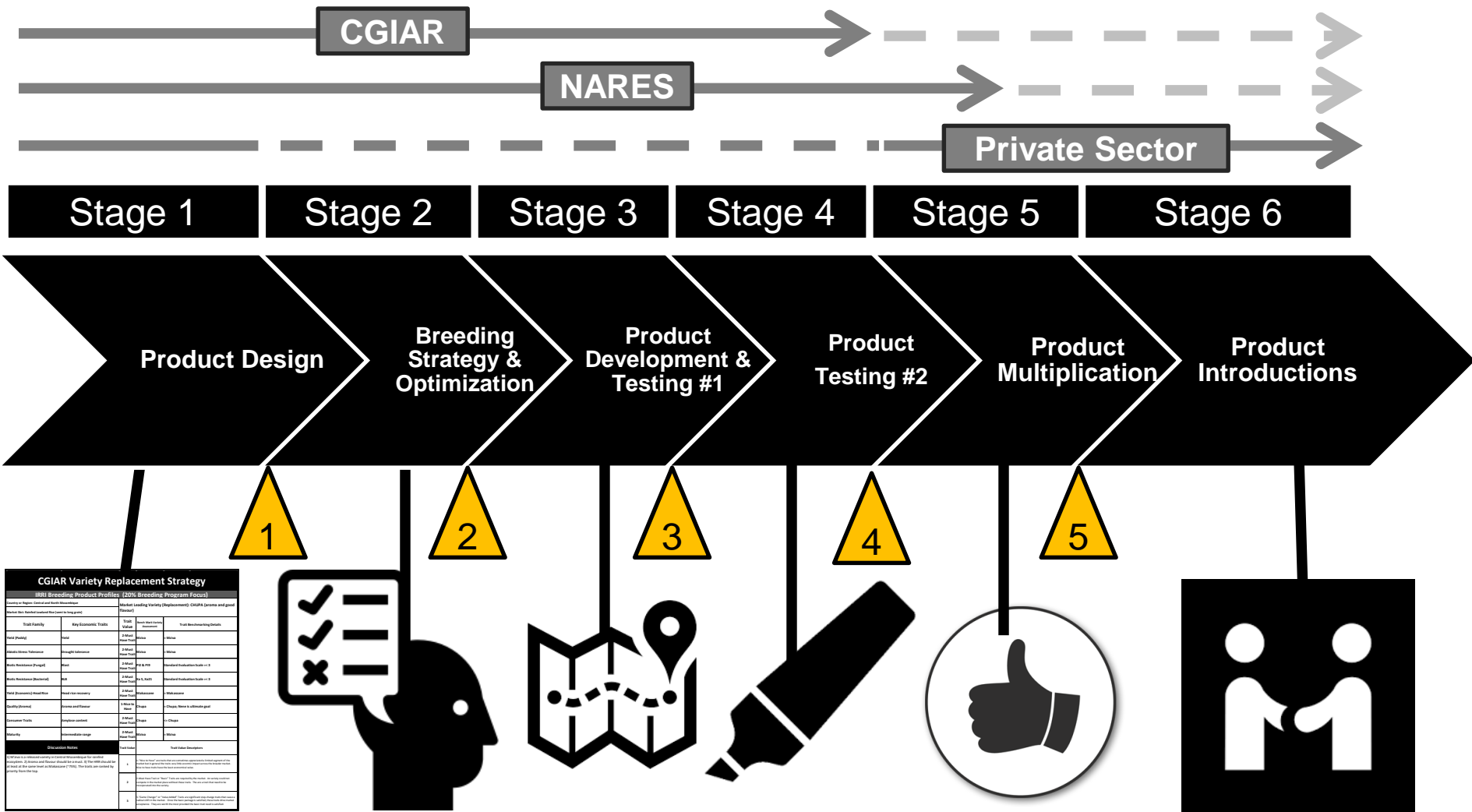
Cross Functional Collaboration (2X)



CGIAR/NARS Success depends on instilling the Principles of High Performing Groups

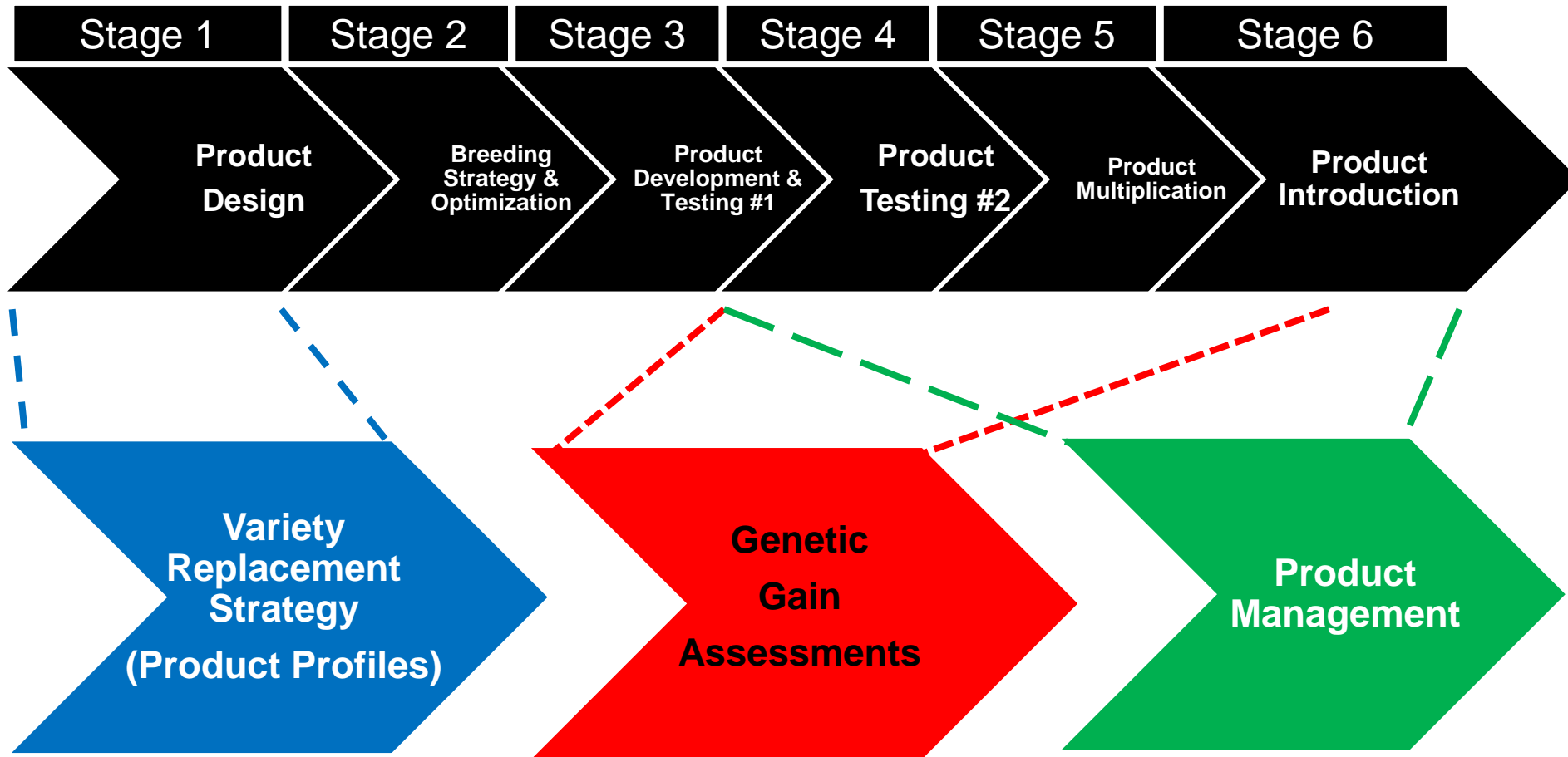
Lean, Rapid and Profitable New Product Development By Dr. Scott J. Edgett and Dr. Robert G. Cooper (2005)

Product Advancement (Stage Descriptions)



CGIAR Variety Replacement Strategy			
[20% Breeding Product Profiles]		[20% Breeding Program Focus]	
<p>Product Profile: [Name]</p> <p>Key Economic Traits: [List]</p> <p>Quality Traits: [List]</p> <p>Stress Tolerance: [List]</p> <p>Production Traits: [List]</p> <p>Harvesting: [List]</p> <p>Discussion Notes:</p>			

Aligning Product Delivery



Module #1 & #2 is about “**Setting Direction**”
Module #3, #4 and #5 is about “**Driving Results**”

Program Management : Three Big “Topics/Objectives”

#1 to deliver more effective products through an improved **product advancement and management system**

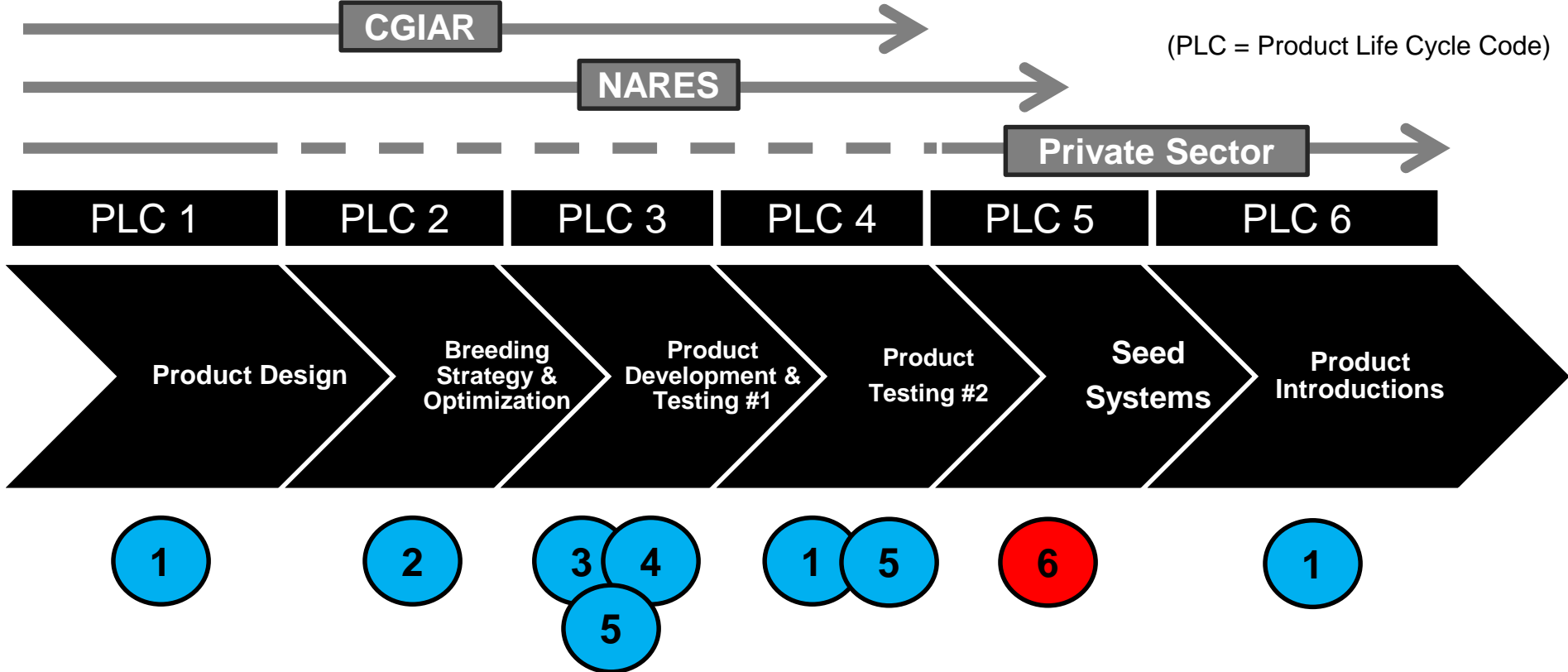
- Product Advancement Process Agreement
- Validating a common stage gate system and the stage-gate definitions
- Define critical roles and sponsorship
- Benchmarking current CGIAR product pipelines
- Develop a roadmap for adoption, communication, implementation and the tool box needs
- Implement Smart Product Management in an low Variety Turnover Region

Program Management : Three Big “Topics/Objectives”

#2 is to increase client impact by implementing a **Product Replacement Strategy**

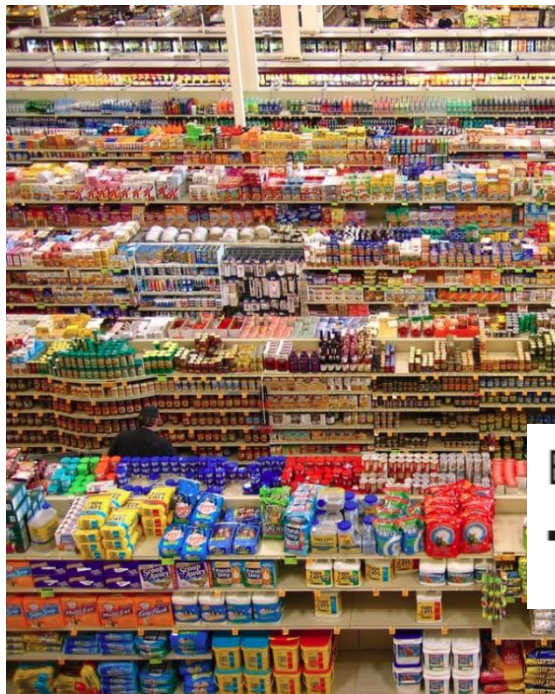
- Gaps to implement the Product Replacement Strategy
- Validation of the product replacement strategy as the over-riding breeding strategy
- Link the variety replacement strategy to the product development process (stage gates)
- Agreement on the official product profile format of product design
- Building a system for information mining (Tool Box Initiative)
- Discussions and then agreement on supporting and improving NARES Product Design and Delivery
- Develop a roadmap for communication, adoption & implementation

Aligning the Stage Gates Backbone w/ the EiB Modules



Module #	Module Titles
1	Breeding Program Excellence
2	Breeding Strategy & Program Optimization
3	Genotyping & Genomics
4	Phenotyping Excellence
5	Bioinformatics and Data Management

Managing Breeding Program Products



Barry Schwartz at TEDGlobal 2005

The paradox of choice



Successful Retailers Learn That Fewer Choices Trigger More Sales

Tesco cuts range by 30% to simplify shopping

Rule #1 in Product Introduction: Less Means More

Program Management : Three Big “Topics/Objectives”

#3 - improve CGIAR/NARES breeding programs by **assessing genetic trends of improvement**

- Link the right genetic trend assessment to the variety replacement strategy and the product advancement process
- Benchmark our current assessment of genetic trend across the CGIAR and NARES programs
- Develop a short, medium and long term genetic trend assessment plan supported by “how to” documentation
- Decide the approach
 - *an annual assessment or*
 - *a program assessment.*
- Develop a roadmap for communication, adoption, implementation and the tool box needs

STMA Metrics / Genetic gain indicators

Outcome	Indicator
Improved performance of marketable hybrids taken up by partners.	Mean yield of stage 4 hybrids taken up by partners for further evaluation relative to baseline checks
Improved productivity of new stress tolerant products under high stress farmer conditions.	kg ha-1 year-1 (Mean yield of on-farm trial cohort relative to baseline checks under stress : trial mean < 3.0 t ha-1)
Improved productivity of new stress tolerant products under low stress farmer conditions	kg ha-1 year-1 (Mean yield of on-farm trial cohort relative to baseline checks under lower stress : trial mean > 3.0 t ha-1)
Improved productivity of new stress tolerant products under managed abiotic stress conditions.	kg ha-1 year-1 (Mean yield of stage 4 hybrid cohort relative to baseline checks under heat, drought and low nitrogen conditions)
Improved productivity of new stress tolerant products under MLN disease pressure.	kg ha-1 year-1 (Mean yield of stage 4 hybrid cohort relative to baseline checks under MLN)
Improved productivity of new stress tolerant products under Striga pressure.	kg ha-1 year-1 (Mean yield of stage 4 hybrid cohort relative to baseline checks under Striga infestation)

**Thank you for
your interest!**

