



Excellence in
Breeding
Platform

Annual Meeting
2019

Pillars of a world-class breeding program

Focus on developing products and adoption for impact

- › **Double the rate of genetic gain**
- › All breeding activities are targeted by clear **targeted product profiles** that define customers and their needs
- › **Target market segments** are defined and linked to distinct germplasm pools and breeding schemes

Data accuracy, cost & throughput

- › **Appropriate** use of technology to increase genetic gain per dollar invested
- › Selections made on **high-quality trials**
- › Continuous and accurate **data collection**
- › Current best practice data management and quality control
- › **Breeding costs** known and readily retrieved

Maximized evaluation accuracy

- › **Genetic gains assessed annually**
- › Best practice implementation of **trial designs**
- › Reliable generation of data representative of **targeted population of environments** to select parents earlier
- › Latest **phenotyping** and **envirotyping** technologies exploited

Impactful breeding pipeline

- › A **defined pipeline** is established to deliver high-quality germplasm from first cross to adopted varieties
- › Sufficient data is generated and available to enable customers and growers to make **informed variety choices**

Optimized breeding schemes

- › Variety development, parent development, identification and validation of novel genetic diversity are **distinct and separate activities**
- › **Breeding cycles are shortened** towards to the biological limit
- › **A stage gate system** is implemented to manage breeding activities

Crossing linked to breeding strategy

- › Parental selections made and genetic diversity managed according to the **breeding strategy**
- › Variety development strictly based on **elite-by-elite crosses**
- › **Genetic diversity** is measured and actively managed

Accurate selection

- › **Annual advancement meeting**
- › **Selection index** aligned with product profile
- › Best practice **trial analyses** to estimate breeding values and genetic merit
- › **Visualization tools** support decision-making
- › **Selection intensity** and **genetic diversity** considered in parent selection

Continuous improvement culture

- › Full use of external trialing and germplasm
- › **Breeding teams are the experts**
- › Clear **pathway and metrics** to deploy new and successful breeding methods
- › **Annual review** of performance metrics
- › Respect and safety for **all employees**