



Seed Production and Pipeline Delivery

Seed production / processing and management principles



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Agenda

- // SPPD Site overview
- // Operational overview
- // Shelling operations
- // Seed processing
- // Virtual site tour
- // Q&A





Petit site Overview

Facility update: Africa mega breeding hub

- Summer nursery site
- 160 ha (107 Cultivated)
- 55 ha under irrigation
- 2 big wells, irrigation water supply-drilled in 2000
- 2 buffer irrigation dams

SPPD operations:

- Nursery operations
 - XD(initial crosses), increases/Self, observation
//////// nurseries and hybrid makeups
- Dryer facility
- Fumigation chambers
- Selection area
- Processing line/ Shelling line
- Seed storage facility
- Seed processing (nursery & yield trial processing/ packing)
- Equipment maintenance and bulk storage of consumables



- Functions on site:
 - Breeders, SPPD team, FS, Pathology , Phenotyping, Pre-foundation, Operational Team,

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Malelane site Overview

Facility update: MSP

- Summer / Winter nursery site
- Consist of 2 farms
 - **Vongotti**-35ha
 - 29 ha-drip irrigation
 - **Makhundu**-65ha
 - 50 ha-drip irrigation

- Lomati river

SPPD operations:

- Increases, observation nurseries and hybrid makeups, CFT trials, MD trials
- Equipment maintenance

Functions:

- SPPD Team,
- FS
- Pathology ,
- Pre-foundation,
- Market development and Vegetables





Africa Seed Production & Pipeline Delivery

Mission: Rapid and Reliable delivery of breeding seed for all pipelines through innovation

Pipeline Delivery

Inventory management
// Live inventory system
Forecasting
// LRP and actuals

Handoff seed to the
// Right destination
// At the right time
// To the right stakeholder/s



// Ensuring that the pipeline is filled in all stages
// All seed requirements are met

Planning

Planting

Precision placement of seed, ensure quality seed for next generations (no carry over seed)



Global technology adoption and innovation for Data collection and harvesting



Field Operations/ Harvesting



World class processing line
// Improved seed quality-nurseries/yield trial

Seed Processing

Seed Logistics

Pipeline Enablement

Team work
Efficiency
Safety

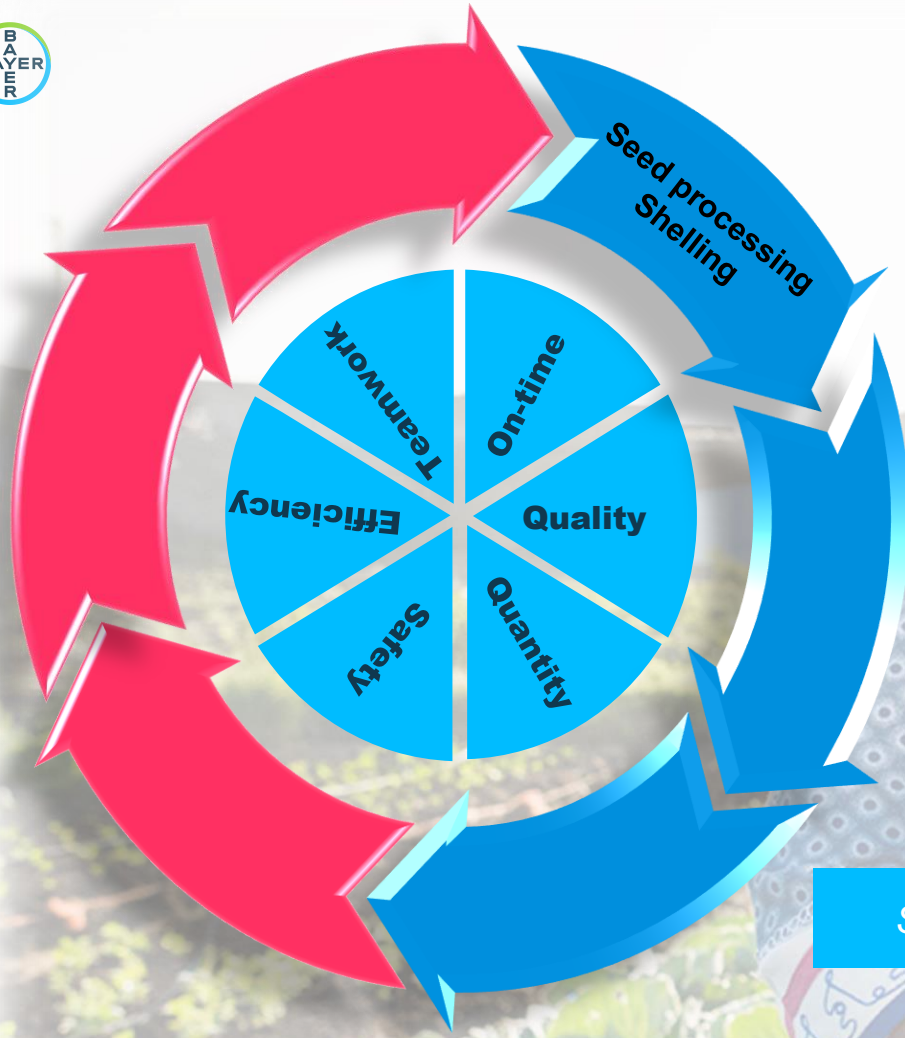
On-time
Quality
Quantity

Seed Production

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Shelling process



Our processes have evolved over time

- **Shellers:**

- Single ear – line seed
- Bulk sheller – Hybrid seed
- QC:
 - Discarding of defective grain
 - Color deviation on yellow and white
- Data capturing
 - Kernel count
 - Seed sizes

- **Seed treater:**

- Hybrid seed- treated
 - Needs Uniform seed coating
 - No advantage from one over other entry
- Inbred seed – untreated
- **Plant tag scanning / printing:**
 - Inventory label
 - SU allocation in storage facility
 - Inbred seed – Cold-room
 - Hybrid seed - Shelves

Single Ear Sheller

Bulk Sheller

10 tin seed treater





Ensuring Seed Quality through Processing

QC steps at each part of the process



Harvesting



Selection



Data Capturing



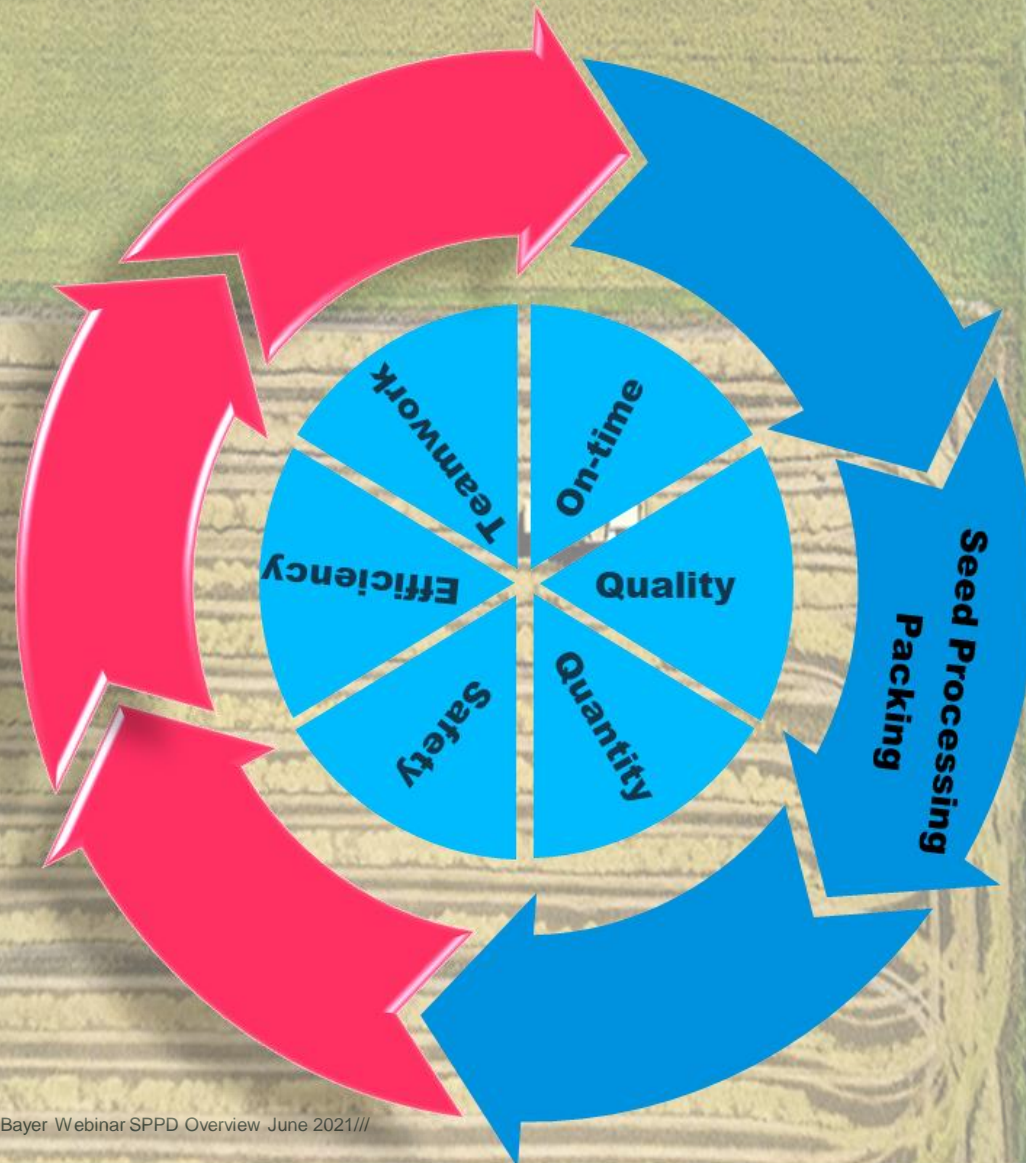
Seed Processing



Storage Units



Allocations



Seed preparation for planting:

- // List of entries send trough to storage facility- Breeder/RA
- // Pull entries out of SU
- // Place (Map) entries on field
- // Print envelopes to be counted out
- // Count out seed from source packet
- // Sort entries by planting order
- // Scan for QC
- // Ship for planting
- // Same process
- // Nurseries
- // Yield trials

All seed needs to be traceable- from cradle to grave

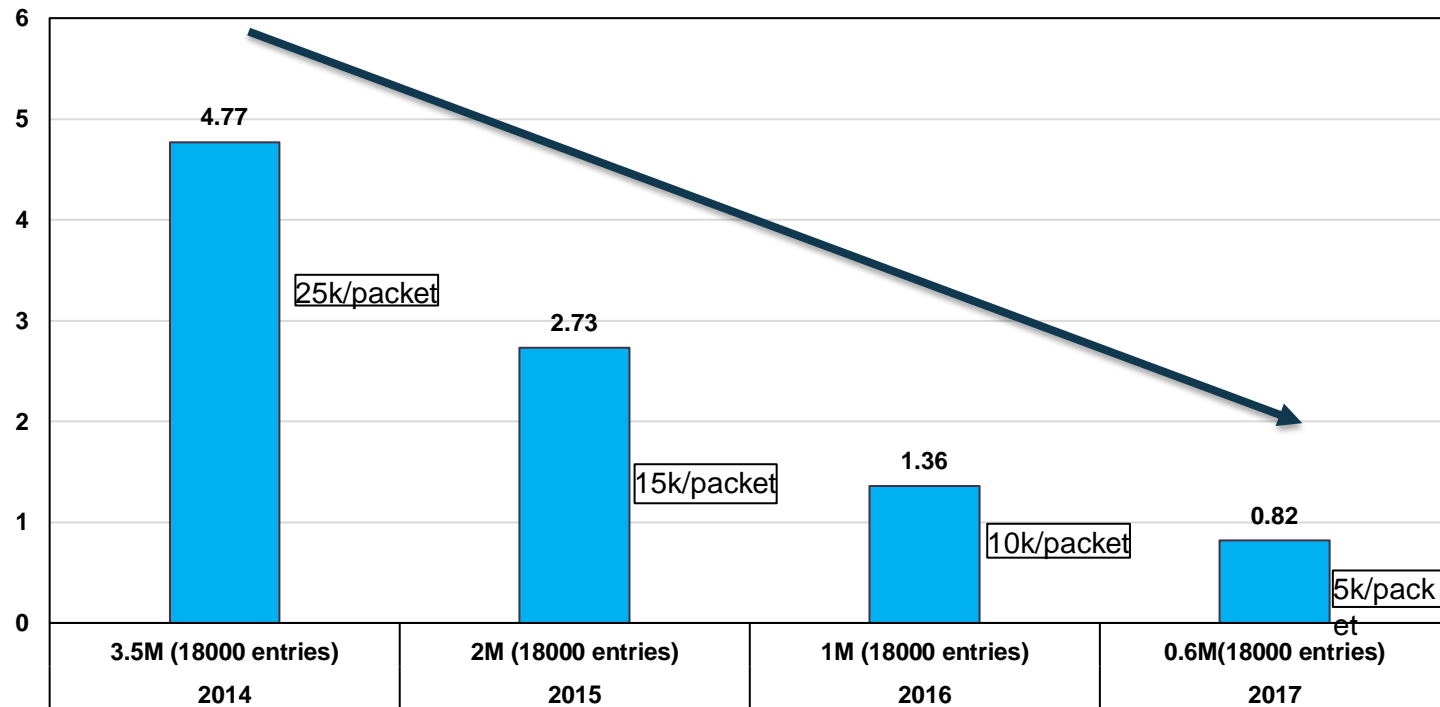


Driving Productivity through Efficiency

Data is the key enabler to driving efficiency in the workplace



Total land reduction for inbred increases over 4 years



Know your need:

- // Seed Requirements
- // 500 kernels
- // Row length
- // # of rows
- // Kernels per packet
- // Land Space
- // How much?
- // Optimise
- // Sustainable practices



Visual Site Tour



Thank you

