Public Variety Releases

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CGIAR is a global research partnership for a food-secure future
What is CGIAR?

- CGIAR is the world’s leading research partnership on sustainable crop and animal agriculture, forestry and fisheries, with annual turnover of US$1 billion and over 10,000 staff in 96 countries.

- 15 research Centers implement collaborative large-scale CGIAR Research Programs (CRPs)

- CGIAR members, countries, private foundations, regional and international organizations contribute financing, technical support, and strategic direction.

- CGIAR genebanks safeguard the world’s largest and most diverse crop and forage germplasm, indispensable to future food security
10,000 scientists and staff in 96 countries
CIMMYT’s Maize Germplasm Bank contains over 28,000 unique collections of maize seed and related species from 88 countries.

The collections are a source of diversity to breed for traits such as heat and drought tolerance and resistance to diseases and pests, and to improve grain yield and grain quality.”
Variety Release Pathways

Breeding
- CIMMYT (DTMA, WEMA etc)
- ICRISAT (TLLII)
- NARs

Variety Evaluation and testing
- CIMMYT
- ICRISAT
- NARS,
- Seed growers

Seed Production
- CIMMYT
- ICRISAT
- NARS
- Seed companies

Promotion and Dissemination
- CIMMYT
- ICRISAT
- NARS,
- Seed companies

Farmer
- Extension,
- IP partners

Pre-basic and basic seed, Training
- Seed Road Maps, demonstrations, field day

Regional Trials, PVS, NPT
- Variety release, Registration

New maize and legume varieties
Maize ME’s

Highland
Upper humid mid-altitude
Lower humid mid-altitude
Dry mid-altitude
Wet lowlands
Dry lowlands
What is the Purpose of Variety Release and Registration?

- To ensure **DUS** varieties enter the market
- To ensure that the variety has a minimum value for cultivation and use (VCU)
- Stimulates use of increasingly better varieties
- Stimulates good breeding programs

Protection for the breeder and the farmer
Many of the hybrids on the market in Zimbabwe are CIMMYT germplasm

- CIMMYT is the largest contributor of improved maize germplasm annually as international public goods.
- Over 54% of publicly bred maize varieties released in the developing world are reported to have CIMMYT's elite maize germplasm
Germplasm uptake

More than 150 varieties developed at CIMMYT Zimbabwe are currently under commercialisation in Africa and Asia.
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# Best bet legumes

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CIMMYT Variety Allocations

• Every year CIMMYT conducts **Regional Maize Trials**
  – 75 % entries comes from CIMMYT 25% from partners

• In August an invitation is sent out with Regional Trial report for requests for CIMMYT products.

• Requests are sent to GMP Director

• Allocations are made in September-October
Access to CIMMYT Maize Inbred lines

- CIMMYT's and other public elite maize inbred lines and trait donors for:
  - Abiotic stress tolerance (drought, Low N, Low pH)
  - Biotic stress resistance MLN, MSV, GLS
  - Nutritional quality (QPM, provitamin A)
- Free to access on request for breeding purposes from breeders or gene bank
MLN Screening Facility at Naivasha
MLN Resistant Hybrids (Naivasha; 2016)

15 second-generation CIMMYT-derived MLN resistant hybrids presently under NPTs in Kenya, Tanzania and Uganda. Will be available for seed companies.
MLN Resistant Hybrids (Naivasha; 2016)
Tackling the MLN Challenge
Moving beyond our “comfort zone”

• MLN Phytosanitary CoP established in Feb 2016
• Trained our national partners in southern Africa; MLN surveillance ongoing in Malawi, Zambia and Zimbabwe
• Negotiated with MLN diagnostics providers and brought down the cost of MCMV immunostrips!
• Awareness creation on MLN-free commercial seed production through AFSTA, EAGC, EAC, etc.
Access to Maize Hybrid

• Hybrids
  • Given on confidential basis
  • Institution become the maintainer of the hybrid
  • Unique name can be given
  • Given for commercialization for specific countries on request
  • Rights remain with CIMMYT
  • CIMMYT doesn’t release varieties but only through partners
  • Seed companies promise commercialize and scale the hybrid within given time frame
59 TEGO Hybrids released since 2013

On-Farm WE2109 TEGO in Kisumu, Dec 2014
# Commercial Certified Hybrid Seed Sales of WE1101

<table>
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<th>Year</th>
<th>Certified Seed Availed for Sales (Tons)</th>
<th>Farmland Coverage (ha)</th>
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<td>2014</td>
<td>67.5</td>
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<tr>
<td>2015</td>
<td>786</td>
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<td>2016</td>
<td>1,206</td>
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Access to Maize OPVs

- Maize OPVs
  - The institution that registers becomes the maintainer
  - Agrees to provide foundation seed to other companies
  - Other companies may commercialize the same OPVs using same name but their own packaging material
Public variety releases

• **No Plant Breeders’ Rights for Public Varieties**
• Different companies can market the same variety
• Variety Rights remains with the public institution that developed the variety
Support from CIMMYT

- CIMMYT provide small quantities of breeders’ seed
- VCU and DUS data for registration
- Hybrid seed production information
- Technical backstopping
- Seed production training
- Socio-economics studies

Inbred Parent Trial Zimbabwe 2012/13

Days to 50% Anthesis

Altitude/m

Single Cross female yields, 2014

Average Yield (t/ha)
• Over the past four years approximately **823 seed shipments** have been made

• **1.3 million envelopes** to 315 institutions

• Seed shipments are accompanied by the required phytosanitary documentation and a Standard Material Transfer Agreement (SMTA).
Africa

• **75,000** tons drought-tolerant maize seed produced in 2015 due to CIMMYT support.

• **Over 200** drought varieties released across Africa
Thank you for your interest!