Project brief

Seed Production Technology for Africa

Improving productivity through high quality hybrid maize seed

Farmer Edma Shanguri holds a harvest of Ms44 hybrids from an on-farm trial in Murewa, Zimbabwe. Photo: J. CAIRNS/CIMMYT.

About SPTA - *The Seed Production Technology for Africa (SPTA) project aims to improve access to high purity, modern maize hybrids, thus improving the livelihoods of resource constrained maize farming households in sub-Saharan Africa. It seeks to deliver high quality hybrid seed with improved yield in low fertility environments. SPTA is a collaborative initiative of the Agricultural Research Council of South Africa (ARC), International Maize and Wheat Improvement Center (CIMMYT), Corteva™ Agriscience and Kenya Agricultural and Livestock Research Organization (KALRO).*

Maize productivity in sub-Saharan Africa continues to lag behind other regions of the world. One reason for this is that smallholders regularly plant seeds of outdated maize hybrids and open-pollinated varieties and this seriously limits yield potential. In addition, seed companies often struggle with complex and high cost production systems, making it hard for them to produce sufficient quantities of high quality seed that smallholders can afford.

The Initiative

The **Seed Production Technology for Africa (SPTA)** project aims to strengthen the capacity of small and medium seed companies to produce high quality hybrid maize more efficiently, and at reduced cost.

SPTA will contribute to a more vibrant private seed sector using a technology that fits within existing production systems of targeted seed companies. SPTA will improve the maize productivity gains for resource-constrained smallholders that are unable to access adequate fertilizers, easing the burden on public funding for development.

How SPTA Works

The project utilizes a seed production technology process to reduce seed production costs and increase seed purity so that seed companies can produce sufficient quantity of affordable high-quality maize hybrid seed. The SPTA process creates female parent inbreds that do not produce pollen, therefore the manual process of detasselling during seed production is not necessary.

SPTA Goals

The project aims to:

- Improve the grain yield potential of stress tolerant maize hybrids in low fertility environments.
- Develop a new hybrid production platform capable of producing sufficient early generation seed to support production of high quality certified seed each year.
- Reduce the production costs of seed partners in the sub-Saharan region.

SPTA's Added Value

SPTA seeks to improve seed production systems targeting small and medium seed companies and smallholders in sub-Saharan Africa.

Smallholders

- Hybrids from SPTA technology yield more under low fertility conditions, benefiting smallholders who are unable to afford or access adequate fertilizer.
- Smallholders will have better access to high quality hybrid seed to improve productivity and livelihood.
- Smallholders will plant maize hybrids that perform better than outdated and obsolete varieties.

Seed Companies

- Seed companies will produce higher quality hybrid seed in sufficient quantities at a lower cost.
- The SPTA technology will be provided royalty free to licensed seed companies producing seed for smallholders in the region.

History

The SPTA project originated from the Improved Maize for African Soils (IMAS) project that concluded in 2015. IMAS focused on developing maize hybrids that could use nitrogen fertilizer more efficiently and produce higher yields under the low fertility conditions that are prevalent in Africa.

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CIMMYT International Maize and Wheat Improvement Center

KALRO Kenya Agricultural & Livestock Research Organization

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