

# Pioneer: Investing In Africa

## Improved Maize for African Soils

### Improved Maize for African Soils:

The Improved Maize for African Soils (IMAS) partnership is focused on boosting yields, increasing incomes, and enhancing the lives of sub-Saharan Africa smallholder farmers by improving maize varieties to use nitrogen more efficiently.

Nitrogen is essential for agricultural crops, and yet, on average African farmers apply just one fifth of the nitrogen needed to maintain adequate soil and crop health. In fact, African farmers use less than 10% of the world average amount of fertilizer. This under usage has led to lower crop yields and poorer soil fertility. African farmers understand the benefits of proper fertilization, but many factors prevent widespread use. African farmers tend to pay two to six times more for fertilizer, when it is available, than farmers in the rest of the world. Poor transportation infrastructure, lack of local nitrogen production, and low trade contribute to high prices and lower usage rates.

### Pioneer's Investment in IMAS:

Pioneer has identified several promising nitrogen use efficiency (NUE) gene leads and has been conducting field testing in managed environments. Pioneer will donate promising NUE genes to the project. Seed produced by IMAS will be available royalty-free to smallholder farmers within Sub-Saharan Africa. Pioneer will apply its powerful Accelerated Yield Technology (AYT) resources to expedite molecular, conventional and transgenic breeding processes. Pioneer will manage initial introduction of NUE genes into elite African-adapted germplasm for evaluation in Kenya and South Africa. Pioneer will manage US deregulation of events to be commercialized in Africa. Pioneer will provide transgenic and molecular breeding training at its facilities for KARI and ARC scientists.

### Partnership Goals:

IMAS partners will leverage an array of advanced breeding techniques with a goal to create maize varieties and hybrids that yield at least 50% more than currently available varieties grown with existing nitrogen application rates. IMAS seeks to improve nitrogen use efficiency in maize through three research efforts:

- Maize seed from conventional breeding introduced within four years
- Molecular breeding will produce improved maize seed within 7 to 9 years
- Transgenic seed within 10 years, pending regulatory approvals

### Project Snapshot:

#### Key Partners Include:

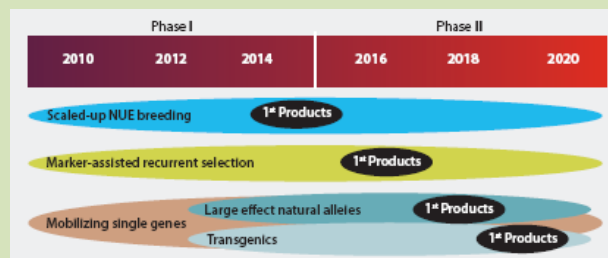
- The International Maize and Wheat Improvement Center (CIMMYT)
- The Kenya Agricultural Research Institute (KARI)
- Agricultural Research Council of South Africa (ARC)
- Pioneer Hi-Bred, a DuPont business

#### Funding:

IMAS partnership is valued at over \$30 million, including:

- The Bill and Melinda Gates Foundation: \$17.3M
- USAID: \$2.2M
- Pioneer: technologies and technical support
- CIMMYT, KARI and ARC: germplasm and technical support

#### Timeline:



### IMAS is Building Capacity in Africa:

IMAS will develop mutually beneficial science partnerships and local research capacity. With a public-private partnership valued at over \$30 million to fund the research, the partnership will develop science and collaboration capacity between private foundation, government, private industry and public research institutions.

