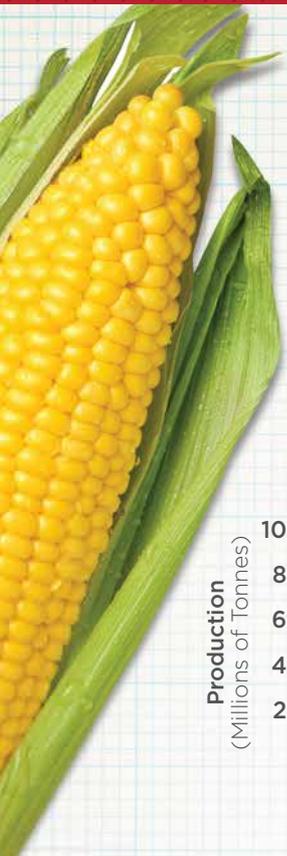


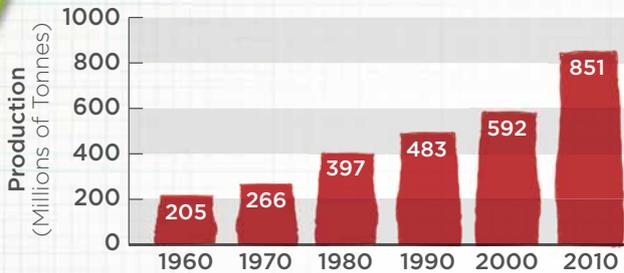
Intellectual property is the cornerstone of innovation. As global population grows, developing new technologies that can feed our world becomes more challenging. Intellectual property ensures that innovators can invest the resources necessary to create the next generation of farm technologies.



# MAIZE

Maize has been cultivated by farmers for over 9,000 years, making it one of the oldest and most important domesticated plants in the world.

Rising global maize production:



Agricultural scientists and geneticists have developed ancient teosinte into the modern maize varieties we know today.

Teosinte  
Maize-Teosinte Hybrid  
Modern Maize

## CHALLENGES & SOLUTIONS

**CHALLENGE**  
Improving fertilizer effectiveness

**SOLUTION**  
Nitrogen-use efficient varieties

Currently, African farmers apply just one-fifth the nitrogen needed to maintain soil and crop health because of high prices and lack of infrastructure. The Improved Maize for African Soils (IMAS) project aims to improve yields and enhance the lives of sub-Saharan Africa's smallholder farmers by developing maize varieties that use nitrogen more efficiently. The intellectual property protections on these varieties ensure the IMAS team can properly develop and deliver royalty-free varieties to farmers using the right technology transfer tools.

**CHALLENGE**  
Drought

**SOLUTION**  
Drought-tolerant maize

Today, African maize farmers' average yield is one tonne per hectare, compared to eight tonnes in the rest of the world. In East Africa, drought and unpredictable weather are major contributors to this yield gap. The Water Efficient Maize for Africa (WEMA) project is developing drought-tolerant conventional and biotech varieties that can help farmers thrive in increasingly difficult weather. The intellectual property protections on WEMA's varieties ensure they can properly develop and test them before transferring the seeds, royalty-free, to the smallholder farmers who need them most.

**CHALLENGE**  
Pest pressures

**SOLUTION**  
Insect-resistant maize

Maize farmers, on average, lose 37% of their annual production to pests, which is why finding new ways to control insects will be critical to improving global food security in the coming decades. Bt maize varieties enable farmers to plant crops with insect controls inside the seed, increasing yields and incomes while reducing input needs. Several innovators hold patents on Bt maize varieties, which ensures they can deliver a fully developed product to farmers while protecting the time and cost they have invested in their invention.

*Intellectual Property Makes Agricultural Solutions Possible*