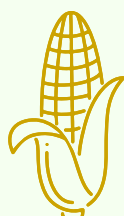


FUTURE CROPS

Fungal-resistant CORN

The Future Crops Series presents the biotech crops in the pipeline being developed for food security, climate change resilience, and sustainability.



As the world's most produced grain, **corn** plays a vital role in global stability, economic progress, improving public health, and acting as an essential crop for both food security and poverty alleviation. While the **US, China, and Brazil** lead global production, the crop impacts regions like Sub-Saharan Africa, where it is a vital staple for daily survival and livelihood.



Major biotic threat: **PATHOGENIC FUNGI**

cause a double impact of reducing yields and producing poisonous chemicals, posing threats to plants, people, and animals

EXAMPLES OF PATHOGENIC FUNGI AFFECTING CORN



Fusarium causes rot in ears and stalks and produces mycotoxins



Aspergillus destroys grain and produces mycotoxins

IMPACTS OF MYCOTOXINS



~4.5B people exposed to deadly aflatoxins annually.



Massive crop & grain losses drain global economies.



Developing nations suffer most due to high exposure and low resources.

Mycotoxins are toxic chemicals that can cause severe illness or death in people and animals.



Solution:

BOOST CORN'S IMMUNE SYSTEM

PLANT'S 2-LAYER NATURAL DEFENSE SYSTEM

- 1 surface sensors detect general warning signs from invading microbes
- 2 internal sensors detect intruder activity inside cells



Scientists are now transferring these defense genes from one plant species to another to upgrade the immune systems of vulnerable crops like corn.



2BLADES' BLADESEEK™ PLATFORM



AI-based platform used to accelerate mapping and identification of defense genes

CONVENTIONAL METHODS

5-10 years
many resources
few genes

NLRseek™ & PRRseek™



2-3 years
few resources
many genes

IMPACT OF FUNGAL-RESISTANT CORN



Better yield and grain quality



Increased income for corn growers, handlers, and processors



Savings in mitigation costs



Safer food and healthier lives for people, livestock, and aquaculture

GLOBAL DEPLOYMENT STRATEGY



Fungal-resistant corn

Large-scale commercial production

DUAL MARKET APPROACH

Small-holder production

Deployment to farmers

