Golden maize varieties (High provitamin A)

Nutrition-boosting, income-enhancing maize.

These maize varieties have distinctive orange kernels, a result of high beta-carotene content. They are developed through advanced breeding techniques, combining naturally provitamin A enriched lines from Central and South America with elite land races and hybrid lines with improved agronomic traits.

African Agricultural Technologies Foundation (AATF)
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This technology is TAAT1 validated.

7·7 Scaling readiness: idea maturity 7/9; level of use 7/9

Gender assessment 4

Climate impact 4

Problem

- Significant population, including children and adults, faces preventable blindness and weakened immune systems due to insufficient vitamin A levels.
- Increased susceptibility to diseases such as measles, diarrhea, and respiratory infections.
- Common maize varieties lack vital vitamins and minerals, contributing to widespread malnutrition.
- 50% of children aged 0.5 to 5 years are at risk of vitamin A deficiency, leading to severe health complications and diminished quality of life

Solution

- Provitamin A enriched maize varieties provide a stable source of essential nutrients, combating deficiencies.
- Preservation of beta-carotene ensures a consistent supply of vitamin A.
- Genomic modification maintains nutrient content without compromising yield.
- Cost-effective approach for regions heavily reliant on maize.
- Tailored to meet nutritional needs, providing a significant portion of daily vitamin A requirement.
- Accessible and adaptable for diverse farming systems.

Key points to design your program

Golden maize varieties are rich in beta-carotene, offering a powerful solution to combat malnutrition while improving agricultural productivity.

- Aligned with SDG 2, SDG 3, and SDG 13, they contribute to food security, better health, and climate resilience.
- Part of the Maize Innovation Toolkit, they work alongside technologies like precision fertilizer application to maximize productivity and farmer income.
- Golden maize varieties have been introduced in **Burundi, DR Congo, Kenya, Rwanda, South Sudan, Tanzania, and Uganda** as part of the **Country engagement missions** through the **Enabling Sustainable Regional Agricultural Extension (ENSURE) project**.

Cost: $$$ **0.8—1.2 USD**
per kg

10—20 %
Revenue increased

IP
Open source / open access

Technology from

ProPAS

Commodities

Maize

Sustainable Development Goals

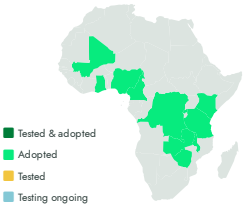
Categories

Production, Improved varieties, Yield improvement, Quality improvement

Best used with

- Drought Tolerant Maize Varieties and Water Efficient Maize Varieties ›
- Pre-plant blended fertilizers and nitrogen topdressing for maize ›
- Maize-legume rotation and intercropping ›

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.