WFP World Food Programme

CIMMYT
International Maize and Wheat Improvement Center

GOAL








VARIETY DESCRIPTION

Maize, Sorghum, Millet, Cowpeas and Groundnuts

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Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

Disclaimer: The hybrids and open-pollinated varieties listed in this brochure were rated based on collaborative trials conducted annually by National Agricultural Research Programs, non-governmental organizations, private seed companies and CIMMYT across southern and eastern Africa between 2007 and 2015. Results are based on a minimum of two years' data. The information in this publication is based on results available at the time of publication. This does not exclude that the varieties may perform differently if grown at other sites, or under different conditions, or that certain varieties are also produced by other seed producers.

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Characteristics of Drought Tolerant (DT) Maize Hybrids:

- Yield 20 to 30% more under moderate drought conditions than other commercial varieties
- High yielding under drought and optimum conditions
- Resistance to major diseases (e.g. maize streak virus, Turcicum leaf blight, and gray leaf spot and superior milling or cooking quality.
- Very uniform
- The seed has to be purchased every season

SC 419

- White grain hybrid with very high yield potential
- Very early maturing white and hard dent grained maize hybrid
- Reaches physiological maturity in 128 days to harvest
- Good yield potential
- Excellent cobbing ability (big cobs),
- High shelling out percentage (80%).
- Excellent heat and drought tolerance with a drought escape characteristic when planted in low rainfall areas.
- Excellent tolerance to major maize diseases with moderate tolerance to grey leaf sport.
- Excellent standability.
- Recommended for regions 2, 3 and 4.

PGS 65 (DT hybrid)

- Semi-flint, white hybrid with very high yield potential.
- Excellent standability.
- Excellent yield potential under high potential conditions.
- Strong traits of stay green for those farmers in the dairy industry.
- Good all-round disease resistance to most of the current diseases including grey leaf. spot, maize streak virus, and grey leaf spot and maize streak virus.
- Reaches physiological maturity in 120 days to harvest.
- Recommended for regions 2, 3 and 4.

PAN53 (DT hybrid)

- Good grain yield potential.
- It reaches mid-pollen shed between 64-65 days after planting depending on the management.
- Reaches physiological maturity in 115-120 days to harvest.
- White semi-flint requiring a full season to reach maturity.
- Good performance under drought and low nitrogen trials.
- Good resistance to maize streak virus, grey leaf spot, common rust and northern blight.
- Tolerant of acid soils.
- Good husk cover to protect the grain against weevils and other insects.
- Semi-flint kernel texture making this hybrid more tolerant to insect damage.

Quality Protein Maize (QPM)

The grain of quality protein maize (QPM) varieties contains nearly twice as much lysine and tryptophan, amino acids that are essential for humans and monogastric animals. QPM is a product of conventional plant breeding (i.e., it is not genetically modified) and an example of biofortification. High in two essential amino acids: lysine and tryptophan 90% of the nutritive value in milk protein while the normal maize has only about 40%.

Mama MQ623 (QPM)

- Quality protein maize hybrid with improved quality protein for better nutrition.
- Double cobbing hybrid for increase yield.
- Multi-purpose hybrid for family consumption and good feed for poultry and pig.
- Drought tolerance.
- Tolerant to grey leaf spot, maize steak virus and leaf blights.
- White semi-flint kernel texture.
- High yield potential.
- It reaches mid-pollen shed between 64-68 days after planting depending on the management and reaches 130-140 to harvest.
- Recommended for regions 2, 3 and 4.

Pro vitamin A Hybrids

Enriched maize hybrids have with levels of about 6-12µg/g pro vitamin A (carotenoids). The Pro vitamin A carotenoids such as beta-carotene are natural plant pigments that the body converts into vitamin A. Carotenoids are essential to many aspects of health, yet humans and other animals synthesize them. Vitamin A deficiency can result in morbidity and blindness. Provitamin A carotenoids can be converted to retinol (pro vitamin A), and stored in the liver. Provitamin A hybrids are high yielding and drought and disease resistant.

ZS244A

- Very stable across variable environments.
- Early to intermediate maturity of 130 days to harvest.
- Simi flinty kernel texture.
- Drought tolerant.
- Tolerant to grey leaf spot, maize streak virus, rust, and is moderately tolerant to Turcicum leaf blight.
- Pro Vitamin A content of 12.0 µg/g.
- Good popping characteristics.
- Recommended for regions 2, 3 and 4.

ZS442A

- High yield potential.
- Early to intermediate maturity, 120 days to harvest.
- Drought tolerance.
- Tolerance to maize streak virus, grey leaf sport, rust.
- Texture: flint, colour: orange.
- Average plant height: 168 cm, ear height: 78 cm.
- Pro Vitamin A content of 9.3 µg/g.
- High popping characteristics and suitable for roasting (Higher popping among the 4).
- Produces twin cobs.
- Recommended for regions 2, 3 and 4.

Drought Tolerant Open Pollinated Varieties (OPVs)

- Yield 20-30% under drought, compared to other OPVs.
- Can be recycled for 2-3 seasons without significant
- yield loss.
- Less uniform than hybrids.
- Cheaper seeds compared to hybrids.

ZM 309

- Very early maturing OPV taking 110-120 days to mature.
- White, semi-flint.
- High yield potential in drought-prone areas.
- Good resistance to maize streak virus, gray leaf spot, *Phaeosphaeria* leaf spot (PLS) and common rust.
- Drought and low-N stress.
- Recommended for regions 2, 3 and 4.

Small grains

Sorghum, pearl millet and finger millet are very drought tolerant small grains. These 3 crops are key for household food and nutritional security as well as income in the marginal areas (regions 2, 3, 4, 5) of Zimbabwe. Their significance in these areas is more critical now given the challenges presented by climate change

Sorghum

Sila

- Red open pollinated sorghum variety.
- Better bird and leaf blight resistance.
- Used for human consumption and livestock feed.
- Good for brewing.
- Flower in 40 to 60 days and mature in about 120 to harvest.
- Good for heat and drought stress.
- High yielding.
- Moderately tolerant to leaf blight.
- Highly tolerant to downy mildew, smut and ergot.
- Recommended for regions 2, 3, 4 and 5.

Macia

- White grained, open pollinated variety.
- It is a medium maturity variety.
- Good disease tolerance.
- Very drought tolerance.
- It has stay green at maturity and after harvest.
- Very uniform robust plants with bold compact heads.
- Early to medium maturing 60–65 days to 65% heading and 115–120 days to harvest.
- Excellent milling quality, 80% flour yield, white flour.
- Recommended for regions 2, 3, 4 and 5.

Pearl millet

Okashana

- Very drought tolerant
- High yield potential under drought
- Plant height: short to medium (130-190cm)
- Flower in 48 to 66 days and mature in about 75 to 120 days to harvest.
- Threshability: Good
- Grain hardness: soft - intermediate
- Downy mildew: highly resistant
- Smut: highly resistant
- Ergot: highly resistant
- Recommended for regions 2, 3, 4 and 5

Legumes

Cowpea is grown as a low input pulse by many smallholder farmers in Zimbabwe. It is an important vegetable (leaves) and grain in the diets of smallholder households. The grain is an important source of protein. Cowpea can be grown in the marginal areas (agro-ecological zones III, IV and V) of Zimbabwe.

Cowpea

CBC2

- Good source of protein, zinc, iron and vitamins.
- Good for improving soil fertility and intercropping.
- High yield potential when grown in monocrop.
- Adapted to sandy and poor soils, but best yields are obtained in well drained sandy. loam to clay loam soils with a pH between 6 and 7.
- Tolerate drought, but not waterlogging.
- Recommended Region 2, 3, 4, and 5.
- Grain: smooth and dark reddish-brown grain.
- Matures in 70-90 days depending on the location.
- Upright and bushy type of growth habit (determinate to semi-determinate).

Groundnuts

Groundnuts are an important cash crop that can be grown by both commercial and small-scale farmers. As a cash crop, groundnuts fetch a good price and is an excellent crop for home consumption because of its nutritional value. Groundnuts contain 25% protein and up to 50% edible oil content.

Natal Common

- Habit type: Spanish Valencia (erect)
- Days to maturity: 90-100 days
- Yield potential: 500-1500 kg/ha
- Seed colour: Tan
- Recommended for regions 2, 3, 4 and 5

Contact details for seed companies to obtain certified seeds

Contact details:			
Company	Variety	Telephone	Email
Seed Co	SC 419	+263 77 213 2768	gorden.mabuyaye@seedcogroup.com
Klein Karoo	PGS65		kevin@seedmarketing.co.za
Corteva	PAN53		temba.nkatazo@pioneer.com
Mukushi	Mama MQ623	+263 71 928 1597	tendaishirihove@gmail.com
Mukushi	ZS244A	+263 71 928 1597	tendaishirihove@gmail.com
Seed Co	Sila	+263 77 213 2767	gorden.mabuyaye@seedcogroup.com

NOTES

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