MAIZE VARIETIES IN SAFGRAD REGIONAL TRIALS 1979-1989

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C O N T E N T S

EARLY MATURING VARIETIES

EXTRA-EARLY MATURING VARIETIES

FOREWORD

Maize, one of the four mandate crops of SAFGRAD, is an important cereal in the diets of many people in West and Central Africa. This document which has been compiled by Dr. J.M. Fajemisin (Coordinator of the Maize Network for West and Central Africa) contains a wealth of information of scientific and practical use to researchers and maize consumers.

Commercial farmers in areas with either adequate rainfall or irrigation facilities, are now better equiped to determine the types of varieties they can plant to maximize their profits and improve living conditions for themselves and their neighbours.

In addition, the publication has helped to project the important roles played by national agricultural research systems in generating improved maize varieties -within the network- in collaboration with IITA and CIMMYT. Also obvious in the report are the achievements of IITA, especially in streak virus resistance, as well as the importance which CIMMYT maize germplasm has continued to play even in areas where CIMMYT no longer has a direct mandate for maize.

SAFGRAD will continue to refine the classification of maize and other crop varieties involved in its networks and target them to those ecologies of West and Central Africa where they can be of maximum benefit to their users.

J.M. Menyonga
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PREFACE

For over ten years, the Semi-Arid Food Grain Research and Development Project --SAFGRAD-- has provided a mechanism for National Programs in Africa to evaluate maize varieties developed in International Agricultural Centers like IITA and CIMMYT and from other National Programs. This has enabled maize workers to identify materials adapted to conditions prevailing in their countries. Some of these varieties are now grown by farmers in several countries while some have been used for further breeding process.

This publication was prepared with the objective of providing information on the varieties that were included in the SAFGRAD trials for a minimum of two years from 1979 to 1989. It is hoped that this will facilitate better understanding and thus assist maize breeders, seed technologists, extension workers, and farmers in the proper use of the varieties reported therein. The ultimate goal is the judicious exploitation of the available genetic resources for improving the efficiency of maize production in the semi-arid zone and indeed in tropical Africa as a whole.

Ouagadougou, February 1991

J.M. Fajemisin
Coordinator, SAFGRAD Maize
Research Network for West
and Central Africa

ACKNOWLEDGEMENTS

The active participation of the National Maize Programs of the SAFGRAD member countries has been a key element in providing the base materials for this document.

Sincere appreciation goes to all the research institutions--national, international and regional-- notably IITA, CIMMYT and IRAT who had contributed varieties into the SAFGRAD trials over the years. It is our fervent hope that the interest that this publication will generate can be sustained by the readiness of the various institutions to provide for public use seed of any variety mentioned herein.

The efforts of all my colleagues who were involved in the coordination of the trials over the years are gratefully acknowledged, particularly Drs. V.L. Asnani and A.O. Diallo.

I thank the Ex-Trainees of the SAFGRAD Maize Network (1988, 1989 and 1990) who worked very hard to generate supplemental information on the varieties.

The technical contributions of Mr. Raymond Sanduidi and Joseph Bationo are greatly acknowledged. Similarly, the secretarial support of Mrs. Rachel Ouedraogo has been vital to the success of this publication.

The interest, support and encouragement of the OAU/STRC SAFGRAD Coordination Office in Ouagadougou has greatly facilited the work.

Finally, sincere gratitude is expressed to U.S. Agency for International Development (USAID) for providing the financial assistance for the SAFGRAD Project.

Joseph M. Fajemisin

USER'S GUIDE

The varieties are classified into four maturity groups based on the number of days from planting to physiological maturity or the earliest safe time for harvesting as germinable dry grains.

- Late : 120 ± 10 days
- Intermediate : 100 ± 5 days
- Early : 90 ± 5 days
- Extra-early : 85 days or less

This classification applies strictly to lowland ecology (below 800 m) to which most of the varieties herein reported are targeted.

For agronomic traits presented as range values, the average of the two figures represent the mean parameter whilst figures outside the range can be considered atypical for the variety. For example, a mid-silk range of 45-55 indicates a mean of 50 days from planting to when 50% of the plants must have produced silk ; plants silking before 45 days or after 55 days can safely be regarded as not typical of that variety.

Recommendation was based on targeting specific maize variety to an ecology in which the cropping season will least expose the plants to long dry period during the most sensitive period of 15 to 21 days before and 35 to 45 days after silking, representing the generative and grain-filling stages, respectively. As a rule of thumb, maize culture in Northern Guinea Savanna and Sudan Savanna should be practised in a way that the varieties sown are of the maturity cycle that can flower by 10th August that is, intermediate/late varieties for Northern Guinea and early varieties for Sudan savanna. In the Sudan-Sahelian transition zone and for late plantings in Sudan savanna, often caused by late onset of rainfall, extra-early varieties may be more dependable ; such varieties can also be planted early in regular years by farmers in other ecological zones who want to take advantage of their extra-earliness to reach the market as early as possible with "green maize" --the hunger-period breaker in the savannas.

L A T E

M A T U R I N G V A R I E T I E S

ABUROTIA

Years in SAFGRAD Trials

1987, 1988.

Developed by

Ghana.

Genetic background

Developed from CIMMYT Tuxpeno Planta Baja C16 as a result of multilocation recurrent selection within the country.

Agronomic characteristics

Days to mid-silk : 55-70
Maturity : Late
Plant height : 155-185 cm
Ear height : 80-95 cm
No. of leaves : 16
Disease reaction :
Resistant to : maydis leaf blight, polysora rust, and Curvularia leaf spot.
Susceptible to : maize streak virus
Lodging : negligible
Yield and yield components
Yield potential : 5.0-6.0 t/ha
Ear length : 12-16 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. of kernel rows : 12-16
Shelling percent : 84
1000-kernel weight : 207 g
Grain type : white dent.

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall distributed within 120-day cropping season.
- Population : 53,000/ha.

CJI

Years in SAFGRAD Trials

1979, 1980

Developed by

IRAT/Benin

Synonym : IRAT 38

Genetic background

Contains 80% local germplasm (Jaune d'INA) and 20% of Central American germplasm.

Agronomic characteristics

Days to mid-silk : 58-70
Maturity : Late
Disease reaction
Susceptible to maize streak virus
Lodging : High
Yield potential : 3.5-5.0 t/ha
Grain type : yellow flint

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall distributed within 110-day cropping season.
- Population : 53,000/ha.

COMPOSITE 4

Years in SAFGRAD Trials

1980, 1981, 1982

Developed by

Ghana

Genetic background

Developed from tropical germplasm

Agronomic characteristics

Days to mid-silk : 52-64
Maturity : Late
Plant height : 210-255 cm
Ear height : 125-155
Yield potential : 4.5-6.5 t/ha
Grain type : white dent

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall distributed within 120-day cropping season.
- Population : 53,000/ha.

COMPOSITE Y

Years in SAFGRAD Trials

1979, 1980, 1982

Developed by

IRAT/Côte d'Ivoire

Genetic background

Developed from 145 African maize ecotypes.

Agronomic characteristics

Days to mid-silk : 50-61
Maturity : Late
Plant height : 200-245 cm
Ear height : 115-140 cm
Disease reaction :
Susceptible to maize streak virus
Yield potential : 3.5-5.5 t/ha
Grain type : yellow

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall distributed within 120-day cropping season.
- Population : 53,000/ha.

EV 8176

Years in SAFGRAD Trials

1983, 1984, and in 1986 as STAHA

Developed by

Tanzania

Synonym : STAHA

Genetic background

Developed from Tanzanian population 76 which contains Ilonga composite, Tuxpeno 1 and Katumani.

Agronomic characteristics

Days to mid-silk : 55-70
Maturity : Late
Plant height : 170-225 cm
Ear height : 95-115 cm
Disease reaction :
- Susceptible to maize streak virus
Yield potential : 4.0-6.0 t/ha
Grain type : white semi-dent.

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall distributed within 120-day cropping season
- Population : 53,000/ha.

EV 8422-SR

Years in SAFGRAD Trials

1986, 1987, 1988 and as Poza Rica 7822 and Ferke 7622 in 1981 and 1983.

Developed by :

CIMMYT-IITA

Genetic background

Poza Rica 7822, an experimental variety (EV) from CIMMYT population 22 (Mezcla Tropical Blanco --lowland tropical late maturing semi-dent maize) was crossed with IITA streak resistance source. This was subsequently backcrossed at IITA to the most recent and best performing EV from Pop 22 international testing coordinated by CIMMYT and streak resistant plants were recombined under artificially induced disease pressure.

Agronomic characteristics

Days to mid-silk : 55-65
Maturity : Late
Plant height : 175-215 cm
Ear height : 85-105 cm
No. of leaves : 16
Disease reaction :
Resistant to maize streak virus, maydis leaf blight, polysora rust and Curvularia leaf spot.
Lodging : negligible
Yield and yield components
Yield potential : 5.0-6.5 t/ha
Ear length : 13-17 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. of kernel rows : 14-18
Shelling percent : 79
1000-kernel weight : 235 g
Grain type : white semi-dent
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall within 120-days cropping season. Adapted to moist savanna.
- Population : 53,000/ha.

EV 8428-SR

Years in SAFGRAD Trials

1988, 1989.

Developed by

CIMMYT-IITA

Genetic background

Ferke 7928, an experimental variety (EV) from CIMMYT population 28 (Amarillo Dentado) was crossed with IITA streak resistance source. This was subsequently backcrossed at IITA to the most recent and best performing EV from population 44 international testing coordinated by CIMMYT ; streak resistant plants were recombined under ar artificially induced disease pressure.

Agronomic characteristics

Days to silk : 55-65
Maturity : Late
Plant height : 180-220 cm
Ear height : 85-105 cm
No of leaves : 16
Disease reaction :
Resistant to maize streak virus, maydis leaf blight, polysora rust and Curvularia leaf spot.
Lodging : negligible
Yield and yield components :
Yield potential : 5.0-6.5 t/ha
Ear length : 13-17 cm
Ear diameter : 4.5 cm
Kernel depth : 0.70 cm
No. of kernel rows : 14-18
Shelling percent : 82
1000-kernel weight : 221 g
Grain type : yellow semi-dent

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall distributed within 120-day cropping season.
- Population : 53,000/ha.

EV 8443-SR

Years in SAFGRAD Trials

1986, 1987, 1988 and as Poza Rica 7843 in 1982-84.

Developed by

CIMMYT-IITA

Genetic background

Poza Rica 7843, an experimental variety (EV) from CIMMYT population 43 (La Posta --white dent tropical maize based on Tuxpeno germplasm) was crossed with IITA streak resistance source. This was subsequently backcrossed at IITA to the most recent and best performing EV from Pop 43 international testing coordinated by CIMMYT and streak resistant plants were recombined under artificially induced disease pressure.

Agronomic characteristics

Days to mid-silk : 55-65
Maturity : Late
Plant height : 185-225 cm
Ear height : 90-110 cm
No. of leaves : 18
Disease reaction :
Resistant to: maize streak virus, maydis leaf blight, polysora rust and Curvularia leaf spot.
Lodging : negligible
Yield and yield components :
Yield potential : 5.0-7.5 t/ha
Ear length : 14-18 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. of kernel rows : 14-18
Shelling percent : 81
1000-kernel weight : 217 g
Grain type : white dent

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall within 120-day cropping season. Adapted to rainforest zone.
- Population : 53,000/ha.

EV 8444-SR

Years in SAFGRAD Trials

1988, 1989.

Developed by

CIMMYT-IITA

Genetic background

Tlaltizapan 8244, an experimental variety (EV) from CIMMYT population 44 (American early (from Egypt) with short plant Tuxpeno material) was crossed with IITA streak resistance source. This was subsequently backcrossed at IITA to the most recent and best performing EV from Pop 44 international testing coordinated by CIMMYT and streak resistant plants were recombined under artificially induced disease pressure.

Agronomic characteristics

Days to mid-silk : 50-60
Maturity : Intermediate/Late
Plant height : 175-215 cm
Ear height : 85-105 cm
No. of leaves : 15
Disease reaction :
Resistant to maize streak virus, maydis leaf blight polysora rust and Curvularia leaf spot
Lodging : negligible
Yield and yield components
Yield potential : 4.5-6.5 t/ha
Ear length : 13-17 cm
Ear diameter : 4.1 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 80
1000-kernel weight : 207 g
Grain type : white dent

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall distributed within 120-days cropping season. Adapted to moist savanna.
- Population : 53,000/ha.

FARAKO-BA 85 TZSR-W-1

Years in SAFGRAD Trials

1987, 1988 and as TZSR-W-1 in 1979-81.

Developed by

IITA

Genetic background

Developed from chain crosses between adapted tropical maize (TZB, TZPB, several CIMMYT experimental varieties) and TZ-Y as streak resistance source. This was followed by recurrent selection using full-sib family improvement scheme, multi-location international testing and regular monitoring for streak resistance under artificially induced pressure.

Agronomic characteristics

Days to mid-silk : 56-69
Maturity : Late
Plant height : 160-195 cm
Ear height : 85-105 cm
No. of leaves : 16
Disease reaction :
Resistant to : maize streak virus, *polysora* rust, *Curvularia* leaf spot and moderately to *maydis* leaf blight.
Lodging : low
Yield and yield components :
Yield potential : 5.0-6.5 t/ha
Ear length : 14-18 cm
Ear diameter : 3.8 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 80
1000-kernel weight : 195 g
Grain type : white semi-dent
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall distributed within 120-day cropping season.
- Population : 53,000/ha.

FARAKO-BA 85 TZSR-Y-1

Years in SAFGRAD Trials

1987, 1988 and as TZSR-Y-1 in 1981-84

Developed by

IITA

Genetic background

Yellow-grained selections from chain-crosses between TZPB selections and streak-resistance source TZ-Y were crossed with Poza Rica 7428 (CIMMYT), 096EP6 (Nigeria) and IB 32 x La Revolution (a cross between two streak resistance sources). This was followed by full-sib recurrent selection scheme comprising multilocation international testing and regular monitoring for streak resistance under artificially induced pressure.

Agronomic characteristics

Days to silk : 55-65
Maturity : Late
Plant height : 185-230 cm
Ear height : 100-120 cm
No. of leaves : 16
Disease reaction :
Resistant to : streak virus, *polysora* rust, *Curvularia* leaf spot and moderately to *maydis* leaf blight
Lodging : low
Yield and yield components
Yield potential : 5.0-6.5 t/ha
Ear length : 13-17 cm
Ear diameter : 3.8 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 80
1000-kernel weight : 199 g
Grain type : yellow semi-flint
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall within 120-day cropping season.
- Population : 53,000/ha.

GOLDEN CRYSTAL

Years in SAFGRAD Trials

1980, 1981, 1982

Developed by

Ghana

Genetic background

Developed from tropical germplasm

Agronomic characteristics

Days to mid-silk : 53-62
Maturity : Late
Plant height : 185-230 cm
Ear height : 105-130 cm
Yield potential : 4.5-6.5 t/ha
Grain type : yellow dent

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall distributed within 120-day cropping season.
- Population : 53,000/ha

ILONGA 8032

Years in SAFGRAD Trials

1985, 1986

Developed by

CIMMYT

Genetic background

An experimental variety of CIMMYT population 32 (ETO Blanco) developed from selections carried out at Ilonga (Tanzania).

Agronomic characteristics

Days to mid-silk : 55-67
Maturity : Late
Plant height : 165-205 cm
Ear height : 75-95 cm
Disease reaction :
Susceptible to maize streak virus
Yield potential : 4.0-5.5 t/ha
Grain type : white flint

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall distributed within 120-day cropping season
- Population : 53,000/ha.

IRAT 100

Years in SAFGRAD Trials

1979, 1989, 1981

Developed by

IRAT/Burkina Faso

Genetic background

Inter-varietal hybrid between NCB-yellow (Nigerian Composite B) and Kolaribougou (a Malian variety)

Agronomic characteristics

Days to mid-silk : 52-64
Maturity : Late
Disease reaction :
Susceptible to maize streak virus
Moderately tolerant to grain weevils (Sitophilus)
Yield potential : 4.5-6.5 t/ha
Grain type : yellow semi-dent

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall distributed within 120-day cropping season.
- Population : 53,000/ha.

IRAT 102

Years in SAFGRAD Trials

1979, 1980

Developed by

IRAT/Burkina Faso

Genetic background

Inter-varietal hybrid between NCB-white (Nigerian Composite B) and Kabague (a Malian variety).

Agronomic characteristics

Days to mid-silk : 55-68
Maturity : Late
Disease reaction :
Moderately tolerant to grain weevils (Sitophilus)
Susceptible to maize streak virus
Yield potential : 4.5-6.5 t/ha
Grain type : white semi-dent

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall distributed within 120-day cropping season.
- Population : 53,000/ha.

IRAT 178

Years in SAFGRAD Trials

1982, 1983, 1984

Developed by

IRAT/Côte d'Ivoire

Genetic background

Complex hybrid of a CIMMYT experimental variety Poza Rica 7429 and a South African simple hybrid (M162W x M164W).

Agronomic characteristics

Days to mid-silk : 50-63
Maturity : Late
Plant height : 155-190 cm
Ear height : 95-115 cm
Disease reaction :
Susceptible to maize streak virus
Yield potential : 5.5-7.5 t/ha
Grain type : white dent.

Recommendation

- Lowland ecology (below 800 m) with ≥ 800 mm rainfall distributed within 120-day cropping season.
- Population : 53,000/ha.

MARACAY 7921-SR

Years in SAFGRAD Trials

1988, 1989

Developed by

CIMMYT-IITA

Genetic background

Maracay 7921, an experimental variety (EV) from CIMMYT population 21 (Tuxpeno 1 --white dent late tropical lowland relatively short plant maier), was crossed with IITA streak resistance source. This was subsequently backcrossed at IITA to the most recent and best performing EV from Pop 21 international testing coordinated by CIMMYT and streak resistent plants were recombined under artificially induced disease pressure.

Agronomic characteristics

Days to mid-silk : 55-65
Maturity : Late
Plant height : 170-220 cm
Ear height : 65-85 cm
No. of leaves : 16
Disease reaction :
Resistant to maize streak virus, maydis leaf blight, polysora rust and Curvularia leaf spot.
Lodging : negligible
Yield and yield components
Yield potential : 4.0-6.5 t/ha
Ear length : 13-17 cm
Ear diameter : 4.5 cm
Kernel depth : 0.75 cm
No. of kernel rows : 12-16
Shelling percent : 82
1000-kernel weight : 212 g
Grain type : white dent
Cob color : white

Recommendation :

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall distributed within 120-days cropping season.
- Population : 53,000/ha.

NH 2

Years in SAFGRAD Trials

1979, 1980, 1981

Developed by

IRAT/Benin

Synonym : IRAT 42

Genetic background

Inter-varietal hybrid : Scar III x Custeno de Culiacan.

Agronomic characteristics

Days to mid-silk : 51-63
Maturity : Late
Disease reaction :
Susceptible to maydis leaf blight, polysora rust and maize streak virus
Lodging : moderate
Yield potential : 4.0-5.5 t/ha
Grain type : white semi-dent

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall distributed within 120-day cropping season
- Population : 53,000/ha.

SAFITA-102

Years in SAFGRAD Trials

1981, 1982, 1983, 1984, 1985, 1986, 1987.

Developed by

IITA-SAFGRAD

Genetic background

Developed from a cross between Philippine DMR and TZPB; this was advanced several generations for selection of promising white semi-dent grains.

Agronomic characteristics

Days to mid-silk : 55-70
Maturity : Late
Plant height : 170-210 cm
Ear height : 85-110 cm
No. of leaves : 14
Disease reaction :
    Susceptible to maize streak virus
Lodging : negligible
Yield and yield components
    Yield potential : 4.5-6.0 t/ha
    Grain type : white semi-dent
    Ear length : 12-15 cm
    Ear diameter : 4.0 cm
    Kernel depth : 0.70 cm
    No. of kernel rows : 12-16
    Shelling percent : 80
    Cob color : white

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall distributed within a $\geq$ 120-day cropping season.
- Population : 53,000/ha.

TZB-SR

Years in SAFGRAD Trials

As TZB in 1979 and 1980.

Developed by

IITA

Genetic background

TZB was developed from NCB (Nigerian Composite B) which originated from 4 cycles of synthesis of 43 maize cultivars from West Africa and the Carribeans. It was improved by multi-location full-sib family improvement scheme and later converted to streak resistant form by crossing with streak resistance source and backcrossing to Gusau 81 TZB.

Agronomic characteristics

Days to mid-silk : 56-68
Maturity : Late
Plant height : 190-240 cm
Ear height : 100-125 cm
No. of leaves : 16
Disease reaction :
Resistant to maize streak virus, *maydis* leaf blight, *polysora* rust and *Curvularia* leaf spot.
Lodging : fairly susceptible to root lodging
Yield and yield components
Yield potential : 5.0-7.0 t/ha
Grain type : white semi-flint.

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall distributed within 120-day cropping season. Adapted to savanna.
- Population : 53,000/ha.

TZPB-SR

Years in SAFGRAD Trials

1988, 1989 and as TZPB in 1979-83.

Developed by

IITA

Genetic background

TZPB was developed from CIMMYT Tuxpeno Planta Baja by subjecting it to adaptation to West African rainforest ecology through half-sib and full-sib family improvement in multilocation tests ; later converted to streak resistant form.

Agronomic characteristics

Days to mid-silk : 56-68
Maturity : Late
Plant height : 180-220 cm
Ear height : 85-105 cm
No. of leaves : 16
Disease reaction :
Resistant to maize streak virus, maydis leaf blight, polysora rust and Curvularia leaf spot
Lodging : negligible
Yield and yield components
Yield potential : 5.0-7.0 t/ha
Ear length : 14-18 cm
Ear diameter : 4.5 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 80
1000-kernel weight : 237 g
Grain type : white dent

Recommendation :

- Lowland ecology (below 800 m) with $\geq$ 800 mm rainfall distributed within 120-day cropping season
- Plant density : 53,000/ha.

INTERMEDIATE MATURING VARIETIES

AB 22

Years in SAFGRAD Trials

1988, 1989.

Developed by

Togo

Genetic background

Improved local floury cultivar (ZL2-BD) was crossed to Ikenne(1)8149-SR BC2 and backcrossed to ZL2-BD. Streak resistance was maintained by selecting under induced disease pressure.

Agronomic characteristics

Days to mid-silk : 50-63
Maturity : Intermediate
Plant height : 150-190 cm
Ear height : 70-90 cm
No. of leaves : 15
Disease reaction :
Resistant to maydis leaf blight, polysora rust Curvularia leaf spot and streak virus.
Lodging : negligible
Yield and yield components
Yield potential : 4.5-5.5 t/ha
Ear length : 13-17 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. of kernel rows : 14-18
Shelling percent : 82
1000-kernel weight : 207 g
Grain type : white dent

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 700 mm rainfall distributed within a 110-day cropping season.
- Population : 60,000/ha.

BDS III

Years in SAFGRAD Trials

1979, 1980

Developed by

IRAT/Senegal

Synonyms : IRAT 45, Blanc de Sefa III.

Genetic background

A complex hybrid (F64B x Oh41B) x (CI38.BB x CI64) x ZM 10.

Agronomic characteristics

Days to mid-silk : 48-58
Maturity : Intermediate
Disease reaction :
Susceptible to polysora rust and maize streak virus
Yield potential : 4.0-6.0 t/ha
Grain type : white semi-dent.

Recommendation

- Lowland ecology (below 800 m) with ≥ 700 mm rainfall distributed within 110-day cropping season.
- Population : 53,000/ha.

ELITE X E. MEXICAN COMP

Years in SAFGRAD Trials

1982, 1983

Developed by

Ghana

Genetic background

Developed from tropical germplasm

Agronomic characteristics

Days to mid-silk : 50-60
Maturity : Intermediate
Plant height : 195-240 cm
Ear height : 110-135 cm
Disease reaction :
Susceptible to maize streak virus
Yield potential : 4.5-6.5 t/ha
Grain type : white dent

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 700 mm rainfall distributed within 110-day cropping season.
- Population : 53,000/ha.

EV 8435-SR

Years in SAFGRAD Trials

1985, 1986.

Developed by :

CIMMYT-IITA

Genetic background

Tocumen(1)7835, an experimental variety (EV) from CIMMYT population 35 (Antigua Republica Dominicana --yellow dent tropical intermediate maize) was crossed with IITA streak resistance source. This was subsequently backcrossed at IITA to the most recent and best performing EV from Pop 35 international testing coordinated by CIMMYT and streak resistant plants were recombined under artificially induced disease pressure.

Agronomic characteristics

Days to mid-silk : 50-60
Maturity : Intermediate
Plant height : 155-195 cm
Ear height : 75-85 cm
Disease reaction :
Resistant to : streak virus, maydis leaf blight, polysora rust and Curvularia leaf spot
Lodging : low
Yield and yield components :
Yield potential : 4.0-5.5 t/ha
Grain type : yellow dent

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 700 mm rainfall distributed within 110-day cropping season.
- Population : 60,000/ha.

EV 8449-SR

Years in SAFGRAD Trials

1986, 1987.

Developed by

CIMMYT-IITA

Genetic background

Ikenne(1)8149, an experimental variety (EV) from CIMMYT population 49 (Blanco Dentado-2 --originating from Tuxpeno Crema 1, Cycle 17, white dent short plant lowland tropical maize) was crossed with IITA streak resistance source. This was subsequently backcrossed at IITA to the most recent and best performing EV from Pop 49 international testing coordinated by CIMMYT and streak resistant plants were recombined under artificially induced disease pressure.

Agronomic characteristics

Days to mid-silk : 50-60
Maturity : Intermediate
Plant height : 145-180 cm
Ear height : 65-85 cm
No. of leaves : 14
Disease reaction :
Resistant to maize streak virus, maydis leaf blight, polysora rust and Curvularia leaf spot.
Yield and yield components
Yield potential : 4.0-5.5 t/ha
Ear length : 12-14 cm
Ear diameter : 4.2 cm
Kernel depth : 0.80 cm
No. of kernel rows : 14-18
Shelling percent : 85
Grain type : white dent
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 700 mm rainfall distributed within 110-days cropping season.
- Population : 60,000/ha.

EV POOL 34 QPM

Years in SAFGRAD Trials

1984, 1985

Developed by

CIMMYT

Genetic background

Developed from CIMMYT Pool 34 (Temperate intermediate yellow dent) improved for high quality protein.

Agronomic characteristics

Days to mid-silk : 50-63
Maturity : Intermediate/Late
Plant height : 130-160 cm
Ear height : 50-60 cm
Disease reaction :
Susceptible to maize streak virus
Yield potential : 3.0-4.5 t/ha
Grain type : yellow dent.

Recommendation

- Lowland ecology (below 800 m) with ≥ 700 mm rainfall distributed within 110-day cropping season
- Population : 53,000/ha.

LOUMBILA 84 TZUT-Y

Years in SAFGRAD Trials

1987, 1988, 1989

Developed by :

IITA-SAFGRAD

Genetic background

Developed from crosses between tropical and US temperate maize after recurrent selection to reduce susceptibility to tropical leaf-and ear-rot diseases.

Agronomic characteristics

Days to mid-silk : 50-62
Maturity : Intermediate
Plant height : 190-230 cm
Ear height : 75-90 cm
No. of leaves : 14
Disease reaction :
Moderately resistant to : maydis leaf blight, polysora rust, Curvularia leaf spot and maize streak virus.
Lodging : negligible
Yield and yield components
Yield potential : 4.5-6.0 t/ha
Ear length : 13-17 cm
Ear diameter : 3.8 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 81
1000-kernel weight : 211 g
Grain type : yellow dent
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 700 mm rainfall within a 110-day cropping season. Adapted to moist savanna.
- Population : 53,000/ha.

SYNTHETIC C

Years in SAFGRAD Trials

1983, 1984, 1985

Developed by

Senegal

Genetic background

Developed from population of Soviet lines and CIMMYT varieties.

Agronomic characteristics

Days to mid-silk : 53-65
Maturity : Intermediate
Disease reaction :
- Susceptible to maize streak virus
- Drought tolerant

Yield potential : 4.0-6.0 t/ha
Grain type : white semi-dent

Recommendation

- Lowland ecology (below 800 m) with ≥ 700 mm rainfall distributed within 110-day cropping season.
- Population : 53,000/ha.

TEMP X TROP N° 27

Years in SAFGRAD Trials

1982, 1983, 1984, 1985.

Developed by

IITA-SAFGRAD

Genetic background

Selected from a pool of crosses between US corn belt (temperate) and tropical germplasm subjected to tropicalization in order to reduce susceptibility to tropical diseases while retaining temperate plant type (reduced vegetative parts).

Agronomic characteristics

Days to mid-silk : 55-65
Maturity : Intermediate/Late
Plant height : 155-190 cm
Ear height : 65-80 cm
No. of leaves : 14
Disease reaction :
Mildly resistant to : *maydis* blight, and *polysora* rust
Susceptible to : maize streak virus
Lodging : low
Yield and yield components :
Yield potential : 4.0-6.0 t/ha
Ear length : 16-24 cm
Ear diameter : 4.4 cm
Kernel depth : 0.7 cm
No. of kernel rows : 12-16
Shelling percent : 80
Grain type : yellow semi-dent
Cob color : purple and white

Recommendation

- Lowland and mid-altitude ecology (below 1000 m) with ≥ 700 mm rainfall distributed within 110-day cropping season. Adapted to moist savanna.
- Population : 60,000/ha.

TEMP X TROP N° 42

Years in SAFGRAD Trials

1982, 1983, 1984.

Developed by

IITA-SAFGRAD

Genetic background

Selected from a pool of crosses between US corn belt (temperate) and tropical germplasm subjected to tropicalization in order to reduce susceptibility to diseases while retaining temperate plant type (reduced vegetative parts).

Agronomic characteristics

Days to mid-silk : 52-64
Maturity : Intermediate/Late
Plant height : 140-170 cm
Ear height : 60-75 cm
No. of leaves : 14
Disease reaction :
Mildly resistant to : maydis blight, and polysora rust
Susceptible to : maize streak virus
Lodging : low
Yield and yield components
Yield potential : 3.5-5.5 t/ha
Ear length : 14-20 cm
No. of kernel rows : 12-16
Shelling percent : 82
Ear diameter : 4.3 cm
Kernel depth : 0.7 cm
Grain type : yellow semi-dent
Cob color : purple and white

Recommendation

- Lowland and mid-altitude ecology (below 1000 m) with ≥ 700 mm rainfall distributed within 110-day cropping season. Adapted to moist savanna.
- Population : 60,000/ha.

ZM 10

Years in SAFGRAD Trials

1979, 1980

Developed by

Senegal

Genetic background

Developed from a population of local varieties from Southern Senegal.

Agronomic characteristics

Days to mid-silk : 50-60
Maturity : Intermediate
Disease reaction :
Susceptible to maydis leaf blight, maize streak virus and fairly resistant to polysora rust.
Lodging : negligible
Yield potential : 4.0-6.0 t/ha
Grain type : white flint

Recommendation

- Lowland ecology (below 800 m) with ≥ 700 mm rainfall distributed within 100-day cropping season.
- Population : 53,000/ha.

E A R L Y

M A T U R I N G V A R I E T I E S

ACROSS 86 POOL 16 DR

Years in SAFGRAD Trials

1988, 1989

Developed by

IITA-SAFGRAD

Genetic background

Developed from Pool 16 (a CIMMYT white dent early maize improved for good plant type, earliness, and tolerance to high plant density) after two cycles of selection for drought resistance (DR) in Burkina Faso using full-sib family improvement scheme.

Agronomic characteristics

Days to mid-silk : 45-55
Maturity : Early
Plant height : 145-175 cm
Ear height : 65-80 cm
N°. of leaves : 14
Disease reaction :
Resistant to : maydis leaf blight, polysora rust Curvularia leaf spot.
Moderately resistant to : maize streak virus.
Tolerant to drought.
Lodging : negligible
Yield and yield components :
Yield potential : 4.0-5.5 t/ha
Ear length : 13-17 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. kernel rows : 12-16
Shelling percent : 84
1000-kernel weight : 235 g
Grain type : white dent
Cob color : white.

Recommendation :

- Lowland ecology (below 800 m) with ≥ 600 mm rainfall within 90-day cropping season.
- Widely adapted
- Population : 66,000/ha.

CAPINOPOLIS 8245

Years in SAFGRAD Trials

1986, 1987.

Developed by

CIMMYT

Genetic background

An experimental variety developed by recombining best families of CIMMYT population 45 (sub-tropical-temperate, intermediate, maturity, yellow dent) selected in Capinopolis. Broad germplasm improved for reduced plant height.

Agronomic characteristics

Days to maturity : 48-58
Maturity : Early/Intermediate
Plant height : 150-190 cm
Ear height : 75-95 cm
No. of leaves : 14
Disease reaction :
Susceptible to maize streak virus
Lodging : negligible
Yield and yield components
Yield potential : 4.0-5.5 t/ha
Ear diameter : 4.2 cm
Kernel depth : 0.7 cm
Ear length : 12-16 cm
Shelling percent : 81
No. of kernel rows : 12-16
Grain type : yellow dent

Recommendation :

- Lowland to mid-altitude (up to 1000 m) with $\geq$ 600 mm rainfall within 90-day cropping season.
- Population : 60.000/ha.

COMPOSITE D

Years in SAFGRAD Trials

1979, 1980

Developed by

IRAT/Côte d'Ivoire

Genetic background

Composite created from local varieties from Africa.

Agronomic characteristics

Days to mid-silk : 45-54
Maturity : Early
Plant height : 175-240 cm
Ear height : 90-130 cm
Disease reaction
Susceptible to polysora rust, maydis blight Curvularia leaf spot and maize streak virus
Yield potential : 2.5-4.0 t/ha
Grain type : yellow flint

Recommendation

- Lowland ecology (below 800 m) with ≥ 600 mm rainfall distributed within 90-day cropping season.
- Population : 66,000/ha.

DMR-ESRW

Years in SAFGRAD Trials

1984, 1985, 1986.

Developed by :

IITA

Genetic background

Developed from crosses of adapted varieties (TZB, TZPB, Trop. late white dent) with downy mildew resistance sources from the Philippines and Thailand followed by recurrent selection for earliness and disease resistance under pressure of downy mildew and streak virus in alternating seasons.

Agronomic characteristics

Days to mid-silk : 48-54
Maturity : Early
Plant height : 175-210 cm
Ear height : 75-100 cm
No. of leaves : 15
Disease reaction :
Resistant to : downy mildew, streak virus, maydis leaf blight, polysora rust, and Curvularia leaf spot.
Lodging : negligible
Yield and yield component :
Yield potential : 4.0-5.5 t/ha
Ear length : 13-16 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. of kernel rows : 12-16
Shelling percent : 84
1000-kernel weight : 230 g
Grain type : white semi-dent
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 600 mm rainfall within 90-day cropping season
  Widely adapted.
- Population : 60,000/ha.

DMR-ESRY

Years in SAFGRAD Trials

1984, 1985, 1986, 1987, 1989.

Developed by

IITA

Genetic background

Developed from crosses of adapted varieties (Western yellow, 096EP6) with downy mildew resistance sources from the Philippines and Thailand followed by recurrent selection for earliness and disease resistance under pressure of downy mildew and streak virus in alternating seasons.

Agronomic characteristics

Days to mid-silk : 47-55
Maturity : Early
Plant height : 180-220 cm
Ear height : 85-100 cm
No. of leaves : 16
Disease reaction :
Resistant to : downy mildew, maize streak virus, maydis leaf blight, polysora rust and Curvularia leaf spot.
Drought tolerant
Lodging : negligible
Yield and yield components
Yield potential : 4.0-5.5 t/ha
Ear length : 14-18 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. of kernel rows : 12-16
Shelling percent : 84
1000-kernel weight : 231 g
Grain type : yellow flint
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 600 mm rainfall within 90-day cropping season.
- Population : 60,000/ha.

EARLY 86 POOL 16 DR

Years in SAFGRAD Trials

1988, 1989

Developed by :

IITA-SAFGRAD

Genetic background

Developed from Pool 16 (a CIMMYT white dent early maize improved for good plant type, earliness, and tolerance to high plant density) after two cycles of selection for drought resistance (DR) and earliness in Burkina Faso using full-sib family improvement scheme.

Agronomic characteristics

Days to mid-silk : 45-55
Maturity : Early
Plant height : 140-170 cm
Ear height : 65-80 cm
No. of leaves : 14
Disease reaction :
Resistant to : maydis leaf blight, polysora rust Curvularia leaf spot
Mildly resistant to : maize streak virus.
Tolerant to drought
Lodging : negligible
Yield and yield components
Yield potential : 4.0-5.0 t/ha
Ear length : 13-17 cm
Ear diameter : 4.1 cm
Kernel depth : 0.64 cm
No. kernel rows : 12-16
Shelling percent : 84
1000-kernel weight : 228 g
Grain type : white dent
Cob color : white.

Recommendation

- Lowland ecology (below 800 m) with ≥ 600 mm rainfall within 90-day cropping season.
- Population : 66,000/ha.

EV 8188

Years in SAFGRAD Trials

1983, 1984

Developed by

Tanzania

Synonym

Kito

Genetic background

Developed from Tanzanian population 88 which contain CIMMYT population 30 (Blanco Cristalino-2).

Agronomic background

Days to mid-silk : 44-54
Maturity : Early
Plant height : 140-170 cm
Ear height : 50-65 cm
Disease reaction :
Susceptible to maize streak virus
Yield potential : 3.5-4.5 t/ha
Grain type : white flint

Recommendation

- Lowland ecology (below 800 m) with ≥ 600 mm rainfall distributed within 90-day cropping season.
- Population : 66,000/ha.

EV 8430-SR

Years in SAFGRAD Trials

As Pirsaback 7930 in 1982, 1983, 1984.

Developed by

CIMMYT-IITA

Genetic background

Pirsaback(1) 7930, an experimental variety (EV) from CIMMYT population 30 (Blanco Cristallino-2 --a mixture of Compuesto selection precoz and Pool 15 (tropical early white flint), was crossed with IITA streak resistance source. This was subsequently backcrossed at IITA to the most recent and best performing EV from Pop 30 international testing coordinated by CIMMYT and streak resistant plants were recombined under artificially induced disease pressure.

Agronomic characteristics

Days to mid-silk : 45-55
Maturity : Early
Plant height : 155-205 cm
Ear height : 55-70 cm
No. of leaves : 14
Disease reaction:
Resistant to maize streak virus, maydis leaf blight, Curvularia leaf spot and moderately to polysora rust.
Lodging : low
Yield and yield components :
Yield potential : 3.5-4.5 t/ha
Ear length : 12-16 cm
No. of kernel rows : 12-16
Shelling percent : 80
Grain type : white flint
Cob color : white

Recommendation :

- Lowland ecology (below 800 m) with $\geq$ 600 mm rainfall distributed within 90-day cropping season.
- Population : 66,000/ha.

EV 8431-SR

Years in SAFGRAD Trials

1985, 1986, 1987.

Developed by :

CIMMYT-IITA

Genetic background

Poza Rica 7931, an experimental variety (EV) from CIMMYT population 31 (Amarillo Cristalino-2 --yellow flint early maize from Compuesto selection precoz and crosses of tropical x temperate materials) was crossed with IITA streak resistance source. This was subsequently backcrossed at IITA to the most recent and best performing EV from Pop 31 international testing coordinated by CIMMYT and streak resistant plants were recombined under artificially induced disease pressure.

Agronomic characteristics :

Days to mid-silk : 45-55
Maturity : Early
Plant height : 160-205 cm
Ear height : 65-90 cm
No. of leaves : 14
Disease reaction :
Resistant to streak virus, *maydis* leaf blight, *Curvularia* leaf spot and moderately to *polysora* rust
Lodging : low
Yield and yield components :
Yield potential : 3.5-5.0 t/ha
Ear length : 13-18 cm
No. of kernel rows : 12-16
Shelling percent : 83
Grain type : yellow semi-flint
Cob color : white

Recommendation :

- Lowland ecology (below 800 m) with $\geq$ 600 mm rainfall distributed within 90-day cropping season.
- Population : 66,000/ha.

FARAKO-BA 86 POOL 16 DR (HD)

Years in SAFGRAD Trials

1988, 1989

Developed by

IITA-SAFGRAD

Genetic background

Developed from Pool 16 (a CIMMYT white dent early maize improved for good plant type, earliness, and tolerance to high plant density) after two cycles of selection for tolerance to high population density (HD) at Farako-Bâ as a method of drought resistance (DR) breeding using full-sib family improvement scheme.

Agronomic characteristics

Days to mid-silk : 45-55
Maturity : Early
Plant height : 140-175 cm
Ear height : 65-80 cm
No. of leaves : 14
Disease reaction :
Resistant to : maydis leaf blight, polysora rust and Curvularia leaf spot.
Mildly resistant to : maize streak virus
Lodging : negligible
Yield and yield components
Yield potential : 4.0-5.5 t/ha
Ear length : 13-17 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. of kernel rows : 12-16
Shelling percent : 85
1000-kernel weight : 245 g
Grain type : white dent
Cob color : white.

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 600 mm rainfall within 90-day cropping season.
- Population : 66,000/ha.

JAUNE DENTE DE BAMBEY

Years in SAFGRAD Trials

1985, 1986

Developed by

Senegal

Genetic background

Developed from CIMMYT experimental variety Tocumen 7635 (Population 35 --Antigua Republica Dominicana).

Agronomic characteristics

Days to mid-silk : 46-56
Maturity : Early/Intermediate
Plant height : 150-185 cm
Ear height : 75-95 cm
Disease reaction :
Fairly resistant to maydis leaf blight, polysora rust and Curvularia leaf spot
Susceptible to maize streak virus
Yield potential : 4.0-5.5 t/ha
Grain type : yellow dent

Recommendation

- Lowland ecology (below 800 m) with ≥ 600 mm rainfall distributed within 90-day cropping season.
- Population : 60,000/ha.

KAMBOINSE(1) 84 TZESR-W

Years in SAFGRAD Trials

1987, 1988, 1989 ; as TZESR-W in 1982-84 ;
and as Mayo Galke 82 TZESR-W in 1985, 1986.

Developed by

IITA

Genetic background

Synthetized from early maturing varieties from Asia and streak resistant IITA line IB 32. Improved by multilocation recurrent selection with regular monitoring for high level of streak resistance under induced disease pressure.

Agronomic characteristics

Days to mid-silk : 47-57
Maturity : Early
Plant height : 150-185 cm
Ear height : 75-90 cm
No. of leaves : 14
Disease reaction :
Resistant to : maize streak virus, maydis leaf blight, polysora rust and Curvularia leaf spot.
Lodging : low
Yield and yield components :
Yield potential 3.5-5.0 t/ha
Ear length : 13-17 cm
Ear diameter : 3.8 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 82
1000-kernel weight : 235 g
Grain type : white flint
Cob color : white

Recommendation :

- Lowland ecology (below 800 m) with $\geq$ 600 mm rainfall within 90-day cropping season.
- Population : 60,000/ha.

KAMBOINSE 86 POOL 16 DR

Years in SAFGRAD Trials

1988, 1989

Developed by :

IITA-SAFGRAD

Genetic background

Developed from Pool 16 (a CIMMYT white dent early maize improved for good plant type, earliness, and tolerance to high plant density) after two cycles of selection for drought resistance (DR) in Burkina Faso using full-sib family improvemnt scheme.

Agronomic characteristics

Days to mid-silk : 45-55
Maturity : Early
Plant height : 145-180 cm
Ear height : 60-75 cm
No. of leaves : 14
Disease reaction :
Resistant to : maydis leaf blight, polysora rust and Curvularia leaf spot
Mildly resistant to : maize streak virus
Tolerant to drought stress
Lodging : negligible
Yield and yield components :
Yield potential : 4.0-5.5 t/ha
Ear length : 13-17 cm
Ear diameter : 4.1 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 83
1000-kernel weight : 229 g
Grain type : white dent
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 600 mm rainfall within 90-day cropping season.
- Population : 66,000/ha.

KAWANZIE

Years in SAFGRAD Trials

1987, 1988, 1989.

Developed by :

Crops Research Institute, Ghana.

Genetic background

Selection from CIMMYT Population 31 (Amarillo Cristalino-2 early yellow flint maize of relatively short plants).

Agronomic characteristics

Days to mid-silk : 45-55
Maturity : Early
Plant height : 135-160 cm
Ear height : 55-70 cm
N° of leaves : 12
Disease reaction :
Resistant to : maydis leaf blight, Curvularia leaf spot
Susceptible to : maize streak virus, polysora rust
Lodging : low
Yield and yield components :
Yield potential : 3.0-4.5 t/ha
Ear length : 12-16 cm
Ear diameter : 4.1 cm
Kernel depth : 0.64 cm
No. of kernel rows 12-16
Shelling percent : 81
1000-kernel weight : 230 g
Grain type : yellow flint
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 600 mm rainfall distributed within 90-day cropping season.
- Population : 66,000/ha.

MTS

Years in SAFGRAD Trials

1982, 1983.

Developed by

IRAT/Côte d'Ivoire

Synonym

IRAT 33

Genetic background

MTS = Maïs Témoin Station
Improved local from Katiola Violet

Agronomic characteristics

Days to mid-silk : 45-55
Maturity : Early
Plant height : 165-200 cm
Ear height : 95-115 cm
Disease reaction :
Susceptible to polysora rust,
maydis leaf blight and
maize streak virus
Yield potential : 3.0-5.0
Grain type : White and purple semi-dent.

Recommendation

- Lowland ecology (below 800 m) with ≥ 600 mm rainfall distributed within 90-day cropping season.
- Population : 60,000/ha.

SAFITA-2

Years in SAFGRAD Trials

1982 - 1989.

Developed by :

IITA-SAFGRAD

Genetic background :

Selection from Pool 16 (a CIMMYT white dent early maize improved for good plant type, earliness, and tolerance to high plant density) at Kamboinsé, Burkina Faso after some cycles of half-sib.

Agronomic characteristics

Days to mid-silk : 45-55
Maturity : Early
Plant height : 145-170 cm
Ear height : 70-85 cm
No. of leaves : 14
Disease reaction :
Resistant to : maydis leaf blight, polysora rust and Curvularia leaf spot
Susceptible to : maize streak virus.
Lodging : negligible
Yield and yield components
Yield potential : 4.0-5.0 t/ha
Ear length : 13-17 cm
Ear diameter : 4.5 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 85
1000-kernel weight : 245 g
Grain type : white dent
Cob color : white

Recommendation

- Lowland ecology (below 800 m) with ≥ 600 mm rainfall distributed within 90-day cropping season.
- Population : 66,000/ha.

SAFITA-104

Years in SAFGRAD Trials

1981, 1982, 1983, 1984, 1985.

Developed by

IITA-SAFGRAD

Genetic background

Developed from crosses between US cornbelt germplasm and improved adapted Nigerian yellow cultivars (Western yellow, 096EP6) and improved by half-sib family scheme for 3 years emphasizing earliness.

Agronomic characteristics

Days to mid-silk : 45-58
Maturity : Early
Plant height : 165-220 cm
Ear height : 70-95 cm
No. of leaves : 13
Disease reaction :
Susceptible to maize streak virus
Lodging : low
Yield and yield potential
Yield potential : 3.5-4.5 t/ha
Ear length : 12-16 cm
Ear diameter : 4.0 cm
Kernel depth : 0.7 cm
No. of kernel rows : 12-16
Shelling percent : 81
Grain type : yellow semi-dent
Cob color : purple and white

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 600 mm rainfall distributed within 90-day cropping season.
- Population : 60,000/ha.

E X T R A - E A R L Y

M A T U R I N G V A R I E T I E S

(ACROSS 8131 X JFS) X LOCAL RAYTIRI F4

Years in SAFGRAD Trials

1987, 1988, 1989.

Developed by

IITA-SAFGRAD

Genetic background

Advanced generation of crosses between CIMMYT experimental variety Across 8131 (from Population 31 --Amarillo Cristalino-2) and two varieties from Burkina Faso-- JFS (Jaune flint de Saria) and Local Raytiri. Selected for improved plant type and extra-earliness.

Agronomic characteristics

Days to mid-silk : 41-51 days
Maturity : Extra-early
Plant height : 140-175 cm
Ear height : 55-70 cm
No. of leaves : 13
Disease reaction :
Susceptible to maydis leaf blight, Curvularia leaf spot and maize streak virus
Lodging : low
Yield and yield components
Yield potential : 3.0-5.0 t/ha
Ear length : 14-18 cm
Ear diameter : 4.5 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 82
1000-kernel weight : 229 g
Grain type : yellow flint

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

CSP

Years in SAFGRAD Trials

1986, 1987, 1988, 1989.

Developed by

CIMMYT.

Genetic background

CSP (Compuesto Selecion Precoz) was derived from composting the early fractions of all late tropical CIMMYT populations.

Agronomic characteristics

Days to mid-silk : 40-50
Maturity : Extra-Early
Plant height : 130-160 cm
Ear height : 55-70 cm
No. of leaves : 12
Disease reaction
Resistant to maydis leaf blight
Susceptible to : maize streak virus
Lodging : negligible
Yield and yield components :
Yield potential : 3.0-5.0 t/ha
Ear length : 12-16 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. of kernel rows : 12-16
Shelling percent : 81
1000-kernel weight : 235 g
Grain type : yellow flint

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 500 mm rainfall distributed within 80-day cropping season.
- Population : 66,000/ha.

CSP X LOCAL RAYTIRI F4

Years in SAFGRAD Trials

1987, 1988, 1989.

Developed by

IITA-SAFGRAD

Genetic background

Advanced generation of a cross between CSP (Compuesto Seleccion Precoz) from CIMMYT and a landrace from Burkina Faso (Local Raytiri).

Agronomic characteristics

Days to mid-silk : 41-50
Maturity : Extra-early
Plant height : 135-165 cm
Ear height : 58-72 cm
No. of leaves : 12
Disease reaction :
Fairly susceptible to *maydis* leaf blight and *Curvularia* leaf spot and very susceptible to maize streak virus.
Lodging : negligible
Yield and yield components
Yield potential : 3.5-5.0 t/ha
Ear length : 13-17 cm
Ear diameter : 4.5 cm
No. of kernel rows : 12-16
Shelling percent : 83
1000-kernel weight : 239 g
Grain type : yellow flint

Recommendation

- Lowland ecology (below 800 m) with ≥ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

POOL 27 X GUA 314 BC1 F3

Years in SAFGRAD Trials

1987, 1988, 1989.

Developed by

IITA-SAFGRAD

Genetic background

Advanced generation of cross between CIMMYT Pool 27 (Temperate early white flint) and Colombian extra-early variety Gua 314. Selected for adaptation, improved plant type and extra-earliness in Burkina Faso.

Agronomic characteristics

Days to mid-silk : 39-47
Maturity : Extra-early
Plant height : 130-160 cm
Ear height : 50-65 cm
No. of leaves : 11
Disease reaction :
Susceptible to maydis leaf blight, polysora rust, Curvularia leaf spot and maize streak virus.
Lodging : low
Yield and yield components :
Yield potential : 3.0-4.5 t/ha
Ear length : 11-15 cm
Ear diameter : 4.1 cm
Kernel depth : 0.79 cm
No. of kernel rows : 12-16
Shelling percent : 86
1000-kernel weight : 239 g
Grain type : white semi-flint

Recommendation

- Lowland ecology (below 800 m) with ≥ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

POOL 28 X GUA 314 BC1 F3

Years in SAFGRAD Trials

1987, 1988.

Developed by

IITA-SAFGRAD

Genetic background

Advanced generation of cross between CIMMYT Pool 28 (Temperate early white dent) and Colombian extra-early variety Gua 314. Selected for adaptation, improved plant type and extra-earliness in Burkina Faso.

Agronomic characteristics

Days to mid-silk : 40-48
Maturity : Extra-early
Plant height : 130-160 cm
Ear height : 45-65 cm
No. of leaves : 12
Disease reaction :
Susceptible to maydis leaf blight, polysora rust, Curvularia leaf spot and maize streak virus
Lodging : low
Yield and yield components :
Yield potential : 3.0-4.5 t/ha
Ear length : 11-15 cm
Ear diameter : 4.1 cm
Kernel depth : 0.79 cm
No. of kernel rows : 12-16
Shelling percent : 87
1000-kernel weight : 243 g
Grain type : white dent

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

POP 30 X GUA 314 BC1 F3

Years in SAFGRAD Trials

1987, 1988, 1989.

Developed by

IITA-SAFGRAD

Genetic background

Advanced generation of cross between CIMMYT population 30 (Blanco Cristalino-2) and Colombian variety Gua 314 after backcrossing once to Population 30.

Agronomic characteristics

Days to mid-silk : 39-47
Maturity : Extra-early
Plant height : 130-160
Ear height : 50-60
No. of leaves : 12
Disease reaction :
Midly resistant to maydis leaf blight, polysora rust and Curvularia leaf spot.
Susceptible to maize streak virus
Lodging : low
Yield and yield components :
Yield potential : 3.0-4.5 t/ha
Ear length : 11-15 cm
Ear diameter : 4.5 cm
Kernel depth : 0.80 cm
No. of kernel rows : 12-16
Shelling percent : 85
1000-kernel weight : 234 g
Grain type : white semi-dent.

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

TZEE-W1

Years in SAFGRAD Trials

1988, 1989.

Developed by

IITA-SAFGRAD

Genetic background

A composite of CIMMYT germplasm EV8188, Pool 27 and a Colombian extra-early cultivar Gua 314. Selected for improved plant type and earliness at Kamboinse, Burkina Faso.

Agronomic characteristics

Days to mid-silk : 38-46
Maturity : Extra-early
Plant height : 122-150 cm
Ear height : 50-60 cm
No. of leaves : 11
Disease reaction :
Susceptible to maydis leaf blight and Curvularia leaf spot under very humid conditions and to maize streak virus.
Lodging : low if harvested as soon as mature
Yield and yield components
Yield potential : 3.0-4.0 t/ha
Ear length : 10-14 cm
Ear diameter : 4.1 cm
Kernel depth : 0.80 cm
No. of kernel rows : 12-16
Shelling percent : 86
1000-kernel weigth : 240 g
Grain type : white semi-dent

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

TZEE-W2

Years in SAFGRAD Trials

1988, 1989

Developed by

IITA-SAFGRAD

Genetic background

A composite of CIMMYT Pools 15, 16, 27, 28 and EV8188 IITA's TZESR-W and Gua 314 from Colombia. Selected for improved plant type and earliness at Kamboinse, Burkina Faso.

Agronomic characteristics

Days to mid-silk : 38-46
Maturity : Extra-early
Plant height : 124-152 cm
Ear height : 50-60 cm
No. of leaves : 12
Disease reaction :
Susceptible to maydis leaf blight and Curvularia leaf spot under very humid conditions and to maize streak virus
Lodging : low if harvesting is not delayed
Yield and yield components
Yield potential : 3.0-4.0 t/ha
Ear length : 11-15 cm
Ear diameter : 4.1 cm
Kernel depth : 0.80 cm
No. of kernel rows : 12-16
Shelling percent : 86
1000-kernel weight : 246 g
Grain type : white dent

Recommendation

- Lowland ecology (below 800 m) with ≥ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

TZEE-Y

Years in SAFGRAD Trials

1988, 1989.

Developed by

IITA-SAFGRAD

Genetic background

Developed at Kamboinse, Burkina Faso from a composite of yellow West African Sudan savanna landraces and improved yellow early populations and pools. Selected for extra-earliness and improved plant type.

Agronomic characteristics

Days to mid-silk : 38-45
Maturity : Extra-early
Plant height :120-147 cm
Ear height : 45-60 cm
No. of leaves : 13
Disease reaction :
Susceptible to : maydis leaf blight, and Curvularia leaf spot under very humid conditions and to maize streak virus.
Lodging : low if harvested as soon as mature
Yield and yield components
Yield potential 3.0-4.0 t/ha
Ear length : 13-17 cm
Ear diameter : 4.1 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 85
1000-kernel weight : 204
Grain type : yellow flint

Recommendation

- Lowland ecology (below 800 m) with ≥ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

TZEF-Y

Years in SAFGRAD Trials

1987, 1988, 1989.

Developed by

IITA-SAFGRAD

Genetic background

Developed at Kamboinse, Burkina Faso from a composite of local Burkina Faso landraces and the following improved germplasm : Pools 17, 18, 29, CSP and Pop 46 from CIMMYT and SAFITA-104 from IITA. Selected for extra-earliness and improved plant type.

Agronomic characteristics

Days to mid-silk : 42-52
Maturity : Extra early/Early
Plant height : 130-165 cm
Ear height : 55-70 cm
No. of leaves : 13
Disease reaction :
Midly resistant to : maydis leaf blight, polysora rust and Curvularia leaf spot.
Susceptible to : maize streak virus
Lodging : low
Yield and yield components
Yield potential : 3.5-5.0 t/ha
Ear length : 12-16 cm
Ear diameter : 4.1 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 86
1000-kernel weight : 200 g
Grain type : yellow flint

Recommendation

- Lowland ecology (below 800 m) with $\geq$ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

TZESR-W X GUA 314 BC1 F3

Years in SAFGRAD Trials

1987, 1988, 1989

Developed by

IITA-SAFGRAD

Genetic background

Advanced generation of cross between IITA's TZESR-W and Colombian variety Gua 314 after backcrossing once to TZESR-W.

Agronomic characteristics

Days to mid-silk : 41-51
Maturity : Extra-early/Early
Plant height : 139-170 cm
Ear height : 58-72 cm
No. of leaves : 13
Disease reaction :
Fairly resistant to maydis leaf blight, polysora rust, Curvularia leaf spot and maize streak virus.
Lodging : low
Yield and yield components :
Yield potential : 3.5-5.5 t/ha
Ear length : 9-13 cm
Ear diameter : 4.1 cm
Kernel depth : 0.64 cm
No. of kernel rows : 12-16
Shelling percent : 83
1000-kernel weigth : 221 g
Grain type : white flint

Recommendation

- Lowland ecology (below 800 m) with ≥ 500 mm rainfall distributed within 80-day cropping season. Sudan savanna.
- Population : 66,000/ha.

1991-02

MAIZE VARIETIES IN SAFGRAD REGIONAL TRIALS 1979-1989

FAJEMISIN, J.M.

AU-SAFGRAD