CAPSTONE Seeds

# SUMMER CROP

# CONTENTS



# OPEN POLLINATED GRAIN SORGHUM

## MACIA

MACIA is a white grained, open pollinated variety from ICRISAT. It is a medium maturity variety with good disease tolerance and can be grown throughout the country, but particularly in areas where maize is a high risk, crop Sorghum has a high drought tolerance and is likely to produce a crop even in years of less than average rainfall. MACIA produces very uniform robust plants with bold compact heads. The plants are shorter than SV2.

### Scientific Information:

Open pollinated (pure line) variety selected from pedigree M91057 (SDS3220)

**Height:**Dwarf – Semi-dwarf 1.3 – 1.5m with thick stem

**Colour:**Tan plant

**Leaf Shape:**Broad and drooping, stays green at maturity and after harvest.

**Head/ panicle shape and size:**Semi-compact, large and bulbous

**Head/ panicle exertion:**Good, 10 – 15cm.

**Tillering:**Mostly does not tiller, average 1.2 tillers per plant

**Maturity:**Early to Medium maturing 60 – 65 days to 65% heading and 115 – 120days to maturity.

**Grain Characteristics:**
**Colour:** Creamy White
**Grain Size:** Medium
**Grain Texture:** Corneous and hard, 3.8 out of 5.0 (hardest score on scale 1.0 – 5.0)
**Glume Colour:** Straw, inconspicuous in size, easily threshable.

- Seed colour: Tan
- Tilling: 1.2
- Plant height: 1.3m - 1.5m
- Thick Stem
- Maturity: Early to Medium

**Testa (seed coat):** Absent

**Tannin content:** Absent 0.0

**Milling:**Excellent milling quality, 80% flour yield, white flour.

**Adaptation:**Drought Resistant, adapted to loam, sandy loams and sandy soils in short season areas (>100 days) with average 250 – 750mm rain- fall. Resistant to aphids and common leaf diseases.

**Yield Potential:**3.0 to 6.0 tonnes / ha

**Utilisation:**
Dual purpose of grain and crop residue for:
- Food in porridge;
- Food in bread as composite flour (20% sorghum: 80% wheat)
- Animal feed in poultry as grain, live stock

# OPEN POLLINATED GRAIN SORGHUM

## NS5751

## RED SORGHUM, HIGH TANNIN

NS5751 is an NON-GMO open pollinated grain sorghum with very good uniformity and threshability.

NS5151 grows most successful in regions where the annual rainfall ranges from 400 to 800 mm, but is mostly planted where rainfall is below average for maize production. High humidity may sometimes affect seed set. This produce is more tolerant to drought in comparison with most other grain crops.

| | |
|---|---|
| **Kind** | Open Pollinated |
| **+/- Days to 50% Flower** | 75 - 80 |
| **+/- Days to Harvest** | 135 140 |
| **Plant Height** | 120cm |
| **Uniformity** | 2* |
| **Standability** | 2* |
| **Threshability** | 2* |
| **Headsmut Tolerance** | 3* |
| **Leaf Disease and Stem Rots** | 3* |
| **Ear Type** | Half Open |
| **Grading** | GH |
| **Seed Colour** | Red |

*1 =Excellent
9 = Poor

# DRY BEANS
## CAP 2001

### Speckled Sugar Bean (Cranberry)

CAP 2001 has a determinate, bush type growth habit and should be planted at a 20% higher plant population (approx. 90kgs per ha). It's growing season is approximately 100 - 120 days. There are roughly 10 seeds for every 50 grams of product.

It is important to note that this variety is a speckled sugar bean with a cranberry shape which is oval rather than kidney shaped.

In terms of lodging it is considered to be moderately susceptible, however it is moderately resistant to rust. CAP 2001 has a yield potential of 4 mt plus per hectare. Mechanical harvesting is possible if a high enough plant population is planted. CAP 2001 is usually ready to harvest 3-4 weeks before most other sugarbean varieties.

- Growth Habit: Determinate, Bush type
- Growing season: 100-120 days
- Moderate resistance to rust
- Plant population: 188 000 plants per Ha (90-100kg/Ha) under irrigation
- Yield potential: 3 Mt/Ha
- Moderate resistance to Sclerotinia
- Speckled sugar Bean (Cranberry shape)
- Average planting rate of 75kg./ha


# DRY BEANS
## CAP 2000

- Growth Habit: Indeterminate, Runner type
- Growing season: 90-100 days
- Susceptible to rust in humid environments
- Plant population: 150 000 plants per Ha (90kg/Ha) under irrigation
- Yield potential: 4 Mt/Ha
- Moderate resistance to Sclerotinia
- Speckled sugar Bean (Cranberry shape)
- Average planting rate of 75kg./ha

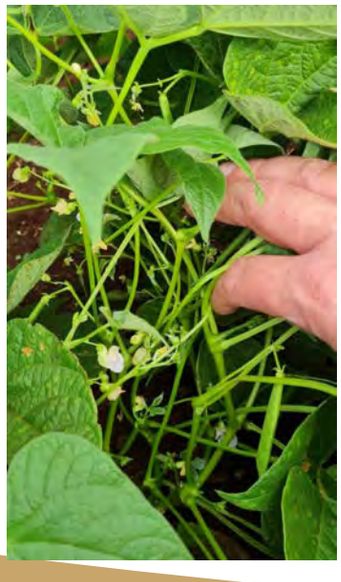
### Speckled Sugar Bean (Cranberry)

CAP 2000 has an indeterminate, runner type growth habit with a few short and upright branches. It is also known to grow after flowering. It has a growth season of approximately 100 days, which allows it to be planted earlier than CAP 2001. In every 50 grams of product there are 10 seeds.

It is important to note that this variety is a speckled sugar bean with a cranberry shape which is oval rather than kidney shaped.

It is moderately susceptible to lodging with a good resistance to shattering. It is also moderately resistant to rust.

CAP 2000 has a yield potential of 4 mt plus per hectare.



# DRY BEANS

## CAP 2001 / CAP 2000

| Drybeans Trials | | 2009/10 | | | 2010/11 | |
|---|---|---|---|---|---|---|
| | | Cap 2000 | Cap 2001 | C.V.% | Cap 2000 | C.V.% |
| Planting Dates | | | | | | |
| | at Kokstad | 11.12.2009 | 11.12.2009 | | 09.12.2010 | |
| | at Swartberg | 09.12.2009 | 09.12.2009 | | 14.12.2010 | |
| | at St. Bernard's Peak | 10.12.2009 | 10.12.2009 | | - | |
| Seeding Rates | | 180 000 pph | | | 180 000 pph | |
| Row Spacings | | 75cm apart | | | 75cm apart | |
| Disease Control | | Fungicide fortnightly from flowering | | Managed throughout the season | | |
| Fertilization | | | | | Optimal for a 3t/ha yield | |
| Date at 50% Flowering | | 29.01.2010 | 25.01.2010 | | - | |
| Date at Physiological Maturity | | 07.04.2010 | 01.04.2010 | | 08.04.2011 | |
| Date of Harvest | | | | | | |
| | at Kokstad | 07.04.2010 | 07.04.2010 | | 12.04.2011 | |
| | at Swartberg | 07.04.2010 | 07.04.2010 | | 29.04.2011 | |
| | at St. Bernard's Peak | 07.04.2010 | 07.04.2010 | | - | |
| Plant Populations at Harvest | | | | | | |
| | at Kokstad | 120 046 | 135 395 | 7 | 134 479 | 9 |
| | at Swartberg | 101 260 | 136 770 | 10,9 | 117 984 | 9,2 |
| | at St. Bernard's Peak | 74 227 | 121 420 | 13,9 | - | |
| Yields (t/ha) | | | | | | |
| | at Kokstad | 3194 | 3285 | 5,6 | 3290 | 12 |
| | at Swartberg | 2731 | 2843 | 13,2 | 4810 | 15,6 |
| | at St. Bernard's Peak | 2456 | 2577 | 15 | - | |
| | | | | | | |
| Comments | | If pph of 180 000 were adhered to, higher yields could have been obtained. | | | Despite a lower plant pop, excellent yields were obtained in Swartberg. Although the climatic conditions at Kokstad were drier & warmer, good yields were obtained. | |

# SOYA BEANS
## FUNDACEP 65RR

## OVERVIEW

FUNDACEP 65RR allows early sowing and harvesting which makes it ideal for early planting and double cropping. It has excellent yield potential.

FUNDACEP 65RR is known for high productivity, resistance to lodging and good health. It is an early cycle soya bean with a maturity group of 6.0 It has a high pod height which allows for easy harvesting and as a result limited wastage. It has a indeterminate growth type and is resistant to lodging.

100 grains weigh approximately 14.4 grams. It has a white flower colour and Grey pubescence with a light brown hilo colour.

- High productivity
- Good Health
- Medium Cycle
- Maturity Group: 6.0
- Glyphosate Tolerant

| | |
|---|---|
| Variety | Fundacep 65RR |
| Productivit | High |
| Resistance to lodging | Good |
| Plant Health | Good |
| Cycle | Medium |
| Maturity Group | 6.0 - 6.2 |
| Plant Height | High |
| POD Height | High |
| POD Height (cm) | 18 |
| Growth Type | Indeterminate |
| Fertility | High |
| 100-grain weigh (gram) | 14.4 |
| Combined Yield Analysis (kg) | 3941 |
| Flower Colour | White |
| Pubescence Colour | Grey |
| Hilo Colour | Light Brown |

| Varieties | Pod Height (cm) | Combined Yield (kg) |
|---|---|---|
| PAN1664R | 20 | 4 011.78 |
| FUNDACEP 65RR | 18 | 3 941.22 |
| PHB95Y20R | 16 | 3 846.81 |
| PAN1583R | 20 | 3 635.06 |
| PAN737R | 20 | 3 428.51 |

# SOYA BEANS
## DUNDEE (NON GMO)

## OVERVIEW

This is a "medium short grower" soya variety. The flower colour is purple and they do have a more elongated leaf with quick dry down characteristics. During pubescence it's colour is brown.

The upright growth pattern of the plant means this variety is more suited to production under narrow rows (0.76m).
It takes longer to canopy hence the weed pressure would be more on wider rows.

### Soil Fertility

Ineffective crop management, poor or no nodulating, acidic soil and low soil fertility all also play a role in soya bean quality.

### Herbicide sensitivity

No soya bean cultivars are resistant to atrazine type herbicides and the full waiting period has to be enforced before planting.

- Yield average : 3.38 tons/ha
- Plant population: between 320 000 and 400 000 per Ha
- In a 6 maturity group
- Indeterminate growth habit with excellent standability
- Good seedshattering resistance
- Has average disease tolerance to rust

| Characteristics | Cool | Moderate | Warm |
|---|---|---|---|
| Days to maturity | 176 | 160 | 137 |
| Pod height (cm) | 13 | 14 | 7 |
| Plant height (cm) | 104 | 86 | 110 |
| Yield mean tons/ha | 2.87 | 3.38 | 2.78 |
| Oil % on moisture free basis | 17.40 | 19.19 | 20.80 |
| Mass 100 seeds (g) | 16.90 | 20.33 | 20.47 |
| % crude protein | 36 | 36.50 | 36.00 |

# SOYA BEANS
## HERON (NON GMO)

### OVERVIEW

This is a "medium grower" soya variety with oval leaf with slow dry-down characteristics. Can be planted in 90cm or narrow 40cm rows.

It canopies quickly becasuse it is a bushy type variety. It is average on rust and does have tolerance to nematodes.

Yielf average: 3.61 tons/ha.

# SOYA BEANS
## EGRET (NON GMO)

### OVERVIEW

This is a "medium grower" soya variety with oval leaf with very slow dry-down characteristics. Can be planted 90cm or narrow 40cm rows.

It canopies quickly because it's a bushy type plant but showed more signs of rust than the other two varieties; Dundee and Heron, maybe because of it's density.

Yielf average: 3.65 tons/ha.

# SOYA BEANS
## CAP 2258 IPRO

## OVERVIEW

Intacta RR2 Pro contains the technology that offers resistance to Bollworms as well as the new RR2 Gene with increased yield potential.

- Indeterminate
- Medium-Early
- Average Yield 4.5mt/ha
- Tolerant to leaf rust
- Flower colour - Purple

| | |
|---|---|
| Number of days to 50% flowering | 54 |
| Number of days until harvest | 137 |
| Maturity Group | 5.8 |
| Plant height | 104 |
| Pod height | 19 |
| Tolerance | Good |
| Yield potential | Good |
| Growth type | Indeterminate |

INTACTA RR2 PRO®

# SOYABEAN
## ZAMBEZI

EARLY MEDIUM LATE

## High-Yielding Soyabean Variety

ZAMBEZI is a high-yielding soyabean variety capable of producing up to 5.5 tons per hectare under good management practices. It matures within 130 to 140 days, depending on altitude.

The variety shows good tolerance to common diseases such as leaf spot, rust, and bacterial blight. It is also a good companion to all currently available soyabean varieties in Zimbabwe.

ZAMBEZI is ideal for farmers seeking a reliable, disease-tolerant variety that performs well under irrigation and is well adapted to the diverse agro-ecological conditions.

- Indeterminate
- Medium Height(Approx. 1 meter)
- Good overall standability
- Performs well under irrigation

# HYBRID GRAIN SORGHUM

## CAP1002

### Red Hybrid, High Tannin

CAP1002 is a dual purpose sorghum as it can be used for both grain and silage. It has a plant height of 180cm and reaches 50% flowering at around 75 days. It is resistant to root rot and has a compact head density. It is medium tillering but has a high resistance to MDMV. The stem palatability and digestibility are very good. It is highly bird proof due to the tannins in the grain.

| | |
|---|---|
| **Kind** | Hybrid |
| **+/- Days to 50% Flower** | 75 |
| **Height Maturity** | 200cm |
| **Lodging Behavior** | Resistant |
| **Tanin Content** | High Bird Proof |
| **Tillering** | Medium |
| **MDMV Resistance** | High |
| **Head Density** | Compact |
| **For silage, harvest should be done at soft dough stage with a particle size of 1 in maximum.** | |

# HYBRID GRAIN SORGHUM

## CAP 1003

### RED HYBRID, HIGH TANNIN

CAP 1003 is a shorter grower with a height maturity of 140cm. It takes approximately 70 days to reach 50% flower. It is noted as being resistance to lodging behavior. It is highly bird proof due to the high tannin content. It has a medium tillering profile and high resistance to MDMV. CAP 1003 has a Semi Lax head density.

| | |
|---|---|
| **Kind** | Hybrid |
| **+/- Days to 50% Flower** | 70 |
| **Height Maturity** | 140cm |
| **Lodging Behavior** | Resistant |
| **Tanin Content** | High Bird Proof |
| **Tillering** | Medium |
| **MDMV Resistance** | High |
| **Head Density** | Semi Lax |
| **Medium/long cycle with a grain yeild of 7.5 mt/ha** | |

Plant hoogte (cm) vir verskillende sorghum genotipes by gedurende 2011-2012 seisoen
Plant height (cm) for different sorghum genotypes during 2011-2012 season

| Genotipe / Genotypes | Potchefstroom B/I | Bethlehem | Gem Mean |
|---|---|---|---|
| CAP1003 | 168,3 | 140,0 | 154,2 |
| CAP1004 | 190,0 | 120,0 | 155,0 |
| DOMINATOR | 141,7 | 110,0 | 125,9 |
| ENFORCER | 145,0 | 105,0 | 125,0 |
| NS5511 | 171,7 | 135,0 | 153,4 |
| NS5655 | 143,3 | 120,0 | 131,7 |
| PAN8625 | 166,7 | 110,0 | 138,4 |
| PAN8816 | 163,3 | 105,0 | 134,2 |
| PAN8909 | 146,7 | 95,0 | 120,9 |
| PAN8911 | 133,3 | 110,0 | 121,7 |
| PAN8919 | 133,3 | 95,0 | 114,2 |
| PAN8920 | 142,0 | 110,0 | 126,0 |
| PAN8923 | 126,7 | 90,0 | 108,4 |
| PAN8924(W) | 136,7 | 90,0 | 113,4 |
| TIGER | 136,7 | 105,0 | 120,9 |
| Gem/Mean | 152,9 | 110,3 | 131,6 |

B/I = Besproeiing / Irrigation

# HYBRID GRAIN SORGHUM

## CAP 1004

### WHITE HYBRID, LOW TANNIN

CAP 1004 has a duration of 100-105 days and a plant height of 180-190cm. It has a dark green leaf colour and semi erect leaf position. The stem is regarded as being thick with an earhead exertion that is exerted and an earhead shape that is long and cylindrical. It's earhead is semi compact.

It has a straw coloured glume with medium bold seed size. 1000 seeds weigh around 28-30 grams. It has an easy thresh ability.

| | |
|---|---|
| **Kind** | Hybrid |
| **+/- Days to harvest** | 100-105 |
| **Plant Height** | 180-190 |
| **Leaf Colour** | Dark Green |
| **Leaf Position** | Semi Erect |
| **Stem Thickness** | Thick |
| **Earhead Exertion** | Exerted |
| **Earhead Shape** | Long Cylindrical |
| **Earhead Compactness** | Semi Compact |
| **Glume Colour** | Straw |
| **Seed Size** | Medium Bold |
| **1000 Seed Weight (g)** | 28-30 |
| **Thresh Ability** | Easy |

Plant hoogte (cm) vir verskillende sorghum genotipes by gedurende 2011-2012 seisoen
Plant height (cm) for different sorghum genotypes during 2011-2012 season

| Genotipe / Genotypes | Potchefstroom B/I | Bethlehem | Gem Mean |
|---|---|---|---|
| CAP1003 | 168,3 | 140,0 | 154,2 |
| CAP1004 | 190,0 | 120,0 | 155,0 |
| DOMINATOR | 141,7 | 110,0 | 125,9 |
| ENFORCER | 145,0 | 105,0 | 125,0 |
| NS5511 | 171,7 | 135,0 | 153,4 |
| NS5655 | 143,3 | 120,0 | 131,7 |
| PAN8625 | 166,7 | 110,0 | 138,4 |
| PAN8816 | 163,3 | 105,0 | 134,2 |
| PAN8909 | 146,7 | 95,0 | 120,9 |
| PAN8911 | 133,3 | 110,0 | 121,7 |
| PAN8919 | 133,3 | 95,0 | 114,2 |
| PAN8920 | 142,0 | 110,0 | 126,0 |
| PAN8923 | 126,7 | 90,0 | 108,4 |
| PAN8924(W) | 136,7 | 90,0 | 113,4 |
| TIGER | 136,7 | 105,0 | 120,9 |
| Gem/Mean | 152,9 | 110,3 | 131,6 |

B/I = Besproeiing / Irrigation

# HYBRID GRAIN SORGHUM
## CAP 1005

### RED SORGHUM, LOW TANNIN

CAP 1005 is a hybrid grain sorghum with very good uniformity and threshability.

On average CAP 1005 takes approximately 80-85 days to reach 50% flower, and can be harvested after 140-145 approximately . This variety can reach heights of up to 155cm at maturity.

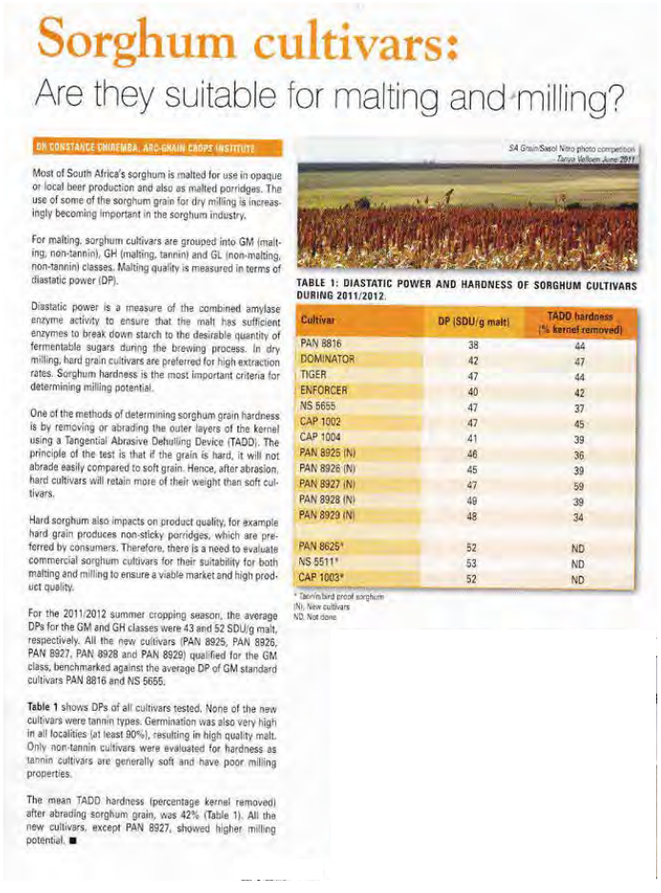
Notably CAP 1005 has good stand-ability, head-smut tolerance and leaf disease and stem rots tolerance.

CAP 1005 makes for an all-round great sorghum for both silage and grain.

| | |
|---|---|
| Kind | Hybrid |
| +/- Days to 50% flower | 80-85 |
| +/- Days to harvest | 140-145 |
| Plant Height | 155cm |
| Uniformity | 2* |
| Stand-ability | 3* |
| Threshability | 2* |
| Head-smut Tolerance | 3* |
| Leaf disease and stem rots | 3* |
| Ear Type | Half Open |
| Grading | GM |
| Seed Colour | Red |

*1 = Excellent
9=Poor

- Very high stand-ability
- Great threshability
- Red seed colour
- GM grading



Sorghum cultivars:

Are they suitable for malting and milling?

DR CONSTANCE ONIREMBA, ARC-GRAIN CROPS INSTITUTE

Most of South Africa's sorghum is malted for use in opaque or local beer production and also as malted porridges. The use of some of the sorghum grain for dry milling is increasingly becoming important in the sorghum industry.

For malting, sorghum cultivars are grouped into GM (malting, non-tannin), GH (malting, tannin) and GL (non-malting, non-tannin) classes. Malting quality is measured in terms of diastatic power (DP).

Diastatic power is a measure of the combined amylase enzyme activity to ensure that the malt has sufficient enzymes to break down starch to the desirable quantity of fermentable sugars during the brewing process. In dry milling, hard grain cultivars are preferred for high extraction rates. Sorghum hardness is the most important criteria for determining milling potential.

One of the methods of determining sorghum grain hardness is by removing or abrading the outer layers of the kernel using a Tangential Abrasive Dehulling Device (TADD). The principle of the test is that if the grain is hard, it will not abrade easily compared to soft grain. Hence, after abrasion, hard cultivars will retain more of their weight than soft cultivars.

Hard sorghum also impacts on product quality, for example hard grain produces non-sticky porridges, which are preferred by consumers. Therefore, there is a need to evaluate commercial sorghum cultivars for their suitability for both malting and milling to ensure a viable market and high product quality.

For the 2011/2012 summer cropping season, the average DPs for the GM and GH classes were 43 and 52 SDU/g malt, respectively. All the new cultivars (PAN 8925, PAN 8926, PAN 8927, PAN 8928 and PAN 8929) qualified for the GM class, benchmarked against the average DP of GM standard cultivars PAN 8816 and NS 5655.

Table 1 shows DPs of all cultivars tested. None of the new cultivars were tannin types. Germination was also very high in all localities (at least 90%), resulting in high quality malt. Only non-tannin cultivars were evaluated for hardness as tannin cultivars are generally soft and have poor milling properties.

The mean TADD hardness (percentage kernel removed) after abrading sorghum grain, was 42% (Table 1). All the new cultivars, except PAN 8927, showed higher milling potential. ■

SA Grain/Saad Nitro photo competition
Tanya Vellem June 2011

TABLE 1: DIASTATIC POWER AND HARDNESS OF SORGHUM CULTIVARS DURING 2011/2012.

| Cultivar | DP (SDU/g malt) | TADD hardness (% kernel removed) |
|---|---|---|
| PAN 8816 | 38 | 44 |
| DOMINATOR | 42 | 47 |
| TIGER | 47 | 44 |
| ENFORCER | 40 | 42 |
| NS 5655 | 47 | 37 |
| CAP 1002 | 47 | 45 |
| CAP 1004 | 41 | 39 |
| PAN 8925 (N) | 46 | 36 |
| PAN 8926 (N) | 45 | 39 |
| PAN 8927 (N) | 47 | 59 |
| PAN 8928 (N) | 49 | 39 |
| PAN 8929 (N) | 48 | 34 |
| PAN 8625* | 52 | ND |
| NS 5511* | 53 | ND |
| CAP 1003* | 52 | ND |

* Tannin bird proof sorghum
(N). New cultivars
ND. Not done

# HYBRID GRAIN SORGHUM
## ARROW - EARLY MATURING

### SWEET RED, LOW TANNING

Arrow is an early maturing hybrid grain sorghum with excellent yield potential. Arrow has semi-open head type and excellent hybrid vigour.

**Performance**

Arrow displays medium lodging resistance and has an attractive red grain colour. Arrow adapts well across most environments and systems. It is suitable for both dryland and irrigated production.

Arrow has good disease resistances and a provisional midge rating of 4.

Tolerance to stress across most environments.

| | |
|---|---|
| **Kind** | Hybrid |
| **+/- Days to flowering - Spring** | 67-70 |
| **+/- Days to flowering - Summer** | 61-67 |
| **Seed Colour** | Red |
| **Semi** | Open head type |
| **Grain Size** | Medium/large |
| **Tillering habit** | Medium |
| **Maturity** | Early |
| **Lodging Resistance** | Medium |
| **Provisional Midge Rating** | 4 |
| **Disease Resistance** | Good |

- Dryland marginal: 30 - 50,000 plant population
- Dryland good: 50 - 75,000 plant population
- Irrigation: 90 - 140,000 plant population

# HYBRID GRAIN SORGHUM

## NS5511

### RED SORGHUM, HIGH TANNIN

NS5511 is a NON-GMO hybrid grain sorghum with very good uniformity and threshability.

On average NS5511 takes approximately 80-85 days to reach 50% flower, and can be harvested after 140-145 approximately. This variety can reach heights of up to 150cm at maturity.

Notably NS5511 has excellent standability, headsmut tolerance and leaf disease and stem rots tolerance.

NS5511 makes for an all-round great sorghum for both silage and grain.

- Excellent stand-ability
- Excellent threshability
- Red seed colour
- GM grading

| | |
|---|---|
| **Kind** | Hybrid |
| **+/- Days to 50% flower** | 80-85 |
| **+/- Days to harvest** | 140-145 |
| **Plant Height** | 150cm |
| **Uniformity** | 2* |
| **Stand-ability** | 2* |
| **Threshability** | 2* |
| **Head-smut Tolerance** | 3* |
| **Leaf disease and stem rots** | 3* |
| **Ear Type** | Half Open |
| **Grading** | GM |
| **Seed Colour** | Red |

*1 = Excellent
9=Poor

# HYBRID GRAIN SORGHUM

## NS5655

### RED SORGHUM, LOW TANNIN

NS5655 is a hybrid grain sorghum with very good uniformity and threshability.

On average NS5655 takes approximately 80-85 days to reach 50% flower, and can be harvested after 140-145 approximately . This variety can reach heights of up to 1 55cm at maturity.

Notably NS5655 has good stand-ability, head-smut tolerance and leaf disease and stem rots tolerance.

NS5655 makes for an all-round great sorghum for both silage and grain.

- Very high stand-ability
- Great threshability
- Red seed colour
- GM grading

| | |
|---|---|
| **Kind** | Hybrid |
| **+/- Days to 50% flower** | 80-85 |
| **+/- Days to harvest** | 140-145 |
| **Plant Height** | 155cm |
| **Uniformity** | 2* |
| **Stand-ability** | 3* |
| **Threshability** | 2* |
| **Head-smut Tolerance** | 3* |
| **Leaf disease and stem rots** | 3* |
| **Ear Type** | Half Open |
| **Grading** | GM |
| **Seed Colour** | Red |

*1 = Excellent
9=Poor

# HYBRID POPCORN
## CAPPOP 5636

## HIGH YIELDING/EXPANSION

It has medium/large orange kernels that perform very well when popped in a microwave and in oil.

## HYBRID CHARACTERISTICS:

| | |
|---|---|
| Hybrid Type | Single Cross |
| Grain Color | Orange |
| Cycle / Relative Maturity | Medium (125) |
| Days to Flowering | 75 |
| Days to Maturity | 125-130 |
| Plant height cm | 220 |
| Ear type (shape - rows - grains) | Cylindrical 16/18 rows |
| Prolificity | Very prolific |
| Harvest Density pls / ha (52-70) | 65,000 |
| Behavior Tip Filling | Excellent |
| Stay green | Excellent |
| Stress tolerance | Very good |
| Performance Potential | Very high |
| Adaptation Zone | Sub Tropical |

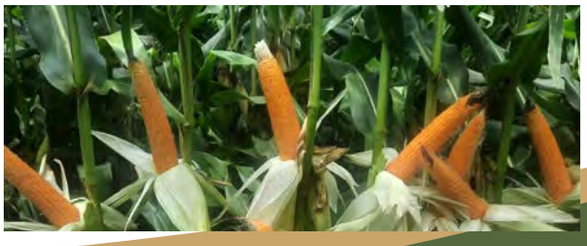
## BEHAVIOR/TOLERANCE TO:

| | |
|---|---|
| Foliar diseases / rust | Very Tolerant |
| Virus- MRC | Intermediate / High |
| Spike diseases | Very Good |
| Basal rot | High |
| Smut | Tolerant |
| Rust VG/Leaf blight | Intermedium |

- Grain yield potential - between 8 - 9 mt/hct under ideal conditions.
- 10 Kernels = grams 62
- Plant population under dryland - if low yield is expected 30000 seeds and up to 65000 seeds for higher yield expectation.
- Plant population under irrigation - 75000 (12.5kg seed) - 90000 seeds per hectare depending on yield expectation.
- Recommended seed treatment - Maxim+Cruiser
- Sensitivity to herbicides - No different to ordinary maize - IMI tolerant

## COMMERCIAL QUALITY:

| | |
|---|---|
| Expansion | High 42/43 cc / gr |
| K10 | Medium Large 62 |
| % On screen 6 | High |
| Commercial appearance | Excellent |
| Rosette type | Butterfly |



# HYBRID SUNFLOWER

## CAP 4064

## MEDIUM -LATE MATURING

With exceptional self-compatibility, this high yielding sunflower hybrid has proven itself around the world as a top performer. CAP 4064 is a medium-late maturity hybrid with excellent standability and disease resistance.

### Medium/Full Season Maturity

CAP 4064 is a medium-late maturing variety that reaches 50% flower in approximately 75 days. Harvest can be expected in approximately 140 days, depending on conditions.

### Yield Potential

CAP 4064 consistently produces excellent yields in both trials and farmer's fields. It's standability is excellent, aided by thick stalks and vigorous growth.

### Disease Resistance

CAP 4064 has an excellent level of disease tolerance to the major sunflower diseases including leaf rust, albugo white blister and Alternaria.

### Oil Production

CAP 4064 is a consistently high producer of poly unsaturated oil. This makes it a popular choice with both farmers and crushers.

### Semi—pendulous Heads

CAP 4064 has semi-pendulous heads which helps to reduce sunburn, head rot and bird damage. Its excellent self-compatibility is useful when native pollinators or bees are low in number.

# HYBRID SUNFLOWER
## CAP 4000

CAP 4000 is a medium to full season maturity variety which enables it to maximize yield in a wide range of conditions.

It has shown excellent yield potential in testing and production through-out the world since commercial release.

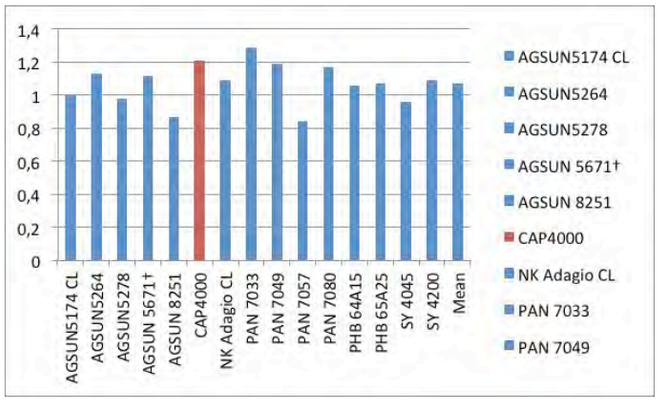
CAP 4000 has an excellent level of resistance to the major sunflower diseases including leaf rust, albugo white blister and alternaria.

CAP 4000 produces a very good oil percentage with a high level of poly-unsaturated oil. It also has many other desirable agronomic traits including high levels of lodging resistance from thick stalks. It has semi-pendulous heads which help to reduce sunburn, head rot and bird problems.

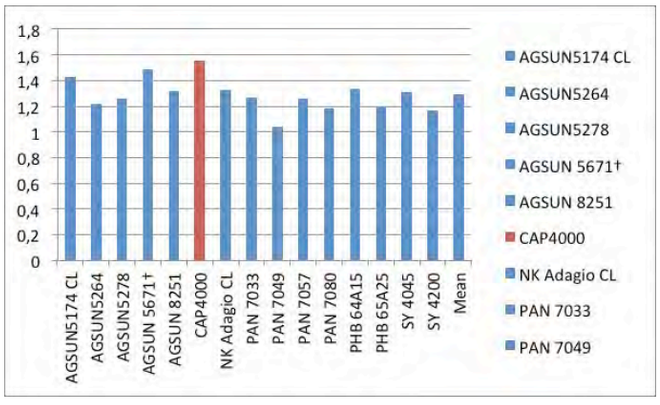
| | |
|---|---|
| **Maturity** | Full Season |
| **Yeild Potential** | Excellent |
| **Disease Resistance** | Excellent |
| **Oil Production** | Very good |
| **Heads** | Semi-pendulous |
| **Oil%** | 42-46 |

| | Bainsvlei 08/12/2011 | Clarens 13/12/2011 | Delareyville | Kroonstad | Kroonstad 04/01/2012 | Potchef-stroom 14/11/2011 | Potchef-stroom 22/11/2011 | Potchef-stroom 07/12/2011 | Potchef-stroom 19/12/2011 | Potchef-stroom 11/01/2012 | Potchef-stroom 20/01/2012 | Settlers 20/01/2012 | Viljoen-skroon | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGSUN5174 CL | 2.35 | 1.89 | 2.9 | 1.68 | 0.7 | 2.79 | 1.8 | 1.3 | 1.68 | 1.45 | 1.43 | 1 | 1.3 | 1.71 |
| AGSUN5264 | 3.27 | 1.78 | 3.1 | 2.33 | 1.46 | 3.82 | 1.79 | 1.5 | 2.6 | 1.32 | 1.22 | 1.13 | 2.36 | 2.13 |
| AGSUN5278 | 3.33 | 2 | 3.49 | 2.17 | 1.53 | 3.9 | 2.04 | 1.45 | 3.05 | 1.18 | 1.26 | 0.98 | 2.03 | 2.19 |
| AGSUN 5671† | 2.22 | 1.72 | 3.53 | 1.67 | 1.46 | 3.36 | 1.86 | 1.34 | 2.02 | 1.28 | 1.49 | 1.12 | 1.99 | 1.93 |
| AGSUN 8251 | 3.15 | 2.08 | 3.79 | 2.06 | 1.82 | 3.95 | 1.62 | 1.1 | 2.69 | 1.07 | 1.32 | 0.87 | 1.84 | 2.11 |
| CAP4000 | 3.63 | 2.1 | 2.63 | 2.19 | 1.12 | 3.72 | 1.82 | 1.23 | 2.4 | 1.32 | 1.55 | 1.21 | 2.08 | 2.08 |
| NK Adagio CL | 2.58 | 2.16 | 2.69 | 1.69 | 1.19 | 3.1 | 1.79 | 1.33 | 1.88 | 1.16 | 1.33 | 1.09 | 1.41 | 1.8 |
| PAN 7033 | 2.98 | 2.05 | 3 | 2.74 | 1.57 | 4.18 | 1.59 | 1.13 | 2.77 | 1.32 | 1.27 | 1.29 | 1.85 | 2.13 |
| PAN 7049 | 3.47 | 2.66 | 2.99 | 2.5 | 1.75 | 3.76 | 1.91 | 1.25 | 2.97 | 1.38 | 1.04 | 1.19 | 1.72 | 2.2 |
| PAN 7057 | 3.31 | 1.99 | 2.82 | 2.76 | 1.58 | 3.95 | 1.97 | 1.14 | 2.97 | 1.24 | 1.26 | 0.84 | 1.82 | 2.13 |
| PAN 7080 | 4.09 | 2.18 | 2.95 | 2.56 | 1.36 | 4.17 | 1.81 | 1.03 | 2.84 | 1.42 | 1.18 | 1.17 | 2.47 | 2.25 |
| PHB 64A15 | | 1.77 | 2.96 | 1.73 | 0.93 | 3.25 | 1.82 | 1.42 | 2.16 | 1.59 | 1.34 | 1.06 | 1.78 | 1.82 |
| PHB 65A25 | 2.71 | 1.96 | 3.11 | 2.49 | 1.1 | 3.54 | 1.77 | 1.17 | 2.83 | 1.42 | 1.19 | 1.07 | 1.9 | 2.02 |
| SY 4045 | 2.7 | 1.76 | 2.52 | 1.81 | 1.41 | 3.46 | 1.91 | 1.44 | 2.45 | 1.42 | 1.31 | 0.96 | 1.84 | 1.92 |
| SY 4200 | 3.88 | 2.28 | 2.67 | 1.88 | 1.15 | 3.53 | 1.61 | 1.33 | 2.69 | 1.26 | 1.17 | 1.09 | 2.43 | 2.07 |
| Mean | 3.1 | 2.03 | 3.01 | 2.15 | 1.34 | 3.63 | 1.81 | 1.28 | 2.53 | 1.32 | 1.29 | 1.07 | 1.92 | |
| CV | (%) | 11 | 14 | 13 | 14 | 19 | 7 | 12 | 16 | 12 | 15 | 18 | 9 | 20 |

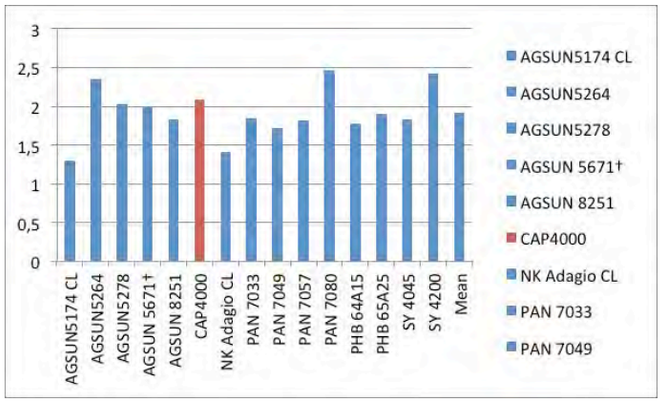
## Settlers



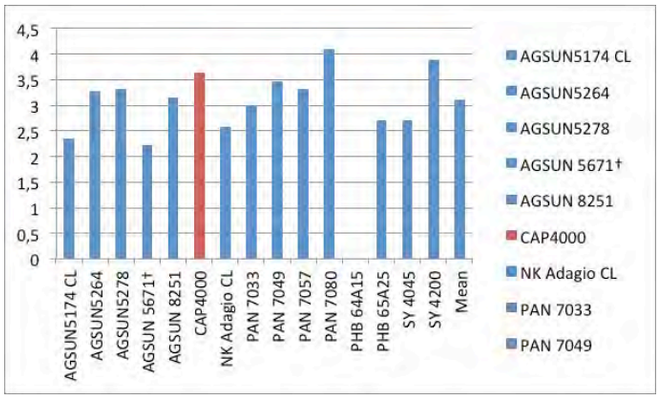

## Potchefstroom




## Viljoenskroon




## Bainsvlei



# HYBRID SUNFLOWER

## CAP 4065

## MEDIUM MATURING

CAP 4065 is a high yielding, medium maturity hybrid that consistently produces seed with a very high oil content. Coupled with excellent standability and a high degree of self-compatibility, CAP 4065 is the hybrid of choice for discerning growers.

### Medium/Full Season Maturity

CAP 4065 is a medium maturing variety that reaches 50% flower in approximately 72 days. Harvest can be expected in approximately 140 days, depending on conditions.

### Yield Potential

CAP 4065 produces excellent yields under a wide range of conditions. It has a consistently high oil content - a bonus when the market pays an oil premium to growers. CAP 4065 also has very good standability.

### Disease Resistance

CAP 4065 has an excellent level of disease tolerance to the major sunflower diseases including leaf rust, albugo white blister and Alternaria.

### Seed Quality

CAP 4065 produces seed of a very high quality, enabling a level of tolerance to weathering.

### Semi—pendulous Heads

CAP 4065 has semi-pendulous heads which helps to reduce sunburn, head rot and bird damage. CAP 4065 has some of the highest self-compatibility levels commercially available. This is very useful when native pollinators and bees are low in number, or weather conditions at flowering do not favour pollinator activity.

# HYBRID SUNFLOWER
## AGUARA 6

## OVERVIEW

AGUARA 6 is a medium to late-duration sunflower hybrid known for its high yield potential and stability across various environments. It offers strong resistance to both white and black rust, as well as stalk and root lodging, ensuring dependable performance even in challenging conditions.With an oil content of 40% to 42%, AGUARA 6 is an excellent choice for farmers seeking both reliability and profitability in sunflower cultivation.

| | |
|---|---|
| Type of Oil | Linoleic |
| Herbicide Tolerance | No |
| Grain Type | Striped |
| Maturity | 100 - 110 days |
| Days to 50% flowering | 55 - 60 |
| Yeild potential | 2 - 3 MT/ha |
| Oil Content | 40 - 42% |
| Head Height | 180 - 190cm |
| Head Diameter | 16 - 20cm |

Plant Population (per hectare):

- High potential environment: 55 000 - 60 000
- Medium potential environment:50 000 - 55 000
- Low potential environment:40 000 - 50 000

# GROUNDNUTS
## AKWA

AKWA has a growth period of 150 days and a good resistance to Pod Nematode, Black Hull and Sclerotinia. It has a good yield potential and was developed by the ARC.

- Growth Period of 150 days
- Good Resistance to Pod Nematode, Black Hull and Sclerotinia
- Good yield potential

# GROUNDNUTS
## KWARTS

KWARTS has a wide area of adaptability and is recommended for both dryland and irrigation. It produces about 92% round kernels. Although the kernels are slightly smaller than those of comparable cultivars, a high percentage of choice grade nuts are produced.

KWARTS shows tolerance to the groundnut Pod Nematode and was developed by the ARC

- Wide adaptability
- Resistance to Pod Nematode
- Recommended for both dryland and irrigation
- 92% round kernels

CAPSTONE Seeds

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CAP26SC01