



## **SOUTH AFRICAN NATIONAL MAIZE YIELD COMPETITION FOR SMALL SCALE PRODUCERS**

### **OBJECTIVE OF YIELD COMPETITION**

The objective of the national yield competition is to create a platform where grain producers can compete for the best yield per category, to get closer to the genetic potential of the different grain crops, and to learn from each other.

### **ENTRY PROCESS**

- a) Production practices must be disclosed in full upon request of the competition organisers. By entering, entrants give their consent that yield results and production practices may be published in the media.
- b) Any legal use of any input and/or production practice that might increase yield, is allowed. Including but not limited to, should be the following:
  - a. Cultivars registered under the Plant Improvement Act;
  - b. GMO's registered for general release in South Africa;
  - c. Agro-chemicals & fertiliser registered under Act 36 of 1947;
  - d. SANSOR certified seed.
- c) No Entry fee
- d) Minimum of 1 ha with a maximum of 3 ha production
- e) Appointment of independent yield estimate officials (creation of database)
- f) The 2 harvest officials, of which 1 should be independent, will be present for the yield estimate – see yield calculation section

### **CATEGORIE DESCRIPTION**

A producer that cultivates less than 3ha of maize in total production.

### **FIELD REQUIREMENTS**

- a) From a field of maize of a minimum of 1 hectare for smallholders (maize only), 3ha maximum.
- b) Entrants, and harvest officials, are responsible for giving accurate row lengths for odd shape plots.
- c) All end rows/turning rows and the equal number of outermost rows on each side may not be a part of the selected contest plot.
- d) The entrant agrees that the method of yield determination is based on the formula as described within the measuring section.

### **HARVEST OFFICIALS**

- a) The 2 harvest officials, of which 1 independent, approved on your entry confirmation must be present for the yield estimation of the contest plot.
- b) Develop database of possible harvest officials.

- c) Seed companies or Grain SA representatives will be responsible to appoint harvest officials out of the database;
- d) Independent harvest officials cannot be the following:
  - i. The contest entrant
  - ii. An employee or relative of the contest entrant
  - iii. Seed company involved
  - iv. Any company providing business activities or inputs
- e) Harvest officials are responsible for:
  - i. Must calculate the yield based on measuring procedures
  - ii. Field measurements
  - iii. Completing all computations
- f) The seed company or Grain SA representative is responsible for sending the information to the competition office.

## **MEASURING**

Use of GPS technology with 5 meter accuracy

### **1) YIELD CALCULATION**

The crop must be at a physiological maturity stage.

*Calculation steps*

#### **1. Sample**

Representative sample – 4 samples from all wind directions 15m apart

#### **2. Yield determination for each sample**

Count the number of cobs per 10 metres in a row, arrange the cobs from small to large. Count the potential kernels that will harden to form harvestable grain of every third cob, using a mass of 0,3 grams per kernel work out the average mass of the cob. Most maize would be planted in 0,92 or 0,75 metre rows or tram lines. There are 108 by 100 metre rows or 10 800 metres of plants in a hectare planted at 0,92 widths and 133 by 100 metre rows in 0,75 row widths.

Thus for every 10 metres of points counted to determine number of cobs the multiplication factor for our calculation will be 1 080. If 20 cobs were harvested in 10 metres then there are 20 x 1 080 cobs per hectare which equals 21 600 cobs per hectare. The calculated average cob weight must then be multiplied with the amount of cobs per ha. At a medium cob mass of 150 grams there are thus 21 600 x 150 divided by 1 000 to show kilograms (kg's) per ha (1 000 g/kg) divided by 1 000 (1 000 kg/ton) to show the tons per hectare of yield expected.

#### **3. Calculated the average for all the samples**

### **2) CONTEST AWARDS & OBLIGATION OF WINNERS**

- a) A maximum of 3 entries per company or Grain SA representative can be entered;
- b) Awards will be given to first, second and third place winners.
- c) Finalists will be invited to attend the awards function.
- d) Winners will be required to share their practices on various platforms.

### **3) Entry into Grain SA National Yield Competition**

- a) Entries must be registered 2 weeks before harvest commence;

- b) Entries should include the identified block and the farmer. Smallholder farmers – minimum of 1 hectare, maximum of 3 hectares.

**4) Categories**

Dryland maize