

# SOUTH AFRICAN COMMERCIAL MAIZE QUALITY 2012/2013

## Acknowledgments

*With gratitude to:*

- \* **The Maize Trust for financial support in conducting this survey.**
- \* **The Grain Silo Industry and its members for providing the samples to make this survey possible.**

## 1. Introduction

The finalized commercial crop figure for maize for the 2012/2013 season as overseen by the National Crop Estimates Liaison Committee (CELC) is 11 690 000 tons. The commercial maize crop decreased by 3.6% from the 2011/2012 to the 2012/2013 season. The major maize-producing province was the Free State, followed by Mpumalanga and North West. White maize's contribution to the total production was only 5 545 000 tons (47%), which is 1.359 million tons or almost 20% less than the previous season.

One thousand composite samples, proportionally representing white and yellow maize of each production region, were analysed for quality. The samples consisted of 508 white and 492 yellow maize samples.

The quality attributes which were tested for, include:

- a. RSA grading: All samples were graded according to the following factors, as defined in the South African grading regulations: defective kernels above and below 6.35 mm sieve, total defective kernels, foreign matter, other colour, total deviation and pinked kernels.
- b. USA grading according to regulations on all samples to determine the following factors: Grain density expressed as Hectolitre mass, heat damage, total damage, broken corn and foreign matter (BCFM) and other colour.
- c. Nutritional values (on all samples): Fat, protein and starch.
- d. Physical Quality factors (on all samples): Hectolitre mass, 100 kernel mass, kernel size, breakage susceptibility, stress cracks and milling index.
- e. All white maize samples were milled on the Roff laboratory mill and the whiteness index of the maize meal determined.
- f. Mycotoxin analyses were performed on 100 samples representative of white and yellow maize produced per region.
- g. Testing for the presence of Genetically Modified (GM) maize were performed on 100 samples representative of white and yellow maize produced per region.

Please refer to the methodologies followed on pages 67-71.

The maize crop quality survey is performed annually by the Southern African Grain Laboratory (SAGL). SAGL was established in 1997 on request of the Grain Industry. SAGL is an ISO 17025 accredited testing laboratory and participates in one national and twelve international proficiency testing schemes as part of our ongoing quality assurance procedures to demonstrate technical competency and international comparability.

## 2. Production, Supply and Demand

The national Crop Estimates Committee's (CEC) estimated total production figures was revised, using as basis for the calculations, the South African Grain Information Services' (SAGIS) published figures of actual deliveries. Figures to determine on-farm usage and retentions obtained from surveys, were added to the SAGIS delivery figures to calculate the final crop production figures. The surveys were conducted by the Department of Agriculture, Forestry and Fisheries (DAFF) and the National Crop Statistics Consortium (NCSC).

The final maize crop figure for the 2011/2012 season was also revised mainly due to the fact that the actual deliveries of maize for the period November 2012 to February 2013 was considerably more than projected. These increased actual deliveries as released by SAGIS, plus on-farm retentions, increased the final figure from 11 830 000 tons to 12 120 656 tons.

The total area utilized for maize production in the 2012/2013 season was 2 781 200 hectares, a 3% increase compared to the previous season. White maize was planted on 1 617 200 hectares and yellow maize on 1 164 000 hectares (1 636 200 and 1 063 000 hectares respectively in the 2011/2012 season).