

SOUTH AFRICAN

COMMERCIAL MAIZE QUALITY

2007/2008

Acknowledgments

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Introduction

The calculated final commercial crop figure for maize for the 2007/2008 season by the National Crop Estimates Committee was 12 700 000 tons. This is 78,2 % higher than the previous season's 7 125 000 tons. The average production from 1997/98 to 2006/07 was 8,5 million tons. The major maize-producing region was the Free State (4 608 000 tons), followed by Mpumalanga (2 747 200 tons) and the North West (2 613 000 tons). White maize contributed 59 % to the total production, which is 1 % less than the previous year.

900 composite samples, proportionally representing white and yellow maize of each production region, were analysed for quality. All samples were graded according to RSA and USA grading regulations. 100 kernel mass, kernel size, breakage susceptibility, stress cracks, milling index, fat, protein and starch were determined on all samples. Roff milling and whiteness index were done on white maize samples. Mycotoxin analyses as well as testing for GM maize were performed on 100 samples representative of white and yellow maize produced per region.

The 900 samples analysed consisted of 483 white maize samples and 417 yellow maize samples. Of the 483 white maize samples analysed, 92 % were WM1, 7 % WM2 and 1 % WM3. No samples were graded as Class Other Maize white. Of the 417 yellow maize samples analysed, 93 % were YM1 and 7 % YM2. Only one sample was of the Class Other Maize yellow.

The maize crop quality survey is done annually by the Southern African Grain Laboratory (SAGL).

Crop quality

This crop was of very good quality and 92,5 % of the crop graded as maize grade 1. The markedly smaller kernel size of the previous crop, was not observed this season.

The 100 kernel mass averaged 33,5 g (higher than the previous two seasons). The average hectolitre mass equaled the 77,5 kg/hl of the 2006/2007 season.

The average percentage total defective kernels of 3,6 % was the lowest of the past ten seasons.

The average fat content was 3,8 % (db), average starch content 72,1 % (db) and average protein 8,5 % (db). The average fat content was 0,2 % lower than the ten year average of 4,0 % (db) and the average protein content was 0,3 % lower than the ten year average. The average starch content of 72,1 % is 0,5 % higher than the ten year average.

The average milling index of 96,9 is slightly lower than the previous season's 98,3.

The prevalence of pink kernels due to *Fusarium* infection, was much higher than in previous seasons, with almost all of the 900 samples graded, containing infected kernels. The percentage *Fusarium* infected kernels ranged from 0 to 4 %. The mycotoxin levels however, averaged lower than in previous seasons.

Ninety-five percent of the samples tested positive for MON810 (Bt maize event) and sixty-nine percent positive for NK603 (RUR).