

SOUTH AFRICAN

COMMERCIAL MAIZE QUALITY

2005/2006

Acknowledgments

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Introduction

The calculated final commercial crop figure for maize for the 2005/2006 season by the National Crop Estimates Committee was 6 618 000 tons. This is 42,2 % lower than the previous season's 11 450 000 tons. The average production from 1996/97 to 2004/05 was 8,86 million tons. The major maize-producing region was the Free State (2 029 500 tons), followed by Mpumalanga (1 543 200 tons) and the North West (1 496 600 tons). White maize contributed 62 % to the total production, which is 5 % higher 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 weight, kernel size, breakage susceptibility, stress cracks, milling index, fat, protein, starch and whiteness index were determined. Mycotoxin analyses as well as testing for GM maize were performed on 90 samples representative of white and yellow maize produced per region.

The 900 samples analysed consisted of 593 white maize samples and 307 yellow maize samples. Of the 593 white maize samples analysed, 50 % were WM1, 37 % WM2, 13 % WM3 and only two samples were of the Class Other Maize white. Of the 307 yellow maize samples analysed, 68 % were YM1, 28 % YM2, 2 % YM3 and seven sample was of the Class Other Maize yellow.

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

Crop quality

This crop was below average quality and 56 % of the crop graded as maize grade 1. Maize were mainly down graded because of *Fusarium* and *Diplodia*.

The average hectolitre mass was 75,9 kg/hl (77,5 during 2004/2005). Maize were planted late due to insufficient soil moisture which resulted in the maize kernels (because of sub-optimal temperatures) being not fully matured (physiologically under developed). The hull of the kernel is then more susceptible to secondary infections. For this same reason the nutritional values can be adversely affected.

The average percentage of total defective kernels of 7,8 % was higher than the previous season's 5,8 %.

The average fat content was 4,0 % (db), average starch content 71,2 % (db) and average protein 8,4 % (db). The average fat content and starch content compared well with the long term averages, while the average protein content dropped by 0,4 % (db).

The kernel size corresponded to the previous season but the 100 kernel weight averaged 32,9 % (1,5 % lower than the previous season). The kernels this season were more breakable than the previous season although the stress cracks were 0,6 % lower (better) than the previous season.

The average milling index was 90,8, about 9 lower than the previous season's 99,9. The whiteness of the white maize meal averaged a little better (whiter) than last season.