

The weighted average percentage total deviation for the Free State was 7.4 %. North West averaged 7.5 % and Mpumalanga 7.0 %, this is higher than the previous season's 4.4 %, 4.9 % and 4.5 % respectively.

The maize produced in the Free State averaged a hectolitre mass of 77.1 kg/hl, North West 77.8 kg/hl and Mpumalanga 77.4 kg/hl. The Free State and Mpumalanga values compared to the previous season, North West averaged 0.3 kg/hl higher than in 2008/2009.

North West gave the highest average protein of 8.5 %, followed by the Free State and Mpumalanga both with 8.2 %. All three provinces gave an average fat content of between 4.0 % and 4.1 %. The starch content in these three production areas averaged between 72.8 % and 73.1 %.

The 100 kernel mass for the Free State averaged 34.3 g, North West 34.9 g and Mpumalanga 35.1 g.

The North West province had the "largest" kernel size with an average of 22.9 % of the maize having kernels > 10 mm (Mpumalanga 21.9 % and the Free State 21.3 %).

Stress cracks in the Free State averaged 5 %, Mpumalanga 4 % and North West 3 %.

The average milling index in the Free State was 89.5, in Mpumalanga 91.3 and 91.1 in North West.

The average percentage breakage susceptibility of maize kernels passing through the 6.35 mm sieve, averaged 2.1 % in the Free State, North West 1.5 % and Mpumalanga 1.6 %.

The white maize from North West gave an average whiteness index of 27.7 (unsifted) and 23.3 (sifted). The Free State had an average of 27.3 (unsifted) and 21.8 (sifted) and Mpumalanga 28.0 (unsifted) and 22.0 (sifted).

The % extraction total meal with the Roff mill averaged 78.2 % in North West, 78.1 % in the Free State and 77.0 % in Mpumalanga.

4. Imported Maize (2008/2009)

Seven imported maize samples were analysed, 4 samples from Argentina and 3 samples from Brazil. 2 of these samples were graded YM1 and 5 YM2.

The major downgrading factor of imported maize to YM2 was the high percentage of defective kernels below the 6.35 mm sieve.

The imported maize had an average hectolitre mass of 76.2 kg/hl (Argentina) and 77.1 kg/hl (Brazil).

RSA yellow maize had an average hectolitre mass of 76.6 kg/hl.

The 100 kernel mass of RSA maize was higher than the imported maize. The average 100 kernel mass of RSA yellow maize was 34.2 g compared to the imported maize, 28.2 g (Argentina) and 31.0 g (Brazil).

The percentage stress cracks on imported maize was higher than in RSA maize. Argentina maize had the highest % breakage susceptibility and % stress cracks.

The imported maize had smaller kernels than the 2008/2009 and 2009/2010 local crop.

The average weighted fat content of 4.2 and 4.6 % of the imported maize were higher than the average RSA yellow maize fat content of 3.8 %. Argentina averaged 8.6 % protein while Brazil averaged 5.1 % and RSA 8.3 %. The starch percentages of the imported maize were slightly higher than the RSA maize.

The mycotoxin and GMO analyses were done on a composite sample of the 4 imported samples received from Argentina and a composite sample of the 3 imported samples received from Brazil. The imported maize from Argentina tested negative for GMO-MON810 and positive for NK603(Roundup Ready) while the imported maize from Brazil tested positive for GMO-MON810 and negative for NK603(Roundup Ready). 90% of the RSA maize tested positive for both.

In both the imported maize and RSA maize no residues of total Aflatoxin were detected.

The maize from Argentina contained 0.80 ppm (mg/kg) Fumonisin and the Brazilian maize 1.90 ppm. South African values ranged from 0.25 ppm (YM1) to 1.48 ppm (YM2).

There was no significant difference between the average values of Ochratoxin A, Zearalenone and Deoxynivalenol (DON) of imported maize and RSA YM2 as the values were very low or not detected.

The quality of the imported maize for the 2008/2009 season are given on pages 61 - 62.