

## 5.1 Main production regions – summary of results

The quality of the maize produced in the three main maize production regions (North West, Mpumalanga and Free State) compared quite well overall. The figures given below are all weighted averages.

The Free State and North West had the highest hectolitre mass of 77.6 kg/hl, followed by Mpumalanga with 77.0 kg/hl. Mpumalanga had the highest 100 kernel mass of 31.1 g and North West the lowest of 25.7 g. The Free State averaged 27.8 g.

The percentage stress cracks observed in the three regions compared very well, with the Free State and North West averaging 4% and Mpumalanga 5%. North West and Mpumalanga had the same percentage of maize passing through the 6.35 mm sieve with the breakage susceptibility test namely 1.4%, which was only 0.1% higher than that of the Free State.

Mpumalanga had the highest percentage of kernels above the 10 mm sieve (16.1%), North West had the smallest kernels (8.2%). Mpumalanga had the lowest percentage total defective kernels of 3.3%, followed by the Free State with 4.4% and North West with 5.7%. This trend was also seen in the previous two seasons.

The average milling index in Mpumalanga was 90.8, 96.4 in the Free State and 101.4 in North West. Mpumalanga also had the lowest percentage total extraction on the Roff laboratory mill, namely 78.3%. The Free State and North West compared well with regards to extraction rates with 79.8% and 79.7% respectively.

The meal obtained from the white maize in North West gave an average whiteness index of 24.1 (unsifted) and 16.0 (sifted). The Free State had an average of 25.6 (unsifted) and 16.4 (sifted) and Mpumalanga 25.0 (unsifted) and 15.6 (sifted).

In general there were no significant differences in the nutritional components. The Free State had the highest fat content of 4.1%, followed by the North West with 4.0% and Mpumalanga with 3.9%. The protein content ranged from 8.8% (Mpumalanga) to 10.0% (North West), the Free State averaged 9.4%. North West and the Free State had starch contents of 71.4% and 71.5% respectively. Mpumalanga had a slightly higher starch content of 71.8%.

The high protein content and small kernels observed in North West can most probably be attributed to the drought conditions experienced in the province this season.