

REGIONAL QUALITY SUMMARY

WINTER RAINFALL AREA (Western Cape)

The Western Cape Province has a Mediterranean climate, characterized by cool, wet winters and hot dry summers. More than 80% of the rainfall is received in winter between April and September, making the Western Cape a predominantly winter rainfall area. The Swartland (on the west coast) and the Rûens (Southern Cape) are the main distinguishable geographic regions.

These two separate wheat farming regions are divided into individual areas according to amongst other their climatic, soil and geographic position. The Swartland region is divided into the following areas: Sandveld, Koringberg, Middle Swartland and High Rainfall Area. The Rûens region is divided into the Western Rûens, Southern Rûens and Eastern Rûens.

The Rûens generally receives higher rainfall than the Swartland, but some areas of the Swartland have better, deeper soils. Wheat is generally planted from the second half of April until the middle of June and harvested during October to December.

The good rains received during January to April in the Swartland did not continue into May, the predominant month when wheat planting commences. Planting conditions were challenging towards the middle of May due to depleted soil moisture, resulting in most of the late plantings done with less or no soil moisture. Rainfall for May was lower than the same time last year. Extremely dry conditions between mid-May and the second week of June led to poor germination and poor stand for crops that managed to germinate. The Pools-Piketberg region endured the worst conditions in the Swartland during this time, evident in the yields realized by the end of the season. The last quarter of the growing season was more favourable for growing conditions, due to frequent rain and cooler temperatures towards the grain filling stage.

Climatic conditions, specifically during planting, were more favourable in the Rûens region than in the Swartland. Good rains during the summer months and months leading up to planting meant that the soil moisture was still sufficient for planting. The Eastern Rûens had less rain than the Southern and Western Rûens towards the end of the planting season. As in the Swartland, conditions improved towards the end of the season, which is reflected in good yields obtained.

The hectolitre mass averaged 81.3 kg/hl compared to the previous season's 79.7 kg/hl. The thousand kernel mass averaged 39.6 gram, 3.0 g higher than the previous season. The average falling number was 355 seconds. The average whole wheat protein content was 11.4% (12% mb), 12.8% in 2015/2016.

The percentage screenings of 2.16% was higher than the previous season's 1.86%, the highest of the three areas and 0.30% higher than the national average for 2016/2017. The mixogram peak time (Quadromat Junior mill) averaged 2.5 minutes, the shortest of the three major production areas. The Bühler extraction averaged 71.8% (average of wheat grades B1 to B4 and UT), equal to 2015/2016. The average wet colour of the flour was -4.0 KJ units and the dry colour L* value (indicating lightness) 94.02. These colour values indicate a white/light flour that is preferred by millers and bakers and compare well previous seasons. The average ash content was 0.58% (db).

The flour protein content averaged 10.2%. The average wet and dry gluten values namely 28.1% and 9.6% (14% mb) were respectively 3.9% and 1.5% lower than the previous season. The gluten index was 94. The average farinogram absorption was 60.2% and the development time 3.8 minutes, the stability averaged 6.3 minutes. The average alveogram strength was 31.4 cm², 5.3 cm² lower than last season. The alveogram P/L value was 0.61 compared to the 0.63 of 2015/2016. The average strength on the extensogram was 79 cm², relatively lower than last season but comparing well with the 80 cm² of the 2014/2015 season. The mixogram peak time on the Bühler milled flour averaged 2.3 minutes, similar to last season. The 100-gram baking test showed on average an excellent relationship between protein content and bread volume.

SUMMER RAINFALL AND IRRIGATION AREA

(Free State)

The summer rainfall area (predominantly the Free State Province) is a major dryland wheat production region of South Africa. Considerable variation in precipitation, soil types and average temperature occurs from east to west. The Free State is therefore commonly divided into four distinct dryland wheat production regions, namely: the South Western Free State, North Western Free State, Central Free State and Eastern Free State.

Rainfall and temperature and in particular the distribution thereof through the growing season, is important for successful wheat production in the summer rainfall areas. Planting dates vary from early to late according to region and commences in May and continues until July. Harvesting takes place from November to January.

In all the regions, good rains occurred in the months prior to planting, resulting in optimum conditions during the first stages of development. “Out of season” rain towards the end of July over the whole production area of the Free State, ensured adequate soil moisture for the coming months. As in the recent past, no spring rain during the months of August, September and the first half of October decreased the yields reported.

The average hectolitre mass was 79.4 kg/hl, 1.4 kg/hl lower than in 2015/2016. The thousand kernel mass (35.4 g) was 0.6 g higher than the previous season, but however still 3.2 g lower than the RSA average. The average percentage screenings was 1.26%. The average whole wheat protein content increased from 13.2% the previous season to 14.3% (12% mb) this season. This protein is the highest of the three production areas. The falling number decreased on average from 387 seconds in 2015/2016 to 319 seconds, the lowest average of the three areas.

The mixogram (Quadromat Junior) peak time of 3.1 minutes was 0.4 minutes longer than the 2.7 minutes of the previous season and compared well with prior seasons. The average Bühler extraction percentage in the Free State was 70.9% (73.6% previous season). The Kent Jones flour colour was -3.1 KJ units (-3.4 KJ units in the previous season) and the L* value 93.09 (previously 93.49). The average ash content was 0.59% and the average flour protein content 13.7%. The wet gluten content (14% mb) was 38.1% and the dry gluten 13.2%, the wet and dry gluten increased by 4.4% and 1.6% respectively. The gluten index averaged 90.

The average farinogram water absorption of 62.7% was higher than the previous season's 62.0% and 2.5 to 3.8% higher than the other two areas. The development time averaged 7.2 and the stability 12.0 minutes, both longer than in 2015/2016. Both the average alveogram strength of 47.7 cm² and extensogram strength of 115 cm² increased from the 2015/2016 season. These observations can be expected taking the increased protein content into account. The Bühler milled flour had an average mixograph peak time of 2.7 minutes. The 100-gram baking test showed that the relationship between protein content and bread volume was excellent between the different grades. Based on the average values, the Free State wheat had the strongest rheological (dough) quality.

IRRIGATION AREAS

(Northern Cape, North West, Mpumalanga, Gauteng, Limpopo and KwaZulu-Natal)

Generally, the irrigation wheat production areas of South Africa can be divided into four main geographic regions – the Cooler Central irrigation region in the Northern Cape, the Warmer Northern irrigation region in the North West, Limpopo and Gauteng provinces, the Highveld region in Mpumalanga and the Free State, and lastly, the KwaZulu-Natal region.

Planting commences as early as the end of May and continues until the end of July. Harvesting takes place from October to December.

Temperature conditions during this season showed slight deviations to the long-term averages over all the production regions. For the Highveld region, minimum temperatures were above the long-term average during July and August, which could lead to less tillering, affecting the yields realized. Minimum and maximum temperatures were below normal during July in the KwaZulu-Natal region, which could explain the higher yields obtained. The temperatures were very close to the long-term average for the Warmer and Cooler irrigation regions.

The irrigation wheat had the highest weighted average hectolitre mass of 82.6 kg/hl, equal to the previous season. The thousand kernel mass increased by 0.3 g to 38.2 g. The average falling number was 371 seconds (the highest of the three areas). The screenings averaged 1.58%.

The whole wheat protein content was on average 12.3% and the flour's protein content 11.0%, slightly lower than in 2015/2016. The average mixogram (Quadromat Junior) peak time averaged 3.0 minutes. The average Bühler extraction was 73.8%, slightly lower than last season but again the highest of the three production areas.

The dry colour L* value was 93.72 and the Kent Jones wet colour value -3.8 KJ units. The ash content averaged 0.60%. The wet and dry gluten contents were 29.7% and 10.2% respectively and the gluten index 96. The average farinogram water absorption was 58.9% (60.5% during the previous season), the development time 5.6 minutes and the stability 8.4 minutes.

The average alveogram strength was 37.1 cm² and the average P/L 0.49 (37.5 cm² and 0.80 respectively the previous season). Lower P/L values are indicative of dough being more extensible (having higher L values) than dough with higher P/L values. The average extensogram strength was 109 cm². The mixogram peak time averaged 2.8 minutes. The relationship between protein content and 100 g bread volume was also shown to be excellent.

Production area and climatic condition information were kindly provided by ARC-Small Grain.

Please see the results provided per individual production region on pages 33 to 56.