

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 regions were divided into individual areas, amongst others according to their climatic, soil and geographic position. The Swartland region is divided into the following areas: Sandveld, Koringberg/Red Karoo, Middle Swartland and High Rainfall Area. The Rûens region is divided into 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.

The climatic conditions in the Swartland region were very challenging, as producers experienced the driest year in decades, leading to lower than average yields in most parts of the region. Planting conditions were also far from optimum, with no or very low moisture levels in the soil.

Climatic conditions in the Rûens region varied from wet to medium/dry soils during the planting period. Conditions improved during the season as a result of above normal rainfall in most parts of the region, leading to above average yields in many localities.

Wheat is generally planted from the second half of April until the middle of June and harvested during October to December.

The hectolitre mass averaged 79.7 kg/hl compared to the previous season's 79.8 kg/hl. The thousand kernel mass averaged 36.6 gram, 3.1 g lower than the previous season. The average falling number was 383 seconds. The average whole wheat protein content was 12.8% (12% mb), 11.1% in 2014/2015.

The percentage screenings of 1.86% was equal to the previous season's 1.85%, the highest of the three areas and 0.15% higher than the national average for 2015/2016. The mixogram peak time (Quadromat Junior mill) averaged 2.6 minutes, the shortest of the three major production areas. The Bühler extraction averaged 71.8% (average of wheat grades B1 to B4 and UT), 1% lower than 2014/2015. The average wet colour of the flour was -3.6 KJ units and the dry colour L* value (indicating lightness) 94.08. This colour indicates a white/light flour that is preferred by millers and bakers. Both these values compare with previous seasons. The average ash content was 0.63% (db).

The flour protein content averaged 11.8%. The average wet and dry gluten values namely 32.0% and 11.1% (14% mb) were respectively 4.7% and 1.8% higher than the previous season. The gluten index was 96. The average farinogram absorption was 60.2% and the development time 5.7 minutes, the stability averaged 8.8 minutes. The average alveogram strength was 36.7 cm², 3.6 cm² higher than last season. The alveogram P/L value was 0.63 compared to the 0.59 of 2014/2015. The average strength on the extensogram was 107 cm², quite stronger than the 80 cm² previously. The mixogram peak time on the Bühler milled flour averaged 2.5 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 through the growing season, is important for successful wheat production in the summer rainfall areas. The South Western Free State experienced severe drought conditions.

In all localities, lower than average rainfall was received during flowering and grain filling stages of the wheat. Conditions were also warmer than normal, which worsened the drought conditions. The Central Free State was the worst affected by these drought conditions. The yield potential on all the production regions was severely affected.

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.

The average hectolitre mass was 80.8 kg/hl. The thousand kernel mass (34.8 g) was 2.0 g lower than the previous season's 36.8 g and also 2.0 g lower than the RSA average. The average percentage screenings was 1.73%. The average whole wheat protein content increased from 12.4% the previous season to 13.2% (12% mb) this season. This protein is the highest of the three production areas. The falling number increased on average from 352 seconds in 2014/2015 to 387 seconds.

The mixogram (Quadromat Junior) peak time was 0.5 minutes shorter than the 3.2 minutes of the previous season. The average Bühler extraction percentage in the Free State was 73.6% (73.3% previous season). The Kent Jones flour colour was -3.4 KJ units (-3.1 KJ units in the previous season) and the L* value 93.49 (previously 93.63). The average ash content was 0.64% and the average flour protein content 12.3%. The wet gluten content (14% mb) was 33.7% and the dry gluten 11.6%, the wet gluten increased by 4.2%. The gluten index averaged 93.

The average farinogram water absorption of 62.0% was higher than the previous season's 59.8% and 1.5 to 1.8% higher than the other two areas. The development time averaged 5.9 and the stability 7.7 minutes. Both the average alveogram strength of 41.3 cm² and extensogram strength of 105 cm² increased from the 2014/2015 season. This can be expected taking the increased protein content into account. The Bühler milled flour had an average mixograph peak time of 2.4 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 irrigation 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 end of May and continues until beginning of August. Harvesting takes place from October to December.

The irrigation wheat had the highest weighted average hectolitre mass of 82.6 kg/hl. The thousand kernel mass was 37.9 g. The hectoliter mass increased by 1.4 kg/hl and the kernel mass decreased by 1.3 g. The average falling number was 405 seconds (slightly higher than the national average) and the screenings again averaged the lowest of the three areas at 1.43%.

The whole wheat protein content was on average 12.6% and the flour's protein content 11.4%. The average mixogram (Quadromat Junior) peak time averaged 2.8 minutes, the longest of the three areas, although there was only a difference of 0.2 minutes between the areas. The average Bühler extraction percentage was 74.3, little higher than last season and again the highest of the three production regions.

The dry colour L* value was 93.76 and the Kent Jones wet colour value -3.5 KJ units. The ash content averaged 0.66%. The wet and dry gluten contents were 30.8% and 10.5% respectively and the gluten index 95. The average farinogram water absorption was 60.5% (59.4% during the previous season), the development time 5.7 minutes and the stability 7.7 minutes.

The average alveogram strength was 37.5 cm² and the average P/L 0.80 (42.1 cm² and 0.57 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 103 cm². The mixogram peak time averaged 2.7 minutes. The relationship between protein content and 100 g bread volume was also shown to be excellent.

Production area information were kindly provided by the ARC-Small Grain Institute.

Please see the results provided per individual production region on pages 32 to 57.