

# South African

## COMMERCIAL WHEAT QUALITY FOR THE 2019/2020 SEASON



### Acknowledgements

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- South African Grain Information Service (SAGIS) for providing supply and demand figures relating to wheat and wheat products.

### Summary

The 2019/20 season's commercial wheat crop was set at 1 535 000 tons, which is 333 000 tons (17.8%) lower than the previous season's crop. A total area of 540 000 hectares was utilised for wheat production and the average yield was 2.84 tons per hectare (Figures obtained from the CEC).

The whole wheat protein average of 12.9% increased by 0.8% compared to the previous season. The percentage samples from this crop survey with a protein content equal or higher than 12.5% (minimum protein content for Super Grade) was 64.2%. The average hectoliter mass of 78.9 kg/hl was lower than the 81.3 kg/hl of the 2018/19 season and also the lowest since the 2010/11 season, when the use of an instrument that complies to ISO standard 7971-3 (e.g. Kern 222) became compulsory. The ten-year national average is 80.5 kg/hl. 16.5% of the samples reported values below the minimum requirement of 76 kg/hl for Super Grade, Grade 1 and Grade 2.

The average falling number this season was 353 seconds. 32 of the samples analysed gave falling number values below 250 seconds and of these 28 were below 220 seconds. The previous season these figures were five and one respectively. The average mixogram peak time of 3.0 minutes was slightly longer than the 2.8 minutes of the previous season. The ten-year average is 2.9 minutes.

### Introduction

This report provides the results of the twenty-second annual wheat crop quality survey performed by the Southern African Grain Laboratory NPC (SAGL). SAGL was established in 1997 on request of the Grain Industry. SAGL is an ISO 17025 accredited testing laboratory and participates in a number of proficiency testing schemes, both nationally and internationally as part of our ongoing quality assurance procedures to demonstrate technical competency and international comparability.

During the harvesting season (October to December for the southern production regions and November to January for the northern production regions), a representative sample of each delivery of wheat was taken according to the prescribed wheat regulation by the commercial grain storage companies.

A sub-sample of each of these grading samples was collected in a container according to class and grade per silo bin/bag/bunker at each depot. This composite sample was then divided and a 3 kg sample was forwarded to SAGL for the annual wheat crop quality survey. SAGL analysed 333 samples to provide as best possible a proportional representation of the production of wheat in all the different production regions.

The samples were graded, visual cultivar identification performed and the thousand kernel mass determined. Sub-samples were milled on a Quadromat Junior mill for mixograph analyses. Composite samples per class and grade for each production region were milled on a Bühler MLU 202 laboratory mill. Moisture, protein, ash and colour determinations were done and RVA analyses conducted. Rheological analyses, namely gluten, mixogram, farinogram, alveogram, extensogram and 100-gram baking tests, were then performed. Multi-mycotoxin analyses were performed on 40 samples randomly selected to represent the different production regions. The amino acid profiles of a selection of samples were also determined.