

South African

Commercial Wheat Quality for the 2020/2021 Season

Acknowledgements

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Summary

The 2020/21 season's commercial wheat crop was set at 2 120 000 tons, which is 585 000 tons (38%) higher than the previous season's crop and also the highest since the 2008/09 season. A total area of 509 800 hectares was utilised for wheat production and the average yield was 4.16 tons per hectare (Figures obtained from the CEC).

The whole wheat protein average of 12.0% decreased by 0.9% 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 42% (64.2% last season). The average hectoliter mass equaled the 78.9 kg/hl of the previous season, which was 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 80.4 kg/hl. 10% 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 372 seconds. 6.4% (16) of the samples analysed gave falling number values below 250 seconds and of these 11 were below 220 seconds. The average mixogram peak time of 3.2 minutes was slightly longer than the 3.0 minutes of the previous season. The ten-year average is 2.9 minutes.

Introduction

This report provides the results of the twenty-third 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/dam 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. The number of samples analysed for the purpose of this survey had to be decreased to 250 as a result of a reduced amount approved for funding of this project. The samples were selected 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. 49 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 30 samples randomly selected to represent the different production regions. No amino acid profile analyses were conducted this season.