South African

Commercial Wheat Quality of the 2022/2023 Season

Acknowledgements

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Summary

The 2022/23 season's commercial wheat crop, set at 2 110 000 tons and almost 8% lower than the previous season, was still the fourth largest crop of the last 20 years. A total area of 566 800 hecares was utilised for wheat production during this season and the average yield was 3.72 tons per hectare (Figures obtained from the CEC).

The whole wheat protein average of 12.1% increased by 0.2% 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 44% (37% and 42% during the previous two seasons respectively). The hectoliter mass averaged 79.8 kg/hl, similar to the 79.9 kg/hl of the previous season. 4% of the samples reported values below the minimum requirement of 76 kg/hl for Super Grade, Grade 1 and Grade 2. The ten-year national average is 80.2 kg/hl.

The average falling number this season was 361 seconds. 6% (21) of the samples analysed gave falling number values below 250 seconds and of these 16 (5%) were below 220 seconds. The average mixogram peak time was 3.3 minutes compared to the 3.2 minutes of the previous season. The ten-year average is 3.0 minutes.

Introduction

This report provides the results of the twenty-fifth 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. SAGL analysed 335 samples to provide as best possible a proportional representation of the production of wheat in all the different production regions.

The samples were graded 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, 65 samples in total, 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.