

Summary

Number: GK 02/04
Title: Oat cultivar evaluation in the winter rainfall region
Duration: Ongoing
Status: Continuation of existing project
Project leader: T Walsh

Number: GK 02/05
Title: Oat cultivar evaluation for grain production in the summer rainfall region
Duration: Ongoing
Status: Continuation of existing project
Project leader: W H Kilian

GK 02/04

Fifteen trials were planted during the 2010 season, fourteen of which were harvested and the data processed for analysis. The Bredasdorp trial was written off early in the season due to extreme drought conditions which prevailed at the trial site. Of the fourteen remaining trials, five had high coefficients of variance and were thus not used in the analysis of variance.

The average yield of the combined trials was 2.05 ton/ha. In the Swartland an average of 1.98 ton/ha was measured, while an average yield of 2.19 ton/ha realised in the Rûens. Cultivars doing well overall were Kompasberg, SSH 491, Pallinup, and the lines H 06/15, H 06/08 and H 06/20. All these cultivars produced above the average yield of the trials. The three most stable cultivars, according to the AMMI-biplot interaction, were Kompasberg, H 06/15 and Sederberg.

The five best cultivars for hectolitre mass overall were SSH 491, H 06/20, SSH 405, H 06/08 and SSH 421. This season no cultivars complied with the minimum requirements of Grade 1 (53 kg/hl).

GK 02/05

Field trials to evaluate the performance of existing oat cultivars as well as new promising oat lines were planted under irrigation and dryland conditions. Irrigation trials were planted at Bethlehem, Vaalharts and Riet River, while the dryland programme was executed at Bethlehem.

Irrigation

The oat cultivar trials under irrigation conditions at Riet River and Vaalharts could not be used due to high CV's at both localities. The average yield for the two planting dates under irrigation at Bethlehem was 4.34 ton/ha. Kompasberg had the highest yield, followed by SSH 405 and H07/04. In the second planting Kompasberg was also the best performing cultivar, followed by Pallinup and SSH 405. The average hectolitre mass value in these two trials was 49.65 kg/hl respectively.

Dryland

Severe drought conditions were experienced in the Eastern Free State during the growing period of the 2010 season. This resulted in very low yields that were recorded in the field trials at Bethlehem. The average yield was only 0.73 ton/ha. The best cultivars in the 2010 season were Kompasberg, Pallinup and SSH 491. The hectolitre mass values showed an average of 46.39 kg/hl. The best hectolitre mass was obtained by Kompasberg (48.40 kg/hl). This is far below the required value of 53 kg/hl for Grade 1.

Future of the project

Because of the fact that the oat industry is not structured the way that the other grain crops are (like wheat or maize), funding of research on production practices for oats have come under pressure. During the planning period for the 2011 production season there has been some uncertainty

regarding the funding structure for the oat industry. ARC-SGI has thus decided to suspend the Oat Cultivar Adaptation Programme for the 2011 year, until such time that clarity could be reached on future funding sources for oats research.

The trial data collected over the past few seasons are currently used in the recommendations for oat production in all the regions. Information is available for all the existing cultivars, as well as the new introductions that might be released within the near future. The suspension of the programme will thus not have an immediate effect on the oat industry for the next year.

New developments in the oats industry over recent months, however, made it possible to continue with the testing of existing cultivars and new oat introductions in the different production regions in future. ARC-Small Grain Institute will, pending the availability of funds, continue the Oat Cultivar Adaptation Programme in the 2012/2013 season.