

Project number: GK 02/03
Project title: Wheat cultivar evaluation under irrigation conditions in the summer rainfall region
Duration: Ongoing
Status: Continuation of existing project
Project leader: Willem Kilian

Cooler central irrigation areas

Combined analysis: First plantings

The average yield over localities and cultivars was 8.37 ton/ha. From the combined analysis for the first plantings, SST 806, CRN 826 and SST 875 had the highest yields. The average hectolitre mass values were high, with an average of 80.48 kg/hl. Grain protein was on average similar during 2010 at 12.20%, compared to 12.69% in the previous season. Falling number values were generally high, with an average of 337 seconds for cultivars and localities combined.

Combined analysis: Second plantings

An average yield of 6.66 ton/ha was recorded. The combined analysis indicates that PAN 3471 produced the highest yield, followed by PAN 3478 and SST 806. Hectolitre mass values were acceptable, with an average of 79.67 kg/hl. Grain protein values were high, with an average of 13.03% for the combined data. Falling number values were high, at an average of 343 seconds.

Warmer Northern irrigation areas

Combined analysis: First plantings

An average yield of 6.87 ton/ha was recorded for the combined analyses for the first plantings in the Warmer irrigation areas. The cultivar PAN 3471 produced the highest yield from the combined results, followed by Krokodil, SST 876 and PAN 3478. Hectolitre mass values were high, with an average of 80.79 kg/hl. The average protein content of the grain was low at 10.84%. Falling number values were acceptable, with an average value of 346 seconds recorded for the area.

Combined analysis: Second plantings

The average yields were similar at the second planting compared to the first plantings. PAN 3471 produced the highest yield, followed by SST 875, PAN 3434 and SST 876. Average hectolitre mass values were high at 81.58 kg/hl, which is significantly higher than the 74.07 recorded in 2009. Grain protein values were very low, with an average of 10.98%, as can be expected with the higher yields. Falling number values were acceptable, with an average of 361 seconds for the combined data.

Eastern Highveld

Combined analysis: First plantings

The combined analysis for 2010 indicated that PAN 3478 had the highest yield, followed by PAN 3471, SST 835 and CRN 826. Average hectolitre mass values were much lower than the previous year at 76.65 kg/hl. Grain protein was very high (13.59%) with all cultivars showing values of above 12%. Falling number values were very low, with an average of 219 seconds.

Combined analysis: Second plantings

From the combined analysis of the second plantings in 2010, the cultivar SST 806 had the highest yield, followed by PAN 3471, PAN 3478 and SST 867. Hectolitre mass values were acceptable at 77.00 kg/hl. Grain protein was very high, with an average value of 14.86%, with all cultivars showing values of above 13%. Falling number values were low, as was the case in the first plantings, with an average of 217 seconds.

KwaZulu-Natal

Combined analysis

The combined analyses for the 2010 season showed that the cultivar SST 876 had the highest yield, followed by PAN 3471 and SST 878. Hectolitre mass values were acceptable, with an average value

of 77.70 kg/hl. Grain protein was high, with an average of 13.53, with all cultivars showing values of above 12%. Falling number values were acceptable, with an average value of 276 seconds.

Future of the programme

The National Cultivar Evaluation Programme enjoys the full support of the three breeding organisations in South Africa (ARC-SGI, Sensako and Pannar). These organisations were invited again to enter released cultivars for testing in the different production areas. The cultivars entered in the different regions are as follows:

Region	ARC-SGI	Sensako	Pannar	Total
Winter Rainfall area	5	7	3	15
Summer Rainfall Dryland	6	5	7	18
Summer Rainfall Irrigation	11	14	3	28
Total				61