

## **Summer rainfall area (dryland)**

**Project number:** GK 02/02  
**Project title:** Wheat cultivar evaluation under dryland conditions in the summer rainfall region  
**Duration:** Ongoing  
**Status:** Continuation of existing project  
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### ***South Western Free State***

The average yields for both planting dates were substantially higher than the previous season. The average yield for the early planting dates was 1.72 ton/ha, while the later planting dates showed an average yield of 1.26 ton/ha. Hectolitre masses were lower than the previous season (2009). In the early plantings the average hectolitre mass recorded was 77.56 kg/hl (79.63 kg/hl in 2009) and for the later planting dates 78.26 kg/hl (79.87 kg/hl in 2009). The protein content for both planting dates showed acceptable values. In the early planting date the average was 12.27% (no cultivars had values below 11.86%), and in the second planting date 14.41%, with SST 374 at a value of 13.51%. The combined falling numbers for the area for the first planting (average 275 seconds) showed fair values of above 250 seconds. In the second planting the average falling number was 265 seconds and only three cultivars (Matlabas, SST 356 and SST 387) had a falling number below 250 seconds.

### ***North Western Free State***

An average yield of 2.19 ton/ha were recorded for the first planting, with the highest yield obtained with the cultivar PAN 3120 (2.64 ton/ha). The average yield for the late planting was 2.04 ton/ha. The average hectolitre mass for the early planting time was 78.27 kg/hl and for the late planting 78.66 kg/hl. The protein content for the early plantings in the North Western Free State was 11.74% compared to 13.07% in 2009. The later planting showed higher protein content values, with an average of 12.76% and only one cultivar (PAN 3379) was below 12%. The early planting's falling number showed an average of 287 seconds and the late planting 300 seconds.

### ***Central Free State***

The average yield in the early planting time was 1.42 ton/ha. During the past season no rainfall was experienced from July to September and warmer than normal and dry conditions occurred throughout the main growing and grain filling stadiums. The later planting had a higher yield of 2.40 ton/ha, due to the fact that this planting benefitted more from the late rains. The hectolitre mass values recorded in the Central Free State region in the early planting averaged 76.42 kg/hl and for the later planting 78.68 kg/hl. The protein content for Arlington (only included locality) were 15.57% in the first planting and 14.67% in the second planting. The falling number value for the early planting was 212 seconds, which is much lower than in 2009 (294 seconds). The average falling number in the later planting was 247 seconds.

### ***Eastern Free State***

The yield performance of cultivars in both plantings in the Eastern Free State was significantly lower than the previous two years due to drought conditions. The trial average for the early planting was 2.59 ton/ha and for the late planting 3.51 ton/ha. The average hectolitre mass for the early planting date in the Eastern Free State was 78.74 kg/hl (79.31 kg/hl in 2009). In the late planting values were higher than in 2009 with an average of 79.62 kg/hl (78.09 kg/hl in 2009). The average protein content for the early planting date in the Eastern Free State was substantially higher than the previous year. The trial average was 15.14%, with only SST 356 showing a value of below 14%. For the late planting an average protein content of 14.40% was recorded with only PAN 3144 and PAN 3368 showing values higher than 15%. Problems were experienced with falling numbers in the Eastern Free State in the early planting. The late planting experienced much less problems with falling numbers. The average falling numbers were 243 and 253 seconds for the early and late plantings respectively.