

**SOUTH AFRICAN
WINTER RAINFALL WHEAT
Western Cape Province**

| PRODUCTION REGION | (2) | | | | (3) | | | | | | | |
|----------------------------------|---|------------|------------|--------------|--|------------|------------|--------------|-----------|-----------|-----------|------------|
| | Swartland Western Region | | | | Swartland Central Region | | | | | | | |
| Intake silos | Bergrivier Darling Koperfontein Vredenburg | | | | Eendekuil Klipheuwel Koringberg Malmesbury Moorreesburg Moravia Piketberg Pools Ruststasie | | | | | | | |
| WHEAT | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Protein (12% mb), % | 11.27 | 9.50 | 12.60 | 0.94 | 11.11 | 9.30 | 13.20 | 0.96 | | | | |
| Falling number, sec | 393 | 370 | 431 | 16.59 | 362 | 255 | 414 | 29.53 | | | | |
| 1000 Kernel mass (13% mb), g | 36.6 | 32.7 | 39.4 | 1.95 | 37.2 | 28.3 | 41.0 | 2.51 | | | | |
| Hectolitre mass (dirty), kg/hl | 77.2 | 75.0 | 79.6 | 1.48 | 77.7 | 74.9 | 81.7 | 1.80 | | | | |
| Screenings (<1.8mm), % | 2.78 | 1.79 | 5.12 | 0.89 | 1.77 | 0.18 | 5.17 | 1.23 | | | | |
| Total damaged kernels, % | 0.69 | 0.00 | 1.56 | 0.39 | 0.83 | 0.24 | 2.52 | 0.35 | | | | |
| Number of samples | 18 | | | | 65 | | | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | SST 88 | | 46.5 | | SST 88 | | 35.4 | | | | | |
| cultivars | SST 027 | | 20.8 | | SST 027 | | 29.5 | | | | | |
| with highest % | SST 57 | | 14.9 | | SST 015 | | 15.2 | | | | | |
| occurrence | SST 015 | | 12.7 | | SST 57 | | 14.9 | | | | | |
| | PAN 3490 | | 1.7 | | SST 65 | | 1.9 | | | | | |
| Number of samples | 18 | | | | 65 | | | | | | | |
| MIXOGRAM (Quadromat) | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Peak time, min | 2.6 | 2.3 | 2.9 | 0.20 | 2.5 | 2.0 | 3.2 | 0.26 | | | | |
| Tail height (6min), mm | 46 | 41 | 50 | 2.72 | 46 | 40 | 52 | 2.40 | | | | |
| Number of samples | 18 | | | | 65 | | | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| | 74.3 | 74.4 | 74.7 | - | 74.7 | - | 74.6 | 75.1 | 75.1 | 75.1 | 75.0 | - |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 11.7 | 11.0 | 9.9 | - | 10.2 | - | 11.8 | 11.0 | 10.0 | 9.0 | 10.8 | - |
| Colour, KJ | -1.7 | -1.5 | -1.5 | - | -0.5 | - | -1.7 | -1.8 | -2.0 | -2.0 | -1.5 | - |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 62.9 | 61.5 | 60.6 | - | 60.8 | - | 62.6 | 61.0 | 60.6 | 59.1 | 61.4 | - |
| Development time, min | 3.5 | 3.5 | 3.2 | - | 3.2 | - | 4.5 | 4.7 | 2.2 | 1.8 | 4.0 | - |
| Stability, min | 7.0 | 7.8 | 6.3 | - | 5.7 | - | 7.5 | 6.9 | 6.2 | 4.5 | 5.6 | - |
| Mixing tolerance index, BU | 38 | 34 | 40 | - | 51 | - | 42 | 47 | 37 | 63 | 56 | - |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm ² | 82 | 85 | 67 | - | 78 | - | 86 | 78 | 66 | 65 | 81 | - |
| Maximum height, BU | 325 | 350 | 305 | - | 325 | - | 330 | 335 | 315 | 315 | 305 | - |
| Extensibility, mm | 168 | 166 | 140 | - | 170 | - | 178 | 164 | 147 | 146 | 174 | - |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm ² | 38.8 | 37.8 | 32.3 | - | 33.5 | - | 38.4 | 33.9 | 32.0 | 27.4 | 34.3 | - |
| Stability (P), mm | 93 | 93 | 89 | - | 84 | - | 85 | 79 | 84 | 78 | 81 | - |
| Distensibility (L), mm | 96 | 92 | 80 | - | 93 | - | 110 | 106 | 86 | 78 | 103 | - |
| Configuration ratio (P/L) | 0.97 | 1.01 | 1.11 | - | 0.90 | - | 0.77 | 0.75 | 0.98 | 1.00 | 0.79 | - |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.3 | 2.3 | 2.3 | - | 2.3 | - | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | - |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm ³ | 850 | 775 | 750 | - | 770 | - | 875 | 775 | 725 | 665 | 775 | - |
| Evaluation | 2 | 3 | 2 | - | 1 | - | 1 | 3 | 3 | 3 | 2 | - |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

MIXOGRAM

FARINOGRAM

EXTENSOGRAM

ALVEOGRAM

**SOUTH AFRICAN
WINTER RAINFALL WHEAT
Western Cape Province**

| PRODUCTION REGION | (4) | | | | | (5) | | | | | | | |
|----------------------------------|--|------------|------------|--------------|-----------|--|------------|------------|--------------|-----------|-----------|------------|--|
| | Swartland Eastern Region | | | | | Rüens Western Region | | | | | | | |
| Intake silos | Ceres Gouda Halfmanshof Leliedam Porterville Riebeeck-Wes | | | | | Bredasdorp Caledon Klipdale Krige Napier Protem Rietpoel Villiersdorp | | | | | | | |
| WHEAT | ave | min | max | stdev | | ave | min | max | stdev | | | | |
| Protein (12% mb), % | 10.41 | 8.80 | 12.40 | 1.00 | | 11.34 | 10.20 | 12.70 | 0.70 | | | | |
| Falling number, sec | 353 | 312 | 406 | 23.55 | | 366 | 262 | 423 | 44.34 | | | | |
| 1000 Kernel mass (13% mb), g | 37.3 | 33.2 | 40.9 | 2.76 | | 40.2 | 35.9 | 44.5 | 1.89 | | | | |
| Hectolitre mass (dirty), kg/hl | 78.9 | 76.1 | 83.6 | 2.18 | | 76.3 | 72.0 | 78.9 | 1.80 | | | | |
| Screenings (<1.8mm), % | 1.04 | 0.31 | 2.78 | 0.81 | | 2.19 | 0.83 | 3.83 | 0.80 | | | | |
| Total damaged kernels, % | 0.90 | 0.18 | 2.22 | 0.58 | | 0.82 | 0.24 | 1.88 | 0.46 | | | | |
| Number of samples | 17 | | | | | 27 | | | | | | | |
| CULTIVARS | | | | | | | | | | | | | |
| | SST 88 34.5 | | | | | SST 88 47.7 | | | | | | | |
| cultivars | SST 027 28.2 | | | | | SST 57 21.0 | | | | | | | |
| with highest % | SST 57 21.4 | | | | | SST 015 16.9 | | | | | | | |
| occurrence | SST 015 11.3 | | | | | SST 027 7.2 | | | | | | | |
| | SST 65 2.2 | | | | | PAN 3404 2.5 | | | | | | | |
| Number of samples | 17 | | | | | 27 | | | | | | | |
| MIXOGRAM (Quadromat) | ave | min | max | stdev | | ave | min | max | stdev | | | | |
| Peak time, min | 2.7 | 2.2 | 3.3 | 0.32 | | 2.5 | 2.2 | 2.8 | 0.17 | | | | |
| Tail height (6min), mm | 44 | 39 | 52 | 3.26 | | 48 | 43 | 52 | 2.03 | | | | |
| Number of samples | 17 | | | | | 27 | | | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW | |
| | 74.1 | 75.4 | 74.9 | 75.0 | - | - | 75.3 | 75.4 | 74.8 | 75.0 | 74.9 | - | |
| FLOUR | | | | | | | | | | | | | |
| Protein (12% mb), % | 11.4 | 10.7 | 9.6 | 9.0 | - | - | 11.3 | 10.7 | 10.4 | 9.1 | 10.2 | - | |
| Colour, KJ | -1.5 | -1.4 | -2.0 | -2.1 | - | - | -1.2 | -1.5 | -1.3 | -1.8 | -1.2 | - | |
| FARINOGRAM | | | | | | | | | | | | | |
| Water absorption (14% mb), % | 61.4 | 60.4 | 60.7 | 59.1 | - | - | 61.8 | 61.1 | 61.1 | 58.2 | 61.2 | - | |
| Development time, min | 4.8 | 4.0 | 2.5 | 1.7 | - | - | 4.2 | 4.0 | 3.0 | 3.7 | 2.8 | - | |
| Stability, min | 8.1 | 6.2 | 5.3 | 4.6 | - | - | 6.7 | 6.0 | 5.3 | 5.9 | 5.1 | - | |
| Mixing tolerance index, BU | 42 | 49 | 52 | 50 | - | - | 43 | 53 | 63 | 50 | 58 | - | |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | | |
| Area, cm ² | 102 | 71 | 66 | 53 | - | - | 82 | 79 | 65 | 67 | 65 | | |
| Maximum height, BU | 375 | 290 | 310 | 295 | - | - | 305 | 305 | 260 | 285 | 260 | | |
| Extensibility, mm | 184 | 166 | 140 | 132 | - | - | 185 | 179 | 172 | 165 | 169 | | |
| ALVEOGRAM | | | | | | | | | | | | | |
| Strength (S), cm ² | 43.4 | 32.6 | 28.1 | 26.3 | - | - | 38.2 | 32.7 | 29.2 | 25.7 | 29.5 | - | |
| Stability (P), mm | 83 | 74 | 85 | 77 | - | - | 86 | 76 | 73 | 60 | 76 | - | |
| Distensibility (L), mm | 132 | 110 | 69 | 76 | - | - | 106 | 106 | 99 | 110 | 95 | - | |
| Configuration ratio (P/L) | 0.63 | 0.67 | 1.23 | 1.02 | - | - | 0.81 | 0.71 | 0.74 | 0.54 | 0.80 | - | |
| MIXOGRAM | | | | | | | | | | | | | |
| Peak time, min | 2.3 | 2.3 | 2.3 | 2.5 | - | - | 2.3 | 2.4 | 2.4 | 2.4 | 2.3 | - | |
| 100g BAKING TEST | | | | | | | | | | | | | |
| Loaf volume, cm ³ | 890 | 865 | 735 | 740 | - | - | 845 | 810 | 760 | 770 | 745 | - | |
| Evaluation | 0 | 0 | 2 | 0 | - | - | 1 | 1 | 2 | 0 | 2 | - | |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

MIXOGRAM

FARINOGRAM

EXTENSOGRAM

ALVEOGRAM

**SOUTH AFRICAN
WINTER RAINFALL WHEAT
Western Cape Province**

**IRRIGATION WHEAT
Vaal and Orange river area**

| PRODUCTION REGION | (6) Rüens Eastern Region | | | | | | (10) Griqualand - West | | | | | |
|----------------------------------|--|------------|------------|--------------|------------|------------|---|--------------|-----------|-----------|-----------|------------|
| Intake silos | Albertinia Ashton Camfer Heidelberg Karringmelksrivier Kleinberg Protem Riversdal Swellendam | | | | | | Britstown Douglas Havenga Brug Marydale Modderrivier Oranjerivierstasie Prieska Rietrivier Upington | | | | | |
| WHEAT | | | | | | | | | | | | |
| | ave | min | max | stdev | | | | | | | | |
| Protein (12% mb), % | 11.12 | 9.10 | 12.60 | 0.83 | ave | min | max | stdev | | | | |
| Falling number, sec | 359 | 228 | 426 | 46.65 | 11.87 | 10.90 | 13.60 | 0.71 | | | | |
| 1000 Kernel mass (13% mb), g | 39.1 | 32.2 | 46.2 | 3.82 | 387 | 325 | 450 | 29.39 | | | | |
| Hectolitre mass (dirty), kg/hl | 76.4 | 72.0 | 79.1 | 1.58 | 37.8 | 30.3 | 46.6 | 3.19 | | | | |
| Screenings (<1.8mm), % | 1.38 | 0.31 | 2.77 | 0.67 | 80.8 | 75.5 | 82.1 | 1.39 | | | | |
| Total damaged kernels, % | 1.08 | 0.36 | 1.96 | 0.40 | 1.38 | 0.20 | 2.72 | 0.65 | | | | |
| Number of samples | 33 | | | | | | 27 | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | SST 88 | | | 43.4 | | | SST 806 | | | 35.5 | | |
| cultivars | SST 57 | | | 26.5 | | | CRN 826 | | | 20.5 | | |
| with highest % | SST 015 | | | 10.8 | | | Krokodil | | | 9.4 | | |
| occurrence | SST 027 | | | 7.3 | | | Duzi | | | 9.2 | | |
| | SST 825 | | | 4.4 | | | SST 876 | | | 7.0 | | |
| Number of samples | 33 | | | | | | 27 | | | | | |
| MIXOGRAM (Quadromat) | | | | | | | | | | | | |
| | ave | min | max | stdev | | | | | | | | |
| Peak time, min | 2.9 | 2.3 | 6.0 | 0.74 | ave | min | max | stdev | | | | |
| Tail height (6min), mm | 48 | 40 | 53 | 3.11 | 2.2 | 1.3 | 2.5 | 0.22 | | | | |
| Number of samples | 33 | | | | | | 27 | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| | 74.6 | 75.2 | 74.7 | 74.4 | 74.6 | - | 76.0 | 76.9 | 75.7 | - | - | - |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 11.3 | 10.4 | 9.7 | 9.0 | 10.0 | - | 11.8 | 10.7 | 11.0 | - | - | - |
| Colour, KJ | -0.7 | -0.3 | -0.3 | -0.1 | 1.3 | - | -1.2 | -1.6 | -1.8 | - | - | - |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 63.1 | 63.0 | 61.7 | 58.7 | 63.3 | - | 62.8 | 62.2 | 62.8 | - | - | - |
| Development time, min | 3.8 | 2.7 | 2.4 | 1.7 | 2.0 | - | 4.2 | 3.5 | 3.3 | - | - | - |
| Stability, min | 6.5 | 6.4 | 6.3 | 5.0 | 6.0 | - | 6.2 | 5.5 | 3.7 | - | - | - |
| Mixing tolerance index, BU | 45 | 41 | 45 | 59 | 43 | - | 49 | 52 | 72 | - | - | - |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm2 | 67 | 60 | 68 | 47 | 75 | - | 94 | 77 | 57 | - | - | - |
| Maximum height, BU | 260 | 240 | 255 | 240 | 270 | - | 315 | 295 | 215 | - | - | - |
| Extensibility, mm | 185 | 178 | 178 | 137 | 193 | - | 204 | 180 | 179 | - | - | - |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm2 | 35.3 | 32.7 | 32.4 | 24.6 | 36.2 | - | 36.2 | 32.7 | 26.3 | - | - | - |
| Stability (P), mm | 84 | 84 | 84 | 65 | 92 | - | 79 | 79 | 75 | - | - | - |
| Distensibility (L), mm | 97 | 89 | 88 | 88 | 92 | - | 108 | 96 | 85 | - | - | - |
| Configuration ratio (P/L) | 0.87 | 0.94 | 0.96 | 0.74 | 1.00 | - | 0.73 | 0.83 | 0.88 | - | - | - |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.4 | 2.3 | 2.3 | 3.0 | 2.5 | - | 2.2 | 2.3 | 1.8 | - | - | - |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm3 | 850 | 810 | 765 | 745 | 810 | - | 940 | 900 | 850 | - | - | - |
| Evaluation | 1 | 0 | 1 | 0 | 0 | - | 0 | 0 | 0 | - | - | - |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

MIXOGRAM

FARINOGRAM

EXTENSOGRAM

ALVEOGRAM

**SOUTH AFRICAN
IRRIGATION WHEAT
Vaal and Orange river area**

**MAINLY IRRIGATION
North-West Province**

| PRODUCTION REGION | (11) Vaalharts | | | | | | (12) North-West Western Region | | | | | |
|----------------------------------|---|------------|------------|--------------|-----------|------------|---|------------|------------|--------------|-----------|------------|
| Intake silos | Barkly-Wes Hartswater Jan Kemp Magogong Taung | | | | | | Bloubank Buhmannsdrif Kameel Kraaipan Madibogo Mafikeng Mareetsane Piet Plessis Springbokpan Vergeleë Vryburg Vryhof | | | | | |
| WHEAT | ave | min | max | stdev | | | ave | min | max | stdev | | |
| Protein (12% mb), % | 11.17 | 10.10 | 12.50 | 0.74 | | | 11.08 | 9.80 | 11.70 | 0.87 | | |
| Falling number, sec | 389 | 357 | 433 | 23.25 | | | 356 | 330 | 379 | 25.63 | | |
| 1000 Kernel mass (13% mb), g | 36.6 | 32.9 | 38.8 | 1.86 | | | 39.0 | 37.3 | 42.6 | 2.45 | | |
| Hectolitre mass (dirty), kg/hl | 77.1 | 73.1 | 80.1 | 1.95 | | | 81.3 | 79.7 | 82.6 | 1.20 | | |
| Screenings (<1.8mm), % | 3.19 | 2.29 | 4.99 | 0.98 | | | 2.02 | 1.04 | 4.64 | 1.75 | | |
| Total damaged kernels, % | 0.46 | 0.16 | 0.92 | 0.25 | | | 0.32 | 0.24 | 0.40 | 0.09 | | |
| Number of samples | 14 | | | | | | 4 | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | | CRN 826 | 44.4 | | | | SST 806 | 67.5 | | | | |
| cultivars | | SST 806 | 29.7 | | | | SST 822 | 11.8 | | | | |
| with highest % | | SST 876 | 6.1 | | | | SST 876 | 8.3 | | | | |
| occurrence | | Baviaans | 5.6 | | | | CRN 826 | 5.0 | | | | |
| | | SST 825 | 3.3 | | | | Krokodil | 4.3 | | | | |
| Number of samples | 14 | | | | | | 4 | | | | | |
| MIXOGRAM (Quadromat) | ave | min | max | stdev | | | ave | min | max | stdev | | |
| Peak time, min | 2.7 | 2.3 | 3.0 | 0.23 | | | 2.5 | 2.0 | 3.5 | 0.67 | | |
| Tail height (6min), mm | 46 | 43 | 51 | 1.83 | | | 46 | 45 | 48 | 1.50 | | |
| Number of samples | 14 | | | | | | 4 | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| | 77.2 | 77.1 | 77.0 | - | 76.5 | - | - | 76.3 | - | - | 72.7 | - |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 12.0 | 10.7 | 10.1 | - | 10.6 | | - | 10.8 | - | - | 9.0 | - |
| Colour, KJ | -1.0 | -1.4 | -1.5 | - | -1.1 | | - | -1.3 | - | - | 0.1 | - |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 61.2 | 58.8 | 58.2 | - | 59.0 | - | - | 62.5 | - | - | 58.7 | - |
| Development time, min | 4.8 | 3.8 | 3.5 | - | 3.3 | - | - | 4.0 | - | - | 1.5 | - |
| Stability, min | 6.3 | 5.9 | 5.6 | - | 6.3 | - | - | 5.2 | - | - | 4.6 | - |
| Mixing tolerance index, BU | 46 | 55 | 64 | - | 48 | - | - | 59 | - | - | 63 | - |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm ² | 94 | 86 | 76 | - | 97 | - | - | 67 | - | - | 57 | - |
| Maximum height, BU | 315 | 330 | 315 | - | 345 | - | - | 245 | - | - | 270 | - |
| Extensibility, mm | 205 | 181 | 167 | - | 190 | - | - | 193 | - | - | 142 | - |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm ² | 35.3 | 34.9 | 32.0 | - | 34.4 | - | - | 32.7 | - | - | 25.4 | - |
| Stability (P), mm | 71 | 63 | 60 | - | 65 | - | - | 75 | - | - | 67 | - |
| Distensibility (L), mm | 123 | 143 | 141 | - | 135 | - | - | 119 | - | - | 93 | - |
| Configuration ratio (P/L) | 0.58 | 0.44 | 0.43 | - | 0.48 | - | - | 0.63 | - | - | 0.72 | - |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.3 | 2.5 | 2.3 | - | 2.7 | - | - | 2.3 | - | - | 2.8 | - |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm ³ | 980 | 815 | 805 | - | 790 | - | - | 850 | - | - | 685 | - |
| Evaluation | 0 | 1 | 0 | - | 2 | - | - | 0 | - | - | 2 | - |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

MIXOGRAM

FARINOGRAM

EXTENSOGRAM

ALVEOGRAM

**SOUTH AFRICAN
MAINLY IRRIGATION
North-West Province**

| PRODUCTION REGION | (14) North-West Southern Region | | | | (15) North-West South-Eastern Region | | | | | | | |
|----------------------------------|--|------------|------------|--------------|---|------------|------------|--------------|-----------|-----------|-----------|------------|
| | Intake silos | | | | | | | | | | | |
| | Amalia Barberspan Delareyville Excelsior Geysdorp Hallat's Hope Migdol Nooitgedacht Schweizer-Reneke Taaibospan | | | | Bloemhof Christiana Hertzogville Hoopstad Kingswood | | | | | | | |
| WHEAT | | | | | | | | | | | | |
| | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Protein (12% mb), % | 12.37 | 11.50 | 13.30 | 0.90 | 12.01 | 11.10 | 13.20 | 0.68 | | | | |
| Falling number, sec | 346 | 335 | 364 | 15.72 | 300 | 200 | 384 | 59.26 | | | | |
| 1000 Kernel mass (13% mb), g | 37.4 | 36.3 | 39.2 | 1.57 | 35.7 | 33.7 | 38.8 | 1.58 | | | | |
| Hectolitre mass (dirty), kg/hl | 80.0 | 79.9 | 80.2 | 0.17 | 79.7 | 78.0 | 82.1 | 1.22 | | | | |
| Screenings (<1.8mm), % | 1.88 | 1.43 | 2.69 | 0.70 | 2.21 | 0.80 | 3.69 | 0.86 | | | | |
| Total damaged kernels, % | 0.33 | 0.30 | 0.36 | 0.03 | 0.22 | 0.00 | 0.42 | 0.13 | | | | |
| Number of samples | 3 | | | | 13 | | | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | | SST 806 | 45.3 | | | PAN 3118 | 35.2 | | | | | |
| cultivars | | CRN 826 | 28.3 | | | SST 806 | 17.9 | | | | | |
| with highest % | | SST 822 | 8.0 | | | CRN 826 | 13.9 | | | | | |
| occurrence | | SST 876 | 4.3 | | | PAN 3191 | 12.0 | | | | | |
| | | Krokodil | 4.0 | | | SST 876 | 5.1 | | | | | |
| Number of samples | 3 | | | | 13 | | | | | | | |
| MIXOGRAM (Quadromat) | | | | | | | | | | | | |
| | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Peak time, min | 2.4 | 2.4 | 2.5 | 0.06 | 2.9 | 2.3 | 3.4 | 0.37 | | | | |
| Tail height (6min), mm | 46 | 46 | 46 | 0.00 | 50 | 46 | 53 | 1.93 | | | | |
| Number of samples | 3 | | | | 13 | | | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| | 75.5 | 76.9 | - | - | - | - | 75.2 | 67.5 | - | 73.6 | 74.6 | - |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 11.7 | 10.8 | - | - | - | - | 11.5 | 10.4 | - | 9.9 | 11.1 | - |
| Colour, KJ | -0.8 | -1.3 | - | - | - | - | -0.7 | -1.1 | - | -1.6 | -1.4 | - |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 63.6 | 61.6 | - | - | - | - | 63.6 | 62.8 | - | 65.8 | 62.2 | - |
| Development time, min | 4.5 | 3.5 | - | - | - | - | 4.0 | 1.9 | - | 1.9 | 2.5 | - |
| Stability, min | 5.5 | 4.7 | - | - | - | - | 7.4 | 5.3 | - | 3.0 | 7.7 | - |
| Mixing tolerance index, BU | 58 | 78 | - | - | - | - | 38 | 44 | - | 69 | 28 | - |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm2 | 77 | 82 | - | - | - | - | 79 | 74 | - | 94 | 101 | - |
| Maximum height, BU | 250 | 285 | - | - | - | - | 315 | 340 | - | 410 | 405 | - |
| Extensibility, mm | 211 | 198 | - | - | - | - | 178 | 153 | - | 168 | 173 | - |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm2 | 37.0 | 31.7 | - | - | - | - | 42.5 | 39.3 | - | 45.6 | 44.0 | - |
| Stability (P), mm | 79 | 71 | - | - | - | - | 97 | 114 | - | 144 | 99 | - |
| Distensibility (L), mm | 119 | 112 | - | - | - | - | 92 | 64 | - | 51 | 94 | - |
| Configuration ratio (P/L) | 0.66 | 0.63 | - | - | - | - | 1.05 | 1.79 | - | 2.84 | 1.05 | - |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.3 | 2.3 | - | - | - | - | 2.4 | 2.8 | - | 3.8 | 2.8 | - |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm3 | 880 | 875 | - | - | - | - | 870 | 780 | - | 695 | 850 | - |
| Evaluation | 1 | 0 | - | - | - | - | 1 | 2 | - | 4 | 1 | - |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

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ALVEOGRAM

SOUTH AFRICAN MAINLY IRRIGATION North-West Province

| PRODUCTION REGION | (16) North-West Central Eastern Region | | | | | | (17) North-West Central Northern Region (Ottosdal) | | | | | |
|----------------------------------|---|------------|------------|--------------|-----------|------------|--|------------|------------|--------------|-----------|------------|
| Intake silos | Bamboesspruit Klerksdorp Leeudoringstad Makwassie Regina Strydpoort Wolmaransstad | | | | | | Bospoort Hartbeesfontein Kleinwarts Melliodora Ottosdal Rostrataville Vermaas Werda | | | | | |
| WHEAT | ave | min | max | stdev | | | ave | min | max | stdev | | |
| Protein (12% mb), % | 12.40 | - | - | - | | | 11.43 | 10.80 | 13.00 | 1.06 | | |
| Falling number, sec | 329 | - | - | - | | | 365 | 332 | 405 | 36.32 | | |
| 1000 Kernel mass (13% mb), g | 34.7 | - | - | - | | | 36.3 | 30.6 | 39.8 | 4.39 | | |
| Hectolitre mass (dirty), kg/hl | 78.7 | - | - | - | | | 76.0 | 70.2 | 78.7 | 3.93 | | |
| Screenings (<1.8mm), % | 2.56 | - | - | - | | | 3.41 | 1.99 | 6.72 | 2.22 | | |
| Total damaged kernels, % | 0.54 | - | - | - | | | 0.78 | 0.26 | 1.44 | 0.49 | | |
| Number of samples | 1 | | | | | | 4 | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | | PAN 3118 | | 38.0 | | | | SST 806 | | 63.0 | | |
| cultivars | | SST 806 | | 30.0 | | | | Krokodil | | 15.5 | | |
| with highest % | | CRN 826 | | 13.0 | | | | CRN 826 | | 12.5 | | |
| occurrence | | PAN 3191 | | 12.0 | | | | SST 876 | | 7.8 | | |
| | | PAN 3349 | | 7.0 | | | | SST 825 | | 1.3 | | |
| Number of samples | 1 | | | | | | 4 | | | | | |
| MIXOGRAM (Quadromat) | ave | min | max | stdev | | | ave | min | max | stdev | | |
| Peak time, min | 2.5 | - | - | - | | | 2.7 | 2.3 | 3.3 | 0.43 | | |
| Tail height (6min), mm | 51 | - | - | - | | | 47 | 45 | 49 | 2.06 | | |
| Number of samples | 1 | | | | | | 4 | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| | 75.7 | - | - | - | - | - | 76.7 | - | 77.3 | - | 72.4 | - |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 12.1 | - | - | - | - | - | 12.7 | - | 10.2 | - | 10.2 | - |
| Colour, KJ | -1.3 | - | - | - | - | - | -1.2 | - | -1.1 | - | -0.2 | - |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 62.4 | - | - | - | - | - | 62.5 | - | 59.6 | - | 59.3 | - |
| Development time, min | 5.2 | - | - | - | - | - | 5.2 | - | 3.5 | - | 2.2 | - |
| Stability, min | 8.4 | - | - | - | - | - | 5.8 | - | 4.8 | - | 7.0 | - |
| Mixing tolerance index, BU | 42 | - | - | - | - | - | 55 | - | 64 | - | 33 | - |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm ² | 97 | - | - | - | - | - | 98 | - | 63 | - | 67 | - |
| Maximum height, BU | 345 | - | - | - | - | - | 315 | - | 255 | - | 275 | - |
| Extensibility, mm | 199 | - | - | - | - | - | 218 | - | 162 | - | 164 | - |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm ² | 43.3 | - | - | - | - | - | 37.3 | - | 28.1 | - | 31.3 | - |
| Stability (P), mm | 89 | - | - | - | - | - | 74 | - | 69 | - | 70 | - |
| Distensibility (L), mm | 110 | - | - | - | - | - | 131 | - | 111 | - | 117 | - |
| Configuration ratio (P/L) | 0.80 | - | - | - | - | - | 0.57 | - | 0.62 | - | 0.60 | - |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.5 | - | - | - | - | - | 2.0 | - | 2.3 | - | 3.2 | - |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm ³ | 910 | - | - | - | - | - | 925 | - | 830 | - | 825 | - |
| Evaluation | 1 | - | - | - | - | - | 1 | - | 0 | - | 0 | - |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

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SOUTH AFRICAN MAINLY IRRIGATION North-West Province

| PRODUCTION REGION | (19) North-West Central Region (Lichtenburg) | | | | (20) North-West Eastern Region | | | | | | | |
|----------------------------------|--|------------|------------|--------------|---|------------|------------|--------------|-----------|-----------|-----------|------------|
| | Intake silos | | | | | | | | | | | |
| | Grootpan Halfpad Hibernia Lichtenburg Lottiehalte Lusthof | | | | Battery Boons Brits Derby Koster Rustenburg Swartruggens Syferbult | | | | | | | |
| WHEAT | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Protein (12% mb), % | 11.75 | 10.00 | 13.70 | 1.05 | 10.67 | 8.50 | 12.40 | 1.12 | | | | |
| Falling number, sec | 312 | 221 | 389 | 52.98 | 360 | 222 | 468 | 50.16 | | | | |
| 1000 Kernel mass (13% mb), g | 39.4 | 29.2 | 46.8 | 5.17 | 38.3 | 34.2 | 43.8 | 2.77 | | | | |
| Hectolitre mass (dirty), kg/hl | 78.8 | 77.3 | 81.2 | 1.21 | 78.7 | 74.2 | 81.2 | 1.82 | | | | |
| Screenings (<1.8mm), % | 1.43 | 0.80 | 2.85 | 0.64 | 1.73 | 0.85 | 4.11 | 0.74 | | | | |
| Total damaged kernels, % | 0.69 | 0.08 | 1.64 | 0.44 | 1.39 | 0.00 | 13.56 | 2.93 | | | | |
| Number of samples | 11 | | | | 25 | | | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | SST 806 | | 41.7 | | SST 806 | | 37.4 | | | | | |
| cultivars | CRN 826 | | 23.9 | | Olifants | | 18.3 | | | | | |
| with highest % | SST 876 | | 13.3 | | CRN 826 | | 12.9 | | | | | |
| occurrence | Krokodil | | 9.1 | | Krokodil | | 10.2 | | | | | |
| | Duzi | | 6.7 | | Duzi | | 5.6 | | | | | |
| Number of samples | 11 | | | | 25 | | | | | | | |
| MIXOGRAM (Quadromat) | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Peak time, min | 2.4 | 2.0 | 2.8 | 0.27 | 3.0 | 2.2 | 5.3 | 0.77 | | | | |
| Tail height (6min), mm | 46 | 42 | 50 | 2.88 | 47 | 41 | 53 | 3.10 | | | | |
| Number of samples | 11 | | | | 25 | | | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| | 75.6 | 75.6 | 78.0 | - | - | - | 76.8 | 76.7 | 75.9 | 75.9 | 75.5 | 76.8 |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 11.8 | 10.3 | 9.1 | - | - | - | 11.5 | 10.7 | 10.0 | 8.7 | 9.7 | 9.0 |
| Colour, KJ | -1.2 | -1.4 | -2.2 | - | - | - | -1.4 | -0.4 | -1.2 | -1.1 | -1.0 | -0.6 |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 63.3 | 61.0 | 58.7 | - | - | - | 64.0 | 61.7 | 59.8 | 57.5 | 59.3 | 57.8 |
| Development time, min | 4.7 | 3.9 | 3.0 | - | - | - | 4.5 | 4.0 | 2.5 | 1.8 | 3.2 | 1.9 |
| Stability, min | 6.0 | 5.5 | 4.4 | - | - | - | 6.1 | 6.6 | 5.3 | 4.8 | 5.9 | 5.4 |
| Mixing tolerance index, BU | 51 | 62 | 76 | - | - | - | 52 | 47 | 47 | 58 | 60 | 56 |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm ² | 93 | 76 | 67 | - | - | - | 87 | 80 | 74 | 74 | 78 | 90 |
| Maximum height, BU | 345 | 285 | 280 | - | - | - | 305 | 330 | 315 | 325 | 325 | 355 |
| Extensibility, mm | 186 | 183 | 162 | - | - | - | 200 | 171 | 161 | 149 | 165 | 174 |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm ² | 40.4 | 36.1 | 23.7 | - | - | - | 41.4 | 41.7 | 33.9 | 30.1 | 30.7 | 33.2 |
| Stability (P), mm | 82 | 75 | 65 | - | - | - | 89 | 91 | 80 | 70 | 66 | 66 |
| Distensibility (L), mm | 122 | 130 | 94 | - | - | - | 111 | 106 | 101 | 99 | 109 | 117 |
| Configuration ratio (P/L) | 0.67 | 0.58 | 0.68 | - | - | - | 0.81 | 0.86 | 0.79 | 0.71 | 0.61 | 0.57 |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.3 | 2.3 | 2.3 | - | - | - | 2.3 | 2.6 | 2.5 | 2.7 | 2.3 | 3.0 |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm ³ | 910 | 855 | 785 | - | - | - | 955 | 880 | 820 | 765 | 850 | 800 |
| Evaluation | 0 | 0 | 0 | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

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ALVEOGRAM

SOUTH AFRICAN
SUMMER RAINFALL WHEAT (AND IRRIGATION)
Free State Province (Central)

| PRODUCTION REGION | (21) Free State North-Western Region (Viljoenskroon) | | | | | (26) Free State South-Eastern Region (Senekal) | | | | | | | |
|----------------------------------|--|------------|------------|--------------|-----------|---|------------|------------|--------------|-----------|-----------|------------|--|
| | Intake silos | | | | | Arlington Kaallaagte Libertas Marquard Meets Monte Video Senekal Steynsrus | | | | | | | |
| WHEAT | ave | min | max | stdev | | ave | min | max | stdev | | | | |
| Protein (12% mb), % | 12.23 | 9.50 | 14.40 | 1.24 | | 12.17 | 10.60 | 14.20 | 1.15 | | | | |
| Falling number, sec | 305 | 191 | 385 | 57.70 | | 320 | 214 | 382 | 47.05 | | | | |
| 1000 Kernel mass (13% mb), g | 31.8 | 26.8 | 34.5 | 2.23 | | 36.3 | 31.4 | 39.9 | 2.00 | | | | |
| Hectolitre mass (dirty), kg/hl | 77.5 | 74.5 | 79.2 | 1.73 | | 79.5 | 74.8 | 82.3 | 2.61 | | | | |
| Screenings (<1.8mm), % | 2.73 | 0.94 | 8.38 | 1.95 | | 1.64 | 0.34 | 3.10 | 0.74 | | | | |
| Total damaged kernels, % | 0.45 | 0.08 | 1.06 | 0.27 | | 0.33 | 0.06 | 1.20 | 0.28 | | | | |
| Number of samples | 12 | | | | | 18 | | | | | | | |
| CULTIVARS | | | | | | | | | | | | | |
| | Elands 36.2 | | | | | Elands 38.0 | | | | | | | |
| cultivars | PAN 3349 20.3 | | | | | PAN 3118 14.6 | | | | | | | |
| with highest % occurrence | SST 806 12.1 | | | | | Gariep 11.7 | | | | | | | |
| | SST 876 8.3 | | | | | PAN 3377 7.7 | | | | | | | |
| | PAN 3118 6.5 | | | | | PAN 3349 4.6 | | | | | | | |
| Number of samples | 12 | | | | | 18 | | | | | | | |
| MIXOGRAM (Quadromat) | ave | min | max | stdev | | ave | min | max | stdev | | | | |
| Peak time, min | 2.9 | 2.2 | 3.5 | 0.41 | | 3.0 | 2.4 | 4.0 | 0.49 | | | | |
| Tail height (6min), mm | 51 | 41 | 57 | 3.63 | | 53 | 47 | 62 | 3.81 | | | | |
| Number of samples | 12 | | | | | 18 | | | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW | |
| | 74.8 | 74.2 | 74.9 | - | 74.4 | - | 74.5 | 74.6 | 75.2 | 75.1 | - | - | |
| FLOUR | | | | | | | | | | | | | |
| Protein (12% mb), % | 11.9 | 10.1 | 12.2 | - | 12.0 | - | 12.7 | 10.8 | 10.5 | 11.0 | - | - | |
| Colour, KJ | -0.3 | -1.0 | 0.6 | - | -0.2 | - | -1.2 | -1.0 | -1.3 | -1.6 | - | - | |
| FARINOGRAM | | | | | | | | | | | | | |
| Water absorption (14% mb), % | 61.8 | 62.0 | 61.3 | - | 61.3 | - | 63.9 | 62.2 | 59.8 | 66.9 | - | - | |
| Development time, min | 4.5 | 1.7 | 5.0 | - | 4.4 | - | 5.7 | 4.7 | 3.7 | 2.4 | - | - | |
| Stability, min | 7.3 | 6.8 | 7.5 | - | 6.1 | - | 8.2 | 7.7 | 6.1 | 5.6 | - | - | |
| Mixing tolerance index, BU | 50 | 33 | 48 | - | 54 | - | 48 | 45 | 56 | 50 | - | - | |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | | |
| Area, cm ² | 100 | 98 | 106 | - | 89 | - | 118 | 88 | 99 | 107 | - | - | |
| Maximum height, BU | 365 | 410 | 370 | - | 345 | - | 380 | 370 | 385 | 415 | - | - | |
| Extensibility, mm | 185 | 167 | 208 | - | 180 | - | 212 | 167 | 179 | 184 | - | - | |
| ALVEOGRAM | | | | | | | | | | | | | |
| Strength (S), cm ² | 45.4 | 43.6 | 43.7 | - | 36.9 | - | 50.0 | 44.8 | 38.2 | 63.9 | - | - | |
| Stability (P), mm | 87 | 111 | 75 | - | 75 | - | 96 | 102 | 76 | 161 | - | - | |
| Distensibility (L), mm | 112 | 74 | 126 | - | 113 | - | 108 | 86 | 114 | 64 | - | - | |
| Configuration ratio (P/L) | 0.78 | 1.51 | 0.59 | - | 0.66 | - | 0.89 | 1.19 | 0.66 | 2.52 | - | - | |
| MIXOGRAM | | | | | | | | | | | | | |
| Peak time, min | 2.7 | 3.2 | 2.5 | - | 2.5 | - | 2.7 | 3.0 | 2.8 | 3.8 | - | - | |
| 100g BAKING TEST | | | | | | | | | | | | | |
| Loaf volume, cm ³ | 835 | 715 | 1000 | - | 800 | - | 855 | 775 | 900 | 710 | - | - | |
| Evaluation | 3 | 3 | 0 | - | 4 | - | 3 | 2 | 0 | 5 | - | - | |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

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SOUTH AFRICAN

SUMMER RAINFALL WHEAT (AND IRRIGATION) Free State Province (Central)

Free State Province (South-Western)

| PRODUCTION REGION | (27) Free State Northern Region | | | | | | (24) Free State Central Region | | | | | |
|----------------------------------|--|------------|------------|--------------|-----------|------------|--|------------|------------|--------------|-----------|------------|
| Intake silos | Gottenburg Heilbron Hoogte Mooigeleë Petrus Steyn Wolwehoek | | | | | | Bloemfontein Brandfort De Brug Geneva Hennenman Koffiefontein Kroonstad Petrusburg Theunissen Van Tonder Welgeleë Winburg | | | | | |
| WHEAT | ave | min | max | stdev | | | ave | min | max | stdev | | |
| Protein (12% mb), % | 12.70 | 11.10 | 13.60 | 0.87 | | | 11.66 | 8.30 | 14.34 | 1.49 | | |
| Falling number, sec | 346 | 320 | 366 | 18.63 | | | 327 | 235 | 457 | 49.84 | | |
| 1000 Kernel mass (13% mb), g | 35.5 | 33.1 | 38.7 | 1.68 | | | 33.9 | 29.7 | 39.3 | 2.47 | | |
| Hectolitre mass (dirty), kg/hl | 79.8 | 77.7 | 81.9 | 1.66 | | | 79.0 | 75.7 | 81.4 | 1.37 | | |
| Screenings (<1.8mm), % | 1.07 | 0.06 | 2.79 | 0.99 | | | 2.27 | 0.95 | 4.81 | 0.79 | | |
| Total damaged kernels, % | 0.43 | 0.32 | 0.58 | 0.10 | | | 0.39 | 0.00 | 0.92 | 0.21 | | |
| Number of samples | 8 | | | | | | 27 | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | Elands | | | 62.1 | | | Gariep | | | 24.0 | | |
| cultivars | Gariep | | | 6.3 | | | Scheepers 69 | | | 11.4 | | |
| with highest % | Tugela DN | | | 5.1 | | | PAN 3377 | | | 10.6 | | |
| occurrence | PAN 3120 | | | 4.5 | | | SST 806 | | | 8.1 | | |
| | SST 399 | | | 3.3 | | | Tugela DN | | | 6.9 | | |
| Number of samples | 8 | | | | | | 27 | | | | | |
| MIXOGRAM (Quadromat) | ave | min | max | stdev | | | ave | min | max | stdev | | |
| Peak time, min | 2.7 | 2.0 | 3.0 | 0.39 | | | 2.9 | 1.5 | 3.7 | 0.51 | | |
| Tail height (6min), mm | 51 | 48 | 55 | 2.53 | | | 49 | 33 | 60 | 5.90 | | |
| Number of samples | 8 | | | | | | 27 | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| | 75.1 | 75.7 | - | - | - | - | 73.4 | 74.6 | 73.8 | 72.3 | 73.3 | - |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 12.0 | 10.4 | - | - | - | - | 12.3 | 10.6 | 9.5 | 8.5 | 9.9 | - |
| Colour, KJ | -1.3 | -1.2 | - | - | - | - | -1.1 | -1.3 | -1.6 | -1.7 | -1.2 | - |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 64.5 | 61.0 | - | - | - | - | 63.3 | 62.4 | 59.7 | 59.1 | 59.8 | - |
| Development time, min | 4.8 | 4.5 | - | - | - | - | 4.4 | 3.7 | 2.3 | 2.5 | 2.0 | - |
| Stability, min | 7.0 | 7.7 | - | - | - | - | 7.5 | 5.9 | 5.2 | 4.5 | 5.0 | - |
| Mixing tolerance index, BU | 41 | 51 | - | - | - | - | 46 | 53 | 55 | 67 | 51 | - |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm ² | 102 | 85 | - | - | - | - | 110 | 81 | 67 | 67 | 65 | - |
| Maximum height, BU | 330 | 375 | - | - | - | - | 385 | 335 | 330 | 325 | 305 | - |
| Extensibility, mm | 200 | 160 | - | - | - | - | 189 | 164 | 141 | 144 | 147 | - |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm ² | 46.2 | 40.5 | - | - | - | - | 53.2 | 42.0 | 34.4 | 27.7 | 34.6 | - |
| Stability (P), mm | 103 | 97 | - | - | - | - | 109 | 97 | 90 | 80 | 82 | - |
| Distensibility (L), mm | 93 | 84 | - | - | - | - | 97 | 91 | 78 | 75 | 96 | - |
| Configuration ratio (P/L) | 1.10 | 1.15 | - | - | - | - | 1.13 | 1.07 | 1.15 | 1.07 | 0.85 | - |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.3 | 2.8 | - | - | - | - | 2.8 | 2.7 | 3.0 | 2.3 | 2.7 | - |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm ³ | 875 | 800 | - | - | - | - | 890 | 810 | 715 | 695 | 825 | - |
| Evaluation | 2 | 1 | - | - | - | - | 2 | 1 | 2 | 1 | 0 | - |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

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SOUTH AFRICAN
SUMMER RAINFALL WHEAT (AND IRRIGATION)
Free State Province (North-Western)

| PRODUCTION REGION | (22) | | | | (23) | | | | | | | |
|----------------------------------|---|------------|------------|--------------|--|------------|------------|--------------|-----------|-----------|-----------|------------|
| | Free-State North-Western Region (Bothaville) | | | | Free-State North-Western Region (Bultfontein) | | | | | | | |
| Intake silos | Allanridge Bothaville Mirage Odendaalsrus Schoonspruit Schuttesdraai | | | | Bultfontein Losdoorns Protespan Tierfontein Wesselsbron Willemsrust | | | | | | | |
| WHEAT | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Protein (12% mb), % | 13.34 | 11.50 | 15.00 | 1.76 | 11.83 | 9.40 | 13.80 | 1.33 | | | | |
| Falling number, sec | 345 | 325 | 374 | 25.54 | 322 | 248 | 400 | 40.31 | | | | |
| 1000 Kernel mass (13% mb), g | 31.5 | 29.3 | 35.2 | 3.20 | 36.8 | 33.8 | 38.7 | 1.42 | | | | |
| Hectolitre mass (dirty), kg/hl | 77.3 | 76.8 | 78.0 | 0.62 | 79.6 | 76.0 | 81.8 | 1.38 | | | | |
| Screenings (<1.8mm), % | 2.01 | 1.90 | 2.14 | 0.12 | 1.81 | 0.63 | 4.78 | 1.13 | | | | |
| Total damaged kernels, % | 0.29 | 0.18 | 0.48 | 0.16 | 0.67 | 0.00 | 2.16 | 0.61 | | | | |
| Number of samples | 3 | | | | 17 | | | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | PAN 3118 | | 34.7 | | PAN 3118 | | 27.0 | | | | | |
| cultivars | Gariiep | | 26.0 | | SST 806 | | 19.4 | | | | | |
| with highest % | PAN 3120 | | 18.0 | | Elands | | 10.6 | | | | | |
| occurrence | PAN 3349 | | 17.0 | | PAN 3120 | | 7.1 | | | | | |
| | SST 399 | | 2.3 | | PAN 3349 | | 6.9 | | | | | |
| Number of samples | 3 | | | | 17 | | | | | | | |
| MIXOGRAM (Quadromat) | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Peak time, min | 2.6 | 2.5 | 2.8 | 0.17 | 2.9 | 2.2 | 4.3 | 0.60 | | | | |
| Tail height (6min), mm | 50 | 49 | 52 | 1.73 | 50 | 44 | 55 | 3.44 | | | | |
| Number of samples | 3 | | | | 17 | | | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| | 74.9 | 74.2 | - | - | - | - | 74.6 | 76.2 | 74.4 | - | 73.1 | - |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 13.0 | 10.5 | - | - | - | - | 12.3 | 10.8 | 9.2 | - | 8.7 | - |
| Colour, KJ | -0.6 | -1.1 | - | - | - | - | -1.3 | -1.4 | -1.3 | - | -1.7 | - |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 64.1 | 61.5 | - | - | - | - | 63.0 | 61.6 | 62.8 | - | 63.3 | - |
| Development time, min | 5.0 | 2.4 | - | - | - | - | 4.5 | 3.8 | 1.7 | - | 1.5 | - |
| Stability, min | 9.2 | 6.1 | - | - | - | - | 8.7 | 5.6 | 3.1 | - | 2.1 | - |
| Mixing tolerance index, BU | 33 | 48 | - | - | - | - | 32 | 56 | 70 | - | 81 | - |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm ² | 91 | 85 | - | - | - | - | 99 | 75 | 93 | - | 64 | - |
| Maximum height, BU | 330 | 390 | - | - | - | - | 375 | 310 | 410 | - | 325 | - |
| Extensibility, mm | 192 | 155 | - | - | - | - | 184 | 168 | 156 | - | 134 | - |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm ² | 48.9 | 44.0 | - | - | - | - | 50.0 | 37.3 | 50.6 | - | 33.3 | - |
| Stability (P), mm | 97 | 110 | - | - | - | - | 98 | 84 | 131 | - | 121 | - |
| Distensibility (L), mm | 109 | 77 | - | - | - | - | 107 | 101 | 67 | - | 46 | - |
| Configuration ratio (P/L) | 0.89 | 1.44 | - | - | - | - | 0.91 | 0.83 | 1.97 | - | 2.64 | - |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.5 | 2.8 | - | - | - | - | 2.8 | 2.3 | 4.0 | - | 2.8 | - |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm ³ | 880 | 785 | - | - | - | - | 865 | 835 | 685 | - | 660 | - |
| Evaluation | 3 | 2 | - | - | - | - | 2 | 0 | 3 | - | 3 | - |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

MIXOGRAM

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ALVEOGRAM

**SOUTH AFRICAN
SUMMER RAINFALL WHEAT (AND IRRIGATION)
Free State Province (Eastern)**

| PRODUCTION REGION | (25) Free State South-Eastern Region (Bethlehem) | | | | | (28) Free State Eastern Region | | | | | | |
|----------------------------------|--|------------|------------|--------------|-----------|--------------------------------------|------------|------------|--------------|-----------|-----------|------------|
| | Intake silos | | | | | | | | | | | |
| | Bethlehem | | | | | Afrikaskop | | | | | | |
| | Clocolan | | | | | Ascent | | | | | | |
| | De Wetsdorp | | | | | Cornelia | | | | | | |
| | Ficksburg | | | | | Daniëlsrus | | | | | | |
| | Fouriesburg | | | | | Eeram | | | | | | |
| | Marseilles | | | | | Frankfort | | | | | | |
| | Modderpoort | | | | | Harrismith | | | | | | |
| | Slabberts | | | | | Jim Fouché | | | | | | |
| | Tweespruit | | | | | Kransfontein | | | | | | |
| | Westminster | | | | | Memel | | | | | | |
| | Zastron | | | | | Reitz | | | | | | |
| | | | | | | Tweeling | | | | | | |
| | | | | | | Villiers | | | | | | |
| | | | | | | Vrede | | | | | | |
| | | | | | | Warden | | | | | | |
| | | | | | | Windfield | | | | | | |
| WHEAT | | | | | | | | | | | | |
| | ave | min | max | stdev | | ave | min | max | stdev | | | |
| Protein (12% mb), % | 10.79 | 8.80 | 14.00 | 1.25 | | 11.97 | 10.10 | 14.20 | 0.94 | | | |
| Falling number, sec | 335 | 280 | 407 | 34.98 | | 340 | 143 | 420 | 53.11 | | | |
| 1000 Kernel mass (13% mb), g | 38.1 | 34.4 | 42.5 | 1.78 | | 36.4 | 32.0 | 41.8 | 2.72 | | | |
| Hectolitre mass (dirty), kg/hl | 78.4 | 74.9 | 83.1 | 1.78 | | 78.4 | 72.9 | 83.6 | 2.11 | | | |
| Screenings (<1.8mm), % | 1.44 | 0.05 | 3.28 | 0.78 | | 0.99 | 0.18 | 3.02 | 0.60 | | | |
| Total damaged kernels, % | 0.43 | 0.00 | 1.24 | 0.24 | | 0.54 | 0.00 | 5.16 | 0.85 | | | |
| Number of samples | 39 | | | | | 33 | | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | | | Elands | 35.0 | | | | Elands | 46.1 | | | |
| cultivars | | | Gariiep | 23.0 | | | | SST 806 | 14.2 | | | |
| with highest % | | | SST 399 | 10.0 | | | | Kariega | 6.5 | | | |
| occurrence | | | Tugela DN | 4.3 | | | | SST 399 | 4.6 | | | |
| | | | Betta DN | 4.0 | | | | PAN 3349 | 4.2 | | | |
| Number of samples | 39 | | | | | 33 | | | | | | |
| MIXOGRAM (Quadromat) | | | | | | | | | | | | |
| | ave | min | max | stdev | | ave | min | max | stdev | | | |
| Peak time, min | 3.3 | 2.3 | 4.5 | 0.59 | | 3.0 | 2.0 | 4.3 | 0.57 | | | |
| Tail height (6min), mm | 49 | 38 | 60 | 4.05 | | 51 | 42 | 57 | 3.07 | | | |
| Number of samples | 39 | | | | | 33 | | | | | | |
| | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| BÜHLER EXTRACTION, % | 75.0 | 74.7 | 73.7 | 74.0 | 74.1 | - | 74.7 | 75.4 | 75.1 | - | - | - |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 12.2 | 10.6 | 9.9 | 8.6 | 8.0 | - | 11.8 | 10.9 | 9.7 | - | - | - |
| Colour, KJ | -1.2 | -1.5 | -1.2 | -1.6 | -2.0 | - | -0.9 | -1.1 | -1.5 | - | - | - |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 61.9 | 61.0 | 60.4 | 58.8 | 55.9 | - | 62.8 | 61.3 | 59.9 | - | - | - |
| Development time, min | 4.5 | 2.4 | 2.5 | 1.5 | 1.3 | - | 4.5 | 4.7 | 4.3 | - | - | - |
| Stability, min | 6.8 | 7.0 | 7.0 | 3.4 | 3.6 | - | 8.0 | 7.6 | 6.8 | - | - | - |
| Mixing tolerance index, BU | 54 | 34 | 35 | 65 | 72 | - | 41 | 46 | 55 | - | - | - |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm ² | 104 | 95 | 76 | 75 | 71 | - | 106 | 89 | 87 | - | - | - |
| Maximum height, BU | 360 | 415 | 400 | 410 | 375 | - | 390 | 365 | 370 | - | - | - |
| Extensibility, mm | 198 | 160 | 136 | 128 | 131 | - | 192 | 171 | 161 | - | - | - |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm ² | 42.5 | 40.1 | 38.4 | 28.3 | 25.5 | - | 46.5 | 44.2 | 38.4 | - | - | - |
| Stability (P), mm | 84 | 97 | 102 | 97 | 71 | - | 97 | 92 | 88 | - | - | - |
| Distensibility (L), mm | 110 | 81 | 71 | 50 | 72 | - | 98 | 100 | 96 | - | - | - |
| Configuration ratio (P/L) | 0.76 | 1.19 | 1.44 | 1.92 | 0.98 | - | 0.99 | 0.92 | 0.91 | - | - | - |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.3 | 3.2 | 3.3 | 3.3 | 3.3 | - | 2.8 | 2.8 | 2.8 | - | - | - |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm ³ | 870 | 720 | 675 | 580 | 590 | - | 880 | 865 | 805 | - | - | - |
| Evaluation | 2 | 4 | 4 | 6 | 4 | - | 1 | 0 | 0 | - | - | - |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

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ALVEOGRAM

SOUTH AFRICAN SUMMER RAINFALL WHEAT AND IRRIGATION Mpumalanga

| PRODUCTION REGION | (30) Mpumalanga Eastern Region | | | | (32) Mpumalanga Western Region | | | | | | | |
|----------------------------------|--------------------------------------|------------|------------|--------------|--------------------------------------|------------|------------|--------------|-----------|-----------|-----------|------------|
| | Intake silos | | | | | | | | | | | |
| | Amersfoort | | | | Argent | | | | | | | |
| | Badplaas | | | | Dryden | | | | | | | |
| | Carolina | | | | Endicott | | | | | | | |
| | Davel | | | | Elof | | | | | | | |
| | Ermelo | | | | Hawerklip | | | | | | | |
| | Estancia | | | | Kendal | | | | | | | |
| | Lothair | | | | Ogies | | | | | | | |
| | Maizefield | | | | | | | | | | | |
| | Mkondo | | | | | | | | | | | |
| | Morgenzon | | | | | | | | | | | |
| | Overvaal | | | | | | | | | | | |
| | Panbult | | | | | | | | | | | |
| WHEAT | | | | | | | | | | | | |
| | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Protein (12% mb), % | 11.60 | 10.80 | 12.20 | 0.58 | 11.96 | 10.90 | 12.90 | 0.73 | | | | |
| Falling number, sec | 390 | 384 | 395 | 4.50 | 319 | 238 | 396 | 55.75 | | | | |
| 1000 Kernel mass (13% mb), g | 40.0 | 39.0 | 42.0 | 1.40 | 38.5 | 35.6 | 41.6 | 1.93 | | | | |
| Hectolitre mass (dirty), kg/hl | 82.7 | 81.9 | 83.2 | 0.57 | 79.1 | 76.4 | 80.0 | 1.27 | | | | |
| Screenings (<1.8mm), % | 1.71 | 1.18 | 2.12 | 0.40 | 0.88 | 0.57 | 1.04 | 0.16 | | | | |
| Total damaged kernels, % | 0.25 | 0.00 | 0.42 | 0.18 | 1.13 | 0.16 | 5.70 | 2.03 | | | | |
| Number of samples | 4 | | | | 7 | | | | | | | |
| CULTIVARS | | | | | | | | | | | | |
| | SST 806 | | 62.8 | | SST 806 | | 32.0 | | | | | |
| cultivars | SST 822 | | 7.8 | | CRN 826 | | 29.0 | | | | | |
| with highest % | SST 876 | | 6.8 | | Kariega | | 13.6 | | | | | |
| occurrence | Olifants | | 6.0 | | SST 876 | | 5.9 | | | | | |
| | Baviaans | | 5.3 | | Olifants | | 4.3 | | | | | |
| Number of samples | 4 | | | | 7 | | | | | | | |
| MIXOGRAM (Quadromat) | | | | | | | | | | | | |
| | ave | min | max | stdev | ave | min | max | stdev | | | | |
| Peak time, min | 2.0 | 1.8 | 2.2 | 0.21 | 2.7 | 2.0 | 3.2 | 0.37 | | | | |
| Tail height (6min), mm | 42 | 42 | 43 | 0.50 | 51 | 50 | 52 | 0.90 | | | | |
| Number of samples | 4 | | | | 7 | | | | | | | |
| BÜHLER EXTRACTION, % | | | | | | | | | | | | |
| | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW |
| | 75.2 | 76.4 | 77.6 | - | - | - | 75.8 | 77.2 | 76.8 | - | - | - |
| FLOUR | | | | | | | | | | | | |
| Protein (12% mb), % | 11.6 | 11.2 | 10.2 | - | - | - | 11.7 | 10.7 | 10.2 | - | - | - |
| Colour, KJ | -0.7 | -1.7 | -2.2 | - | - | - | -1.3 | -1.6 | -1.6 | - | - | - |
| FARINOGRAM | | | | | | | | | | | | |
| Water absorption (14% mb), % | 64.5 | 64.3 | 61.6 | - | - | - | 62.6 | 61.2 | 59.7 | - | - | - |
| Development time, min | 4.2 | 3.7 | 3.0 | - | - | - | 4.5 | 4.9 | 3.7 | - | - | - |
| Stability, min | 5.8 | 4.3 | 4.5 | - | - | - | 8.5 | 8.1 | 7.7 | - | - | - |
| Mixing tolerance index, BU | 51 | 59 | 57 | - | - | - | 35 | 46 | 40 | - | - | - |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | |
| Area, cm ² | 60 | 65 | 58 | - | - | - | 104 | 95 | 101 | - | - | - |
| Maximum height, BU | 220 | 235 | 235 | - | - | - | 340 | 350 | 340 | - | - | - |
| Extensibility, mm | 189 | 183 | 167 | - | - | - | 210 | 197 | 205 | - | - | - |
| ALVEOGRAM | | | | | | | | | | | | |
| Strength (S), cm ² | 32.3 | 35.9 | 28.9 | - | - | - | 44.5 | 40.7 | 36.7 | - | - | - |
| Stability (P), mm | 80 | 85 | 75 | - | - | - | 85 | 79 | 68 | - | - | - |
| Distensibility (L), mm | 100 | 105 | 96 | - | - | - | 122 | 120 | 134 | - | - | - |
| Configuration ratio (P/L) | 0.79 | 0.81 | 0.79 | - | - | - | 0.70 | 0.66 | 0.51 | - | - | - |
| MIXOGRAM | | | | | | | | | | | | |
| Peak time, min | 2.0 | 1.7 | 2.0 | - | - | - | 2.5 | 2.7 | 2.3 | - | - | - |
| 100g BAKING TEST | | | | | | | | | | | | |
| Loaf volume, cm ³ | 905 | 870 | 820 | - | - | - | 920 | 845 | 820 | - | - | - |
| Evaluation | 0 | 0 | 0 | - | - | - | 0 | 0 | 0 | - | - | - |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

MIXOGRAM

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ALVEOGRAM

SOUTH AFRICAN SUMMER RAINFALL WHEAT AND IRRIGATION Mpumalanga and Gauteng Provinces

| PRODUCTION REGION | (33) Mpumalanga Northern Region | | | | | (34) Gauteng | | | | | | | | |
|----------------------------------|---|------------|------------|--------------|-----------|--|------------|------------|--------------|-----------|-----------|------------|--|--|
| Intake silos | Driefontein Lydenburg Marble Hall Middelburg Stoffelberg Pan Arnot Wonderfontein | | | | | Bloekomspruit Bronkhorstspruit Glenroy Goeie Hoek Kaalfontein Middelvlei Nigel Oberholzer Raathsvlei | | | | | | | | |
| WHEAT | ave | min | max | stdev | | ave | min | max | stdev | | | | | |
| Protein (12% mb), % | 11.30 | 9.70 | 12.70 | 1.03 | | 11.82 | 10.10 | 14.00 | 1.18 | | | | | |
| Falling number, sec | 357 | 244 | 406 | 45.81 | | 375 | 255 | 470 | 61.54 | | | | | |
| 1000 Kernel mass (13% mb), g | 38.8 | 34.8 | 42.0 | 2.22 | | 38.9 | 29.0 | 44.4 | 3.63 | | | | | |
| Hectolitre mass (dirty), kg/hl | 78.8 | 73.9 | 81.3 | 2.05 | | 77.9 | 74.0 | 81.0 | 2.05 | | | | | |
| Screenings (<1.8mm), % | 2.72 | 1.43 | 5.98 | 1.30 | | 1.43 | 0.44 | 5.60 | 1.23 | | | | | |
| Total damaged kernels, % | 0.62 | 0.16 | 0.88 | 0.23 | | 0.74 | 0.10 | 1.70 | 0.49 | | | | | |
| Number of samples | 11 | | | | | 17 | | | | | | | | |
| CULTIVARS | | | | | | | | | | | | | | |
| | SST 806 | | 29.7 | | | SST 806 | | 32.9 | | | | | | |
| cultivars | CRN 826 | | 20.8 | | | Olifants | | 22.1 | | | | | | |
| with highest % | SST 876 | | 18.4 | | | SST 876 | | 16.7 | | | | | | |
| occurrence | Olifants | | 9.4 | | | CRN 826 | | 14.9 | | | | | | |
| | SST 835 | | 7.8 | | | SST 825 | | 9.7 | | | | | | |
| Number of samples | 11 | | | | | 17 | | | | | | | | |
| MIXOGRAM (Quadromat) | ave | min | max | stdev | | ave | min | max | stdev | | | | | |
| Peak time, min | 2.9 | 2.3 | 3.5 | 0.41 | | 2.6 | 1.6 | 3.9 | 0.72 | | | | | |
| Tail height (6min), mm | 47 | 45 | 52 | 2.06 | | 47 | 40 | 55 | 4.67 | | | | | |
| Number of samples | 11 | | | | | 17 | | | | | | | | |
| BÜHLER EXTRACTION, % | B1 | B2 | B3 | B4 | UT | COW | B1 | B2 | B3 | B4 | UT | COW | | |
| | 75.0 | 76.3 | 76.8 | 75.2 | 77.2 | - | 76.3 | 76.8 | 76.9 | - | - | - | | |
| FLOUR | | | | | | | | | | | | | | |
| Protein (12% mb), % | 11.7 | 10.8 | 9.3 | 8.8 | 10.4 | - | 12.6 | 10.5 | 9.5 | - | - | - | | |
| Colour, KJ | -1.5 | -1.1 | -0.9 | -0.8 | -1.4 | - | -0.8 | -1.3 | -1.4 | - | - | - | | |
| FARINOGRAM | | | | | | | | | | | | | | |
| Water absorption (14% mb), % | 62.7 | 61.3 | 58.7 | 57.4 | 59.8 | - | 64.3 | 62.1 | 60.7 | - | - | - | | |
| Development time, min | 5.2 | 4.0 | 1.9 | 1.5 | 4.7 | - | 4.5 | 3.2 | 2.0 | - | - | - | | |
| Stability, min | 6.7 | 6.0 | 5.6 | 4.4 | 8.1 | - | 6.2 | 5.0 | 6.8 | - | - | - | | |
| Mixing tolerance index, BU | 51 | 50 | 47 | 69 | 45 | - | 55 | 54 | 33 | - | - | - | | |
| EXTENSOGRAM (45 min pull) | | | | | | | | | | | | | | |
| Area, cm ² | 95 | 70 | 70 | 75 | 100 | - | 90 | 72 | 79 | - | - | - | | |
| Maximum height, BU | 345 | 295 | 290 | 315 | 425 | - | 270 | 260 | 330 | - | - | - | | |
| Extensibility, mm | 190 | 170 | 163 | 160 | 165 | - | 237 | 184 | 163 | - | - | - | | |
| ALVEOGRAM | | | | | | | | | | | | | | |
| Strength (S), cm ² | 37.5 | 33.3 | 27.8 | 26.3 | 40.5 | - | 42.5 | 32.1 | 36.7 | - | - | - | | |
| Stability (P), mm | 85 | 77 | 67 | 58 | 85 | - | 77 | 73 | 86 | - | - | - | | |
| Distensibility (L), mm | 100 | 100 | 95 | 110 | 103 | - | 140 | 110 | 96 | - | - | - | | |
| Configuration ratio (P/L) | 0.85 | 0.77 | 0.71 | 0.53 | 0.82 | - | 0.55 | 0.67 | 0.90 | - | - | - | | |
| MIXOGRAM | | | | | | | | | | | | | | |
| Peak time, min | 2.2 | 2.2 | 2.7 | 2.8 | 2.9 | - | 2.1 | 2.0 | 2.8 | - | - | - | | |
| 100g BAKING TEST | | | | | | | | | | | | | | |
| Loaf volume, cm ³ | 905 | 870 | 810 | 760 | 815 | - | 960 | 880 | 845 | - | - | - | | |
| Evaluation | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | - | - | - | | |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

MIXOGRAM

FARINOGRAM

EXTENSOGRAM

ALVEOGRAM

SOUTH AFRICAN SUMMER RAINFALL WHEAT (AND IRRIGATION) Limpopo and KwaZulu-Natal Provinces

| PRODUCTION REGION | (35) | | | | | |
|----------------------------------|--|------------|------------|--------------|-----------|------------|
| | Limpopo | | | | | |
| Intake silos | Alma Crecy Immerpan Lehau Naboomspruit Northam Nutfield Nylstroom Pienaarsrivier Pietersburg Potgietersrus Roedtan Settlers Tzaneen Vaalwater Warmbad | | | | | |
| WHEAT | | | | | | |
| | ave | min | max | stdev | | |
| Protein (12% mb), % | 11.64 | 9.77 | 13.60 | 1.00 | | |
| Falling number, sec | 352 | 151 | 439 | 58.40 | | |
| 1000 Kernel mass (13% mb), g | 35.7 | 26.4 | 41.4 | 3.75 | | |
| Hectolitre mass (dirty), kg/hl | 79.4 | 74.0 | 81.8 | 1.87 | | |
| Screenings (<1.8mm), % | 2.48 | 0.89 | 11.11 | 2.03 | | |
| Total damaged kernels, % | 0.41 | 0.00 | 2.54 | 0.51 | | |
| Number of samples | 22 | | | | | |
| CULTIVARS | | | | | | |
| | SST 806 | | 49.7 | | | |
| cultivars | CRN 826 | | 14.3 | | | |
| with highest % | SST 825 | | 12.6 | | | |
| occurrence | SST 876 | | 12.0 | | | |
| | Olifants | | 4.7 | | | |
| Number of samples | 22 | | | | | |
| MIXOGRAM (Quadromat) | | | | | | |
| | ave | min | max | stdev | | |
| Peak time, min | 2.9 | 2.3 | 3.8 | 0.36 | | |
| Tail height (6min), mm | 50 | 41 | 56 | 3.94 | | |
| Number of samples | 22 | | | | | |
| BÜHLER EXTRACTION, % | | | | | | |
| | B1 | B2 | B3 | B4 | UT | COW |
| | 73.5 | 74.8 | 73.3 | 75.9 | 76.7 | 67.8 |
| FLOUR | | | | | | |
| Protein (12% mb), % | 12.1 | 10.8 | 10.0 | 9.0 | 10.7 | 11.5 |
| Colour, KJ | -1.4 | -1.3 | -1.3 | -2.0 | -0.4 | -1.4 |
| FARINOGRAM | | | | | | |
| Water absorption (14% mb), % | 63.5 | 63.3 | 62.3 | 59.1 | 61.5 | 65.1 |
| Development time, min | 6.0 | 4.2 | 2.0 | 2.4 | 2.3 | 2.8 |
| Stability, min | 10.4 | 6.9 | 6.5 | 4.0 | 5.4 | 6.9 |
| Mixing tolerance index, BU | 35 | 42 | 35 | 78 | 57 | 38 |
| EXTENSOGRAM (45 min pull) | | | | | | |
| Area, cm2 | 143 | 79 | 76 | 67 | 109 | 106 |
| Maximum height, BU | 445 | 330 | 335 | 270 | 355 | 410 |
| Extensibility, mm | 215 | 169 | 158 | 161 | 222 | 175 |
| ALVEOGRAM | | | | | | |
| Strength (S), cm2 | 51.7 | 39.0 | 36.9 | 25.8 | 38.7 | 42.8 |
| Stability (P), mm | 102 | 97 | 101 | 72 | 70 | 124 |
| Distensibility (L), mm | 108 | 87 | 74 | 84 | 131 | 68 |
| Configuration ratio (P/L) | 0.95 | 1.12 | 1.37 | 0.85 | 0.54 | 1.82 |
| MIXOGRAM | | | | | | |
| Peak time, min | 2.4 | 2.3 | 2.7 | 2.5 | 2.8 | 2.8 |
| 100g BAKING TEST | | | | | | |
| Loaf volume, cm3 | 900 | 830 | 770 | 770 | 845 | 775 |
| Evaluation | 1 | 1 | 1 | 0 | 0 | 4 |

RHEOLOGICAL GRAPHS PER PRODUCTION REGION

MIXOGRAM

FARINOGRAM

EXTENSOGRAM

ALVEOGRAM