

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

PRODUCTION REGION	(1) Namakwaland				(2) Swartland Western Region				(3) 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	ave	min	max	stdev
Protein (12% mb), %	12.36	11.17	14.22	1.63	13.33	12.28	14.41	0.60	13.55	10.52	15.62	1.01
Falling number, sec	387	363	428	35.68	390	371	419	11.55	378	326	435	18.35
1000 Kernel mass (13% mb), g	34.5	30.2	39.9	4.93	32.5	27.6	36.9	2.54	32.2	25.0	39.3	3.08
Hectolitre mass (dirty), kg/hl	77.4	75.8	79.2	1.71	76.4	71.2	78.5	2.05	76.7	68.7	80.5	2.40
Screenings (<1.8mm), %	0.90	0.63	1.18	0.28	1.80	0.67	4.07	1.18	1.66	0.18	5.07	1.36
Foreign matter, %	0.19	0.08	0.30	0.11	0.23	0.08	0.88	0.19	0.21	0.00	1.30	0.21
Combined deviations, %	3.65	2.93	4.38	0.73	3.19	1.62	6.68	1.73	3.06	1.01	7.11	1.75
Number of samples	3				19				62			
CULTIVARS												
			41.8				14.7				14.3	
cultivars	SST 57						71.8				73.9	
with highest %	SST 88		22.3				3.6				0.8	
occurrence	SST 825		11.3				4.4				5.0	
	SST 65		7.3				1.2				1.2	
	PAN 3490		6.0									
Number of samples	3				19				62			
MIXOGRAM (Quadromat)												
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Peak time, min	2.8	2.7	3.0	0.15	2.8	2.3	4.0	0.34	2.9	2.1	3.6	0.32
Tail height (6min), mm	52	51	52	0.58	53	49	60	3.00	52	46	56	2.17
Number of samples	3				19				62			
BÜHLER EXTRACTION, %												
					B1		B3		B1	B2	B3	B4
					74.8		73.4		75.0	73.6	73.3	72.2
FLOUR												
Protein (12% mb), %					12.4		13.4		13.0	12.5	13.0	14.4
Colour, KJ					-1.0		-0.8		-1.4	-1.8	-1.5	-1.0
FARINOGRAM												
Water absorption (14% mb), %					60.5		61.4		61.2	60.2	60.5	61.6
Development time, min					5.3		5.0		5.7	5.3	4.7	9.3
Stability, min					10.0		11.2		13.6	12.4	10.8	15.0
Mixing Tolerance Index, BU					36		30		28	33	28	38
EXTENSOGRAM (45 min pull)												
Area, cm2					130		134		115	125	120	150
Maximum height, BU					445		420		390	430	415	470
Extensibility, mm					208		214		208	194	201	228
ALVEOGRAM												
Strength, cm2					39.1		42.5		41.1	40.4	43.4	51.1
Stability (P), mm					79		78		76	72	74	74
Distensibility (L), mm					113		128		131	133	145	168
Configuration ratio (P/L)					0.70		0.61		0.58	0.54	0.51	0.44
MIXOGRAM												
Peak time, min					2.7		2.5		2.4	2.7	2.5	2.7
100g BAKING TEST												
Loaf volume, cm3					970		1040		1020	955	985	1055
Evaluation					0		0		0	0	0	1

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

PRODUCTION REGION	(4) Swartland Eastern Region				(5) Ruens Western Region				(6) Ruens Eastern Region			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Intake silos	Ceres Gouda Halfmanshof Leliedam Porterville Riebeeck-Wes				Bredasdorp Caledon Klipdale Krige Napier Protem Rietpoel Villiersdorp				Albertinia Ashton Camfer Heidelberg Karringmelksrivier Kleinberg Protem Riversdal Swellendam			
WHEAT												
Protein (12% mb), %	12.50	10.40	14.14	0.94	12.07	9.28	13.59	0.74	11.61	9.14	13.40	1.06
Falling number, sec	367	301	429	26.21	349	117	427	58.68	377	264	432	32.58
1000 Kernel mass (13% mb), g	34.6	26.1	40.6	2.89	37.5	31.0	47.3	3.52	38.3	32.6	44.8	3.21
Hectolitre mass (dirty), kg/hl	79.0	73.2	81.4	1.49	77.5	75.4	80.5	1.48	78.3	75.7	80.5	1.48
Screenings (<1.8mm), %	0.82	0.16	3.73	0.97	2.85	0.75	8.83	1.42	1.18	0.45	2.90	0.68
Foreign matter, %	0.11	0.00	0.38	0.06	0.27	0.04	2.16	0.38	0.20	0.08	0.84	0.20
Combined deviations, %	1.89	0.46	5.39	1.17	4.44	1.37	10.77	1.82	2.16	0.00	5.16	1.16
Number of samples	51				40				21			
CULTIVARS												
SST 88	62.0				56.8				34.7			
cultivars with highest % occurrence	20.5				26.2				37.1			
SST 57	7.7				12.5				21.5			
SST 94	6.6				3.7				4.8			
SST 65	1.8				0.2				0.5			
SST 825												
Number of samples	51				40				21			
MIXOGRAM (Quadromat)												
ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev	
Peak time, min	2.8	2.2	3.3	0.25	2.5	2.2	2.8	0.17	2.9	2.2	6.0	0.81
Tail height (6min), mm	50	39	55	2.69	50	42	54	2.20	49	46	57	2.64
Number of samples	51				40				21			
BÜHLER EXTRACTION, %												
B1	B2	B3	B4	B1	B2	B3	B4	B1	B2	B3	B4	
74.7	74.5	76.0	71.3	76.0	75.6	74.3		75.2	74.6	74.6	75.2	
FLOUR												
Protein (12% mb), %	12.4	10.8	9.9	12.8	11.7	11.3	11.3		11.7	10.6	9.7	8.7
Colour, KJ	-1.7	-2.0	-1.5	-0.6	-0.9	-0.3	-0.8		-1.2	-1.2	-1.5	-1.8
FARINOGRAM												
Water absorption (14% mb), %	61.0	60.6	61.3	62.2	62.5	61.6	59.9		60.7	59.8	56.8	58.5
Development time, min	4.5	5.2	3.8	5.5	5.0	4.3	3.3		4.3	4.3	2.1	2.0
Stability, min	11.2	9.2	6.3	12.6	6.4	6.4	5.7		7.0	6.8	5.6	5.2
Mixing Tolerance Index, BU	26	40	52	27	53	52	59		51	55	56	59
EXTENSOGRAM (45 min pull)												
Area, cm2	123	100	74	127	85	84	90		86	87	80	73
Maximum height, BU	410	405	330	445	310	305	320		325	345	400	330
Extensibility, mm	210	175	156	191	185	177	192		181	173	145	152
ALVEOGRAM												
Strength, cm2	42.4	38.2	32.9	45.4	33.3	34.4	29.4		30.4	29.7	26.0	24.5
Stability (P), mm	72	76	82	87	78	76	62		66	66	64	75
Distensibility (L), mm	144	120	93	118	102	112	126		114	108	81	67
Configuration ratio (P/L)	0.50	0.64	0.88	0.74	0.76	0.68	0.49		0.58	0.61	0.79	1.12
MIXOGRAM												
Peak time, min	2.4	2.8	2.5	2.5	2.3	2.3	2.4		2.7	2.7	3.8	2.9
100g BAKING TEST												
Loaf volume, cm3	950	885	835	925	910	935	875		865	855	780	780
Evaluation	0	0	0	2	0	0	0		1	0	0	0

SOUTH AFRICAN

WINTER RAINFALL WHEAT (AND IRRIGATION)

Eastern Cape

IRRIGATION WHEAT

Vaal and Orange river area

PRODUCTION REGION	(7) Eastern Cape Southern Region	(10) Griekwaland - West	(11) Vaalharts
Intake silos	Avontuur Humansdorp Paterson Uitenhage	Britstown Douglas Havenga Brug Marydale Modderivier Oranjerivierstasie Prieska Rietrivier Upington	Barkly-Wes Hartswater Jan Kemp Magogong Taung
WHEAT			
	ave min max stdev	ave min max stdev	ave min max stdev
Protein (12% mb), %	11.75	11.90 10.58 12.89 0.75	11.97 10.86 13.09 0.80
Falling number, sec	414	433 376 523 41.37	419 344 509 43.45
1000 Kernel mass (13% mb), g	47.0	35.2 31.3 40.8 2.59	36.5 35.0 38.4 1.33
Hectolitre mass (dirty), kg/hl	82.0	79.4 75.5 81.8 1.67	78.9 74.3 80.6 1.95
Screenings (<1.8mm), %	0.88	1.96 0.73 2.74 0.70	2.62 1.75 4.18 0.67
Foreign matter, %	0.00	0.17 0.08 0.34 0.07	0.12 0.06 0.32 0.07
Combined deviations, %	2.56	2.84 1.67 3.96 0.75	3.68 2.45 5.29 0.84
Number of samples	1	16	11
CULTIVARS			
SST 825	45.0	2.5	13.9
cultivars SST 806	26.0	40.2	43.8
with highest % SST 876	20.0	20.4	17.2
occurrence Olifants	9.0	12.3	4.1
CRN 826		9.5	12.8
Number of samples	1	16	11
MIXOGRAM (Quadromat)			
	ave min max stdev	ave min max stdev	ave min max stdev
Peak time, min	2.3	2.6 2.2 3.3 0.30	2.6 2.2 3.2 0.29
Tail height (6min), mm	52	50 46 57 2.83	50 47 54 1.96
Number of samples	1	16	11
BÜHLER EXTRACTION, %	B2	B1 B2 B3	B1 B2 B3
	76.2	75.4 76.4 76.1	74.9 75.2 73.9
FLOUR			
Protein (12% mb), %	10.8	11.6 10.8 10.3	11.6 10.6 11.2
Colour, KJ	-1.3	-1.5 -2.0 -2.0	-2.0 -2.2 -1.5
FARINOGRAM			
Water absorption (14% mb), %	65.6	60.9 61.0 59.8	60.3 59.2 59.0
Development time, min	4.2	5.5 4.3 4.3	4.5 4.8 6.0
Stability, min	7.0	8.0 7.3 7.1	6.7 7.4 8.1
Mixing Tolerance Index, BU	47	48 50 55	51 54 53
EXTENSOGRAM (45 min pull)			
Area, cm2	82	133 123 110	100 107 100
Maximum height, BU	335	455 430 420	395 425 365
Extensibility, mm	166	199 197 180	182 173 187
ALVEOGRAM			
Strength, cm2	33.6	37.2 41.0 34.7	35.2 34.9 34.1
Stability (P), mm	105	72 76 72	66 68 62
Distensibility (L), mm	68	122 129 115	136 125 141
Configuration ratio (P/L)	1.54	0.59 0.59 0.62	0.48 0.54 0.44
MIXOGRAM			
Peak time, min	1.9	2.7 2.6 2.8	2.3 2.5 2.9
100g BAKING TEST			
Loaf volume, cm3	755	935 895 845	955 870 925
Evaluation	3	0 0 0	0 0 0

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

PRODUCTION REGION	(14) North-West Southern Region				(15) North-West South-Eastern Region				(17) North-West Central Northern Region (Ottosdal)			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Intake silos	Amalia Barberspan Delareyville Excelsior Geysdorp Hallat's Hope Migdol Nooitgedacht Schweizer-Reneke Taaibospan				Bloemhof Christiana Hertzogville Hoopstad Kingswood				Bospoort Hartbeesfontein Kleinarts Melliadora Ottosdal Rostrataville Vermaas Werda			
WHEAT												
Protein (12% mb), %	13.19	11.72	15.02	1.28	13.18	10.65	16.37	1.84	10.93	10.17	11.74	0.79
Falling number, sec	390	366	406	15.17	368	338	400	24.29	381	342	421	39.51
1000 Kernel mass (13% mb), g	36.0	31.3	40.1	4.05	35.5	27.3	42.2	4.86	40.6	35.1	43.9	4.77
Hectolitre mass (dirty), kg/hl	76.7	72.6	79.8	2.61	79.2	76.6	81.3	1.67	80.5	79.7	81.6	1.00
Screenings (<1.8mm), %	3.14	2.12	4.64	0.94	1.10	0.80	1.52	0.25	1.10	0.72	1.46	0.37
Foreign matter, %	0.12	0.06	0.20	0.06	0.05	0.04	0.08	0.02	0.09	0.08	0.10	0.01
Combined deviations, %	5.60	4.32	8.34	1.63	1.77	1.40	2.07	0.23	1.64	1.04	2.16	0.56
Number of samples	5				6				3			
CULTIVARS												
SST 806	51.4				7.8				55.7			
cultivars with highest % occurrence	23.6				4.0				44.3			
SST 876					29.7							
SST 966					17.5							
PAN 3377					16.7							
Baviaans												
Number of samples	5				6				3			
MIXOGRAM (Quadromat)												
ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev	
Peak time, min	2.6	2.5	2.8	0.15	2.5	1.9	3.3	0.50	2.5	2.3	2.8	0.26
Tail height (6min), mm	54	51	58	2.86	52	47	58	3.87	52	50	53	1.53
Number of samples	5				6				3			
BÜHLER EXTRACTION, %	B2				B1 B2 B3				B2 B3			
	73.6				74.5 70.3 76.8				76.9 76.6			
FLOUR												
Protein (12% mb), %	11.6				12.0 13.8 10.1				11.0 9.8			
Colour, KJ	-1.9				-1.6 -1.4 -1.6				-2.3 -2.1			
FARINOGRAM												
Water absorption (14% mb), %	60.5				63.2 60.7 59.1				61.6 59.4			
Development time, min	5.3				5.3 5.5 4.7				4.7 4.0			
Stability, min	8.6				8.7 10.3 8.2				6.8 6.3			
Mixing Tolerance Index, BU	43				37 32 45				60 59			
EXTENSOGRAM (45 min pull)												
Area, cm2	114				95 101 91				116 95			
Maximum height, BU	425				360 395 370				395 385			
Extensibility, mm	187				193 177 174				204 169			
ALVEOGRAM												
Strength, cm2	34.7				40.1 35.5 32.9				37.9 31.2			
Stability (P), mm	75				85 69 68				74 68			
Distensibility (L), mm	102				108 116 112				127 114			
Configuration ratio (P/L)	0.74				0.78 0.60 0.61				0.58 0.60			
MIXOGRAM												
Peak time, min	2.6				2.3 2.4 2.8				2.2 2.6			
100g BAKING TEST												
Loaf volume, cm3	950				920 1065 840				865 880			
Evaluation	0				0 0 0				0 0			

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

PRODUCTION REGION	(18) North-West Central Region (Ventersdorp)				(19) North-West Central Region (Lichtenburg)				(20) North-West Eastern Region			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Intake silos	Bodenstein Buckingham Coligny Enselspruit Makokskraal Potchefstroom Ventersdorp				Grootpan Halfpad Hibernia Lichtenburg Lottiehalte Lusthof				Battery Boons Brits Derby Koster Rustenburg Swartruggens Syferbult			
WHEAT												
Protein (12% mb), %	11.16	8.92	12.72	1.70	11.60	9.65	14.34	1.33	11.05	8.78	13.52	1.32
Falling number, sec	381	369	386	8.12	376	292	434	36.10	388	337	436	23.93
1000 Kernel mass (13% mb), g	39.2	37.7	42.3	2.11	39.5	32.4	45.0	4.46	39.7	34.1	47.8	2.82
Hectolitre mass (dirty), kg/hl	78.7	77.3	79.8	1.27	78.0	74.1	81.3	2.38	79.7	76.9	81.8	1.20
Screenings (<1.8mm), %	0.85	0.60	1.04	0.19	1.53	0.63	5.51	1.29	1.62	0.52	3.22	0.63
Foreign matter, %	0.12	0.08	0.14	0.03	0.11	0.04	0.26	0.06	0.11	0.04	0.38	0.07
Combined deviations, %	1.70	1.08	2.06	0.43	2.23	1.35	6.37	1.39	2.48	1.21	4.39	0.81
Number of samples	4				12				28			
CULTIVARS												
SST 806	50.8				54.8				31.0			
cultivars with highest % occurrence	SST 876 Baviaans SST 825 Olifants				SST 876 Baviaans SST 825 Olifants				SST 876 Baviaans SST 825 Olifants			
	28.5				27.2				16.0			
	11.8								2.0			
	1.5				3.3				7.0			
					1.8				19.4			
Number of samples	4				12				28			
MIXOGRAM (Quadromat)												
Peak time, min	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Tail height (6min), mm	3.0	2.7	3.3	0.29	2.6	2.2	2.9	0.26	2.9	2.1	4.5	0.54
	48	42	51	4.03	49	43	54	3.19	49	41	57	3.72
Number of samples	4				12				28			
BÜHLER EXTRACTION, %												
	B1				B2 B3 B4				B1 B2 B3 B4			
	76.7				75.5 76.2 75.0				75.8 75.8 75.8 75.2			
FLOUR												
Protein (12% mb), %	11.5				10.6 10.3 8.8				12.0 10.5 9.7 8.3			
Colour, KJ	-1.6				-2.1 -2.7 -3.1				-1.8 -1.5 -2.1 -2.7			
FARINOGRAM												
Water absorption (14% mb), %	59.3				59.5 59.9 58.9				61.6 59.8 60.1 57.0			
Development time, min	4.3				4.5 3.8 3.7				4.8 4.3 3.7 2.1			
Stability, min	7.7				5.9 4.7 5.6				9.0 7.7 6.1 5.9			
Mixing Tolerance Index, BU	46				65 78 66				40 45 56 51			
EXTENSOGRAM (45 min pull)												
Area, cm2	121				109 95 81				132 106 87 73			
Maximum height, BU	405				385 355 375				435 410 400 370			
Extensibility, mm	210				192 181 147				209 174 150 135			
ALVEOGRAM												
Strength, cm2	33.2				32.0 29.5 27.8				38.8 32 31.3 24.2			
Stability (P), mm	59				62 61 66				75 71 76 61			
Distensibility (L), mm	146				138 129 106				125 103 101 95			
Configuration ratio (P/L)	0.41				0.45 0.47 0.63				0.60 0.69 0.75 0.65			
MIXOGRAM												
Peak time, min	2.4				2.5 2.3 2.5				2.2 2.7 2.2 2.8			
100g BAKING TEST												
Loaf volume, cm3	985				905 915 800				965 860 810 760			
Evaluation	0				0 0 0				0 0 0 0			

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

**Free State Province
(South-Western)**

PRODUCTION REGION	(21) Free State North-Western Region (Viljoenskroon)				(26) Free State South-Eastern Region				(27) Free State Northern Region				(24) Free State Central Region			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Intake silos	Attie Groenebloem Heuningspruit Koppies Rooiwal Vierfontein Viljoenskroon Vredefort Weiveld				Arlington Kaallaagte Libertas Marquard Meets Monte Video Senekal Steynsrus				Gottenburg Heilbron Hoogte Mooigeleë Petrus Steyn Wolwehoek				Bloemfontein Brandfort De Brug Geneva Hennenman Koffiefontein Kroonstad Petrusburg Theunissen Van Tonder Welgeleë Winburg			
WHEAT																
Protein (12% mb), %	13.40	10.86	14.97	1.18	15.04	11.92	16.21	0.80	15.71	14.71	17.92	1.09	14.75	11.69	17.84	1.63
Falling number, sec	366	292	401	32.75	371	309	497	34.34	348	322	393	26.79	375	265	417	38.32
1000 Kernel mass (13% mb), g	30.5	24.5	38.6	4.59	30.0	26.3	36.6	2.26	29.8	26.4	31.5	1.72	32.7	25.7	39.0	4.23
Hectolitre mass (dirty), kg/hl	77.7	75.4	80.0	1.38	76.0	71.9	79.7	2.17	75.8	70.8	78.7	2.79	76.2	64.8	79.7	3.77
Screenings (<1.8mm), %	2.46	0.52	8.72	2.37	2.21	1.10	3.83	0.62	1.73	0.59	3.90	1.13	2.38	1.03	6.37	1.53
Foreign matter, %	0.12	0.06	0.24	0.06	0.13	0.06	0.50	0.09	0.09	0.08	0.12	0.02	0.18	0.06	0.46	0.11
Combined deviations, %	3.52	1.74	10.00	2.40	3.16	1.97	5.06	0.76	2.77	1.51	5.30	1.37	3.45	1.56	7.81	1.87
Number of samples	10				26				8				16			
CULTIVARS																
Elands	31.7				29.0				30.6				5.7			
PAN 3349	14.3				6.4				11.9				8.1			
Gariep	12.3				17.0				1.0				30.0			
PAN 3377	5.3				5.2				24.4				11.4			
SST 399	4.7				10.6				10.9				2.5			
Number of samples	10				26				8				16			
MIXOGRAM (Quadromat)																
Peak time, min	2.9	2.3	3.8	0.47	3.4	2.7	3.8	0.35	3.5	2.8	4.0	0.40	3.0	2.7	4.0	0.34
Tail height (6min), mm	55	49	61	4.30	58	49	63	3.15	62	57	67	2.83	56	48	63	3.85
Number of samples	10				26				8				16			
BÜHLER EXTRACTION, %	B1	B2			B1	B2	B3	B4	B1	B2	B3		B1	B2	B3	
	74.9	72.1			73.7	73.1	73.5	73.0	73.7	73.0	73.8		74.1	73.5	73.3	
FLOUR																
Protein (12% mb), %	12.6	11.6			14.0	14.0	14.1	14.0	14.2	14.3	14.3		13.2	13.5	13.2	
Colour, KJ	-0.7	-0.6			-0.2	-0.7	-0.6	-0.7	-0.2	0.4	-0.8		-0.5	-0.9	-0.4	
FARINOGRAM																
Water absorption (14% mb), %	61.1	60.8			62.1	61.4	61.5	59.9	62.8	61.0	60.6		62.3	62.4	61.8	
Development time, min	5.0	3.8			6.0	6.2	7.2	9.4	7.7	7.9	7.7		4.8	5.5	6.0	
Stability, min	9.0	6.6			9.6	13.2	16.1	18.1	16.6	17.9	18.1		9.9	8.5	11.0	
Mixing Tolerance Index, BU	41	48			41	28	28	21	22	6	26		31	44	28	
EXTENSOGRAM (45 min pull)																
Area, cm2	110	116			117	141	133	160	146	179	145		118	133	112	
Maximum height, BU	400	430			425	490	455	505	410	510	440		405	440	400	
Extensibility, mm	187	186			188	203	202	217	245	237	226		205	212	197	
ALVEOGRAM																
Strength, cm2	41.6	37.0			49.7	45.7	45.9	54.6	54.6	62.1	50.3		45.9	45.0	40.8	
Stability (P), mm	75	76			79	73	69	68	75	78	69		81	80	76	
Distensibility (L), mm	128	108			129	133	143	173	165	168	159		129	121	122	
Configuration ratio (P/L)	0.59	0.70			0.62	0.55	0.48	0.39	0.46	0.46	0.43		0.63	0.66	0.62	
MIXOGRAM																
Peak time, min	2.4	2.8			3.0	3.1	3.1	3.5	2.8	3.2	3.0		2.3	2.5	2.4	
100g BAKING TEST																
Loaf volume, cm3	975	870			975	980	1005	1050	1035	1035	1030		945	950	970	
Evaluation	0	1			2	2	2	0	1	1	1		2	2	1	

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

Free State Province (Eastern)

PRODUCTION REGION	(22) Free-State North-Western Region (Bothaville)				(23) Free-State North-Western Region (Bultfontein)				(25) Free State South-Western Region				(28) Free State Eastern Region			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Intake silos	Allanridge Bothaville Mirage Odendaalsrus Schoonspruit Schuttendraai				Bultfontein Losdoorns Protespan Tierfontein Wesselsbron Willemsrust				Bethlehem Clocolan De Wetsdorp Ficksburg Fouriesburg Marseilles Modderpoort Slabberts Tweespruit Westminster Zastron				Afrikaskop Ascent Cornelia Daniëlsrus Eeram Frankfort Harrismith Jim Fouché Kransfontein Memel Reitz Tweeling Villiers Vrede Warden Windfield			
WHEAT																
Protein (12% mb), %	15.05	12.07	19.71	2.65	14.06	12.50	15.17	0.85	14.00	10.41	16.89	1.48	14.85	12.10	16.49	1.25
Falling number, sec	400	356	431	26.74	409	280	524	65.44	375	331	462	28.37	332	244	433	42.79
1000 Kernel mass (13% mb), g	35.0	24.0	40.6	5.90	33.3	28.6	39.5	3.81	30.1	23.1	35.9	3.04	35.0	27.3	43.0	3.63
Hectolitre mass (dirty), kg/hl	75.4	70.8	77.1	2.41	77.0	73.0	80.2	1.82	76.2	65.9	80.5	3.36	76.4	72.5	81.7	1.95
Screenings (<1.8mm), %	2.14	1.06	4.14	1.17	2.18	1.18	4.16	0.91	2.74	1.05	8.71	1.83	1.56	0.58	3.44	0.77
Foreign matter, %	0.13	0.06	0.22	0.06	0.07	0.00	0.10	0.02	0.11	0.06	0.18	0.04	0.14	0.00	0.28	0.06
Combined deviations, %	3.29	1.92	5.24	1.20	2.66	1.36	4.50	0.97	3.09	1.73	10.69	2.35	2.50	1.07	4.36	0.73
Number of samples	6				15				24				29			
CULTIVARS																
SST 806	28.2				19.3				3.0				9.5			
SST 876	25.0				12.5				3.4				4.8			
PAN 3377	18.0				10.3				2.4				12.6			
Elands	6.0				6.1				26.3				37.0			
Gariep	3.7				8.3				18.6				1.4			
Number of samples	6				15				24				29			
MIXOGRAM (Quadromat)																
ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev	
Peak time, min	2.8	2.5	3.0	0.26	3.0	2.7	3.4	0.23	3.4	2.5	5.2	0.57	3.5	1.8	4.3	0.55
Tail height (6min), mm	56	49	63	4.98	55	50	57	2.19	58	52	64	4.03	59	50	66	4.22
Number of samples	6				15				24				29			
BÜHLER EXTRACTION, %																
B1	B3			B1	B2	B3	B4	B1	B2	B3	B1	B2	B3	B4		
73.8	74.6			73.6	75.1	72.7	72.0	73.9	73.2	73.5	75.5	74.7	74.2	73.3		
FLOUR																
Protein (12% mb), %	14.6			12.6	12.8	13.3	13.9	14.6	12.7	12.2	13.7	13.2	14.5	14.0	14.2	
Colour, KJ	-0.4			-0.5	-0.9	-1.0	-0.3	-0.6	-1.2	-1.3	-1.0	-0.4	0.9	0.4	-0.5	
FARINOGRAM																
Water absorption (14% mb), %	63.8			61.1	63.0	61.6	62.8	62.2	61.3	60.9	61.6	62.6	62.5	62.4	60.9	
Development time, min	8.2			5.7	4.8	7.9	6.5	6.0	5.5	4.7	5.5	5.5	6.9	6.7	5.9	
Stability, min	15.4			8.8	10.4	11.5	9.0	11.9	8.7	7.8	9.6	11.2	15.0	14.3	14.5	
Mixing Tolerance Index, BU	23			44	26	35	42	25	42	51	44	34	31	27	24	
EXTENSOGRAM (45 min pull)																
Area, cm2	151			125	115	132	124	155	122	137	126	131	159	164	144	
Maximum height, BU	450			410	410	445	400	465	425	460	405	435	500	490	485	
Extensibility, mm	228			209	192	208	212	230	196	204	214	214	214	228	205	
ALVEOGRAM																
Strength, cm2	56.0			40.2	46.8	47.7	48.2	50.3	44.8	44.6	47.4	49.5	55.2	53.4	50.2	
Stability (P), mm	90			68	94	74	83	75	80	83	75	78	80	82	76	
Distensibility (L), mm	142			146	105	161	133	152	121	113	141	153	147	140	149	
Configuration ratio (P/L)	0.63			0.47	0.90	0.46	0.62	0.49	0.66	0.73	0.53	0.51	0.54	0.59	0.51	
MIXOGRAM																
Peak time, min	2.5			2.4	2.5	2.3	2.6	2.7	2.7	3.0	2.9	2.4	3.0	2.9	3.0	
100g BAKING TEST																
Loaf volume, cm3	1050			1010	910	1020	1005	1060	920	910	960	1030	1060	1000	1060	
Evaluation	1			0	2	0	1	1	2	1	2	0	1	2	1	

**SOUTH AFRICAN
SUMMER RAINFALL WHEAT AND IRRIGATION
Mpumalanga**

PRODUCTION REGION	(29) Mpumalanga Southern Region	(30) Mpumalanga Eastern Region	(32) Mpumalanga Western Region	(33) Mpumalanga Northern Region
Intake silos	Balfour Greylingstad Grootvlei Harvard Holmdene Leeuspruit Platrand Standerton Val	Amersfoort Badplaas Carolina Davel Ermelo Estancia Lothair Maizefield Mkondo Morgenzon Overvaal Panbult	Argent Dryden Endicott Elof Hawerklip Kendal Ogies	Driefontein Lydenburg Marble Hall Middelburg Stoffelberg Pan Arnot Wonderfontein
WHEAT	ave min max stdev	ave min max stdev	ave min max stdev	ave min max stdev
Protein (12% mb), %	15.53	13.51 12.37 16.46 1.97	13.35 12.01 14.27 1.19	11.57 9.88 13.23 0.86
Falling number, sec	336	291 268 326 25.01	400 354 424 40.13	408 345 564 51.94
1000 Kernel mass (13% mb), g	33.8	37.7 36.5 38.6 0.90	34.8 27.1 41.6 7.30	40.2 31.8 44.2 2.93
Hectolitre mass (dirty), kg/hl	76.0	75.9 73.8 77.7 1.64	75.7 68.3 79.5 6.44	80.2 73.9 82.6 2.15
Screenings (<1.8mm), %	0.81	1.42 1.09 2.04 0.42	3.67 0.46 9.86 5.36	1.81 0.65 3.98 1.02
Foreign matter, %	0.08	0.08 0.08 0.08 0.00	0.52 0.08 1.40 0.76	0.16 0.00 0.78 0.21
Combined deviations, %	1.43	2.75 1.85 3.48 0.71	5.52 1.16 14.12 7.45	2.75 0.73 6.56 1.65
Number of samples	1	4	3	17
CULTIVARS				
Elands	45.0			
cultivars SST 806	20.0	31.5	44.1	25.4
with highest % SST 876	9.0	63.5	20.7	31.3
occurrence SST 825		3.0	24.1	9.8
CRN 826			11.1	6.8
Number of samples	1	4	3	17
MIXOGRAM (Quadromat)	ave min max stdev	ave min max stdev	ave min max stdev	ave min max stdev
Peak time, min	3.3	2.9 2.5 3.4 0.38	2.3 1.8 2.8 0.50	2.5 2.0 3.2 0.38
Tail height (6min), mm	56	55 48 63 6.24	49 48 51 1.73	49 44 56 3.43
Number of samples	1	4	3	17
BÜHLER EXTRACTION, %	B2	B1 B2 B4	B1	B1 B2 B3
	74.5	72.3 74.1 76.6	76.7	77.0 75.7 76.3
FLOUR				
Protein (12% mb), %	14.5	11.1 11.6 15.0	12.0	11.6 10.4 9.6
Colour, KJ	0.7	-1.7 -2.1 -0.1	-1.7	-0.9 -1.7 -1.9
FARINOGRAM				
Water absorption (14% mb), %	62.3	58.2 61.0 63.8	62.8	62.3 61.5 60.9
Development time, min	8.2	4.3 2.5 9.1	4.2	4.0 4.0 3.0
Stability, min	12.9	8.1 6.6 17.1	5.4	5.2 6.9 5.7
Mixing Tolerance Index, BU	38	46 51 26	70	61 46 55
EXTENSOGRAM (45 min pull)				
Area, cm2	135	127 161 161	97	84 87 77
Maximum height, BU	405	430 500 475	310	305 330 300
Extensibility, mm	225	208 221 231	213	189 181 173
ALVEOGRAM				
Strength, cm2	44.2	31.5 40.7 63.0	30.9	31.0 33.5 27.1
Stability (P), mm	70	52 66 91	63	72 77 75
Distensibility (L), mm	142	162 145 146	142	111 104 84
Configuration ratio (P/L)	0.49	0.32 0.46 0.63	0.44	0.65 0.74 0.89
MIXOGRAM				
Peak time, min	2.8	2.8 2.7 3.2	1.8	2.0 2.4 2.3
100g BAKING TEST				
Loaf volume, cm3	1060	880 950 1055	920	865 845 775
Evaluation	1	0 0 2	0	1 0 0

**SOUTH AFRICAN
SUMMER RAINFALL WHEAT AND IRRIGATION
Gauteng and Limpopo Provinces**

**IRRIGATION
Kwazulu-Natal Province**

PRODUCTION REGION	(34) Gauteng				(35) Limpopo Region				(36) KwaZulu-Natal			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Intake silos	Bloekomspruit Bronkhorstspuit Glenroy Goeie Hoek Kaalfontein Middelvlei Nigel Oberholzer Raathsvlei				Alma Crecy Immerpan Lehau Naboomspruit Northam Nutfield Nylstroom Pienaarsrivier Pietersburg Potgietersrus Roedtan Settlers Tzaneen Vaalwater Warmbad				Bergville Bloedrivier Dannhauser Dundee Mizpah New Amalfi Paulpietersburg Vryheid Winterton			
WHEAT												
Protein (12% mb), %	12.40	11.38	13.16	0.90	11.40	8.81	13.72	1.41	12.84	11.31	15.05	1.06
Falling number, sec	437	381	483	44.16	384	322	439	31.77	408	359	474	36.43
1000 Kernel mass (13% mb), g	35.4	32.0	39.9	3.40	40.5	33.7	49.2	3.64	35.7	30.5	40.6	2.74
Hectolitre mass (dirty), kg/hl	78.9	76.8	80.7	1.53	79.9	77.6	82.0	1.24	77.4	74.9	78.8	1.65
Screenings (<1.8mm), %	1.78	0.90	2.30	0.53	1.91	0.41	3.49	0.80	2.10	1.26	3.64	0.88
Foreign matter, %	0.11	0.08	0.12	0.02	0.08	0.00	0.16	0.04	0.09	0.04	0.26	0.07
Combined deviations, %	2.67	1.90	3.44	0.61	2.81	0.94	5.13	1.17	2.95	1.80	4.36	0.85
Number of samples	5				26				8			
CULTIVARS												
cultivars with highest % occurrence	SST 876	34.0			23.2				29.8			
	SST 806	31.4			37.2				48.5			
	PAN 3377	8.2										
	SST 822				17.8				2.8			
	SST 825	4.0			8.1				7.4			
Number of samples	5				26				8			
MIXOGRAM (Quadromat)												
Peak time, min	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Tail height (6min), mm	3.5	2.3	4.3	0.88	2.5	1.8	3.7	0.46	2.9	2.3	3.3	0.44
Number of samples	5				26				8			
BÜHLER EXTRACTION, %												
	B1	B2			B1	B2	B3	B4	B1	B2	B3	
	75.2	74.0			74.2	75.1	76.1	76.4	76.2	76.7	73.7	
FLOUR												
Protein (12% mb), %	11.8	11.1			11.9	10.6	9.7	8.8	11.5	10.8	12.1	
Colour, KJ	-2.5	-0.7			-1.4	-1.7	-2.0	-2.3	-1.0	-1.4	-0.7	
FARINOGRAM												
Water absorption (14% mb), %	60.7	59.9			63.2	63.1	61.8	60.0	60.4	60.8	59.7	
Development time, min	5.3	2.7			4.3	4.5	4.2	2.1	6.4	3.8	4.7	
Stability, min	7.5	14.3			7.7	6.8	6.2	4.2	11.4	5.3	8.9	
Mixing Tolerance Index, BU	53	7			41	50	58	65	33	70	39	
EXTENSOGRAM (45 min pull)												
Area, cm2	134	129			106	88	91	85	116	96	114	
Maximum height, BU	460	545			380	345	390	315	455	310	385	
Extensibility, mm	199	166			196	178	164	161	182	197	201	
ALVEOGRAM												
Strength, cm2	37.3	43.7			41.4	34.6	33.5	25.5	40.8	28.3	36.2	
Stability (P), mm	65	90			81	84	82	69	75	58	63	
Distensibility (L), mm	146	100			123	98	95	92	128	132	151	
Configuration ratio (P/L)	0.44	0.90			0.66	0.86	0.86	0.74	0.59	0.44	0.42	
MIXOGRAM												
Peak time, min	2.3	3.6			2.3	2.0	2.4	2.4	2.7	2.1	2.6	
100g BAKING TEST												
Loaf volume, cm3	965	825			880	840	820	795	940	910	965	
Evaluation	0	1			1	0	0	0	0	0	0	

