South African quality data per production region

WINTER RAINFALL WHEAT

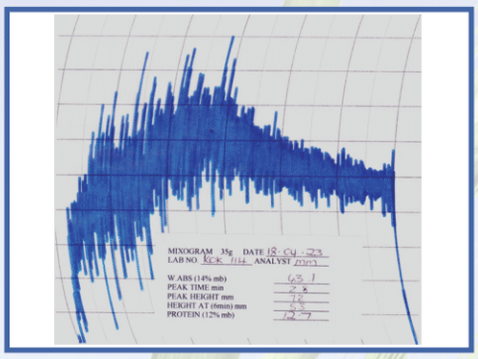
PRODUCTION REGION	(1) Namakwaland Region				(2) Swartland Western Region			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	12.1	11.2	13.7	1.14	12.0	9.9	14.9	1.39
Falling number, sec	403	345	454	48.31	378	333	407	22.75
Moisture, %	11.4	11.2	11.5	0.14	11.2	10.7	11.6	0.28
1000 Kernel mass (13% mb), g	38.9	36.3	42.0	2.77	35.3	32.5	38.1	2.00
Hectolitre mass (dirty), kg/hl	80.4	79.0	81.3	0.98	78.5	76.0	80.9	1.34
Screenings (<1.8 mm sieve), %	3.14	2.65	3.80	0.49	2.45	0.54	4.64	1.35
Total damaged kernels, %	2.11	1.64	3.08	0.67	0.81	0.22	1.48	0.37
Combined deviations, %	5.46	4.47	7.08	1.13	4.26	1.80	6.62	1.28
Number of samples	***4***				***13***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	2.8	2.6	2.9	0.14	3.3	2.8	4.3	0.50
Tail height (6 min), mm	52	50	53	1.41	51	45	56	3.30
Number of samples	***4***				***13***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	-	70.4	-	-	-	70.1	70.9	70.7	-	72.2
FLOUR										
Protein (12% mb), %	-	11.1	-	-	-	12.4	11.2	10.1	-	11.1
Moisture, %	-	13.3	-	-	-	13.6	13.5	13.2	-	13.9
Ash (db), %	-	0.65	-	-	-	0.58	0.66	0.59	-	0.59
Colour, KJ (wet)	-	-5.0	-	-	-	-5.0	-5.0	-5.0	-	-5.0
Colour, Konica Minolta CM5 (dry)										
L*	-	94.16	-	-	-	94.18	93.94	94.05	-	93.99
a*	-	0.42	-	-	-	0.42	0.30	0.40	-	0.43
b*	-	9.52	-	-	-	10.18	10.16	12.16	-	10.80
RVA										
Peak Viscosity, cP	-	2234	-	-	-	2342	2827	2585	-	2597
Minimum viscosity (Trough), cP	-	1618	-	-	-	1678	1923	1929	-	1874
Final Viscosity, cP	-	2553	-	-	-	2721	3311	3058	-	3053
Peak Time, min	-	7.00	-	-	-	7.00	7.00	7.00	-	7.00
GLUTEN										
Wet gluten (14% mb), %	-	30.1	-	-	-	33.5	29.0	-	-	29.9
Dry gluten (14% mb), %	-	10.0	-	-	-	11.3	10.0	-	-	9.8
Gluten Index	-	96	-	-	-	97	98	-	-	96
FARINOGRAM										
Water absorption (14% mb), %	-	61.7	-	-	-	60.5	58.4	55.9	-	58.1
Development time, min	-	4.2	-	-	-	6.2	6.0	4.1	-	5.1
Stability, min	-	11.2	-	-	-	20.0	16.4	19.3	-	15.0
Mixing tolerance index, BU	-	30	-	-	-	17	24	3	-	23
EXTENSOGRAM (45 min pull)										
Area, cm^2	-	99	-	-	-	119	104	113	-	122
Maximum height, BU	-	397	-	-	-	422	400	485	-	452
Extensibility, mm	-	182	-	-	-	209	188	174	-	199
ALVEOGRAM										
Strength (S), cm^2	-	46.9	-	-	-	47.1	43.0	41.7	-	41.9
Stability (P), mm	-	101	-	-	-	79	76	79	-	76
Distensibility (L), mm	-	116	-	-	-	161	161	117	-	138
Configuration ratio (P/L)	-	0.87	-	-	-	0.49	0.47	0.68	-	0.55
MIXOGRAM										
Peak time, min	-	3.1	-	-	-	2.7	3.2	4.3	-	2.9
100 g BAKING TEST										
Loaf volume, cm^3	-	910	-	-	-	1062	1047	1017	-	884
Evaluation (see page 67)	-	0	-	-	-	0	0	0	-	0

Rheological Graphs Per Production Region

MIXOGRAM

1



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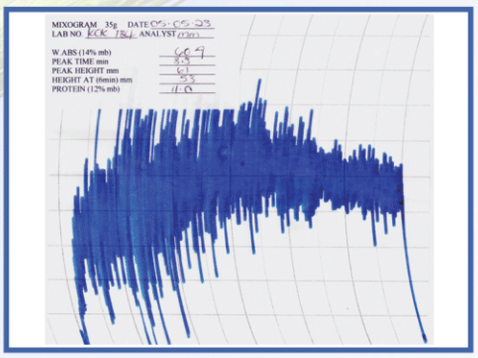
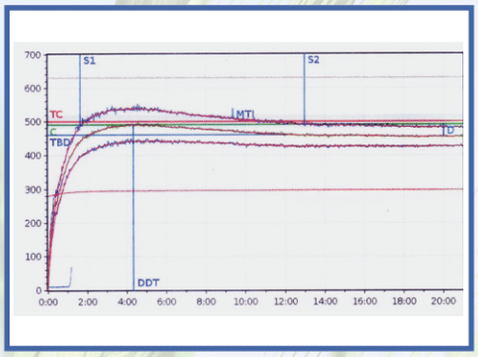


FARINOGRAM

1



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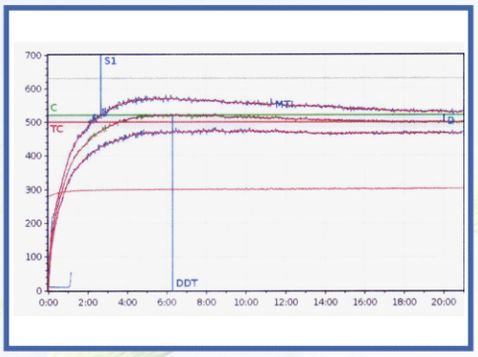
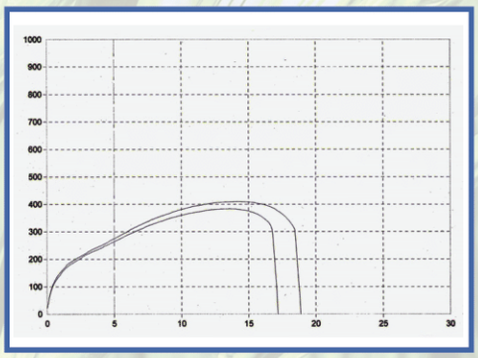


EXTENSOGRAM

1



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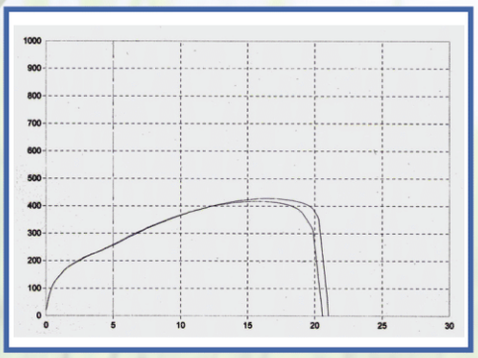
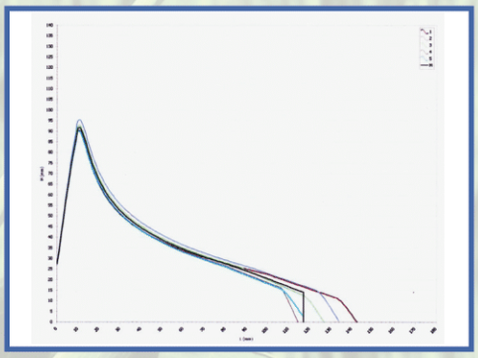


ALVEOGRAM

1



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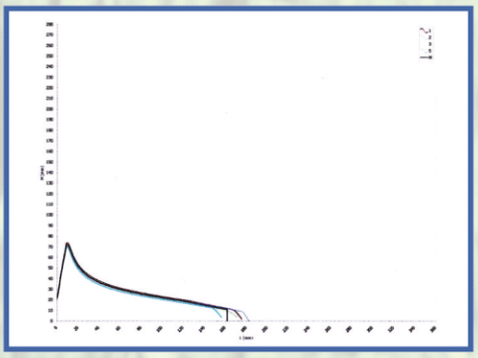


South African quality data per production region

WINTER RAINFALL WHEAT

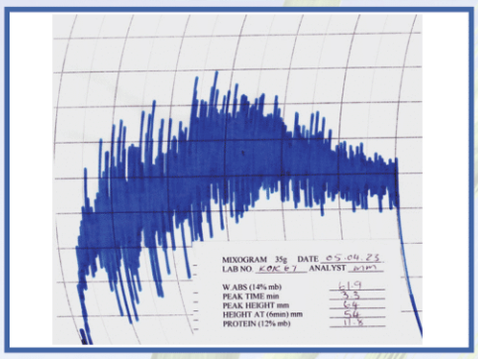
PRODUCTION REGION	(3) Swartland Central Region				(4) Swartland Eastern Region			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	12.4	10.0	14.3	1.12	11.5	9.8	13.3	1.10
Falling number, sec	400	339	574	38.17	397	356	475	27.00
Moisture, %	10.8	10.0	11.7	0.45	10.8	9.9	11.4	0.45
1000 Kernel mass (13% mb), g	34.9	30.2	40.1	2.74	36.9	33.9	43.1	2.45
Hectolitre mass (dirty), kg/hl	79.1	74.5	82.7	1.61	80.5	77.1	84.5	1.68
Screenings (<1.8 mm sieve), %	2.15	0.13	5.75	0.86	1.63	0.13	2.88	0.89
Total damaged kernels, %	0.85	0.00	2.50	0.55	0.77	0.08	1.24	0.29
Combined deviations, %	3.88	1.29	7.49	1.25	3.07	1.29	5.84	1.35
Number of samples	***63***				***23***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	3.2	2.6	3.9	0.29	3.2	2.3	3.6	0.27
Tail height (6 min), mm	54	46	65	3.66	52	46	62	4.03
Number of samples	***63***				***23***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	71.6	72.3	72.9	73.4	72.0	72.4	72.5	72.8	72.5	-
FLOUR										
Protein (12% mb), %	12.3	11.0	10.1	9.0	11.4	12.1	11.1	10.4	9.1	-
Moisture, %	14.0	13.6	13.4	13.4	13.3	13.6	13.6	13.5	13.4	-
Ash (db), %	0.60	0.59	0.57	0.63	0.59	0.58	0.58	0.57	0.58	-
Colour, KJ (wet)	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-
Colour, Konica Minolta CM5 (dry)										
L*	94.02	94.03	94.05	94.09	94.20	94.11	94.14	94.21	94.21	-
a*	0.53	0.49	0.49	0.49	0.49	0.46	0.45	0.43	0.41	-
b*	9.78	9.90	9.93	9.51	10.05	10.22	10.22	9.94	10.05	-
RVA										
Peak Viscosity, cP	2481	2521	2580	2732	2486	2268	2423	2470	2450	-
Minimum viscosity (Trough), cP	1700	1865	1889	1984	1738	1664	1778	1828	1731	-
Final Viscosity, cP	2876	2955	3062	3051	2913	2641	2874	2946	2965	-
Peak Time, min	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-
GLUTEN										
Wet gluten (14% mb), %	33.8	29.5	27.3	24.1	30.9	32.8	29.2	28.6	23.8	-
Dry gluten (14% mb), %	11.4	9.8	8.9	7.8	10.3	10.8	9.9	9.2	7.6	-
Gluten Index	96	96	97	97	94	96	97	97	98	-
FARINOGRAM										
Water absorption (14% mb), %	60.9	60.9	59.7	57.6	60.2	60.1	59.9	59.7	58.1	-
Development time, min	5.4	5.1	5.0	5.3	5.3	6.2	6.2	4.0	4.5	-
Stability, min	20.0	15.5	11.4	10.6	20.0	20.0	20.0	12.3	10.2	-
Mixing tolerance index, BU	12	27	32	33	14	11	14	29	32	-
EXTENSOGRAM (45 min pull)										
Area, cm^2	134	106	99	86	122	137	114	105	89	-
Maximum height, BU	463	397	377	441	462	469	465	404	410	-
Extensibility, mm	218	197	188	139	198	213	186	191	157	-
ALVEOGRAM										
Strength (S), cm^2	52.9	48.6	39.0	34.6	46.3	49.5	48.6	42.2	36.5	-
Stability (P), mm	91	98	89	88	88	84	88	89	90	-
Distensibility (L), mm	141	123	105	93	126	142	134	117	94	-
Configuration ratio (P/L)	0.65	0.80	0.85	0.95	0.70	0.59	0.66	0.76	0.96	-
MIXOGRAM										
Peak time, min	2.9	2.9	2.9	3.2	3.1	2.9	3.0	2.9	3.1	-
100 g BAKING TEST										
Loaf volume, cm^3	970	874	847	800	989	917	888	885	835	-
Evaluation (see page 67)	0	0	0	0	0	1	0	0	0	-

Rheological Graphs Per Production Region

MIXOGRAM

3



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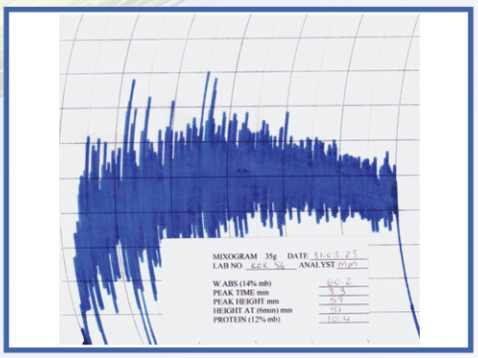
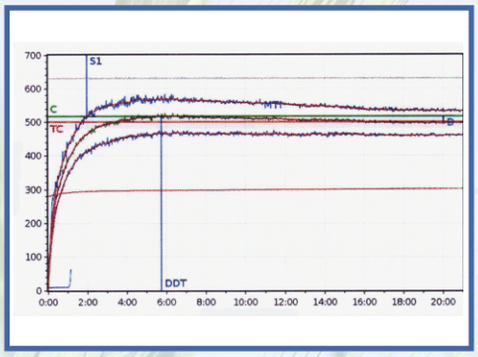


FARINOGRAM

3



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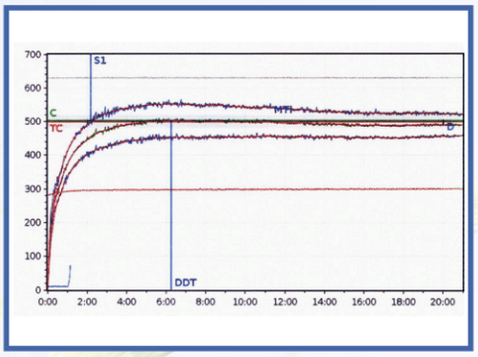
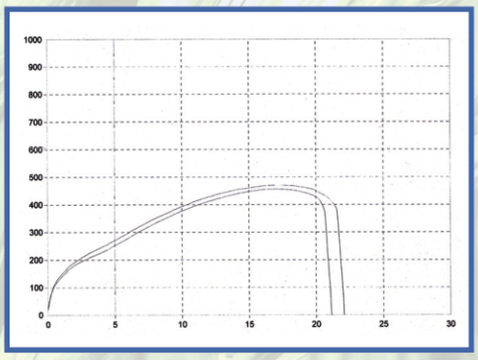


EXTENSOGRAM

3



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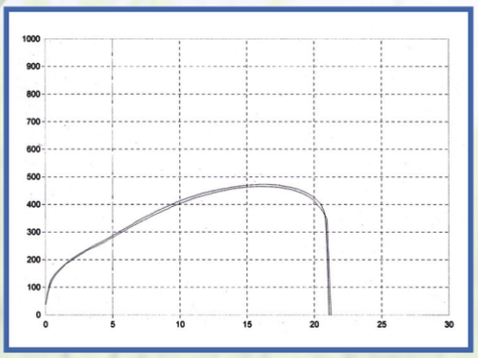
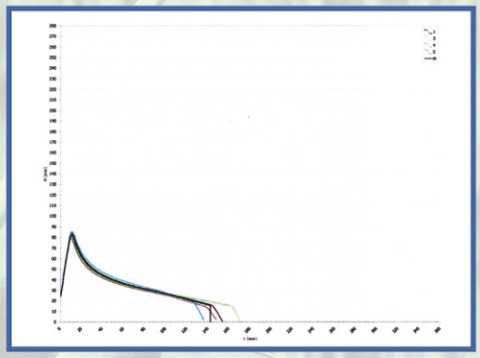


ALVEOGRAM

3



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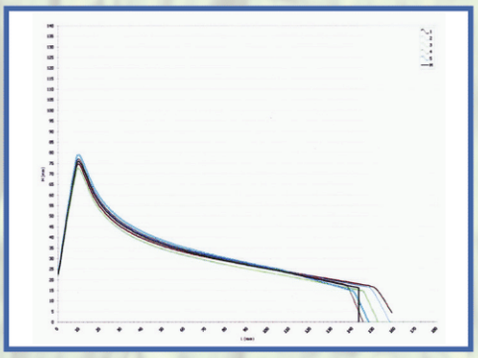


South African quality data per production region

WINTER RAINFALL WHEAT

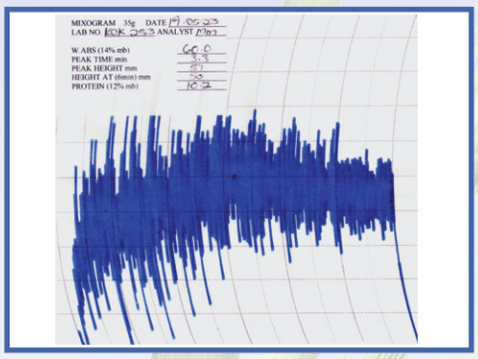
PRODUCTION REGION	(5) Rûens Western Region				(6) Rûens Eastern Region			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	11.1	9.6	13.5	1.06	11.6	10.0	13.5	1.15
Falling number, sec	388	341	455	25.90	398	327	461	38.74
Moisture, %	11.5	10.5	12.2	0.32	11.6	11.1	12.0	0.26
1000 Kernel mass (13% mb), g	41.0	35.4	46.4	2.56	40.3	36.9	44.4	1.68
Hectolitre mass (dirty), kg/hl	80.6	77.9	82.8	1.50	80.8	79.0	82.5	0.99
Screenings (<1.8 mm sieve), %	1.15	0.10	3.52	0.70	1.15	0.25	2.44	0.72
Total damaged kernels, %	0.66	0.16	2.45	0.48	1.18	0.18	2.00	0.55
Combined deviations, %	2.45	0.58	4.44	0.82	2.90	0.72	4.70	1.27
Number of samples	***32***				***23***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	3.1	2.6	3.7	0.29	3.0	2.4	3.9	0.33
Tail height (6 min), mm	50	43	58	3.30	52	45	60	3.63
Number of samples	***32***				***23***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	73.6	73.5	73.0	72.8	72.2	73.7	73.7	73.1	73.7	-
FLOUR										
Protein (12% mb), %	12.3	11.3	10.2	9.2	10.1	12.3	11.2	10.2	9.3	-
Moisture, %	14.2	13.8	13.6	13.6	13.3	13.3	14.0	13.7	12.9	-
Ash (db), %	0.56	0.61	0.58	0.62	0.58	0.59	0.60	0.62	0.61	-
Colour, KJ (wet)	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-
Colour, Konica Minolta CM5 (dry)										
L*	93.99	93.55	93.79	93.68	93.74	93.78	93.79	93.79	93.78	-
a*	0.46	0.57	0.45	0.58	0.50	0.52	0.58	0.49	0.48	-
b*	10.13	10.01	9.98	9.75	9.19	9.75	9.79	9.97	9.56	-
RVA										
Peak Viscosity, cP	2517	2519	2632	2644	2899	2525	2600	2518	2647	-
Minimum viscosity (Trough), cP	1735	1881	1895	1958	2111	1810	1894	1877	1992	-
Final Viscosity, cP	2958	3026	3165	3141	3316	2971	3067	3009	3132	-
Peak Time, min	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-
GLUTEN										
Wet gluten (14% mb), %	33.3	30.6	28.0	24.4	28.5	33.1	30.2	27.2	25.0	-
Dry gluten (14% mb), %	11.1	10.3	9.1	8.0	9.9	11.7	9.9	9.1	8.2	-
Gluten Index	91	91	96	96	98	95	97	96	95	-
FARINOGRAM										
Water absorption (14% mb), %	59.7	60.6	59.7	58.1	59.3	61.7	60.6	60.4	59.4	-
Development time, min	5.4	5.1	4.2	3.5	3.3	5.2	4.4	4.4	2.5	-
Stability, min	20.0	13.5	10.4	9.1	9.2	20.0	11.4	9.3	6.1	-
Mixing tolerance index, BU	18	27	35	36	35	18	30	39	53	-
EXTENSOGRAM (45 min pull)										
Area, cm^2	126	108	89	78	82	137	104	90	65	-
Maximum height, BU	480	374	348	358	336	466	356	331	284	-
Extensibility, mm	195	209	182	155	176	215	210	194	157	-
ALVEOGRAM										
Strength (S), cm^2	46.3	43.6	39.4	34.3	34.3	49.5	40.2	35.8	32.0	-
Stability (P), mm	81	89	86	85	81	89	81	84	87	-
Distensibility (L), mm	136	122	124	101	107	138	132	114	96	-
Configuration ratio (P/L)	0.60	0.73	0.69	0.84	0.76	0.64	0.61	0.74	0.91	-
MIXOGRAM										
Peak time, min	2.6	2.8	2.8	3.0	3.0	2.6	3.6	2.6	2.6	-
100 g BAKING TEST										
Loaf volume, cm^3	943	894	874	844	916	1068	936	863	976	-
Evaluation (see page 67)	0	0	0	0	0	0	0	0	0	-

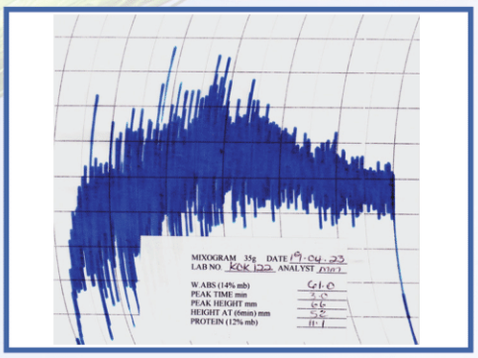
Rheological Graphs Per Production Region

MIXOGRAM

5

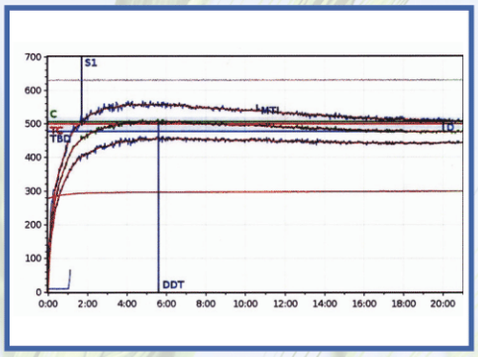


6



FARINOGRAM

5



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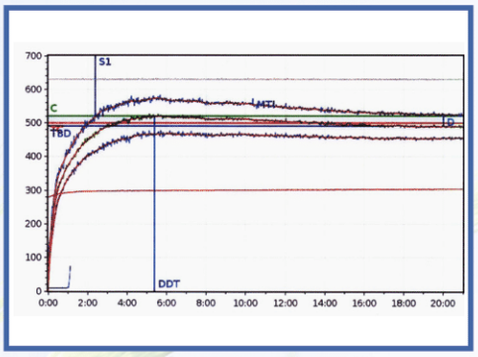
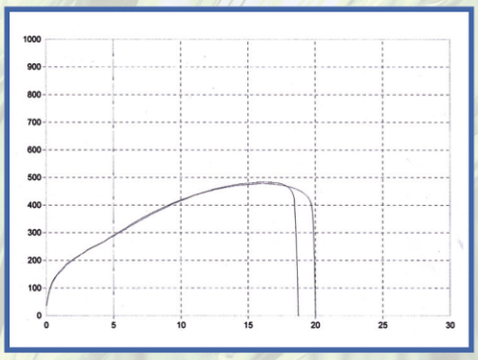


EXTENSOGRAM

5



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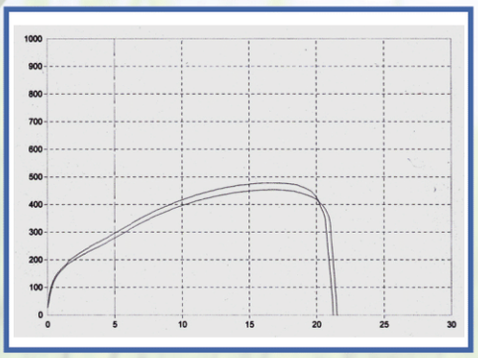
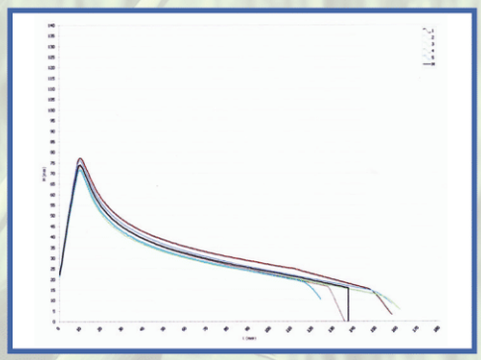


ALVEOGRAM

5



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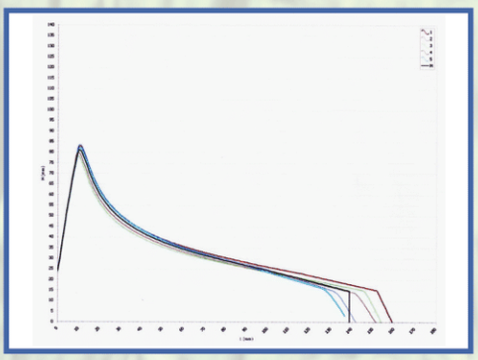


South African quality data per production region

IRRIGATION WHEAT

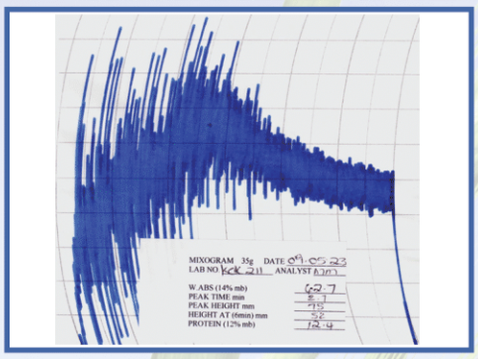
PRODUCTION REGION	(10) Griqualand West Region				(11) Vaalharts Region			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	13.0	11.2	13.8	0.75	12.3	10.8	13.6	0.76
Falling number, sec	361	287	417	40.91	358	261	450	39.46
Moisture, %	10.8	9.7	11.8	0.54	11.1	10.6	11.7	0.24
1000 Kernel mass (13% mb), g	35.5	32.1	38.9	1.75	36.3	30.7	42.4	3.45
Hectolitre mass (dirty), kg/hl	81.5	79.2	84.4	1.22	80.0	75.5	83.1	2.01
Screenings (<1.8 mm sieve), %	0.72	0.14	1.48	0.40	1.33	0.14	5.00	1.29
Total damaged kernels, %	0.19	0.08	0.48	0.09	0.23	0.00	0.48	0.14
Combined deviations, %	1.17	0.48	1.95	0.43	2.50	0.58	6.30	1.56
Number of samples	***21***				***23***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	2.7	2.4	3.5	0.26	3.2	2.5	4.3	0.48
Tail height (6 min), mm	52	48	60	3.11	49	43	56	3.37
Number of samples	***21***				***23***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	75.8	76.0	75.3	-	-	77.1	77.5	77.9	-	76.4
FLOUR										
Protein (12% mb), %	12.2	11.3	10.2	-	-	12.2	11.7	10.4	-	11.7
Moisture, %	13.9	13.7	14.0	-	-	13.7	13.4	13.5	-	13.4
Ash (db), %	0.63	0.64	0.65	-	-	0.59	0.64	0.59	-	0.61
Colour, KJ (wet)	-5.0	-5.0	-5.0	-	-	-5.0	-5.0	-5.0	-	-5.0
Colour, Konica Minolta CM5 (dry)										
L*	93.79	93.70	93.56	-	-	93.62	93.56	93.86	-	93.75
a*	0.63	0.58	0.57	-	-	0.54	0.60	0.50	-	0.54
b*	10.66	10.84	11.51	-	-	10.25	10.53	10.59	-	10.44
RVA										
Peak Viscosity, cP	2237	2440	2455	-	-	2155	2280	2303	-	2151
Minimum viscosity (Trough), cP	1768	1915	1880	-	-	1830	1909	1846	-	1850
Final Viscosity, cP	2422	2708	2695	-	-	2279	2443	2520	-	2286
Peak Time, min	7.00	7.00	7.00	-	-	6.80	6.93	7.00	-	6.80
GLUTEN										
Wet gluten (14% mb), %	34.1	32.7	29.1	-	-	33.4	31.1	27.9	-	31.5
Dry gluten (14% mb), %	11.3	10.4	9.3	-	-	11.2	10.3	9.1	-	10.5
Gluten Index	87	87	87	-	-	98	97	98	-	97
FARINOGRAM										
Water absorption (14% mb), %	60.7	60.2	58.1	-	-	59.7	59.3	57.8	-	58.4
Development time, min	5.4	4.4	4.1	-	-	6.3	5.4	3.4	-	4.1
Stability, min	9.4	8.3	6.2	-	-	12.3	10.0	7.1	-	8.4
Mixing tolerance index, BU	38	39	52	-	-	32	37	51	-	39
EXTENSOGRAM (45 min pull)										
Area, cm^2	107	87	83	-	-	119	105	90	-	115
Maximum height, BU	347	310	320	-	-	412	358	332	-	390
Extensibility, mm	224	204	186	-	-	214	215	198	-	217
ALVEOGRAM										
Strength (S), cm^2	38.5	36.7	29.5	-	-	41.7	35.5	31.2	-	38.5
Stability (P), mm	67	68	63	-	-	62	58	53	-	58
Distensibility (L), mm	160	155	137	-	-	182	171	176		192
Configuration ratio (P/L)	0.42	0.44	0.46	-	-	0.34	0.34	0.30	-	0.30
MIXOGRAM										
Peak time, min	2.7	2.3	2.7	-	-	3.1	3.0	3.0	-	3.6
100 g BAKING TEST										
Loaf volume, cm^3	1106	1093	977	-	-	1183	1100	1052	-	1078
Evaluation (see page 67)	0	0	0	-	-	0	0	0	-	0

Rheological Graphs Per Production Region

MIXOGRAM

10



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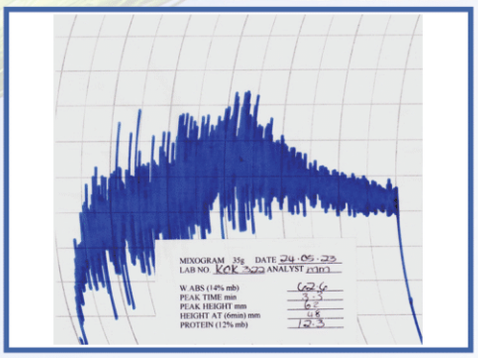
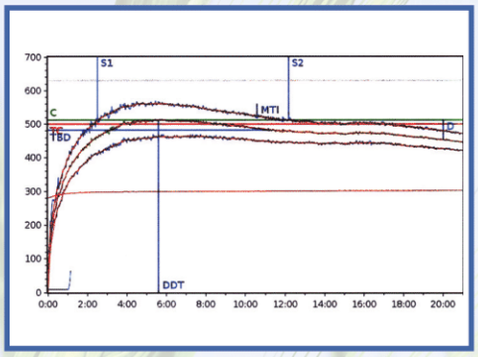


FARINOGRAM

10



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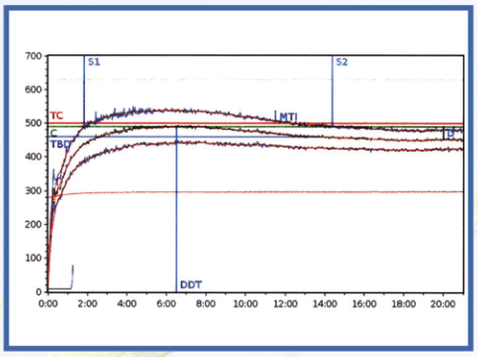
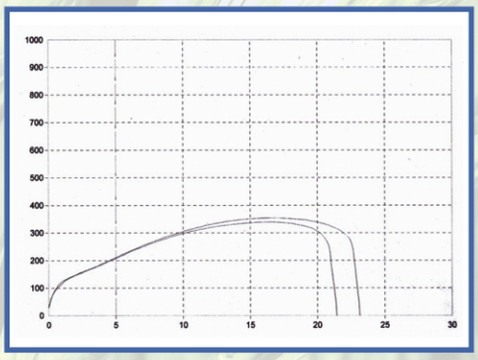


EXTENSOGRAM

10



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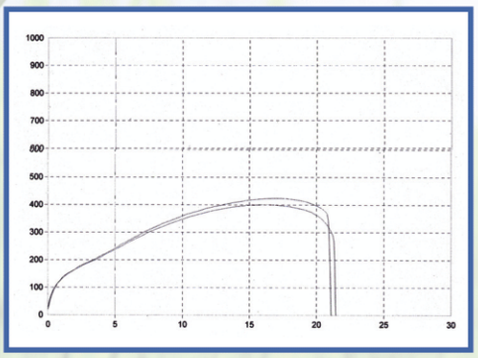
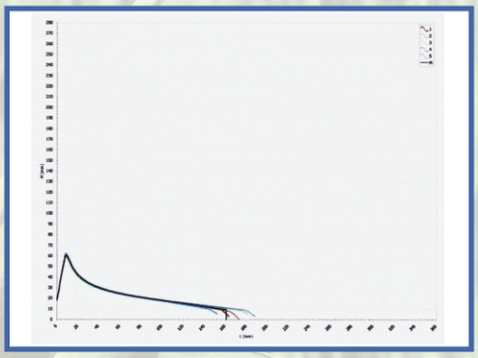


ALVEOGRAM

10



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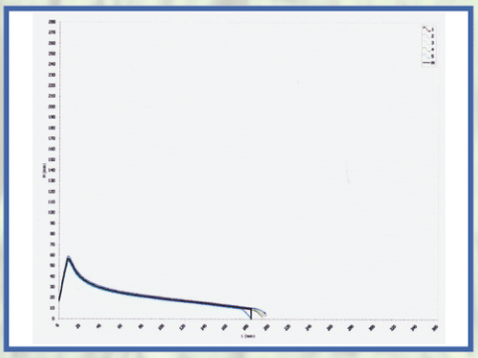


South African quality data per production region

IRRIGATION WHEAT

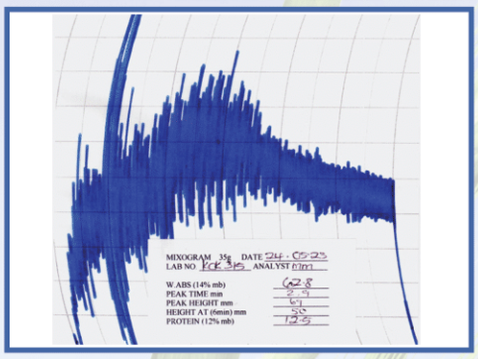
PRODUCTION REGION	(14) North West Southern Region				(15) North West South-Eastern Region			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	13.2	13.1	13.2	0.07	12.4	9.7	13.8	1.08
Falling number, sec	316	311	321	7.07	372	207	858	138.60
Moisture, %	11.2	11.1	11.2	0.07	11.1	10.4	11.9	0.41
1000 Kernel mass (13% mb), g	38.2	36.6	39.7	2.19	38.0	32.3	43.5	3.01
Hectolitre mass (dirty), kg/hl	80.1	79.2	80.9	1.20	79.8	77.2	82.5	1.44
Screenings (<1.8 mm sieve), %	1.30	1.05	1.54	0.35	1.39	0.05	3.20	0.84
Total damaged kernels, %	1.19	0.84	1.54	0.49	0.40	0.06	1.66	0.37
Combined deviations, %	3.28	3.19	3.36	0.12	2.27	0.21	6.32	1.45
Number of samples	***2***				***17***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	3.1	2.9	3.2	0.21	3.1	2.1	4.0	0.41
Tail height (6 min), mm	50	50	50	0.00	51	46	57	3.14
Number of samples	***2***				***17***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	75.5	-	-	-	-	74.7	74.3	76.8	-	-
FLOUR										
Protein (12% mb), %	12.5	-	-	-	-	12.2	10.9	10.2	-	-
Moisture, %	13.8	-	-	-	-	13.7	13.7	13.3	-	-
Ash (db), %	0.62	-	-	-	-	0.59	0.58	0.57	-	-
Colour, KJ (wet)	-5.0	-	-	-	-	-5.0	-5.0	-5.0	-	-
Colour, Konica Minolta CM5 (dry)										
L*	93.60	-	-	-	-	93.43	93.79	93.78	-	-
a*	0.57	-	-	-	-	0.49	0.48	0.44	-	-
b*	9.83	-	-	-	-	9.98	10.35	10.21	-	-
RVA										
Peak Viscosity, cP	1985	-	-	-	-	2182	2392	2469	-	-
Minimum viscosity (Trough), cP	1698	-	-	-	-	1770	2116	1961	-	-
Final Viscosity, cP	2111	-	-	-	-	2328	2713	2731	-	-
Peak Time, min	6.87	-	-	-	-	6.87	6.93	7.00	-	-
GLUTEN										
Wet gluten (14% mb), %	36.1	-	-	-	-	33.9	27.8	25.6	-	-
Dry gluten (14% mb), %	11.8	-	-	-	-	11.3	9.8	9.2	-	-
Gluten Index	88	-	-	-	-	94	99	97	-	-
FARINOGRAM										
Water absorption (14% mb), %	60.3	-	-	-	-	59.8	59.1	58.0	-	-
Development time, min	5.3	-	-	-	-	5.5	5.3	4.5	-	-
Stability, min	9.1	-	-	-	-	11.2	9.4	7.2	-	-
Mixing tolerance index, BU	42	-	-	-	-	34	39	53	-	-
EXTENSOGRAM (45 min pull)										
Area, cm^2	124	-	-	-	-	114	98	98	-	-
Maximum height, BU	398	-	-	-	-	395	377	351	-	-
Extensibility, mm	231	-	-	-	-	212	191	207	-	-
ALVEOGRAM										
Strength (S), cm^2	42.0	-	-	-	-	40.4	37.5	33.0	-	-
Stability (P), mm	64	-	-	-	-	67	72	58	-	-
Distensibility (L), mm	180	-	-	-	-	158	126	161	-	-
Configuration ratio (P/L)	0.36	-	-	-	-	0.42	0.57	0.36	-	-
MIXOGRAM										
Peak time, min	2.7	-	-	-	-	2.5	3.0	2.9	-	-
100 g BAKING TEST										
Loaf volume, cm^3	1141	-	-	-	-	793	948	986	-	-
Evaluation (see page 67)	0	-	-	-	-	4	0	0	-	-

Rheological Graphs Per Production Region

MIXOGRAM

14



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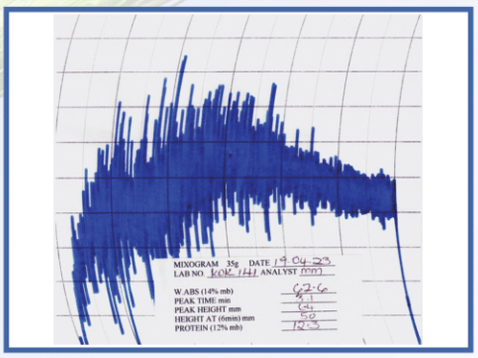
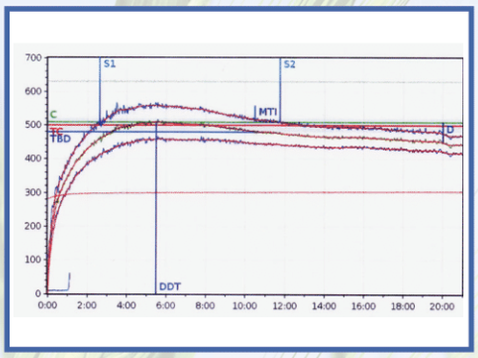


FARINOGRAM

14



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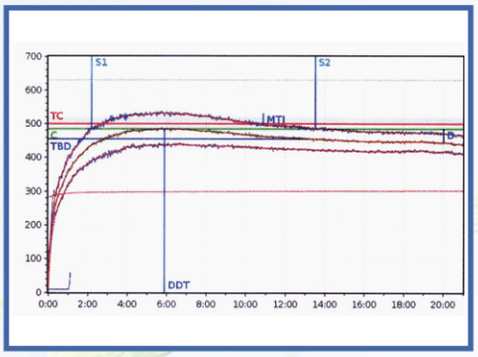
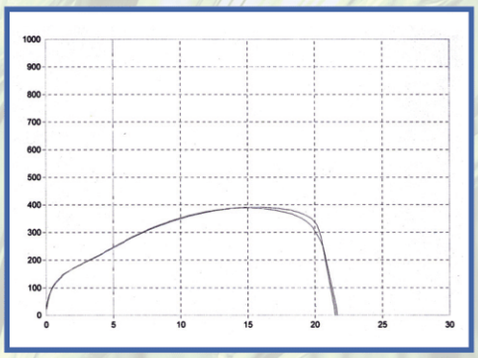


EXTENSOGRAM

14



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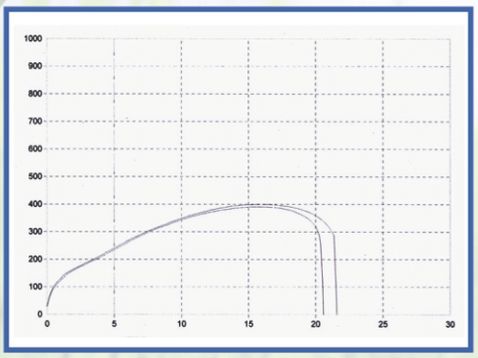
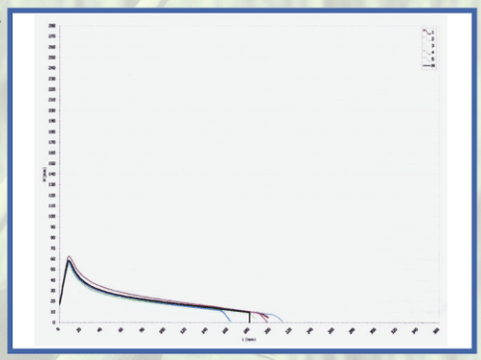


ALVEOGRAM

14



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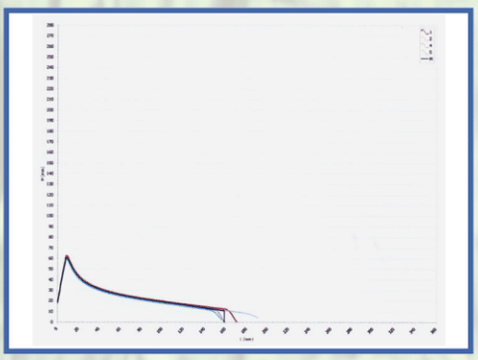


South African quality data per production region

IRRIGATION WHEAT

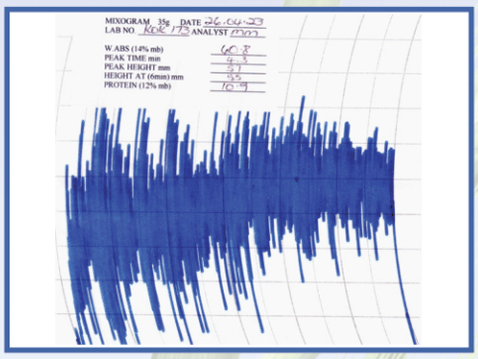
PRODUCTION REGION	(16) North West Central Eastern Region				(18) North West Central Region (Ventersdorp)			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	13.2	12.4	14.0	1.13	12.3	11.9	12.6	0.49
Falling number, sec	319	273	364	64.35	306	304	308	2.83
Moisture, %	11.4	11.4	11.4	0.00	11.4	11.3	11.4	0.07
1000 Kernel mass (13% mb), g	37.8	37.6	37.9	0.21	38.2	35.7	40.7	3.54
Hectolitre mass (dirty), kg/hl	78.7	78.5	78.9	0.28	80.1	80.0	80.1	0.07
Screenings (<1.8 mm sieve), %	0.83	0.40	1.25	0.60	1.15	0.96	1.33	0.26
Total damaged kernels, %	0.16	0.16	0.16	0.00	0.39	0.36	0.42	0.04
Combined deviations, %	1.37	0.74	1.99	0.88	1.97	1.54	2.39	0.60
Number of samples	***2***				***2***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	3.9	3.5	4.3	0.57	3.3	3.2	3.3	0.07
Tail height (6 min), mm	56	55	56	0.71	53	51	55	2.83
Number of samples	***2***				***2***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	74.9	75.4	-	-	-	-	-	-	-	-
FLOUR										
Protein (12% mb), %	12.8	11.3	-	-	-	-	-	-	-	-
Moisture, %	13.7	13.0	-	-	-	-	-	-	-	-
Ash (db), %	0.58	0.59	-	-	-	-	-	-	-	-
Colour, KJ (wet)	-5.0	-5.0	-	-	-	-	-	-	-	-
Colour, Konica Minolta CM5 (dry)										
L*	93.34	93.35	-	-	-	-	-	-	-	-
a*	0.57	0.45	-	-	-	-	-	-	-	-
b*	10.62	10.48	-	-	-	-	-	-	-	-
RVA										
Peak Viscosity, cP	1874	2241	-	-	-	-	-	-	-	-
Minimum viscosity (Trough), cP	1614	1978	-	-	-	-	-	-	-	-
Final Viscosity, cP	2093	2544	-	-	-	-	-	-	-	-
Peak Time, min	6.53	6.80	-	-	-	-	-	-	-	-
GLUTEN										
Wet gluten (14% mb), %	32.3	28.0	-	-	-	-	-	-	-	-
Dry gluten (14% mb), %	11.5	10.0	-	-	-	-	-	-	-	-
Gluten Index	98	99	-	-	-	-	-		-	-
FARINOGRAM										
Water absorption (14% mb), %	60.7	58.7	-	-	-	-	-	-	-	-
Development time, min	8.2	14.4	-	-	-	-	-	-	-	-
Stability, min	20.0	20.0	-	-	-	-	-	-	-	-
Mixing tolerance index, BU	21	14	-	-	-	-	-	-	-	-
EXTENSOGRAM (45 min pull)										
Area, cm^2	147	168	-	-	-	-	-	-	-	-
Maximum height, BU	483	585	-	-	-	-	-	-	-	-
Extensibility, mm	225	216	-	-	-	-	-	-	-	
ALVEOGRAM										
Strength (S), cm^2	59.8	57.0	-	-	-	-	-	-	-	-
Stability (P), mm	89	95	-	-	-	-	-	-	-	-
Distensibility (L), mm	155	124	-	-	-	-	-	-	-	-
Configuration ratio (P/L)	0.57	0.77	-	-	-	-	-	-	-	-
MIXOGRAM										
Peak time, min	3.1	4.3	-	-	-	-	-	-	-	-
100 g BAKING TEST										
Loaf volume, cm^3	1048	947	-	-	-	-	-	-	-	-
Evaluation (see page 67)	0	0	-	-	-	-	-	-	-	-

Rheological Graphs Per Production Region

MIXOGRAM

16



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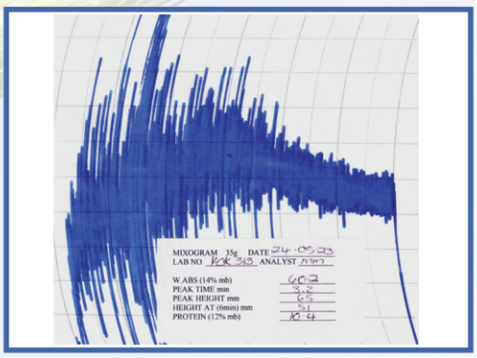
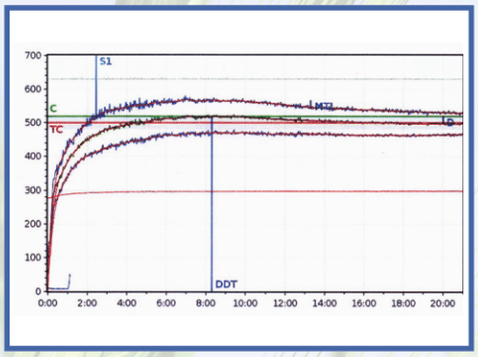


FARINOGRAM

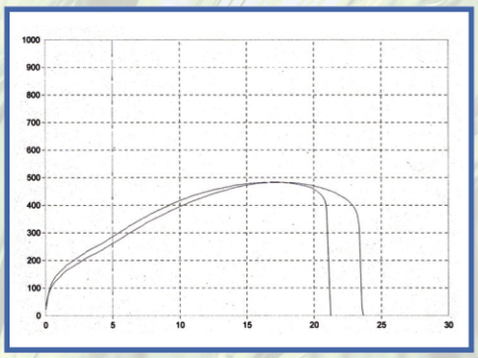
16



18

EXTENSOGRAM

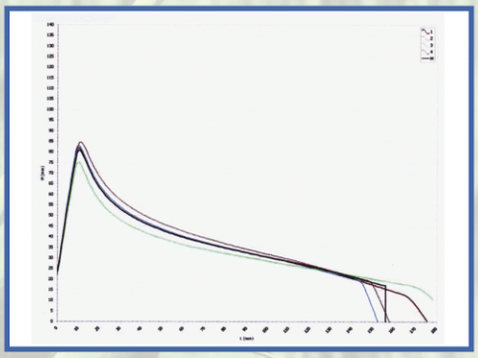
16



18

ALVEOGRAM

16



18

South African quality data per production region

SUMMER RAINFALL AND IRRIGATION

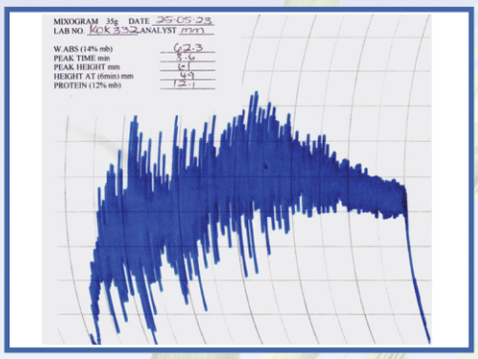
PRODUCTION REGION	(21) Free State North-Western Region (Viljoenskroon)				(22) Free State North-Western Region (Bothaville)			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	11.9	10.4	13.4	2.12	13.1	11.7	15.6	1.27
Falling number, sec	319	311	327	11.31	291	187	339	49.13
Moisture, %	11.9	11.7	12.0	0.21	11.6	11.4	12.0	0.21
1000 Kernel mass (13% mb), g	36.5	35.3	37.6	1.63	37.0	29.3	41.5	4.25
Hectolitre mass (dirty), kg/hl	80.4	78.6	82.1	2.47	79.0	73.6	81.7	3.01
Screenings (<1.8 mm sieve), %	1.51	1.47	1.55	0.06	2.34	0.77	10.46	2.96
Total damaged kernels, %	0.78	0.40	1.16	0.54	0.59	0.16	2.20	0.64
Combined deviations, %	2.35	1.95	2.75	0.57	3.90	1.03	14.46	4.09
Number of samples	***2***				***10***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	3.4	3.1	3.6	0.35	3.6	3.0	5.5	0.75
Tail height (6 min), mm	47	44	49	3.54	52	49	56	2.45
Number of samples	***2***				***10***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	75.5	-	-	75.1	-	75.3	75.0	-	-	-
FLOUR										
Protein (12% mb), %	12.3	-	-	9.5	-	12.2	11.0	-	-	-
Moisture, %	13.4	-	-	13.6	-	13.7	13.6	-	-	-
Ash (db), %	0.62	-	-	0.65	-	0.60	0.61	-	-	-
Colour, KJ (wet)	-5.0	-	-	-5.0	-	-5.0	-5.0	-	-	-
Colour, Konica Minolta CM5 (dry)										
L*	93.35	-	-	93.90	-	93.48	93.58	-	-	-
a*	0.52	-	-	0.44	-	0.57	0.51	-	-	-
b*	10.20	-	-	9.45	-	10.02	10.17	-	-	-
RVA										
Peak Viscosity, cP	2008	-	-	2579	-	1973	2099	-	-	-
Minimum viscosity (Trough), cP	1702	-	-	2218	-	1686	1840	-	-	-
Final Viscosity, cP	2085	-	-	2820	-	2148	2282	-	-	-
Peak Time, min	6.80	-	-	6.87	-	6.53	6.80	-	-	-
GLUTEN										
Wet gluten (14% mb), %	33.4	-	-	27.8	-	33.6	29.1	-	-	-
Dry gluten (14% mb), %	11.0	-	-	7.4	-	11.1	9.5	-	-	-
Gluten Index	98	-	-	99	-	91	98	-	-	-
FARINOGRAM										
Water absorption (14% mb), %	60.4	-	-	58.3	-	60.9	59.0	-	-	-
Development time, min	7.5	-	-	4.5	-	6.3	5.2	-	-	-
Stability, min	11.6	-	-	7.0	-	12.2	11.3	-	-	-
Mixing tolerance index, BU	41	-	-	56	-	33	28	-	-	-
EXTENSOGRAM (45 min pull)										
Area, cm^2	151	-	-	88	-	127	122	-	-	-
Maximum height, BU	504	-	-	374	-	431	427	-	-	-
Extensibility, mm	221	-	-	175	-	218	214	-	-	-
ALVEOGRAM										
Strength (S), cm^2	49.1	-	-	33.2	-	48.5	43.4	-	-	-
Stability (P), mm	78	-	-	68	-	84	75	-	-	-
Distensibility (L), mm	155	-	-	128	-	144	149	-	-	-
Configuration ratio (P/L)	0.50	-	-	0.53	-	0.58	0.50	-	-	-
MIXOGRAM										
Peak time, min	3.2	-	-	3.0	-	3.1	3.4	-	-	-
100 g BAKING TEST										
Loaf volume, cm^3	1138	-	-	942	-	1067	1026	-	-	-
Evaluation (see page 67)	0	-	-	0	-	0	0	-	-	-

Rheological Graphs Per Production Region

MIXOGRAM

21



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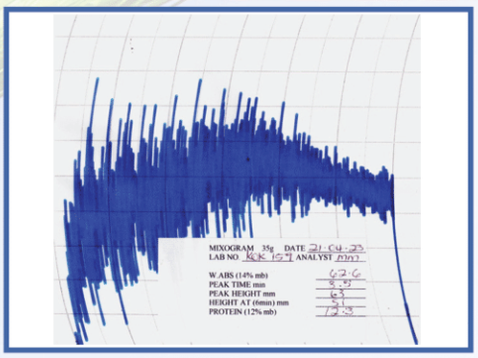
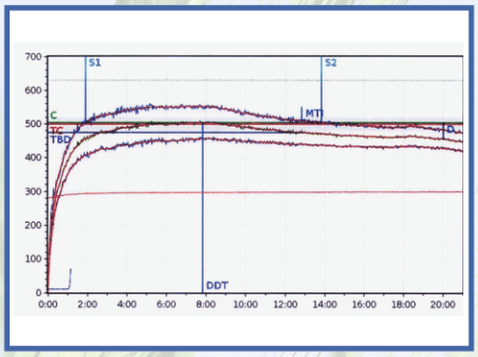


FARINOGRAM

21



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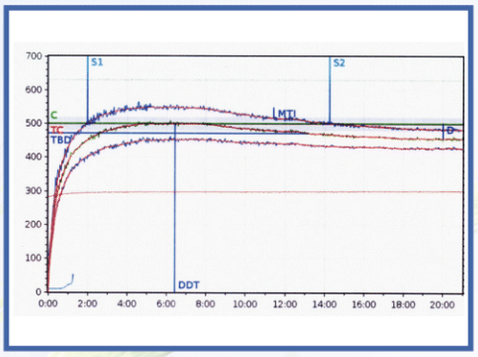
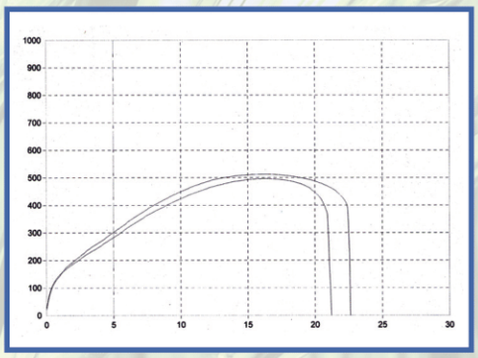


EXTENSOGRAM

21



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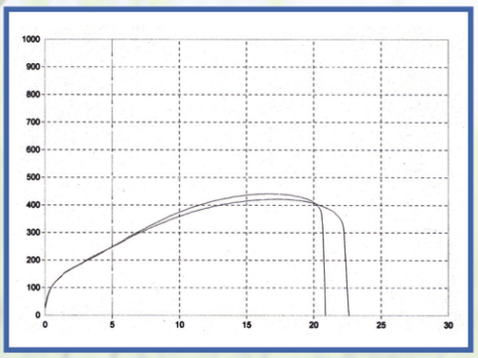
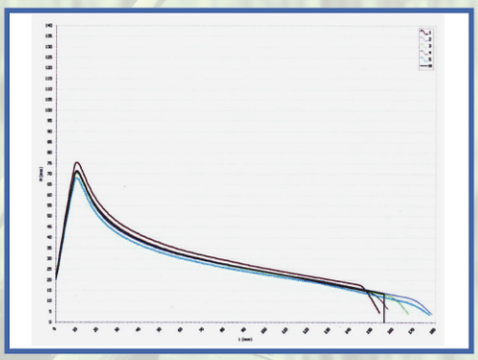


ALVEOGRAM

21



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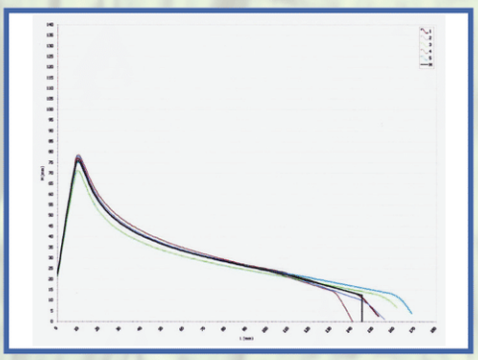


South African quality data per production region

SUMMER RAINFALL AND IRRIGATION WHEAT

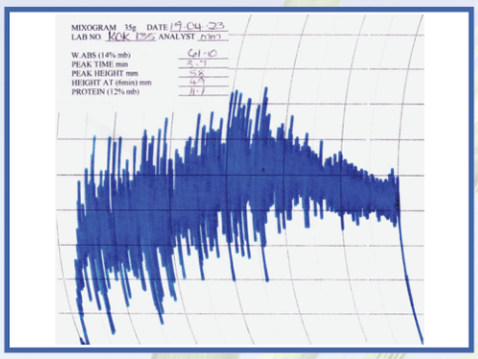
PRODUCTION REGION	(23) Free State North-Western Region (Bultfontein)				(24) Free State Central Region			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	11.5	8.1	13.9	1.56	11.4	9.1	13.1	1.43
Falling number, sec	317	242	423	40.80	314	116	406	75.37
Moisture, %	11.6	9.8	12.6	0.64	11.6	11.0	12.8	0.53
1000 Kernel mass (13% mb), g	36.1	23.0	45.7	4.52	37.1	30.1	44.0	4.21
Hectolitre mass (dirty), kg/hl	78.6	70.6	82.2	2.43	79.7	74.5	82.2	2.29
Screenings (<1.8 mm sieve), %	3.19	0.40	17.76	4.15	2.63	0.20	19.09	5.24
Total damaged kernels, %	0.45	0.00	1.72	0.49	0.58	0.00	2.64	0.74
Combined deviations, %	4.15	0.96	20.80	4.53	3.54	0.74	20.61	5.46
Number of samples	***24***				***12***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	3.9	2.9	5.5	0.75	3.4	3.0	4.7	0.46
Tail height (6 min), mm	47	34	55	5.75	47	33	52	5.10
Number of samples	***24***				***12***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	74.3	74.9	73.6	73.5	-	74.1	74.5	-	72.6	-
FLOUR										
Protein (12% mb), %	11.9	11.3	9.8	9.5	-	11.7	9.9	-	8.9	-
Moisture, %	13.3	13.4	13.5	13.9	-	13.7	13.4	-	13.5	-
Ash (db), %	0.60	0.52	0.56	0.55	-	0.60	0.54	-	0.53	-
Colour, KJ (wet)	-5.0	-5.0	-5.0	-5.0	-	-5.0	-5.0	-	-5.0	-
Colour, Konica Minolta CM5 (dry)										
L*	93.37	93.51	93.82	93.86	-	93.67	93.99	-	93.92	-
a*	0.48	0.44	0.39	0.37	-	0.51	0.42	-	0.38	-
b*	10.11	10.47	9.90	9.87	-	10.18	10.33	-	9.90	-
RVA										
Peak Viscosity, cP	2285	2243	2022	1921	-	2318	2517	-	2212	-
Minimum viscosity (Trough), cP	1967	1944	1784	1707	-	1859	2058	-	1975	-
Final Viscosity, cP	2561	2493	2256	2160	-	2533	2902	-	2516	-
Peak Time, min	6.67	6.80	6.80	6.67	-	7.00	7.00	-	6.87	-
GLUTEN										
Wet gluten (14% mb), %	32.3	31.5	26.3	25.2	-	31.9	25.0	-	23.4	-
Dry gluten (14% mb), %	10.8	10.6	8.6	8.1	-	10.7	8.3	-	7.5	-
Gluten Index	98	97	98	96	-	96	97	-	96	-
FARINOGRAM										
Water absorption (14% mb), %	60.1	59.8	57.5	56.0	-	59.9	56.2	-	56.8	-
Development time, min	6.2	6.3	6.1	6.1	-	7.1	5.3	-	4.2	-
Stability, min	16.4	17.2	10.2	12.3	-	14.4	13.2	-	9.5	-
Mixing tolerance index, BU	22	24	38	29	-	30	25	-	36	-
EXTENSOGRAM (45 min pull)										
Area, cm^2	131	121	92	99	-	124	116	-	79	-
Maximum height, BU	476	467	447	500	-	436	473	-	375	-
Extensibility, mm	205	193	152	147	-	210	181	-	153	-
ALVEOGRAM										
Strength (S), cm^2	50.5	49.2	39.1	39.0	-	45.3	38.7	-	33.2	-
Stability (P), mm	85	87	84	82	-	74	75	-	82	-
Distensibility (L), mm	141	133	105	103	-	150	116	-	91	-
Configuration ratio (P/L)	0.60	0.65	0.80	0.80	-	0.49	0.65	-	0.90	-
MIXOGRAM										
Peak time, min	3.5	3.1	3.2	4.1	-	3.2	3.3	-	3.7	-
100 g BAKING TEST										
Loaf volume, cm^3	936	1053	879	860	-	1055	996	-	837	-
Evaluation (see page 67)	0	0	0	0	-	0	0	-	0	-

Rheological Graphs Per Production Region

MIXOGRAM

23



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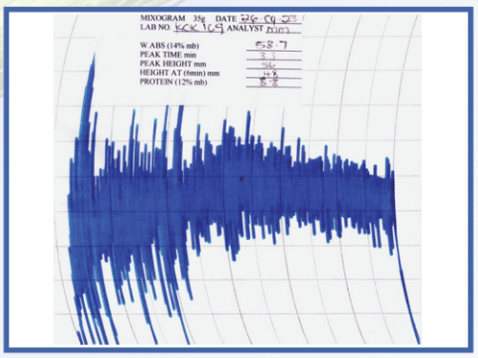
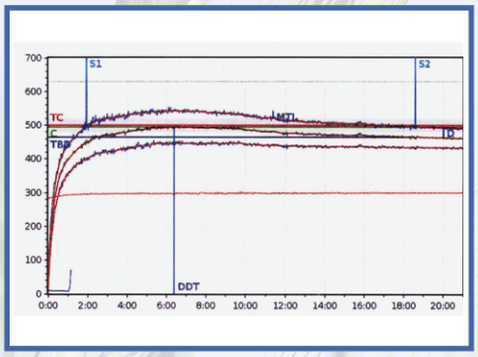
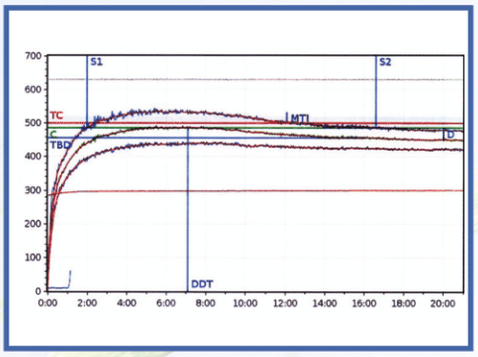


FARINOGRAM

23

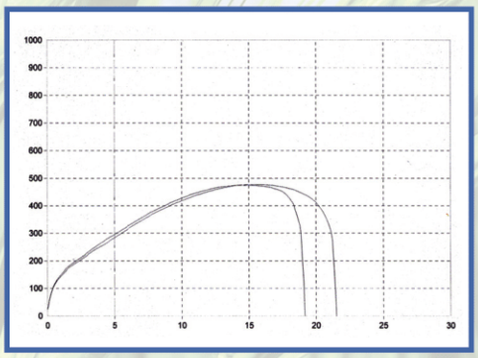


24



EXTENSOGRAM

23



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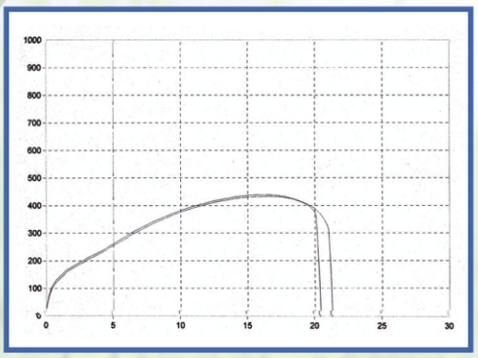
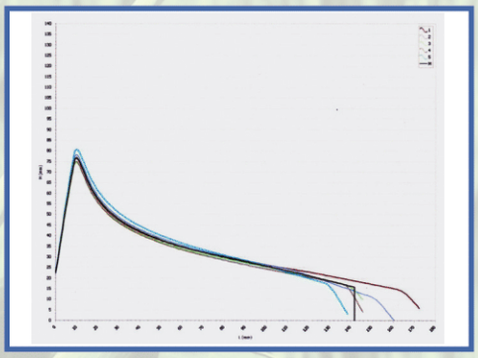
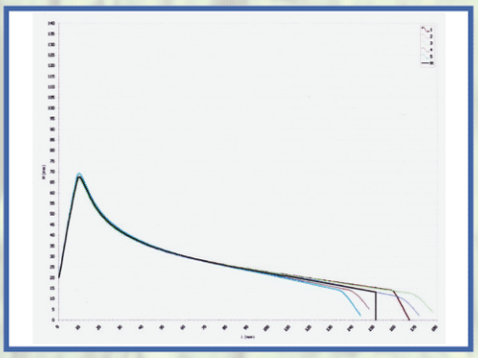


ALVEOGRAM

23



24



South African quality data per production region

SUMMER RAINFALL AND IRRIGATION WHEAT

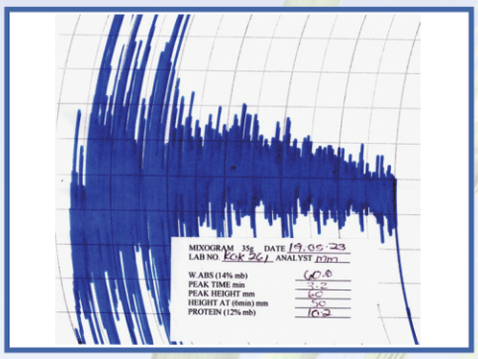
PRODUCTION REGION	(25) Free State South-Western Region				(26) Free State South-Eastern Region			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	10.6	8.9	12.3	2.40	12.1	10.1	14.1	1.37
Falling number, sec	301	286	316	21.21	313	190	433	77.46
Moisture, %	11.4	10.7	12.0	0.92	11.7	10.8	12.5	0.68
1000 Kernel mass (13% mb), g	33.6	29.7	37.5	5.52	35.4	30.9	42.3	3.54
Hectolitre mass (dirty), kg/hl	76.9	74.8	79.0	2.97	80.2	77.7	81.5	1.25
Screenings (<1.8 mm sieve), %	1.45	0.54	2.35	1.28	0.83	0.16	2.00	0.75
Total damaged kernels, %	0.38	0.08	0.68	0.42	0.31	0.12	0.80	0.23
Combined deviations, %	2.39	1.02	3.75	1.93	1.33	0.28	2.60	0.90
Number of samples	***2***				***7***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	3.2	3.1	3.2	0.07	3.7	2.9	5.1	0.77
Tail height (6 min), mm	46	42	50	5.66	52	43	60	5.45
Number of samples	***2***				***7***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	-	-	-	71.6	-	74.0	73.2	71.6	72.2	-
FLOUR										
Protein (12% mb), %	-	-	-	10.9	-	12.8	11.0	10.1	9.6	-
Moisture, %	-	-	-	13.1	-	13.6	13.4	13.4	13.7	-
Ash (db), %	-	-	-	0.56	-	0.51	0.54	0.58	0.51	-
Colour, KJ (wet)	-	-	-	-4.7	-	-4.8	-5.0	-4.5	-5.0	-
Colour, Konica Minolta CM5 (dry)										
L*	-	-	-	93.37	-	92.95	93.57	92.80	93.77	-
a*	-	-	-	0.43	-	0.50	0.46	0.53	0.45	-
b*	-	-	-	11.08	-	9.29	10.33	10.72	9.77	-
RVA										
Peak Viscosity, cP	-	-	-	1961	-	2220	2127	1179	2912	-
Minimum viscosity (Trough), cP	-	-	-	1550	-	1919	1661	877	2095	-
Final Viscosity, cP	-	-	-	2201	-	2431	2387	1294	3400	-
Peak Time, min	-	-	-	7.00	-	6.73	7.00	5.93	7.00	-
GLUTEN										
Wet gluten (14% mb), %	-	-	-	30.0	-	33.1	29.1	26.7	25.3	-
Dry gluten (14% mb), %	-	-	-	10.0	-	11.4	9.7	8.7	8.4	-
Gluten Index	-	-	-	97	-	99	98	96	96	-
FARINOGRAM										
Water absorption (14% mb), %	-	-	-	61.8	-	59.9	60.3	59.5	58.9	-
Development time, min	-	-	-	4.5	-	8.3	6.5	4.0	4.0	-
Stability, min	-	-	-	10.0	-	20.0	13.3	6.2	9.6	-
Mixing tolerance index, BU	-	-	-	39	-	14	35	56	39	-
EXTENSOGRAM (45 min pull)										
Area, cm^2	-	-	-	63	-	156	100	60	84	-
Maximum height, BU	-	-	-	266	-	519	412	300	371	-
Extensibility, mm	-	-	-	166	-	224	176	139	160	-
ALVEOGRAM										
Strength (S), cm^2	-	-	-	33.8	-	53.4	42.7	24.9	33.8	-
Stability (P), mm	-	-	-	90	-	80	90	83	88	-
Distensibility (L), mm	-	-	-	86	-	152	110	67	91	-
Configuration ratio (P/L)	-	-	-	1.05	-	0.53	0.82	1.24	0.97	-
MIXOGRAM										
Peak time, min	-	-	-	2.9	-	3.7	3.8	2.7	3.2	-
100 g BAKING TEST										
Loaf volume, cm^3	-	-	-	933	-	1102	867	819	819	-
Evaluation (see page 67)	-	-	-	0	-	0	0	0	0	-

Rheological Graphs Per Production Region

MIXOGRAM

25



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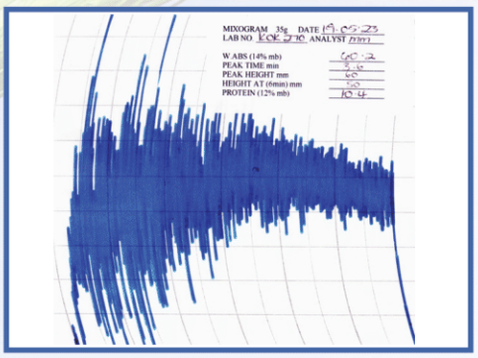
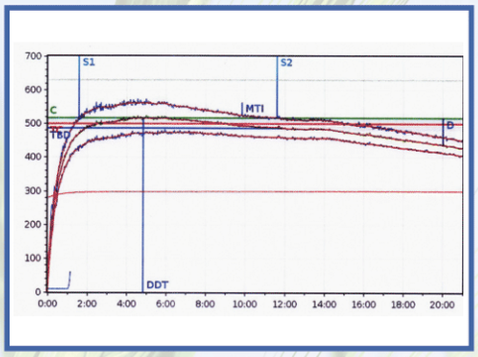


FARINOGRAM

25



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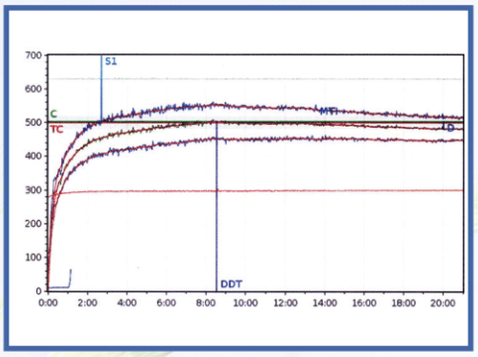
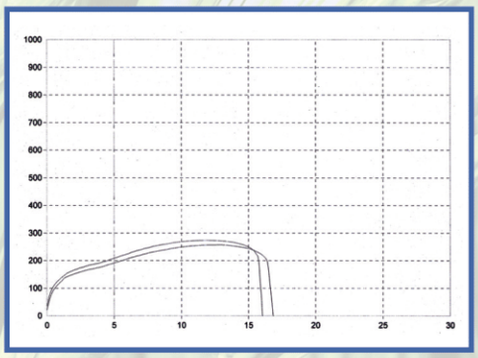


EXTENSOGRAM

25



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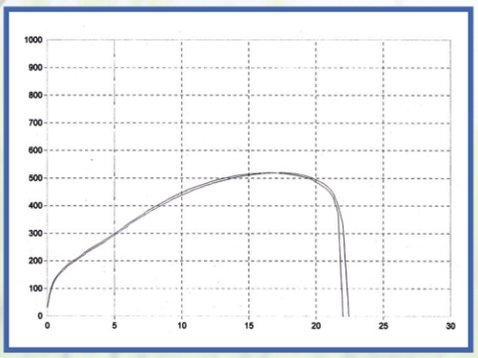
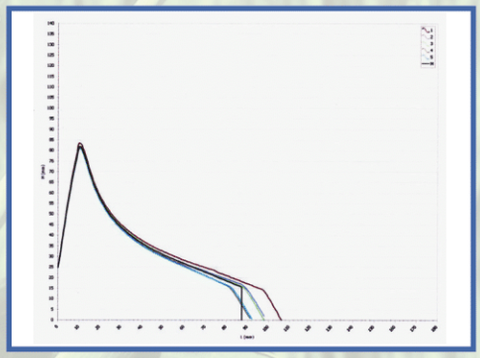


ALVEOGRAM

25



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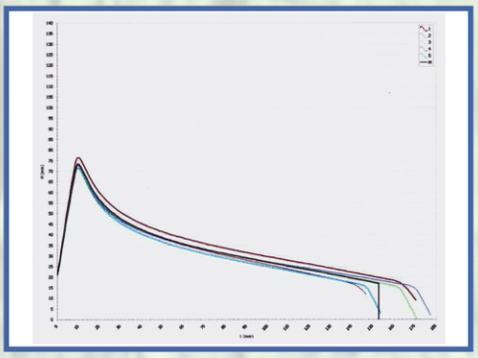


South African quality data per production region

IRRIGATION WHEAT

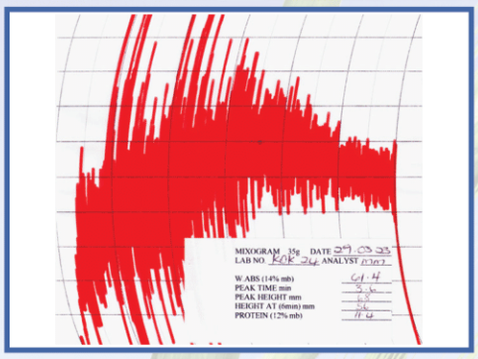
PRODUCTION REGION	(28) Free State Eastern Region				(33) Mpumalanga Northern Region			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	12.5	11.3	13.2	0.64	12.1	10.7	13.2	0.80
Falling number, sec	288	164	361	68.65	416	289	504	53.10
Moisture, %	11.9	11.4	12.4	0.29	11.5	10.6	11.9	0.38
1000 Kernel mass (13% mb), g	33.9	29.1	38.1	3.17	38.1	33.4	41.2	2.79
Hectolitre mass (dirty), kg/hl	78.6	75.1	81.3	1.79	81.4	77.1	85.7	3.06
Screenings (<1.8 mm sieve), %	1.60	0.77	3.76	0.93	0.80	0.24	2.26	0.62
Total damaged kernels, %	1.24	0.00	5.76	1.79	0.94	0.08	3.18	0.85
Combined deviations, %	3.31	1.33	10.16	2.60	2.15	0.40	3.96	1.15
Number of samples	***10***				***11***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	3.6	2.9	4.3	0.46	3.8	3.2	4.7	0.42
Tail height (6 min), mm	51	45	59	5.55	53	50	61	3.82
Number of samples	***10***				***11***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	72.5	70.4	70.3	71.2	-	75.2	75.5	74.1	-	-
FLOUR										
Protein (12% mb), %	11.7	10.7	9.9	10.4	-	11.4	10.9	10.1	-	-
Moisture, %	14.3	13.2	13.6	13.3	-	13.6	13.6	13.7	-	-
Ash (db), %	0.61	0.54	0.60	0.60	-	0.61	0.66	0.64	-	-
Colour, KJ (wet)	-5.0	-4.4	-4.9	-4.7	-	-5.0	-5.0	-5.0	-	-
Colour, Konica Minolta CM5 (dry)										
L*	93.50	92.99	93.18	93.18	-	93.38	93.51	93.39	-	-
a*	0.48	0.39	0.41	0.52	-	0.53	0.51	0.57	-	-
b*	10.09	11.24	11.46	11.81	-	9.89	10.21	10.56	-	-
RVA										
Peak Viscosity, cP	2002	1785	1908	2071	-	2257	2452	2276	-	-
Minimum viscosity (Trough), cP	1635	1414	1551	1599	-	1657	1780	1680	-	-
Final Viscosity, cP	2138	1968	2132	2260	-	2482	2756	2547	-	-
Peak Time, min	7.00	7.00	6.93	7.00	-	7.00	7.00	7.00	-	
GLUTEN										
Wet gluten (14% mb), %	32.0	30.6	29.0	27.1	-	30.1	28.0	27.1	-	-
Dry gluten (14% mb), %	10.5	10.4	9.1	9.0	-	9.9	8.8	9.0	-	-
Gluten Index	96	95	96	97	-	98	97	97	-	-
FARINOGRAM										
Water absorption (14% mb), %	60.3	61.9	60.4	60.1	-	59.6	58.4	59.8	-	-
Development time, min	6.1	4.3	4.1	5.4	-	8.5	8.1	5.6	-	-
Stability, min	13.3	7.3	6.1	9.2	-	20.0	13.6	9.1	-	-
Mixing tolerance index, BU	34	42	48	40	-	24	32	39	-	-
EXTENSOGRAM (45 min pull)										
Area, cm^2	130	52	52	64	-	141	134	104	-	-
Maximum height, BU	465	228	241	303	-	495	516	457	-	-
Extensibility, mm	209	154	147	151	-	215	195	168	-	-
ALVEOGRAM										
Strength (S), cm^2	47.1	26.1	28.1	34.7	-	46.3	44.2	38.8	-	-
Stability (P), mm	89	82	86	92	-	79	77	87	-	-
Distensibility (L), mm	127	77	76	86	-	131	130	110	-	-
Configuration ratio (P/L)	0.70	1.06	1.13	1.07	-	0.60	0.59	0.79	-	-
MIXOGRAM										
Peak time, min	3.3	2.4	2.3	3.5	-	3.6	3.4	3.5	-	-
100 g BAKING TEST										
Loaf volume, cm^3	911	893	907	976	-	987	1013	873	-	-
Evaluation (see page 67)	0	0	0	0	-	0	0	0	-	-

Rheological Graphs Per Production Region

MIXOGRAM

28



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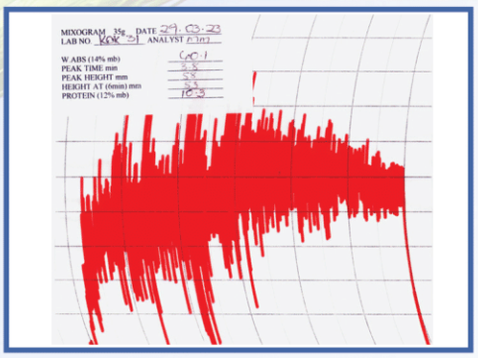
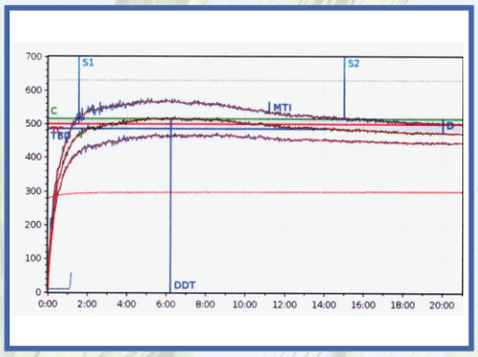


FARINOGRAM

28



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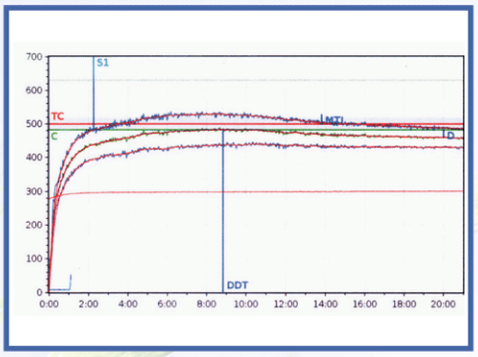
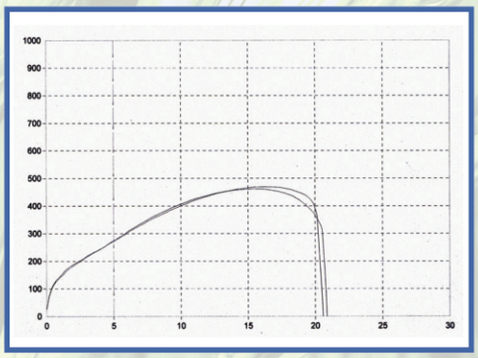


EXTENSOGRAM

28



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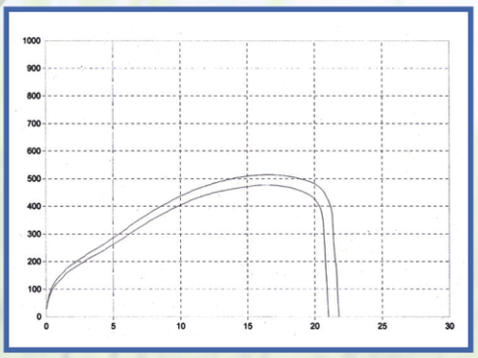
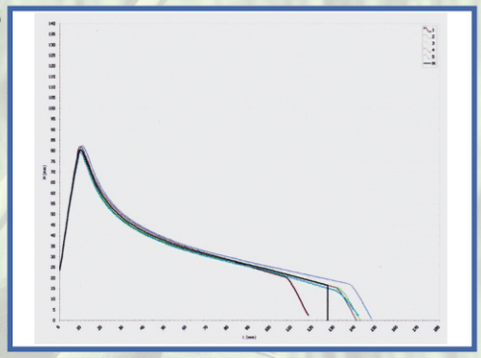


ALVEOGRAM

28



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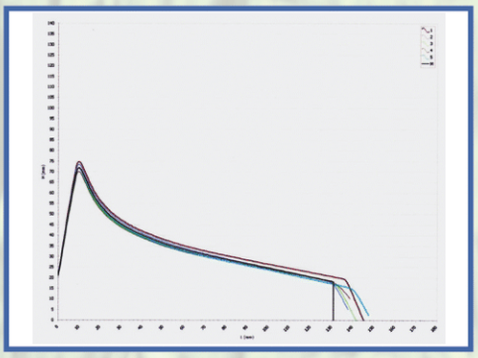

South African quality data per production region

IRRIGATION WHEAT

PRODUCTION REGION	(35) Limpopo Region				(36) KwaZulu-Natal			
WHEAT								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Protein (12% mb), %	11.7	9.0	13.4	1.21	13.3	11.4	15.7	1.08
Falling number, sec	376	323	451	44.79	251	119	561	94.44
Moisture, %	11.5	11.1	12.1	0.34	11.4	10.6	12.3	0.46
1000 Kernel mass (13% mb), g	39.5	31.1	49.7	5.47	37.2	30.1	43.5	3.47
Hectolitre mass (dirty), kg/hl	77.7	73.9	82.4	2.90	80.8	77.3	84.5	1.97
Screenings (<1.8 mm sieve), %	0.73	0.14	1.77	0.60	1.56	0.25	5.06	1.17
Total damaged kernels, %	1.08	0.24	2.48	0.93	1.56	0.16	5.62	1.31
Combined deviations, %	2.24	0.91	3.90	0.89	3.44	1.15	7.06	1.77
Number of samples	***10***				***22***			
MIXOGRAM (Quadromat Junior)								
	ave	**min**	**max**	**stdev**	**ave**	**min**	**max**	**stdev**
Peak time, min	4.0	2.8	5.6	0.96	4.0	2.8	5.5	0.80
Tail height (6 min), mm	55	46	60	4.17	54	44	63	4.66
Number of samples	***10***				***22***			

CLASS AND GRADE	COMPOSITE SAMPLES									
	Super	**B1**	**B2**	**B3**	**COW**	**Super**	**B1**	**B2**	**B3**	**COW**
Bühler Extraction, %	76.2	-	-	76.0	73.8	76.4	75.5	76.1	-	-
FLOUR										
Protein (12% mb), %	11.7	-	-	10.6	10.5	12.8	11.0	10.3	-	-
Moisture, %	13.8	-	-	13.4	13.3	13.8	13.6	13.9	-	-
Ash (db), %	0.63	-	-	0.63	0.58	0.56	0.57	0.62	-	-
Colour, KJ (wet)	-4.9	-	-	-4.9	-5.0	-5.0	-5.0	-5.0	-	-
Colour, Konica Minolta CM5 (dry)										
L*	93.19	-	-	93.65	93.31	93.67	93.65	93.48	-	-
a*	0.41	-	-	0.29	0.45	0.46	0.49	0.48	-	-
b*	10.12	-	-	9.10	10.65	9.06	9.86	10.63	-	-
RVA										
Peak Viscosity, cP	1873	-	-	2515	2041	1908	1998	1966	-	-
Minimum viscosity (Trough), cP	1580	-	-	2004	1683	1614	1677	1705	-	-
Final Viscosity, cP	1991	-	-	2701	2216	2043	2102	2115	-	-
Peak Time, min	7.00	-	-	7.00	7.00	6.53	6.60	6.67	-	-
GLUTEN										
Wet gluten (14% mb), %	30.7	-	-	25.3	27.8	31.5	31.1	27.3	-	-
Dry gluten (14% mb), %	10.2	-	-	8.6	9.1	11.3	10.3	9.3	-	-
Gluten Index	97	-	-	99	96	99	95	99	-	-
FARINOGRAM										
Water absorption (14% mb), %	60.1	-	-	55.7	59.9	59.8	60.5	56.9	-	-
Development time, min	6.2	-	-	2.2	6.3	7.5	5.2	2.4	-	-
Stability, min	13.2	-	-	20.0	9.3	16.4	7.5	11.1	-	-
Mixing tolerance index, BU	24	-	-	3	39	18	52	11	-	-
EXTENSOGRAM (45 min pull)										
Area, cm^2	149	-	-	137	126	172	97	108	-	-
Maximum height, BU	473	-	-	546	456	500	369	427	-	-
Extensibility, mm	234	-	-	188	208	256	193	187	-	-
ALVEOGRAM										
Strength (S), cm^2	49.7	-	-	44.0	42.2	54.0	44.2	40.1	-	-
Stability (P), mm	74	-	-	68	84	73	84	71	-	-
Distensibility (L), mm	169	-	-	146	123	166	135	134	-	-
Configuration ratio (P/L)	0.44	-	-	0.47	0.68	0.44	0.62	0.53	-	-
MIXOGRAM										
Peak time, min	3.1	-	-	5.2	3.4	3.7	3.1	3.5	-	-
100 g BAKING TEST										
Loaf volume, cm^3	1014	-	-	1058	949	1196	1044	927	-	-
Evaluation (see page 67)	0	-	-	0	0	0	0	0	-	-