

South Africa

REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(12) North-West Western Region				(13) North-West Central Region (Sannieshof)				(14) North-West Southern Region			
<u>Grading:</u>	<i>ave</i>	<i>min</i>	<i>max</i>	<i>stdev</i>	<i>ave</i>	<i>min</i>	<i>max</i>	<i>stdev</i>	<i>ave</i>	<i>min</i>	<i>max</i>	<i>stdev</i>
1. Damaged sunflower seed, %	0.29	0.00	1.50	0.58	1.11	0.00	3.00	0.97	0.34	0.00	3.15	0.73
2. Screenings, %	2.39	0.90	8.90	2.48	3.54	1.26	6.62	1.77	0.85	0.22	3.30	0.84
3. Sclerotia, %	0.83	0.00	5.20	1.68	4.02	0.32	11.60	3.09	0.32	0.00	1.28	0.37
4. Foreign Matter, %	1.97	0.20	3.60	1.39	0.99	0.26	2.68	0.70	1.29	0.14	3.20	0.76
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	5.19	2.02	14.50	3.66	8.55	2.98	20.02	4.94	2.46	0.70	4.86	1.10
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	7	0	40	14.14	0	0	0	0.00	2	0	20	5.76
Poisonous seeds (<i>Argemone mexicana L.</i> , <i>Convolvulus sp.</i> , <i>Ipomoea purpurea Roth.</i> , <i>Lolium temulentum</i> , <i>Xanthium sp.</i>)	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00
Number of samples	9				12				23			
<u>Nutritional analysis:</u>	<i>ave</i>	<i>min</i>	<i>max</i>	<i>stdev</i>	<i>ave</i>	<i>min</i>	<i>max</i>	<i>stdev</i>	<i>ave</i>	<i>min</i>	<i>max</i>	<i>stdev</i>
Moisture, % (5 hr, 105 °C)	5.6	4.3	6.4	0.76	5.1	3.7	6.0	0.63	5.4	3.1	6.8	0.90
Crude Protein, % (as is)	12.87	12.02	14.37	0.77	13.96	13.08	15.25	0.70	13.07	11.66	16.15	1.17
Crude Fat, % (as is)	39.1	35.5	43.6	2.29	38.5	33.8	41.4	1.95	38.2	31.5	45.2	2.65
Crude Fibre, % (as is)	23.0	18.9	25.1	1.75	22.0	18.7	25.4	1.76	23.2	16.5	26.4	2.36
Ash, % (as is)	2.62	2.52	2.88	0.11	2.73	2.55	3.08	0.16	2.63	2.44	3.05	0.13
Number of samples	9				12				23			

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REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(17) North-West Central-Northern Region (Ottosdal)				(18) North-West Central Region (Ventersdorp)				(19) North-West Central Region (Lichtenburg)			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damaged sunflower seed, %	0.16	0.00	0.80	0.28	0.54	0.00	1.00	0.41	0.44	0.00	2.22	0.61
2. Screenings, %	2.35	1.60	4.30	0.91	4.28	1.40	8.28	2.31	3.14	0.80	15.74	3.11
3. Sclerotia, %	1.70	0.60	4.60	1.33	3.77	0.42	14.86	5.02	1.14	0.10	3.56	0.82
4. Foreign Matter, %	0.88	0.26	1.84	0.51	1.20	0.60	2.50	0.66	1.29	0.10	4.78	1.03
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	4.92	2.80	9.16	2.28	9.25	2.82	24.14	7.14	5.57	2.36	22.52	4.19
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	2	0	20	6.32	0	0	0	0.00	1	0	20	4.36
Poisonous seeds (<i>Argemone mexicana L.</i> , <i>Convolvulus sp.</i> , <i>Ipomoea purpurea Roth.</i> , <i>Lolium temulentum</i> , <i>Xanthium sp.</i>)	0	0	0	0.00	0	0	0	0.00	0	0	10	2.18
Number of samples	10				7				21			
<u>Nutritional analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (5 hr, 105 °C)	5.4	4.0	6.6	1.00	4.9	4.0	6.1	0.76	5.0	3.8	5.8	0.63
Crude Protein, % (as is)	13.78	12.60	15.48	0.84	14.23	13.37	15.07	0.57	13.36	11.91	14.30	0.61
Crude Fat, % (as is)	38.4	36.4	41.2	1.56	38.5	36.3	41.3	1.95	37.6	33.4	40.0	1.67
Crude Fibre, % (as is)	22.5	20.6	24.3	1.17	21.2	20.0	23.1	1.08	24.3	21.6	28.8	1.73
Ash, % (as is)	2.65	2.42	2.75	0.10	2.79	2.64	3.15	0.18	2.60	2.31	2.82	0.13
Number of samples	10				7				21			

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REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(20) North-West Eastern Region				(21) Free State North-Western Region (Viljoenskroon)				(22) Free State North-Western Region (Bothaville)			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damaged sunflower seed, %	0.77	0.00	2.18	0.73	0.21	0.00	0.80	0.35	0.00	0.00	0.00	0.00
2. Screenings, %	2.89	0.88	5.00	1.25	1.48	1.04	2.28	0.38	2.69	0.42	6.24	3.12
3. Sclerotia, %	2.38	0.40	4.08	1.72	1.29	0.00	4.00	1.31	0.22	0.00	0.66	0.38
4. Foreign Matter, %	0.52	0.12	1.20	0.39	1.02	0.22	2.02	0.60	1.42	1.04	1.80	0.38
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	5.79	3.84	9.62	2.06	3.79	2.30	6.20	1.44	4.33	1.84	8.70	3.80
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	0	0	0.00	3	0	20	7.07	0	0	0	0.00
Poisonous seeds (<i>Argemone mexicana L.</i> , <i>Convolvulus sp.</i> , <i>Ipomoea purpurea Roth.</i> , <i>Lolium temulentum</i> , <i>Xanthium sp.</i>)	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00
Number of samples	7				8				3			
<u>Nutritional analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (5 hr, 105 °C)	4.3	3.0	5.5	0.84	4.8	4.2	5.7	0.57	5.0	4.6	5.7	0.64
Crude Protein, % (as is)	14.03	13.77	14.59	0.28	13.86	11.69	15.23	1.02	14.53	12.64	17.65	2.72
Crude Fat, % (as is)	40.1	37.5	43.0	1.86	38.4	37.3	39.9	0.97	38.8	36.4	40.6	2.18
Crude Fibre, % (as is)	21.0	19.3	22.9	1.08	23.7	21.3	25.2	1.32	24.0	22.3	25.6	1.66
Ash, % (as is)	2.53	2.41	2.68	0.09	2.57	2.30	2.75	0.15	2.64	2.61	2.68	0.04
Number of samples	7				8				3			

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REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(23) Free State North-Western Region				(24) Free State Central Region				(26) Free State South-Eastern Region			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damaged sunflower seed, %	0.17	0.00	0.68	0.34	0.00	0.00	0.00	0.00	0.06	0.00	0.76	0.22
2. Screenings, %	1.27	0.64	2.00	0.66	1.59	0.16	3.40	1.06	1.94	0.60	5.46	1.27
3. Sclerotia, %	0.08	0.00	0.32	0.16	0.36	0.00	2.04	0.64	1.80	0.10	9.00	2.82
4. Foreign Matter, %	1.14	0.26	1.80	0.64	1.57	0.16	4.40	1.35	1.35	0.64	4.00	0.93
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	2.49	1.38	3.44	1.00	3.52	0.32	6.80	1.98	5.09	2.32	15.88	3.92
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	0	0	0.00	2	0	20	5.55	0	0	0	0.00
Poisonous seeds (<i>Argemone mexicana L.</i> , <i>Convolvulus sp.</i> , <i>Ipomoea purpurea Roth.</i> , <i>Lolium temulentum</i> , <i>Xanthium sp.</i>)	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00
Number of samples	4				13				12			
<u>Nutritional analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (5 hr, 105 °C)	6.4	4.6	7.8	1.62	5.6	4.9	6.2	0.43	5.5	4.6	5.9	0.41
Crude Protein, % (as is)	14.35	13.73	14.56	0.41	13.88	10.79	17.05	1.81	13.02	11.98	14.39	0.81
Crude Fat, % (as is)	35.9	34.7	36.8	0.87	37.6	34.5	41.0	2.30	36.7	30.6	40.1	2.81
Crude Fibre, % (as is)	23.9	23.3	24.4	0.46	24.0	22.7	25.9	1.11	23.4	20.0	26.4	1.76
Ash, % (as is)	2.64	2.52	2.76	0.13	2.61	2.40	2.84	0.15	2.67	2.41	3.03	0.23
Number of samples	4				13				12			

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REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(27) Free State Northern Region				(28) Free State Eastern Region				(29) Mpumalanga Southern Region			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damaged sunflower seed, %	0.00	-	-	-	0.00	0.00	0.00	0.00	0.37	0.00	1.10	0.51
2. Screenings, %	2.16	-	-	-	1.31	0.20	2.26	0.79	1.71	0.60	5.24	1.49
3. Sclerotia, %	1.00	-	-	-	0.42	0.00	1.12	0.44	0.45	0.00	1.60	0.62
4. Foreign Matter, %	1.40	-	-	-	0.97	0.52	1.66	0.52	2.11	0.40	4.90	1.59
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	4.56	-	-	-	2.70	1.22	4.62	1.35	4.27	1.82	9.66	2.76
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	-	-	-	0	0	0	0.00	0	0	0	0.00
Poisonous seeds (<i>Argemone mexicana L.</i> , <i>Convolvulus sp.</i> , <i>Ipomoea purpurea Roth.</i> , <i>Lolium temulentum</i> , <i>Xanthium sp.</i>)	0	-	-	-	0	0	0	0.00	3	0	20	7.07
Number of samples	1				5				8			
<u>Nutritional analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (5 hr, 105 °C)	5.4	-	-	-	5.6	5.2	6.6	0.58	4.8	4.5	5.1	0.27
Crude Protein, % (as is)	14.69	-	-	-	13.72	12.50	14.49	0.89	14.41	12.85	15.73	0.84
Crude Fat, % (as is)	35.7	-	-	-	38.8	36.8	40.9	1.58	38.6	34.9	42.1	2.77
Crude Fibre, % (as is)	24.0	-	-	-	22.7	22.0	23.3	0.56	22.1	20.4	24.9	1.40
Ash, % (as is)	2.59	-	-	-	2.78	2.50	3.39	0.35	2.63	2.37	2.84	0.16
Number of samples	1				5				8			

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REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(30) Mpumalanga Eastern Region				(33) Mpumalanga Northern Region				(34) Gauteng Region			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damaged sunflower seed, %	0.00	-	-	-	0.05	0.00	0.10	0.06	0.00	-	-	-
2. Screenings, %	1.80	-	-	-	2.23	1.80	3.00	0.53	2.10	-	-	-
3. Sclerotia, %	0.24	-	-	-	0.05	0.00	0.10	0.06	0.30	-	-	-
4. Foreign Matter, %	4.04	-	-	-	0.49	0.18	0.92	0.31	0.92	-	-	-
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	6.08	-	-	-	2.76	2.18	3.54	0.68	3.32	-	-	-
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	-	-	-	0	0	0	0.00	40	-	-	-
Poisonous seeds (<i>Argemone mexicana L.</i> , <i>Convolvulus sp.</i> , <i>Ipomoea purpurea Roth.</i> , <i>Lolium temulentum</i> , <i>Xanthium sp.</i>)	20	-	-	-	5	0	20	10.00	0	-	-	-
Number of samples	1				4				1			
<u>Nutritional analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (5 hr, 105 °C)	5.3	-	-	-	4.8	4.3	5.3	0.48	5.4	-	-	-
Crude Protein, % (as is)	16.77	-	-	-	12.96	12.52	13.62	0.47	14.94	-	-	-
Crude Fat, % (as is)	36.7	-	-	-	40.3	37.4	43.4	2.88	39.9	-	-	-
Crude Fibre, % (as is)	23.4	-	-	-	21.8	19.2	22.9	1.74	23.2	-	-	-
Ash, % (as is)	3.09	-	-	-	2.22	2.18	2.25	0.03	2.49	-	-	-
Number of samples	1				4				1			

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REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(35) Limpopo Region			
<u>Grading:</u>	ave	min	max	stdev
1. Damaged sunflower seed, %	0.00	0.00	0.00	0.00
2. Screenings, %	2.19	0.16	4.38	1.28
3. Sclerotia, %	0.01	0.00	0.10	0.04
4. Foreign Matter, %	0.93	0.10	2.00	0.54
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	3.14	0.26	5.92	1.56
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	1	0	20	5.34
Poisonous seeds (<i>Argemone mexicana L.</i> , <i>Convolvulus sp.</i> , <i>Ipomoea purpurea Roth.</i> , <i>Lolium temulentum</i> , <i>Xanthium sp.</i>)	0	0	0	0.00
Number of samples	27			
<u>Nutritional analysis:</u>	ave	min	max	stdev
Moisture, % (5 hr, 105 °C)	5.2	4.3	6.8	0.67
Crude Protein, % (as is)	15.42	12.76	19.73	1.40
Crude Fat, % (as is)	37.7	30.7	41.3	2.22
Crude Fibre, % (as is)	23.2	19.1	26.9	1.96
Ash, % (as is)	2.51	2.13	2.90	0.21
Number of samples	27			