

# South African

## Regional Sunflower Quality

PRODUCTION REGION	(14) North-West Southern Region				(15) North-West South-Eastern Region				(16) North-West Central-Eastern Region			
<b><u>Grading:</u></b>	<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, %	0.30	-	-	-	0.09	0.00	0.35	0.15	0.37	0.00	1.75	0.70
2. Screenings, %	2.45	-	-	-	2.63	0.64	9.68	3.48	2.08	1.27	4.00	1.04
3. Sclerotia, %	0.31	-	-	-	0.14	0.00	0.39	0.16	0.99	0.00	3.50	1.30
4. Foreign Matter, %	0.55	-	-	-	3.95	1.42	7.28	2.42	1.03	0.44	1.59	0.48
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	3.31	-	-	-	6.72	2.95	15.05	4.51	4.11	2.19	9.09	2.50
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	0	-	-	-	0	0	0	0.00	0	0	1	0.41
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	0	0	0	0.00
<b>Number of samples</b>	<b>1</b>				<b>6</b>				<b>6</b>			
<b><u>Nutritional analysis:</u></b>	<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)	4.8	-	-	-	4.8	4.4	5.2	0.28	4.5	3.6	5.2	0.61
Crude Protein, % (as is)	18.18	-	-	-	16.64	15.22	18.25	1.29	16.54	14.88	19.37	1.50
Crude Fat, % (as is)	36.3	-	-	-	36.5	34.9	39.8	1.83	37.7	33.0	40.2	2.63
Crude Fibre, % (as is)	22.9	-	-	-	22.9	20.0	24.6	1.68	22.7	21.1	24.4	1.29
Ash, % (as is)	2.71	-	-	-	2.83	2.56	3.12	0.19	2.47	2.02	3.02	0.39
<b>Number of samples</b>	<b>1</b>				<b>6</b>				<b>6</b>			

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PRODUCTION REGION	(17) North West Central-Northern Region (Ottosdal)				(18) North-West Central Region (Ventersdorp)				(21) Free State North-Western Region (Viljoenskroon)			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damaged sunflower seed, %	0.03	0.00	0.10	0.06	0.19	0.00	0.50	0.22	0.00	0.00	0.00	0.00
2. Screenings, %	2.44	2.01	2.72	0.38	5.55	1.28	11.42	4.51	0.91	0.41	2.03	0.64
3. Sclerotia, %	0.62	0.27	1.25	0.54	1.02	0.00	2.87	1.11	0.51	0.00	2.16	0.93
4. Foreign Matter, %	2.11	1.47	2.45	0.55	2.80	1.20	5.62	1.74	1.18	0.54	2.33	0.76
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	5.17	4.32	6.38	1.08	9.37	4.55	14.86	3.73	2.61	1.18	4.87	1.51
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	0	0	0	0.00	4	0	25	10.21	0	0	1	0.55
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	2	0	8	3.58
<b>Number of samples</b>	<b>3</b>				<b>6</b>				<b>5</b>			
<u>Nutritional analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (5 hr, 105 °C)	4.6	4.4	4.8	0.21	4.9	3.7	5.9	0.86	4.8	4.0	5.7	0.61
Crude Protein, % (as is)	15.62	14.51	16.92	1.22	15.52	14.60	16.42	0.65	17.09	16.13	18.05	0.80
Crude Fat, % (as is)	36.1	34.4	37.7	1.65	35.0	31.4	38.6	2.43	37.7	33.1	39.7	2.65
Crude Fibre, % (as is)	23.4	22.5	24.7	1.17	23.5	20.9	25.3	1.56	20.3	16.6	22.9	2.59
Ash, % (as is)	2.77	2.58	2.98	0.20	2.76	2.66	2.96	0.12	2.83	2.61	3.05	0.18
<b>Number of samples</b>	<b>3</b>				<b>6</b>				<b>5</b>			

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PRODUCTION REGION	(22) Free State North-Western Region (Bothaville)				(23) Free State North-Western Region (Bultfontein)				(24) Free State Central Region			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
<b><u>Grading:</u></b>												
1. Damaged sunflower seed, %	0.33	0.00	0.65	0.46	0.13	0.00	0.40	0.18	0.09	0.00	0.40	0.14
2. Screenings, %	1.09	0.40	1.77	0.97	1.68	0.79	2.99	0.78	2.53	0.20	7.78	1.74
3. Sclerotia, %	0.37	0.00	0.74	0.52	0.10	0.00	0.70	0.25	0.30	0.00	1.30	0.39
4. Foreign Matter, %	1.47	0.33	2.60	1.61	1.21	0.77	1.92	0.43	2.14	0.37	11.04	2.13
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	2.92	0.73	5.11	3.10	2.99	1.83	4.49	0.91	4.97	0.57	18.82	3.63
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	0	0	0	0.00	1	0	3	1.19	1	0	6	1.55
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
<b>Number of samples</b>	<b>2</b>				<b>8</b>				<b>26</b>			
<b><u>Nutritional analysis:</u></b>												
Moisture, % (5 hr, 105 °C)	4.7	4.5	4.8	0.21	4.3	3.6	4.9	0.49	4.8	3.6	5.9	0.55
Crude Protein, % (as is)	16.14	15.19	17.08	1.34	16.47	14.73	20.11	1.57	16.37	13.88	19.22	1.50
Crude Fat, % (as is)	37.2	32.3	42.0	6.86	38.8	31.7	42.6	3.55	35.6	28.8	41.5	4.00
Crude Fibre, % (as is)	23.2	20.5	25.8	3.75	20.6	18.5	22.5	1.27	23.2	19.7	26.4	1.94
Ash, % (as is)	2.84	2.65	3.03	0.27	2.83	2.34	3.31	0.28	2.76	2.39	3.41	0.22
<b>Number of samples</b>	<b>2</b>				<b>8</b>				<b>26</b>			

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## Regional Sunflower Quality

PRODUCTION REGION	(25) Free State South-Western Region				(26) Free State South-Eastern Region				(27) Free State Northern Region			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
<b><u>Grading:</u></b>												
1. Damaged sunflower seed, %	0.16	0.00	1.30	0.35	0.08	0.00	0.35	0.12	0.03	0.00	0.10	0.06
2. Screenings, %	2.16	0.48	5.21	1.44	3.12	0.56	5.17	1.96	1.39	0.52	2.87	1.29
3. Sclerotia, %	0.51	0.00	2.05	0.66	0.43	0.00	1.83	0.59	0.04	0.00	0.12	0.07
4. Foreign Matter, %	1.52	0.17	3.48	1.07	1.21	0.21	2.67	0.79	1.20	0.61	2.36	1.00
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	4.20	1.17	8.35	2.45	4.77	0.94	8.24	2.86	2.63	1.13	5.35	2.36
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	2	0	18	5.00	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	0.00	0	0	0	0.00	0	0	0	0.00
<b>Number of samples</b>	<b>16</b>				<b>11</b>				<b>3</b>			
<b><u>Nutritional analysis:</u></b>												
Moisture, % (5 hr, 105 °C)	5.4	4.0	9.2	1.32	4.8	4.4	5.2	0.24	4.6	4.0	5.0	0.51
Crude Protein, % (as is)	14.51	11.00	17.16	2.04	15.92	13.85	17.36	1.10	15.33	14.54	15.81	0.69
Crude Fat, % (as is)	38.8	36.5	41.9	1.60	37.8	33.2	40.7	2.21	40.6	37.4	43.4	3.02
Crude Fibre, % (as is)	21.7	18.1	26.0	1.71	22.5	21.6	23.5	0.56	21.3	19.6	23.8	2.23
Ash, % (as is)	2.66	2.47	2.81	0.09	2.73	2.46	3.06	0.17	2.55	2.45	2.60	0.08
<b>Number of samples</b>	<b>16</b>				<b>11</b>				<b>3</b>			

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## Regional Sunflower Quality

PRODUCTION REGION	(28) Free State Eastern Region				(34) Gauteng Region				(35) Limpopo Region			
<b><u>Grading:</u></b>	<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, %	0.10	0.00	0.20	0.09	0.00	-	-	-	0.07	0.00	0.35	0.13
2. Screenings, %	3.02	0.58	5.45	1.91	3.63	-	-	-	2.20	0.19	3.33	1.10
3. Sclerotia, %	0.32	0.00	0.82	0.42	0.00	-	-	-	0.03	0.00	0.24	0.09
4. Foreign Matter, %	2.33	1.12	3.33	1.10	1.41	-	-	-	1.13	0.16	1.98	0.56
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	5.67	2.47	8.78	2.84	5.04	-	-	-	3.36	0.35	5.00	1.47
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	0	0	0	0.00	1	-	-	-	1	0	12	3.21
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	-	-	-	3	0	46	12.29
<b>Number of samples</b>	<b>5</b>				<b>1</b>				<b>14</b>			
<b><u>Nutritional analysis:</u></b>	<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)	6.5	5.4	8.3	1.10	4.2	-	-	-	5.3	4.5	7.5	0.77
Crude Protein, % (as is)	15.23	13.12	17.02	1.80	15.39	-	-	-	16.29	14.86	18.20	1.02
Crude Fat, % (as is)	40.5	35.5	46.7	4.37	39.1	-	-	-	38.2	34.3	42.0	2.09
Crude Fibre, % (as is)	18.9	11.5	21.7	4.38	21.4	-	-	-	21.2	17.8	23.2	1.43
Ash, % (as is)	2.71	2.42	3.03	0.26	2.89	-	-	-	2.76	2.40	3.27	0.26
<b>Number of samples</b>	<b>5</b>				<b>1</b>				<b>14</b>			