

# SOUTH AFRICAN

## REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(12)				(13)				(14)			
	North-West Western Region				North-West Central Region (Sannieshof)				North-West Southern Region			
Silo/Intake stands (Type of storage)	Blaauwbank (Bins) Buhmannsdrif (Bins) Kameel (Bins) Mareetsane (Bins) Vryburg (Bins)				Biesiesvlei (Bins) Bossies (Bins) Gerdau (Bins) Oppaslaagte (Bins) Sannieshof (Bins)				Amalia (Bins) Barberspan (Bins) Delareyville (Bins) Excelsior (Bins) Geysdorp (Bins) Hallatshope (Bins) Migdol (Bins) Nooitgedacht (Bins) Schweizer-Reneke (Bins) Taaibospan (Bins)			
<b>Grading:</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
1. Damaged sunflower seed, %	0.13	0.00	0.64	0.23	0.03	0.00	0.24	0.08	0.00	0.00	0.00	0.00
2. Screenings, %	2.62	0.10	8.84	3.08	3.26	1.24	5.52	1.56	2.19	0.26	6.26	1.70
3. Sclerotia, %	0.04	0.00	0.30	0.11	0.13	0.00	0.40	0.16	0.05	0.00	0.22	0.08
4. Foreign Matter, %	0.53	0.20	1.16	0.29	1.63	0.10	3.50	1.13	0.80	0.32	1.74	0.36
5. Deviations in 2,3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	3.19	0.42	9.74	3.15	5.02	2.12	6.96	1.65	3.04	0.80	7.54	1.91
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	0	0	0	0	0	0	0	0	1	0	10	2.72
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	0	0	0	0	0	0	0
<b>Number of samples</b>	<b>8</b>				<b>9</b>				<b>26</b>			
<b>Nutritional analysis:</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
Moisture, % (5 hr, 105 °C)	4.9	3.3	5.5	0.79	5.1	4.6	5.9	0.47	4.9	3.8	5.9	0.54
Crude Protein, % (as is)	17.54	16.45	19.81	1.07	17.15	14.00	19.77	1.62	16.73	14.76	18.53	1.05
Crude Fat, % (as is)	36.2	33.8	38.1	1.65	35.9	32.1	38.6	1.97	35.5	31.3	38.6	1.84
Crude Fibre, % (as is)	22.0	19.5	24.2	1.49	22.2	20.3	24.1	1.26	21.9	20.1	25.0	1.11
Ash, % (as is)	2.66	2.50	3.12	0.21	2.64	2.40	2.89	0.19	2.77	2.40	3.04	0.19
<b>Number of samples</b>	<b>8</b>				<b>9</b>				<b>26</b>			

# SOUTH AFRICAN

## REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(15)				(16)				(17)			
	North-West South-Eastern Region				North-West Central Eastern Region				North-West Central Northern Region (Ottosdal)			
Silo/Intake stands (Type of storage)	Bloemhof (Bins) Christiana (Bins) Hertzogville (Bins) Hoopstad (Bins) Kingswood (Bins) Kruising (Bunkers) Poppieland (Bunkers)				Bamboesspruit (Bins) Klerksdorp (Bins) Leeudoringstad (Bins) Makwassie (Bins) Regina (Bins) Strydpoort (Bins) Wolmaranstad (Bins)				Boschpoort (Bags/Bins/Bulk) Hartbeesfontein (Bins) Kleinarts (Bins) Melliodora (Bins) Ottosdal (Bins) Rostrataville (Bins) Vermaas (Bins) Werda (Bins)			
<b>Grading:</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
1. Damaged sunflower seed, %	0.03	0.00	0.20	0.07	0.04	0.00	0.16	0.06	0.14	0.00	0.86	0.27
2. Screenings, %	0.88	0.20	1.70	0.43	1.48	0.18	6.88	1.83	2.34	0.86	3.36	0.70
3. Sclerotia, %	0.12	0.00	0.76	0.25	0.45	0.00	1.60	0.52	0.17	0.00	0.60	0.15
4. Foreign Matter, %	0.90	0.24	1.62	0.48	0.85	0.16	1.86	0.63	1.19	0.30	2.04	0.41
5. Deviations in 2,3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	1.90	1.20	2.90	0.53	2.78	0.36	8.82	2.13	3.70	2.20	4.98	0.82
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	2	0	20	6.67	1	0	10	2.77	1	0	20	5.16
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	0	0	0	0	0	0	0
<b>Number of samples</b>	<b>9</b>				<b>13</b>				<b>15</b>			
<b>Nutritional analysis:</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
Moisture, % (5 hr, 105 °C)	5.2	4.3	5.6	0.45	4.7	4.1	5.2	0.33	4.9	4.3	6.2	0.59
Crude Protein, % (as is)	18.24	16.44	20.09	1.15	17.22	15.55	18.59	0.78	17.49	15.98	19.28	0.99
Crude Fat, % (as is)	35.3	29.9	41.0	3.27	36.5	31.8	39.5	2.21	36.9	34.1	42.2	1.92
Crude Fibre, % (as is)	21.9	18.5	26.8	2.39	21.3	19.0	23.3	1.27	22.1	20.3	24.1	1.20
Ash, % (as is)	2.89	2.68	3.48	0.25	2.67	2.39	3.05	0.20	2.63	2.38	2.88	0.14
<b>Number of samples</b>	<b>9</b>				<b>13</b>				<b>15</b>			

# SOUTH AFRICAN REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION  Silo/Intake stands (Type of storage)	(18)				(19)				(20)			
	North-West Central Region (Ventersdorp)				North-West Central Region (Lichtenburg)				North-West Eastern Region			
	Bodenstein (Bins)				Grootpan (Bins)				Battery (Bins)			
	Buckingham (Bins)				Halfpad (Bins)				Brits (Bins)			
	Coligny (Bins)				Hibernia (Bins)				Boons (Bins)			
	Enselspruit (Bins)				Lichtenburg (Bins/Bunkers)				Derby (Bins)			
	Makokskraal (Bins)				Lottie Halte (Bins)				Koster (Bins)			
	Potchefstroom (Bins)				Lusthof (Bins)				Swartruggens (Bins)			
	Ventersdorp (Bins)				Mafikeng (Bins)				Syferbult (Bins)			
<b><u>Grading:</u></b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
1. Damaged sunflower seed, %	1.60	0.00	9.35	3.80	0.25	0.00	1.60	0.55	0.11	0.00	0.56	0.25
2. Screenings, %	1.81	0.38	2.70	0.79	1.59	0.72	2.92	0.70	4.64	2.30	8.16	2.43
3. Sclerotia, %	0.00	0.00	0.00	0.00	0.06	0.00	0.22	0.08	0.12	0.00	0.44	0.19
4. Foreign Matter, %	0.87	0.30	2.60	0.88	1.71	0.60	3.34	1.15	1.93	0.94	3.96	1.17
5. Deviations in 2,3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	2.68	1.32	5.30	1.36	3.36	1.72	5.34	1.73	6.69	3.94	9.76	2.12
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	0	0	0	0	3	0	20	7.07	2	0	10	4.47
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	3	0	20	7.07	0	0	0	0
<b>Number of samples</b>	<b>6</b>				<b>8</b>				<b>5</b>			
<b><u>Nutritional analysis:</u></b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
Moisture, % (5 hr, 105 °C)	5.2	4.1	6.8	1.03	5.4	4.0	7.1	1.14	4.9	3.8	5.9	0.81
Crude Protein, % (as is)	16.52	14.73	17.94	1.20	16.53	12.40	18.15	1.77	16.76	13.79	19.16	2.19
Crude Fat, % (as is)	36.1	33.6	38.4	1.91	36.7	31.0	42.4	3.09	36.7	35.2	37.5	0.96
Crude Fibre, % (as is)	21.8	20.4	23.8	1.35	22.7	20.8	25.5	1.37	21.4	18.6	24.0	2.29
Ash, % (as is)	2.69	2.55	2.83	0.11	2.72	2.52	2.89	0.11	2.67	2.44	2.87	0.17
<b>Number of samples</b>	<b>6</b>				<b>8</b>				<b>5</b>			

# SOUTH AFRICAN REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION  Silo/Intake stands (Type of storage)	(21) Free State North-Western Region (Viljoenskroon)				(22) Free State North-Western Region (Bothaville)				(23) Free State North-Western Region (Bultfontein)			
	Attie (Bins)				Allanridge (Bins)				Bultfontein (Bins)			
	Groenebloem (Bins)				Bothaville (Bins)				Kaalplaas (Bins)			
	Heuningspruit (Bins)				Mirage (Bins)				Losdoorns (Bins)			
	Kommandonek (Bunkers)				Misgunst (Bunkers)				Protespan (Bins)			
	Koppies (Bins)				Odendaalsrus (Bins)				Tierfontein (Bins)			
	Rooiwal (Bins)				Schoonspruit (Bins)				Wesselsbron (Bins)			
	Vierfontein (Bins)				Schuttesdraai (Bins)				Willemsrust (Bins)			
	Viljoenskroon (Bins)											
	Vredefort (Bins)											
	Weiveld (Bins)											
<b>Grading:</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
1. Damaged sunflower seed, %	0.18	0.00	0.78	0.26	0.00	0.00	0.00	0.00	0.39	0.00	1.60	0.64
2. Screenings, %	1.81	1.24	2.54	0.48	1.09	0.26	2.00	0.87	1.32	0.40	1.60	0.38
3. Sclerotia, %	0.21	0.00	1.34	0.47	0.00	0.00	0.00	0.00	0.01	0.00	0.08	0.03
4. Foreign Matter, %	0.70	0.10	1.72	0.60	0.89	0.24	1.30	0.57	0.95	0.34	1.82	0.53
5. Deviations in 2,3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	2.72	1.66	3.98	0.77	1.98	0.50	3.14	1.35	2.28	0.84	3.28	0.80
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	0	0	0	0	0	0	0	0	2	0	20	6.67
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	0	0	0	0	0	0	0
<b>Number of samples</b>	<b>8</b>				<b>3</b>				<b>9</b>			
<b>Nutritional analysis:</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
Moisture, % (5 hr, 105 °C)	4.5	3.8	5.3	0.49	4.5	4.1	4.7	0.32	5.1	4.0	5.8	0.62
Crude Protein, % (as is)	16.57	15.21	17.60	0.82	16.40	15.34	16.94	0.92	18.55	17.48	19.93	0.83
Crude Fat, % (as is)	39.6	37.5	42.1	1.56	39.7	38.2	41.6	1.75	34.8	28.3	43.2	4.49
Crude Fibre, % (as is)	20.7	19.6	21.9	0.75	20.9	20.4	21.7	0.68	21.9	17.8	23.9	1.90
Ash, % (as is)	2.71	2.47	2.97	0.16	2.60	2.54	2.65	0.06	2.86	2.66	3.24	0.21
<b>Number of samples</b>	<b>8</b>				<b>3</b>				<b>9</b>			

# SOUTH AFRICAN

## REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(24)				(26)				(27)			
	Free State Central Region				Free State South-Eastern Region				Free State Northern Region			
Silo/Intake stands (Type of storage)	Bainsvlei (Bins) Bloemfontein (Bins) Brandfort (Bins) De Brug (Bins) Geneva (Bins) Hennenman (Bins) Kroonstad (Bins) Petrusburg (Bins) Theunissen (Bins) Van Tonder (Bins) Welgeleë (Bins) Winburg (Bins)				Arlington (Bins) Kaallaagte (Bins) Libertas (Bins) Marquard (Bins) Meets (Bins) Monte Video (Bins) Senekal (Bins) Steynsrus (Bins) Tweespruit (Bins) Westminster (Bins)				Gottenburg (Bins) Heilbron (Bins) Hoogte Grainlink (Bins) Mooigeleë (Bins) Petrus Steyn (Bins) Wolwehoek (Bins)			
<b>Grading:</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
1. Damaged sunflower seed, %	0.55	0.00	2.80	0.90	0.85	0.00	5.12	1.38	0.78	0.00	1.22	0.57
2. Screenings, %	1.62	0.10	2.52	0.80	1.35	0.36	4.40	1.13	2.95	1.66	5.10	1.49
3. Sclerotia, %	0.05	0.00	0.44	0.13	0.40	0.00	2.04	0.46	0.08	0.00	0.16	0.09
4. Foreign Matter, %	1.38	0.76	3.20	0.64	1.77	0.30	12.00	2.26	2.27	1.40	3.56	0.95
5. Deviations in 2,3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	3.05	1.20	5.06	1.19	3.52	1.30	13.80	2.67	5.29	3.92	6.84	1.46
Poisonous seeds ( <i>Crotalaria</i> sp., <i>Datura</i> sp., <i>Ricinis communis</i> )	0	0	0	0	1	0	10	3.26	5	0	20	10.00
Poisonous seeds ( <i>Argemone mexicana</i> L., <i>Convolvulus</i> sp., <i>Ipomoea purpurea</i> Roth., <i>Lolium temulentum</i> , <i>Xanthium</i> sp.)	0	0	0	0	0	0	0	0	0	0	0	0
<b>Number of samples</b>	<b>12</b>				<b>26</b>				<b>4</b>			
<b>Nutritional analysis:</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
Moisture, % (5 hr, 105 °C)	5.2	4.6	5.9	0.41	4.6	3.7	5.3	0.38	4.6	3.9	5.3	0.57
Crude Protein, % (as is)	16.30	14.88	17.77	0.76	14.92	12.72	17.08	1.14	14.61	13.43	16.99	1.62
Crude Fat, % (as is)	35.4	30.6	38.0	2.09	38.9	35.2	42.0	1.70	39.2	38.2	40.1	0.80
Crude Fibre, % (as is)	22.5	19.3	24.5	1.59	22.8	20.2	25.9	1.52	22.4	20.6	24.0	1.39
Ash, % (as is)	2.65	2.43	2.98	0.13	2.62	2.48	2.80	0.10	2.49	2.17	2.68	0.22
<b>Number of samples</b>	<b>12</b>				<b>26</b>				<b>4</b>			

## SOUTH AFRICAN REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(28)				(29)				(33)			
	Free State Eastern Region				Mpumalanga Southern Region				Mpumalanga Northern Region			
Silo/Intake stands (Type of storage)	Afrikaskop (Bins/Bunkers) Ascent (Bins) Cornelia (Bins) Daniëlsrus (Bins) Eeram (Bins) Frankfort (Bins) Harrismith (Bins) Jim Fouché (Bins) Kransfontein (Bins/Bunkers) Memel (Bins) Reitz (Bins) Tweeling (Bins) Villiers (Bins/Bulk) Vrede (Bins) Warden (Bins) Windfield (Bins)				Balfour (Bins) Greylingstad (Bins) Grootvlei (Bins) Harvard (Bins) Holmdene (Bins) Leeuspruit (Bins) Platrand (Bins) Standerton (Bins) Val (Bins)				Arnot (Bins) Driefontein (Bins) Lydenburg (Bins) Marble Hall (Bins) Middelburg (Bins) Pan (Bins) Stoffberg (Bins) Wonderfontein (Bins)			
<b><u>Grading:</u></b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
1. Damaged sunflower seed, %	0.00	0.00	0.00	0.00	0.05	0.00	0.16	0.08	0.24	-	-	-
2. Screenings, %	1.82	0.60	3.04	1.73	1.17	0.28	3.20	0.99	2.46	-	-	-
3. Sclerotia, %	0.04	0.00	0.08	0.06	0.32	0.08	1.08	0.36	0.60	-	-	-
4. Foreign Matter, %	0.52	0.42	0.62	0.14	0.66	0.08	1.60	0.64	0.66	-	-	-
5. Deviations in 2,3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	2.38	1.10	3.66	1.81	2.15	0.60	3.66	1.11	3.72	-	-	-
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	0	0	0	0	0	0	0	0	0	-	-	-
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	0	0	0	0	-	-	-
<b>Number of samples</b>	<b>2</b>				<b>7</b>				<b>1</b>			
<b><u>Nutritional analysis:</u></b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>	<b>ave</b>	<b>min</b>	<b>max</b>	<b>stdev</b>
Moisture, % (5 hr, 105 °C)	4.5	4.2	4.7	0.35	4.5	4.1	4.8	0.25	4.4	-	-	-
Crude Protein, % (as is)	15.84	15.64	16.04	0.28	15.24	13.49	16.49	1.07	14.49	-	-	-
Crude Fat, % (as is)	38.6	37.7	39.5	1.27	40.0	39.3	40.9	0.59	40.2	-	-	-
Crude Fibre, % (as is)	20.8	19.7	21.8	1.48	20.4	19.2	21.7	0.76	21.0	-	-	-
Ash, % (as is)	2.62	2.57	2.66	0.06	2.59	2.40	2.72	0.14	2.35	-	-	-
<b>Number of samples</b>	<b>2</b>				<b>7</b>				<b>1</b>			

## SOUTH AFRICAN REGIONAL SUNFLOWER QUALITY

(35)	
PRODUCTION REGION	Limpopo
Silo/Intake stands (Type of storage)	Alma (Bins) Lehau (Bins) Naboomspruit (Mookgophong) (Bins) Nylstroom (Modimolle) (Bins) Nutfield (Bins) Potgietersrus (Mokopane) (Bins) Roedtan (Bins) Settlers (Bins) Warmbad (Bela-Bela) (Bins)
<b><u>Grading:</u></b>	<b>ave    min    max    stdev</b>
1. Damaged sunflower seed, %	0.12    0.00    0.34    0.16
2. Screenings, %	1.84    0.60    3.60    1.49
3. Sclerotia, %	0.02    0.00    0.10    0.04
4. Foreign Matter, %	0.68    0.34    0.94    0.27
5. Deviations in 2,3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	2.54    1.44    3.94    1.22
Poisonous seeds ( <i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i> )	8        0        30        13.01
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
<b>Number of samples</b>	<b>5</b>
<b><u>Nutritional analysis:</u></b>	<b>ave    min    max    stdev</b>
Moisture, % (5 hr, 105 °C)	4.5    3.2    5.4    0.81
Crude Protein, % (as is)	16.95    14.55    19.89    2.17
Crude Fat, % (as is)	38.6    34.1    42.2    3.17
Crude Fibre, % (as is)	20.2    15.9    23.6    2.95
Ash, % (as is)	2.74    2.64    2.94    0.12
<b>Number of samples</b>	<b>5</b>