

**SOUTH AFRICAN
REGIONAL SUNFLOWER QUALITY**

PRODUCTION REGION	(12)				(13)				(14)			
	North West Western Region				North West Central Region (Sannieshof)				North West Southern Region			
Intake silos	Bloubank Buhmannsdrif Kameel Kraaipan Madibogo Mafikeng Mareetsane Piet Plessis Springbokpan Vergeleë Vryburg Vryhof				Biesiesvlei Bossies Gerdau Oppaslaagte Sannieshof				Amalia Barberspan Delareyville Excelsior Geysdorp Hallat's Hope Migdol Nooitgedacht Schweizer-Reneke Taaibospan			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damage sunflower seed, %	0.14	0.00	0.86	0.28	1.06	0.00	10.50	3.15	0.41	0.00	4.59	1.32
2. Screenings, %	3.14	1.08	5.44	1.30	2.22	0.93	3.91	0.82	2.66	0.58	5.00	1.26
3. Sclerotinia, %	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00
4. Foreign Matter, %	1.63	0.70	5.08	1.37	1.63	0.00	5.95	1.64	1.41	0.28	3.38	0.98
5. Deviations in 2,3 and 4 collectively: Provided that such deviations are individually within the limits of said items, %	4.77	1.79	10.52	2.38	3.86	0.93	8.62	2.14	4.07	1.74	7.26	1.76
Noxious seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	0	0	0	0	0	0	0	0	0	0	0
Noxious 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
Number of samples	11				11				12			
<u>Chemical analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (1hr, 130 °C)	5.5	4.9	6.1	0.48	5.4	4.6	6.4	0.54	5.5	4.6	6.6	0.73
Crude Protein, % (db)	18.69	17.57	20.46	0.74	18.35	15.70	19.46	1.13	18.63	17.78	20.75	0.82
Crude Fat, % (db)	39.4	34.3	46.2	3.10	40.6	38.8	42.2	1.30	40.9	36.6	45.0	2.90
Ash, % (db)	2.77	2.53	3.00	0.16	2.67	2.30	2.90	0.17	2.67	2.10	3.01	0.22
Crude Fibre, % (db)	21.3	13.8	25.3	2.99	21.4	19.8	23.3	0.97	20.3	16.3	23.6	2.5
Number of samples	11				11				12			

**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)			
Intake silos	Bloemhof Christiana Hertzogville Hoopstad Kingswood				Bamboesspruit Klerksdorp Leeudoringstad Makwassie Regina Strydpoort Wolmaranstad				Bospoort Lethabong (Hartbeesfontein) Kleinharts Melliiodora Ottosdal Rostrataville Vermaas Werda			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damage sunflower seed, %	0.00	-	-	-	0.36	-	-	-	0.00	0.00	0.00	0.00
2. Screenings, %	2.01	-	-	-	0.64	-	-	-	2.56	1.31	7.50	1.80
3. Sclerotinia, %	0.00	-	-	-	0.00	-	-	-	0.00	0.00	0.00	0.00
4. Foreign Matter, %	0.86	-	-	-	1.25	-	-	-	1.69	0.47	2.93	0.86
5. Deviations in 2,3 and 4 collectively: Provided that such deviations are individually within the limits of said items, %	2.87	-	-	-	1.89	-	-	-	4.25	2.04	9.11	2.15
Noxious seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	-	-	-	0	-	-	-	0	0	0	0
Noxious 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
Number of samples	1				1				10			
<u>Chemical analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (1hr, 130 °C)	5.4	-	-	-	5.6	-	-	-	5.1	4.0	6.5	0.79
Crude Protein, % (db)	19.04	-	-	-	18.04	-	-	-	18.38	17.07	20.58	1.20
Crude Fat, % (db)	37.7	-	-	-	39.3	-	-	-	40.4	37.8	42.6	1.54
Ash, % (db)	2.68	-	-	-	2.73	-	-	-	2.65	2.37	2.91	0.19
Crude Fibre, % (db)	23.0	-	-	-	21.4	-	-	-	20.6	19.4	22.7	1.04
Number of samples	1				1				10			

**SOUTH AFRICAN
REGIONAL SUNFLOWER QUALITY**

PRODUCTION REGION	(18)				(19)				(20)			
	North West Central Region (Ventersdorp)				North West Central Region (Lichtenburg)				North West Eastern Region			
Intake silos	Bodenstein Buckingham Coligny Enselspruit Makokskraal Potchefstroom Ventersdorp				Grootpan Halfpad Hibernia Lichtenburg Lottiehalte Lusthof				Battery Boons Brits Derby Koster Rustenburg Swartruggens Syferbult Syferbult			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damage sunflower seed, %	5.13	0.00	60.79	17.53	0.00	0.00	0.00	0.00	0.07	0.00	0.45	0.17
2. Screenings, %	2.49	0.91	5.44	1.48	2.12	1.15	3.73	0.95	2.34	1.21	4.05	0.85
3. Sclerotinia, %	0.09	0.00	1.09	0.31	0.00	0.00	0.00	0.00	0.03	0.00	0.41	0.11
4. Foreign Matter, %	1.32	0.44	3.26	0.69	1.93	0.86	3.67	1.16	1.86	0.67	7.48	1.83
5. Deviations in 2,3 and 4 collectively: Provided that such deviations are individually within the limits of said items, %	3.90	1.35	9.04	2.14	4.05	2.14	6.09	1.41	4.23	2.25	9.22	1.79
Noxious seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	0	0	0	0	0	0	0	0	0	0	0
Noxious 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
Number of samples	12				6				13			
<u>Chemical analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (1hr, 130 °C)	5.4	4.3	6.4	0.59	5.1	4.9	5.7	0.31	5.1	4.2	5.9	0.49
Crude Protein, % (db)	17.81	15.53	19.04	1.04	18.89	18.49	19.56	0.45	17.04	14.58	20.66	2.03
Crude Fat, % (db)	41.7	39.9	46.3	1.65	40.2	38.0	41.8	1.43	42.3	37.8	44.9	1.96
Ash, % (db)	2.64	2.44	2.81	0.14	2.76	2.69	2.84	0.07	2.49	1.98	3.03	0.28
Crude Fibre, % (db)	20.6	19.4	21.7	0.78	20.1	19.3	21.6	0.95	20.9	18.2	23.3	1.68
Number of samples	12				6				13			

SOUTH AFRICAN REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(21)				(22)				(23)			
	Free State North-Western Region (Viljoenskroon)				Free State North-Western Region (Bothaville)				Free State North-Western Region (Bultfontein)			
Intake silos	Attie Groenebloem Heuningspruit Koppies Rooiwal Vierfontein Viljoenskroon Vredefort Weiveld				Allanridge Bothaville Mirage Odendaalsrus Schoonspruit Schuttendraai				Bultfontein Losdoorns Protespan Tierfontein Wesselsbron Willemsrust			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damage sunflower seed, %	0.05	0.00	0.53	0.16	0.17	0.00	0.87	0.39	0.92	0.00	6.26	2.36
2. Screenings, %	1.42	0.62	2.23	0.52	1.29	0.29	2.52	0.84	3.62	1.25	7.94	2.62
3. Sclerotinia, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4. Foreign Matter, %	1.01	0.24	2.01	0.66	0.84	0.38	2.20	0.77	1.84	0.60	4.88	1.48
5. Deviations in 2,3 and 4 collectively: Provided that such deviations are individually within the limits of said items, %	2.43	1.07	3.77	0.80	2.13	0.83	3.76	1.27	5.46	2.26	9.60	2.54
Noxious seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	0	0	0	0	0	0	0	0	0	0	0
Noxious 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
Number of samples	11				5				7			
<u>Chemical analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (1hr, 130 °C)	4.7	4.1	5.3	0.34	4.7	4.1	4.9	0.35	5.5	4.8	6.3	0.65
Crude Protein, % (db)	17.52	16.76	18.25	0.46	18.04	16.96	20.16	1.29	18.31	17.45	19.18	0.57
Crude Fat, % (db)	41.3	40.1	42.9	0.77	41.5	38.7	42.6	1.60	41.1	39.0	43.8	1.54
Ash, % (db)	2.68	2.35	2.86	0.16	2.68	2.52	2.81	0.12	2.78	2.62	3.07	0.14
Crude Fibre, % (db)	21.5	18.4	23.3	1.72	21.0	19.9	22.3	0.97	22.1	20.5	23.2	0.88
Number of samples	11				5				7			

**SOUTH AFRICAN
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PRODUCTION REGION	(24) Free State Central Region				(25) Free State South-Western Region				(26) Free State South-Eastern Region			
Intake silos	Bloemfontein				Bethlehem				Arlington			
	Brandfort				Clocolan				Kaallaagte			
	De Brug				De Wetsdorp				Libertas			
	Geneva				Ficksburg				Marquard			
	Hennenman				Fouriesburg				Meets			
	Koffiefontein				Marseilles				Monte Video			
	Kroonstad				Modderpoort				Senekal			
	Petrusburg				Slabberts				Steynsrus			
	Schuttendraai				Tweespruit							
	Theunissen				Westminster							
	Van Tonder				Zastron							
	Welgeleë											
	Winburg											
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damage sunflower seed, %	0.00	0.00	0.00	0.00	0.01	0.00	0.10	0.03	0.29	0.00	1.55	0.55
2. Screenings, %	3.39	0.38	6.10	2.63	2.63	0.53	5.26	1.38	1.66	0.35	4.73	1.42
3. Sclerotinia, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01
4. Foreign Matter, %	1.32	0.74	2.29	0.70	0.89	0.36	2.13	0.53	1.94	0.47	5.47	1.80
5. Deviations in 2,3 and 4 collectively: Provided that such deviations are individually within the limits of said items, %	4.71	1.26	7.45	3.14	3.52	0.91	6.55	1.74	3.60	1.28	8.50	2.70
Noxious seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	0	0	0	0	0	0	0	0	0	0	0
Noxious 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
Number of samples	4				10				10			
<u>Chemical analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (1hr, 130 °C)	4.8	4.2	5.6	0.62	4.5	3.6	6.0	0.62	5.6	4.5	6.3	0.52
Crude Protein, % (db)	17.74	16.70	19.57	1.35	15.37	11.88	18.38	1.64	17.09	15.08	18.62	1.02
Crude Fat, % (db)	40.9	40.4	42.1	0.81	42.6	40.2	48.2	2.46	41.7	40.7	43.1	0.78
Ash, % (db)	2.66	2.54	2.86	0.14	2.64	2.52	2.84	0.10	2.73	2.63	2.82	0.06
Crude Fibre, % (db)	21.0	19.9	22.3	1.16	21.5	20.4	23.2	1.06	21.6	19.8	23.8	1.40
Number of samples	4				10				10			

**SOUTH AFRICAN
REGIONAL SUNFLOWER QUALITY**

PRODUCTION REGION	(27) Free State Northern Region				(28) Free State Eastern Region				(29) Mpumalanga Southern Region						
	Intake silos				Gottenburg Heilbron Hoogte Mooigeleë Petrus Steyn Wolwehoek				Afrikaskop Vrede Ascent Warden Cornelia Windfield Daniëlsrus Eeram Frankfort Harrismith Jim Fouché Kransfontein Memel Reitz Tweeling Villiers				Balfour Grootvlei Holmdene Platrand Val Greylingstad Harvard Leeuspruit Standerton		
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev			
1. Damage sunflower seed, %	0.09	0.00	0.16	0.08	0.02	0.00	0.16	0.06	0.07	0.00	0.29	0.15			
2. Screenings, %	1.52	1.16	2.10	0.51	1.10	0.20	4.06	1.27	0.76	0.12	1.46	0.70			
3. Sclerotinia, %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
4. Foreign Matter, %	0.80	0.41	1.50	0.61	0.72	0.40	1.30	0.34	0.43	0.20	0.80	0.26			
5. Deviations in 2,3 and 4 collectively: Provided that such deviations are individually within the limits of said items, %	2.32	1.72	2.66	0.52	1.81	0.70	5.06	1.40	1.18	0.38	2.26	0.93			
Noxious seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	0	0	0	0	0	0	0	0	0	0	0			
Noxious 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			
Number of samples	3				8				4						
<u>Chemical analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev			
Moisture, % (1hr, 130 °C)	4.4	4.3	4.5	0.10	4.5	3.9	5.9	0.70	4.2	3.9	4.7	0.36			
Crude Protein, % (db)	16.95	15.18	18.56	1.70	16.49	13.18	19.04	1.91	16.52	15.07	18.82	1.67			
Crude Fat, % (db)	43.4	41.3	44.5	1.79	43.4	40.0	47.4	2.56	42.2	39.7	43.5	1.73			
Ash, % (db)	2.74	2.58	2.87	0.15	2.82	2.40	3.68	0.39	2.44	2.27	2.80	0.24			
Crude Fibre, % (db)	20.2	19.3	21.2	0.95	20.7	16.2	24.0	2.16	21.2	20.2	21.8	0.71			
Number of samples	3				8				4						

**SOUTH AFRICAN
REGIONAL SUNFLOWER QUALITY**

PRODUCTION REGION	(32)				(33)				(34)			
	Mpumalanga Western Region				Mpumalanga Northern Region				Gauteng			
Intake silos	Argent Dryden Endicott Elof Hawerklip Kendal Ogies				Driefontein Lydenburg Marble Hall Middelburg Stoffberg Pan Annot Wonderfontein				Bloekomspruit Bronkhorstspruit Glenroy Goeie Hoek Kaalfontein Middelvlei Nigel Oberholzer Raarthsvele			
<u>Grading:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damage sunflower seed, %	0.82	-	-	-	0.00	-	-	-	0.07	0.00	0.14	0.10
2. Screenings, %	1.24	-	-	-	2.62	-	-	-	0.54	0.17	0.90	0.52
3. Sclerotinia, %	0.00	-	-	-	0.00	-	-	-	0.00	0.00	0.00	0.00
4. Foreign Matter, %	2.65	-	-	-	1.07	-	-	-	0.95	0.54	1.35	0.57
5. Deviations in 2,3 and 4 collectively: Provided that such deviations are individually within the limits of said items, %	3.89	-	-	-	3.69	-	-	-	1.48	0.71	2.25	1.09
Noxious seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	-	-	-	0	-	-	-	0	0	0	0
Noxious 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
Number of samples	1				1				2			
<u>Chemical analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (1hr, 130 °C)	5.6	-	-	-	5.0	-	-	-	4.1	4.0	4.2	0.14
Crude Protein, % (db)	16.04	-	-	-	13.68	-	-	-	16.92	16.75	17.09	0.24
Crude Fat, % (db)	40.6	-	-	-	45.0	-	-	-	42.9	42.1	43.6	1.06
Ash, % (db)	2.83	-	-	-	2.75	-	-	-	2.44	2.39	2.49	0.07
Crude Fibre, % (db)	25.3	-	-	-	20.0	-	-	-	19.8	19.4	20.1	0.49
Number of samples	1				1				2			

**SOUTH AFRICAN
REGIONAL SUNFLOWER QUALITY**

PRODUCTION REGION	(35)			
	Limpopo			
Intake silos	Alma			Tzaneen
	Bela-Bela (Warmbad)			Vaalwater
	Crecy			
	Immerpan			
	Lehau			
	Modimolle (Nylstroom)			
	Mokopane (Potgietersrus)			
	Mookgophong (Naboomspruit)			
	Northam			
	Nutfield			
	Pienaarsrivier			
	Polokwane (Pietersburg)			
	Roedtan			
	Settlers			
	<u>Grading:</u>	ave	min	max
1. Damage sunflower seed, %	0.00	0.00	0.00	0.00
2. Screenings, %	1.55	0.44	2.56	0.77
3. Sclerotinia, %	0.00	0.00	0.00	0.00
4. Foreign Matter, %	2.58	0.53	4.78	1.68
5. Deviations in 2,3 and 4 collectively: Provided that such deviations are individually within the limits of said items, %	4.13	1.91	7.33	1.87
Noxious seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	0	0	0
Noxious 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
Number of samples	9			
<u>Chemical analysis:</u>	ave	min	max	stdev
Moisture, % (1hr, 130 °C)	5.4	4.6	6.0	0.47
Crude Protein, % (db)	18.60	14.86	23.02	2.15
Crude Fat, % (db)	40.4	34.9	42.3	2.34
Ash, % (db)	2.75	2.41	3.83	0.44
Crude Fibre, % (db)	21.0	18.8	22.5	1.11
Number of samples	9			