

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>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
1. Damaged sunflower seed, %	0.00	0.00	0.00	0.00	0.16	0.00	0.54	0.20	0.07	0.00	0.90	0.20
2. Screenings, %	1.67	0.91	2.46	0.56	3.90	2.50	5.80	1.12	1.76	0.20	5.92	1.34
3. Sclerotia, %	0.04	0.00	0.10	0.05	1.77	0.74	3.96	1.20	0.24	0.00	1.66	0.37
4. Foreign Matter, %	1.10	0.90	1.40	0.22	0.89	0.40	1.28	0.31	1.51	0.10	5.04	1.44
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	2.81	1.81	3.86	0.76	6.56	4.80	8.94	1.52	3.51	0.69	8.92	2.29
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	2	0	10	4.47	1	0	6	2.12	1	0	20	4.22
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	5				8				23			
<u>Nutritional analysis:</u>	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Moisture, % (5 hr, 105 °C)	4.8	4.1	5.5	0.52	4.0	3.0	5.9	0.96	4.8	3.4	6.1	0.70
Crude Protein, % (as is)	15.66	14.28	16.89	1.06	15.63	15.10	16.62	0.60	15.38	13.87	18.62	1.14
Crude Fat, % (as is)	37.1	35.2	39.7	1.63	40.4	36.7	42.5	1.87	39.6	31.2	43.8	2.91
Crude Fibre, % (as is)	23.7	23.0	24.9	0.75	21.1	19.4	23.1	1.22	21.4	18.8	24.5	1.74
Ash, % (as is)	2.67	2.39	3.15	0.29	2.73	2.59	2.82	0.09	2.54	2.31	3.19	0.18
Number of samples	5				8				23			

South Africa REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(15) North-West South-Eastern Region				(16) North-West Central-Eastern Region				(17) North-West Central-Northern Region (Ottosdal)			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Grading:												
1. Damaged sunflower seed, %	0.03	0.00	0.18	0.07	0.08	0.00	0.18	0.09	0.07	0.00	0.24	0.11
2. Screenings, %	1.32	1.18	1.46	0.10	1.62	0.30	4.11	1.31	2.03	0.92	3.90	1.03
3. Sclerotia, %	0.04	0.00	0.22	0.09	0.28	0.00	0.64	0.24	1.05	0.09	2.18	0.73
4. Foreign Matter, %	1.61	0.71	4.17	1.30	1.59	0.26	5.10	1.85	1.53	0.30	6.00	1.99
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	2.97	2.17	5.35	1.20	3.49	2.04	9.53	2.96	4.61	1.86	10.02	2.80
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	0	0	0.00	0	0	0	0.00	1	0	5	1.89
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	6				6				7			
Nutritional analysis:												
Moisture, % (5 hr, 105 °C)	4.9	4.4	5.5	0.47	4.8	4.0	6.3	0.87	5.1	3.5	6.3	0.97
Crude Protein, % (as is)	17.18	15.73	19.13	1.54	15.73	14.18	18.33	1.55	15.16	14.40	15.57	0.38
Crude Fat, % (as is)	38.6	37.7	39.2	0.71	39.4	30.2	42.6	4.68	38.2	32.4	42.5	3.00
Crude Fibre, % (as is)	21.4	20.5	23.1	0.93	21.2	18.1	25.0	2.41	22.5	19.3	23.9	1.55
Ash, % (as is)	2.91	2.68	3.12	0.19	2.74	2.56	2.91	0.14	2.72	2.56	3.03	0.16
Number of samples	6				6				7			



South Africa REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(18) North-West Central Region (Ventersdorp)				(19) North-West Central Region (Lichtenburg)				(20) North-West Eastern 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, %	0.14	0.00	0.38	0.14	0.13	0.00	0.54	0.22	0.32	0.00	1.60	0.72
2. Screenings, %	1.66	0.84	3.62	1.00	4.84	2.18	12.02	3.73	2.76	1.18	6.70	2.29
3. Sclerotia, %	0.91	0.08	1.98	0.71	0.68	0.08	2.32	0.83	0.40	0.00	0.96	0.43
4. Foreign Matter, %	1.16	0.12	3.20	1.11	2.06	0.40	5.20	1.78	1.44	0.80	1.90	0.55
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	3.73	1.90	6.24	1.67	7.58	3.82	17.44	5.60	4.60	2.84	8.60	2.32
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	4	0	17	6.83	0	0	0	0.00	6	0	16	7.80
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	6				6				5			
<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)	4.4	3.1	5.0	0.67	5.0	2.9	6.2	1.16	4.9	3.6	6.1	1.02
Crude Protein, % (as is)	14.96	14.09	16.55	0.92	15.09	12.92	16.13	1.13	16.12	15.37	17.71	0.99
Crude Fat, % (as is)	40.4	39.4	41.8	0.90	39.2	36.3	47.0	4.05	38.4	37.3	40.0	1.38
Crude Fibre, % (as is)	21.7	20.4	22.5	0.88	23.4	22.3	24.4	0.98	21.2	20.8	21.7	0.35
Ash, % (as is)	2.71	2.53	2.97	0.15	2.74	2.62	2.82	0.08	2.63	2.47	2.83	0.15
Number of samples	6				6				5			

South Africa REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(21) Free State North-Western Region (Viljoenskroon)				(22) Free State North-Western Region (Bothaville)				(23) Free State North-Western Region (Bultfontein)			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Grading:												
1. Damaged sunflower seed, %	0.61	0.00	12.60	2.56	0.18	0.00	0.60	0.24	0.17	0.00	1.85	0.47
2. Screenings, %	2.58	0.36	6.16	1.51	3.10	1.04	6.70	2.10	2.69	0.70	6.23	1.58
3. Sclerotia, %	0.39	0.00	1.62	0.47	0.27	0.00	0.60	0.25	0.30	0.00	1.06	0.33
4. Foreign Matter, %	1.83	0.42	7.70	1.87	3.37	0.72	9.84	3.36	2.17	0.33	6.87	1.84
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	4.80	1.04	10.80	2.54	6.74	3.68	13.94	4.38	5.17	1.79	10.74	2.85
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	1	0	10	2.62	5	0	10	4.47	1	0	12	3.22
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	10	2.04	0	0	0	0.00	0	0	0	0.00
Number of samples	24				6				17			
Nutritional analysis:												
Moisture, % (5 hr, 105 °C)	4.7	3.5	7.5	0.88	5.2	4.8	5.5	0.27	5.1	4.5	5.9	0.46
Crude Protein, % (as is)	15.85	13.05	18.10	1.24	16.02	15.61	16.43	0.34	16.83	14.61	19.55	1.31
Crude Fat, % (as is)	39.0	34.4	44.5	2.51	36.3	32.6	38.6	2.38	37.7	32.5	42.5	2.77
Crude Fibre, % (as is)	21.5	16.8	24.8	1.86	22.7	20.1	25.5	1.88	21.9	15.7	24.5	2.12
Ash, % (as is)	2.75	2.31	3.14	0.21	2.73	2.46	3.04	0.20	2.86	2.32	3.29	0.26
Number of samples	24				6				17			

South Africa REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(24) Free State Central Region				(25) Free State South-Western Region				(26) Free State South-Eastern Region			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Grading:												
1. Damaged sunflower seed, %	0.05	0.00	0.32	0.11	0.12	0.00	0.24	0.17	0.34	0.00	0.72	0.29
2. Screenings, %	3.16	0.32	15.36	4.00	1.22	1.00	1.44	0.31	2.84	0.54	6.83	2.21
3. Sclerotia, %	0.34	0.00	1.78	0.47	1.05	0.24	1.86	1.15	2.95	0.56	7.84	2.36
4. Foreign Matter, %	1.15	0.55	2.76	0.66	1.65	1.50	1.80	0.21	1.71	0.50	4.44	1.30
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	4.66	1.61	18.28	4.50	3.92	3.04	4.80	1.24	7.50	2.66	13.29	4.01
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	3	0	40	11.55	4	0	8	5.66	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	12				2				9			
Nutritional analysis:												
Moisture, % (5 hr, 105 °C)	5.0	4.0	5.8	0.72	4.8	4.6	5.0	0.28	4.6	4.1	5.0	0.33
Crude Protein, % (as is)	14.67	12.74	16.02	0.98	14.77	14.13	15.41	0.91	13.70	12.64	15.42	1.01
Crude Fat, % (as is)	37.6	36.2	41.1	1.47	37.3	36.9	37.6	0.49	38.4	36.1	40.7	1.67
Crude Fibre, % (as is)	23.4	21.7	25.2	1.11	23.8	23.7	23.9	0.14	23.2	21.7	24.7	0.84
Ash, % (as is)	2.52	2.40	2.69	0.10	2.87	2.79	2.94	0.11	2.61	2.45	2.85	0.14
Number of samples	12				2				9			

South Africa REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(27) Free State Northern Region				(28) Free State Eastern Region				(29) Mpumalanga Southern Region			
	ave	min	max	stdev	ave	min	max	stdev	ave	min	max	stdev
Grading:												
1. Damaged sunflower seed, %	0.52	0.00	3.10	1.27	0.03	0.00	0.18	0.06	12.77	3.66	16.60	4.69
2. Screenings, %	2.24	0.86	4.00	1.46	1.23	0.52	2.32	0.60	1.29	0.90	2.28	0.50
3. Sclerotia, %	0.08	0.00	0.34	0.14	0.76	0.00	3.50	1.19	0.04	0.00	0.24	0.10
4. Foreign Matter, %	1.92	0.50	4.12	1.43	1.09	0.30	3.14	0.88	0.70	0.18	1.36	0.39
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	4.23	1.36	8.12	2.43	3.08	1.42	6.52	2.00	2.03	1.08	3.88	0.97
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	1	0	3	1.22	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
Number of samples	6				8				6			
Nutritional analysis:												
Moisture, % (5 hr, 105 °C)	5.0	4.6	5.5	0.38	4.2	3.2	5.4	0.76	4.7	4.5	5.1	0.28
Crude Protein, % (as is)	15.86	13.95	18.57	1.58	15.61	14.50	17.70	0.95	14.79	14.48	15.30	0.32
Crude Fat, % (as is)	39.0	36.0	41.8	2.07	40.1	35.4	43.1	2.36	39.7	37.1	41.3	1.53
Crude Fibre, % (as is)	22.0	20.8	22.7	0.80	20.9	18.1	25.4	2.63	24.1	21.3	25.2	1.44
Ash, % (as is)	2.50	2.35	2.69	0.13	2.55	2.10	2.83	0.21	2.21	2.14	2.36	0.08
Number of samples	6				8				6			

South Africa REGIONAL SUNFLOWER QUALITY

PRODUCTION REGION	(34) Gauteng Region				(35) Limpopo Region			
	ave	min	max	stdev	ave	min	max	stdev
Grading:								
1. Damaged sunflower seed, %	0.28	-	-	-	0.04	0.00	0.40	0.11
2. Screenings, %	4.79	-	-	-	2.55	0.36	6.74	1.86
3. Sclerotia, %	0.22	-	-	-	0.00	0.00	0.00	0.00
4. Foreign Matter, %	1.65	-	-	-	0.72	0.10	1.82	0.52
5. Deviations in 2, 3 and 4 collectively, %: Provided that such deviations are individually within the limits of said items	6.66	-	-	-	3.27	0.50	6.98	1.88
Poisonous seeds (<i>Crotalaria sp.</i> , <i>Datura sp.</i> , <i>Ricinis communis</i>)	0	-	-	-	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
Number of samples	1				13			
Nutritional analysis:								
Moisture, % (5 hr, 105 °C)	4.2	-	-	-	4.6	3.4	5.2	0.49
Crude Protein, % (as is)	11.54	-	-	-	17.08	15.01	19.84	1.34
Crude Fat, % (as is)	35.6	-	-	-	38.4	35.1	41.5	1.98
Crude Fibre, % (as is)	25.4	-	-	-	20.1	17.2	22.5	1.46
Ash, % (as is)	2.71	-	-	-	2.52	2.08	2.72	0.17
Number of samples	1				13			