

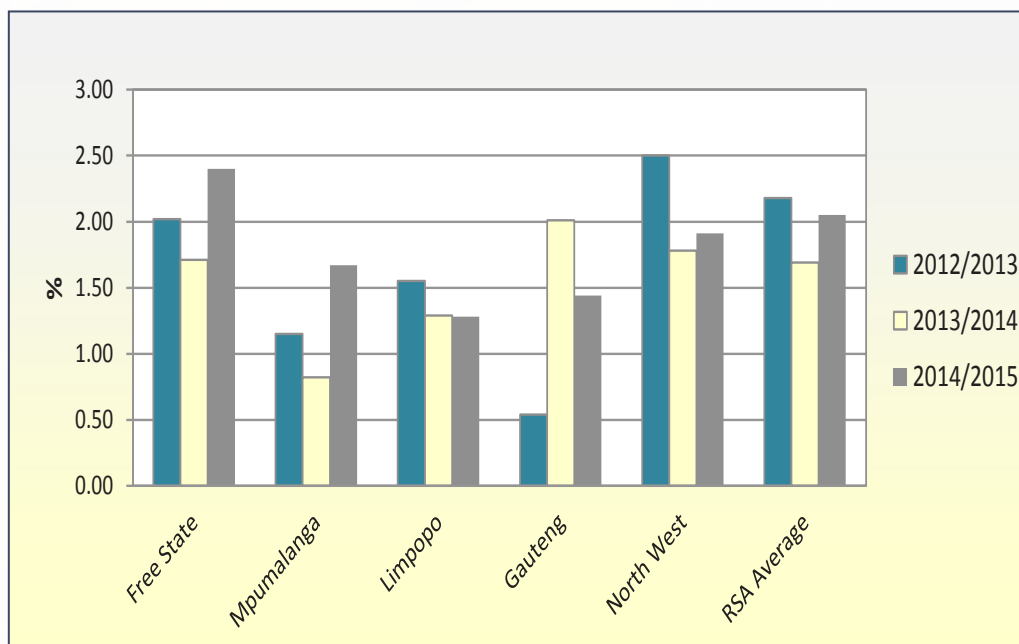
Sunflower Crop Quality 2014/2015 – Summary of results

Eighty six percent (151) of the 176 samples analysed for the purpose of this survey were graded as Grade FH1 and twenty five of the samples were downgraded to COSF (Class Other Sunflower Seed). The percentage of FH1 samples showed an increase compared to the 82% and 80% of the 2013/2014 and 2012/2013 seasons respectively.

- Twenty of the samples were downgraded as a result of the percentage of either the screenings or the collective deviations or a combination of both exceeding the maximum permissible deviations of 4% and 6% respectively.
- Two of the samples were downgraded as a result of a combination of the foreign matter and collective deviations exceeding the maximum permissible deviations of 4% and 6% respectively.
- Of the remaining three samples, one was downgraded due to the percentage damaged sunflower seeds exceeding the 10% maximum permissible deviation, one as a result of the presence of poisonous seeds (*Datura sp.*) exceeding the maximum permissible number (1 per 1000 g) and the last sample was downgraded as a result of the presence of stones, glass, metal, coal or dung.

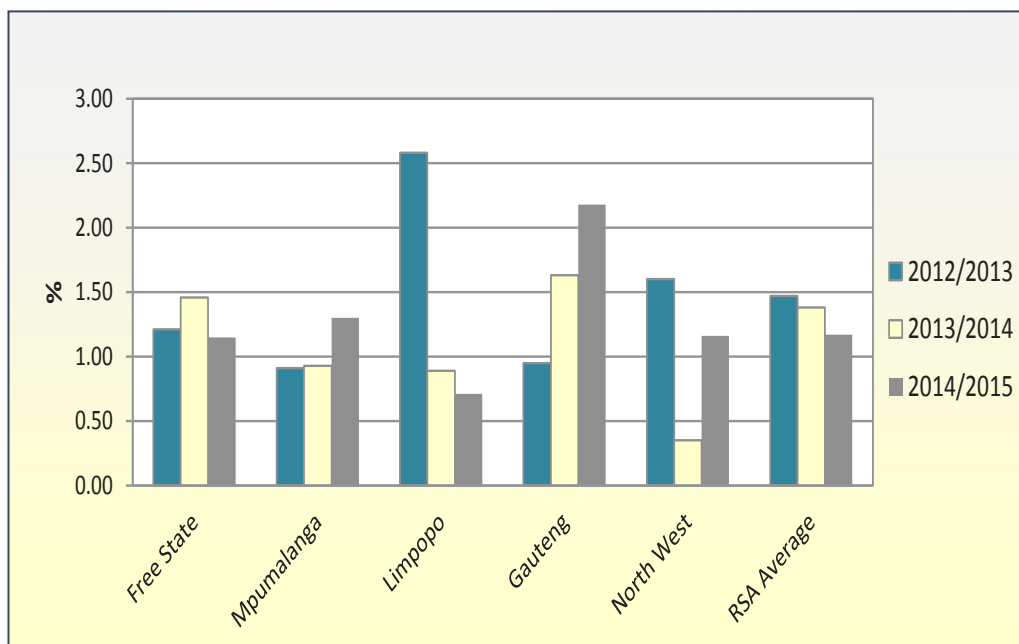
The Free State province (69 samples) reported the highest weighted average percentage screenings namely 2.40%, followed by North West (N = 86) and Mpumalanga (N = 8) provinces with 1.91% and 1.67% respectively. Limpopo (eight samples) reported the lowest average percentage screenings of 1.28%. The weighted national average was 2.05% compared to the 1.69% of the previous season.

Graph 16: Average percentage screenings per province over three seasons



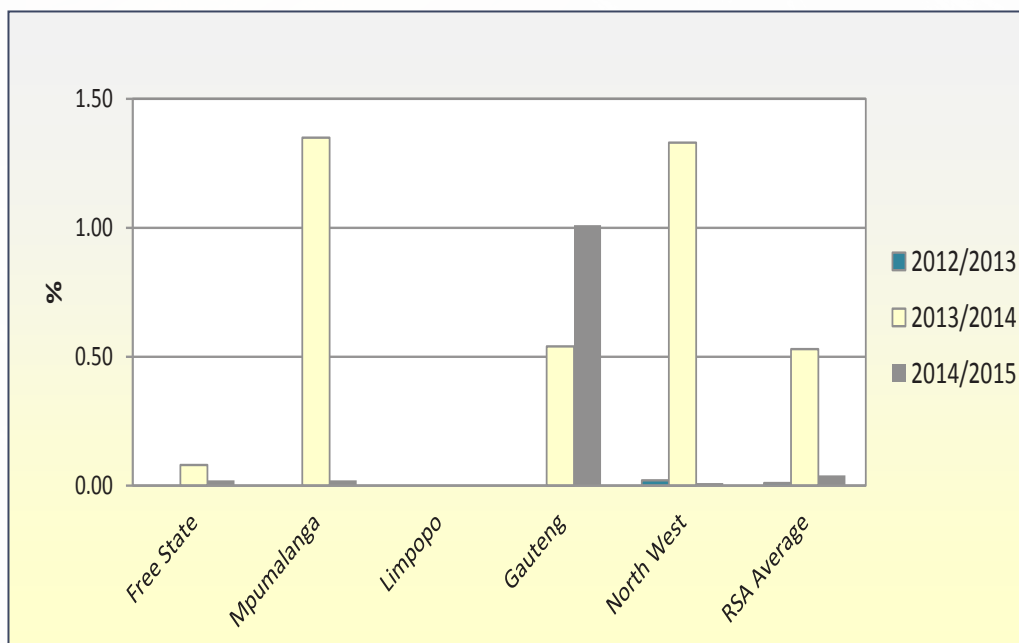
As in the previous season, the highest weighted percentage foreign matter (2.18%) was reported for the samples from Gauteng (N = 5). The Free State and North West provinces averaged 1.15% and 1.16% respectively. The lowest average percentage was found in Limpopo at 0.71%. The RSA average of 1.17% was the lowest of the last three seasons.

Graph 17: Average percentage foreign matter per province over three seasons



Sclerotinia did not pose a problem on any of the samples received for this survey and was observed on only nine of the samples. The highest percentage (3.03%) was present on a sample from Gauteng, this is however still well below the maximum allowable level of 4%. Sclerotinia was not observed on any of the samples from Limpopo. Very low weighted average levels ranged from 0.01% in the North West to 0.02% for both the Free State and Mpumalanga. Gauteng showed the highest weighted average of 1.01%. The national average of 0.04% compared well with the 0.01% of the 2012/2013 season and was lower than the 0.53% of the previous season.

Graph 18: Average percentage Sclerotinia per province over three seasons



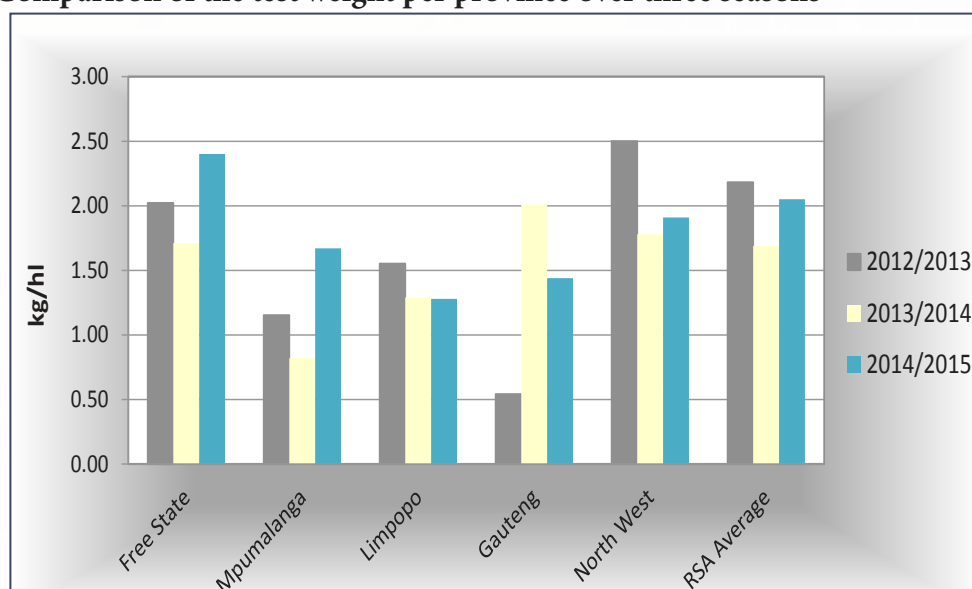
Test weight does not form part of the grading regulations for sunflower seed in South Africa. An approximation of the test weight of South African sunflower seeds is provided in Table 3 for information purposes. The g/1 L filling weight of sunflower seed were determined by means of the Kern 222 apparatus. The test weight was extrapolated by means of the following formulas obtained from the Test Weight Conversion Chart for Sunflower Seed, Oil of the Canadian Grain Commission: $y = 0.1936x + 2.2775$ (138 to 182 g/0.5 L) and $y = 0.1943x + 2.1665$ (183 to 227 g/0.5 L). Please see also Graph 19 for a comparison of the test weight per province over the last three seasons.

Table 3: Approximation of test weight per province over three seasons

Province	Test weight, kg/hl								
	2014/2015 Season			2013/2014 Season			2012/2013 Season		
	Weighted average	Range	No. of samples	Weighted average	Range	No. of samples	Weighted average	Range	No. of samples
Free State (Regions 21 - 28)	44.1	38.9 - 49.9	69	41.8	36.4 - 48.2	*96	43.8	38.3 - 47.7	58
Mpumalanga (Regions 29 - 33)	41.9	35.0 - 42.2	8	37.6	35.0 - 42.2	5	42.5	38.1 - 45.7	6
Limpopo (Region 35)	43.9	42.2 - 50.5	8	42.4	37.7 - 44.0	11	44.6	42.6 - 47.5	9
Gauteng (Region 34)	44.8	42.2 - 47.6	5	42.8	41.7 - 44.6	4	42.7	42.6 - 42.8	2
North West (Region 12 - 20)	44.5	34.0 - 48.9	86	40.2	31.1 - 46.6	58	43.0	31.5 - 47.3	77
RSA	44.2	34.0 - 50.5	176	41.3	22.6 - 48.2	174	43.4	31.5 - 47.7	152

* Two samples with outlier values as a result of Deviations (Screenings + Sclerotinia + Foreign matter) exceeding 18%, was not taken into account for calculation purposes.

Graph 19: Comparison of the test weight per province over three seasons



The nutritional component analyses, namely crude protein, -fat, -fibre and ash are reported as % (g/100g) on an 'as received' or 'as is' basis. See Table 4 for a summary of the RSA Sunflower Crop Quality averages of the 2014/2015 season compared to those of the 2013/2014 season.

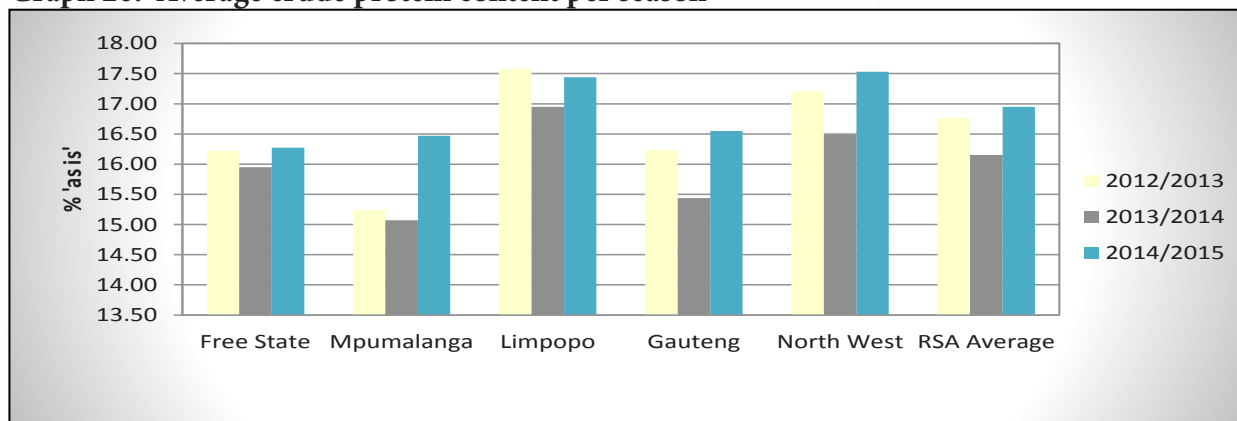
The weighted average crude protein content of the 2014/2015 season was 16.96%, 0.81% higher than the previous season and 0.17% higher than in the 2012/2013 season. North West had the highest weighted average crude protein content of 17.53% and the Free State the lowest with 16.27%. Mpumalanga's crude protein content averaged 16.47%. The weighted average crude fat percentage of 39.7% compared very well with the 39.6% and 39.2% of the two previous seasons. Gauteng had the highest weighted average crude fat content of 41.4%. The lowest average fat content was observed in Limpopo (38.8%). North West and the Free State averaged 39.2% and 40.4% respectively.

The weighted average percentage crude fibre decreased slightly from 20.2% in the previous season to 20.0% this season and equaled the 2012/2013 value. The values varied between 19.1% in Gauteng to 20.7% in Mpumalanga. The weighted average ash content is slightly lower (2.55%) than last season (2.66%) but similar to 2012/2013 (2.54%). The provincial averages ranged from 2.45% in Gauteng and Mpumalanga to 2.58% in the Free State.

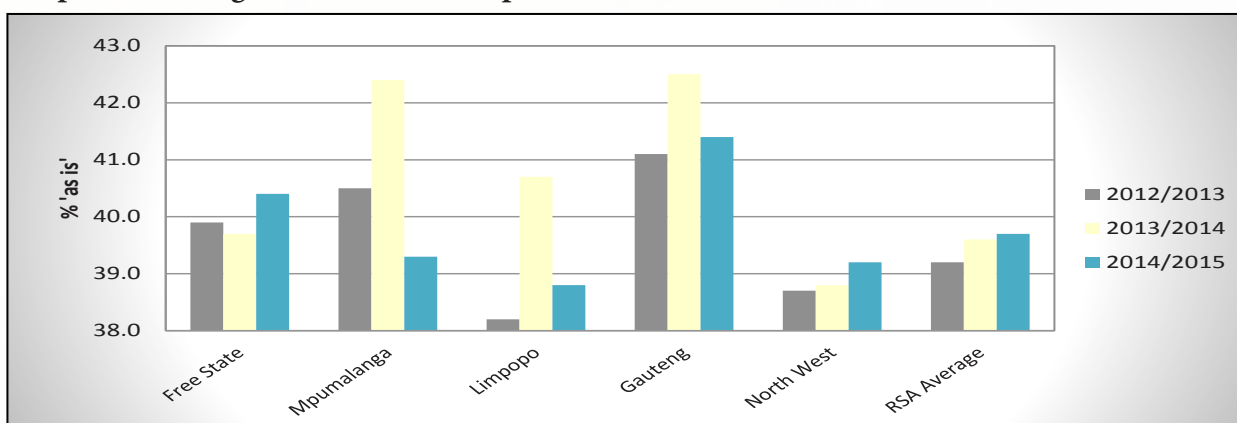
Graphs 20 to 23 on page 14 provide comparisons between provinces for the above mentioned components.

Please also see pages 16 to 23 for the average sunflower quality per region.

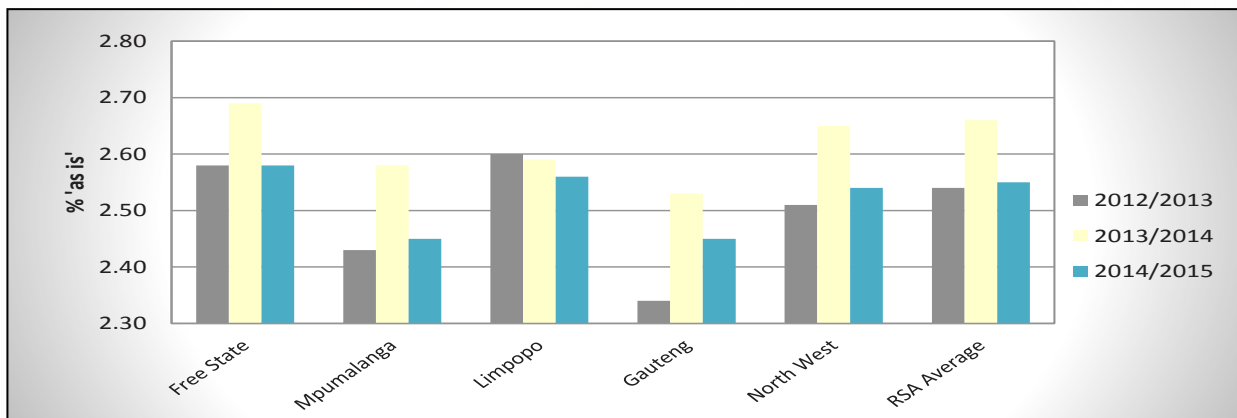
Graph 20: Average crude protein content per season



Graph 21: Average crude fat content per season



Graph 22: Average ash content per season



Graph 23: Average crude fibre content per season

