SOUTH AFRICAN

Maize Crop Quality Report

2004/2005 Season

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SOUTH AFRICAN
COMMERCIAL MAIZE QUALITY
2004/2005

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Introduction

The final production estimate for maize for the 2004/2005 season by the National Crop Estimates Committee was 11 450 000 tons. This is 20,7 % more than the previous season's 9 482 000 tons. The average production from 1999/2000 to 2003/04 was 9,19 million tons. The major maize-producing region was the Free State (4 113 000 tons), followed by the North West (2 862 500 tons) and Mpumalanga (2 806 700 tons). White maize contributed 57 % to the total production, which is 4 % lower than the previous year.

1000 samples, proportionally representing white and yellow maize of each production region, were analysed for quality. All samples were graded according to RSA and USA grading regulations, and 100 kernel weight, kernel size, breakage susceptibility, stress cracks, milling index, and fat, protein, starch and whiteness index were determined. Mycotoxin analyses as well as testing for GM maize were performed on 100 randomly selected samples representative of white and yellow maize produced per region.

The 1000 samples analysed consisted of 601 white maize samples and 399 yellow maize samples. Of the 601 white maize samples analysed, 82 % were WM1, 14 % WM2, 4 % WM3 and only two samples were of the Class Other Maize white. Of the 399 yellow maize samples analysed, 81 % were YM1, 18 % YM2, 1 % YM3 and only one sample was of the Class Other Maize yellow.

Crop quality

This crop was of a good quality and 82 % of the crop graded as maize grade 1.

The average hectolitre mass was 77,5 kg/hl (77,8 during 2003/2004). The average hectolitre mass from 1995/96 was 76,7 kg/hl. The percentage of total defective kernels of 5,8 % was a little lower than the previous year's 6,3 %.

The fat content was 3,9 % (db), starch content 75,3 % (db) and protein 8,8 % (db). The fat content was about 0.1 % down in comparison with previous years (4,0 % db), the starch content was more or less the same as the last three seasons and the protein fell back to the average of the previous five years, namely 8,8 % (db). The five-year average for starch was 74,5 %.

The kernel size compared to the previous year and the 100 kernel weight averaged 34,4 % (1 % lower than the previous year). The kernels this season had the same breakability but less stress cracks than during the 2003/2004 season.

The milling index were 99,9, about 7 lower than the previous season's 106,9. The whiteness of the maize meal of the white maize averaged a little better (whiter) than last season.

Imported maize quality is being reported for the first time.

Imported Maize

South Africa has imported in total 221 364 tons of yellow maize from Argentina (205 856 tons) and the USA (15 508 tons) during the 2003/2004 production season. Only 724 tons of white maize was imported from Malawi during this season.

During the 2004/2005 production season the RSA has imported 212 195 tons of yellow maize (up to 10/03/2006) from Argentina. (SAGIS website.)

The quality of the imported maize compared to the average quality of the RSA maize for each of these seasons are given on page 55 and 56.

2003/2004 Imported maize

During the 2003/2004 production season the yellow maize that was imported graded as YM2. The difference between South African YM2 and the imported maize regarding grading was mainly a difference in kernel size that effected the percentage defective kernels above and below the 6.35 mm sieve and a higher percentage of pinked kernels. The kernel size percentage of the imported maize (>10 mm) was much lower than RSA maize.

The average fat content of the imported maize were 4,9% (db), this is 0,9 % higher than the average fat content of the RSA maize.

2004/2005 Imported maize

The yellow maize imported during the 2004/2005 production season graded as YM2 and Class Other Maize. The smaller kernels of the imported maize effected the percentage defective kernels above and below the 6.35 mm sieve. The hectolitre mass of the imported YM2 was about 10 kg/hl lower than the average of the local YM2 and of the COM about 17 kg/hl lower than the RSA COM. The kernel size (>10 mm) was smaller and the percentage of pinked kernels high.

While the protein and starch contents averaged more of less the same, the average of the fat content of imported YM2 was 4,8 % (db), while the average fat content of the RSA maize of the same grade was 1,0 % lower.

Genetic Modification

Annually the SAGL screen 10 % of the crop samples to test for MON 810 (Bt maize event) and NK 603 (RUR).

The methodology the SAGL uses is a quantitative enzyme-linked immuno sorbent assay. The SAGL does however not report quantities recorded below the limit of detection and above the value of the reference standards used, the reason being that SAGL can not guarantee those values. (Please see page 48.) MON 810 were found in 78 % of the samples tested and NK 603 in 31 % of the samples tested.

Sampling

Samples received from the grain storers (about 98 % of these crop quality samples) are drawn in the following way:

With each delivery at the silo's a sample is drawn for grading purposes according to the Grading Regulations.

After the grading sample has been devided, 500g are thrown into a bag (50kg) representing a certain class and grade. When this bag is full, it is devided and a 2,5kg sample according to class and grade per silo bin is sent to the SAGL.

Samples of maize being delivered directly to the millers, are drawn in more or less the same way as at the silos.

Mycotoxins

No Aflatoxin or Ochratoxin could be detected on these maize samples. A few samples tested positive for Zearalenone.

The Fumonisin average was 1,06 ppm that is just lower than the previous season's 1,14 ppm. Fourteen samples tested higher than 2,0 ppm for Fumonisin.

Deoxynivalenol (DON) was detected in about 40 % of all the samples tested, giving an average of 0,6 ppm. Eight samples tested higher than 2,0 ppm for DON.

Maize quality (summary)

The maize quality of the three main maize-producing provinces was more or less the same. The physical characteristics of the white maize were overall marginally better than those of the yellow maize.

Free State

This province produced 36 % of all the commercial maize in South Africa, of which 65 % was white maize and 35 % yellow maize.

The average percentage total defective kernels was 5,5 %. North West had 6,5 % and Mpumalanga 5,7 %.

The maize produced in the Free State averaged a hectolitre mass of 77,6 kg/hl. (North West was 77,6 kg/hl and Mpumalanga 77,1 kg/hl.) The white maize in the Free State averaged 78,1 kg/hl and the yellow maize 76,5 kg/hl.

The 100 kernel weight averaged 34,4 g, with the white maize averaging 35,2 g and the yellow maize 32,7 g. (Mpumalanga and North West averaged 34,7 g and 34,2 g respectively.)

Stress cracks were more or less the same in the Free State (4,6 %) than in the other two provinces. (North West was 4,8 % and Mpumalanga was 4,7 %.)

The average milling index was the same as North West (101), followed by Mpumalanga with 97,4.

The average Fumonisin content was the highest of the three provinces at 1,33 ppm.

North West

This province produced 25 % of all the commercial maize grown in South Africa, of which 76 % was white maize and 24 % yellow maize.

The defective kernels above the 6.35 mm sieve averaged 4.4 %, that is higher than the 3.5 % of the Free State and Mpumalanga. The defective kernels below the 6.35 mm sieve for all three regions were more or less the same.

The Free State gave the highest average protein of 9,0 % (db), followed by North West (8,8 %) and Mpumalanga (8,4 %).

The average milling index was 101,0.

The average Fumonisin content was 1,04 ppm.

Mpumalanga

This province produced 25 % of the total commercial maize production in South Africa, of which 40 % was white maize and 60 % yellow maize.

This province had the largest kernel size with an average of 27,8 % of the maize having kernels > 10 mm. (The Free State was 26,3 % and North West 23,9 %.)

The maize kernels produced in Mpumalanga and Free State were less breakable (1,1 %) during handling and storage. (North West had a breakability of 1,2 %.)

The white maize from Mpumalanga gave the highest average whiteness index of 18,1 (sifted 87:13). (The Free State had an average of 16,1 and Mpumalanga 16,7.)

In all three provinces the white maize gave a higher average fat content and protein content than the yellow maize. The starch content between white and yellow maize in these three regions averaged between 75,0 % to 75,8 %.

Mpumalanga had an average of 0,88 ppm Fumonisin present.

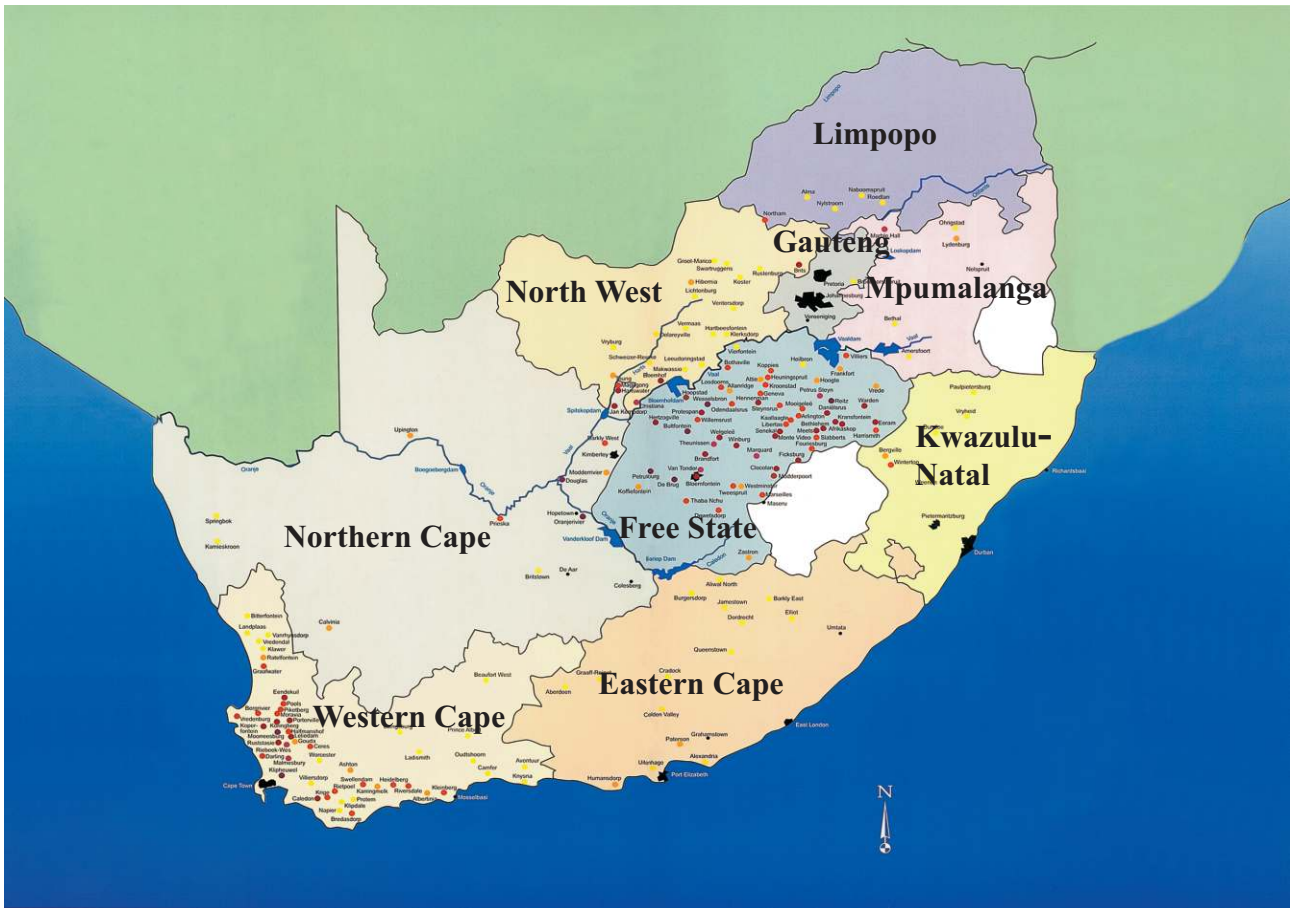
Production regions

The RSA is divided into 36 grain-production regions. Regions 1 to 9 are winter rainfall areas (Western Cape), as well as the Eastern Cape and Karoo where very little commercial maize is being produced.

Region 10 is Griqualand West and region 11 Vaalharts in the North West. Regions 12 to 20 are all within the North West.

Regions 21 to 28 are in the Free State. The Free State (34 %) and North West (26 %) contributed 60 % of the total maize production in the RSA. Regions 29 to 33 are within Mpumalanga, which is the third largest maize-producing province (24 %). Region 34 falls within Gauteng, region 35 within the Limpopo Province and region 36 within KwaZulu-Natal.

South African Provinces



Grain Production Regions

With each region is given the different Grain Handlers with specific silos.

Region 10: Griqualand West Region

GWK	Douglas	*GWK*	Prieska
GWK	Rietrivier	*GWK*	Marydale
GWK	Modderrivier	*OVK*	Oranjerivierstasie
OVK	Havenga Brug		

Region 11: Vaalharts Region

Senwes	Hartswater	*Senwes*	Jan Kemp
Senwes	Magogong	*GWK*	Barkly-Wes

Region 12: North West Western Region

NWK	Bloubank	*NWK*	Buhrmannsdrif
NWK	Kameel	*NWK*	Madibogo
NWK	Mafikeng	*NWK*	Mareetsane
Suidwes Landbou	Kameel	*Suidwes Landbou*	Vryburg

Region 13: North West Central Region (Sannieshof)

NWK	Biesiesvlei	*NWK*	Bossies
NWK	Gerdau	*NWK*	Oppaslaagte
NWK	Sannieshof		

Region 14: North West Southern Region

NWK	Barberspan	*NWK*	Delareyville
NWK	Excelsior	*NWK*	Geysdorp
NWK	Migdol	*NWK*	Nooitgedacht
NWK	Taaibospan	*Suidwes Landbou*	Amalia
Suidwes Landbou	Hallat's Hope	*Suidwes Landbou*	Migdol
Suidwes Landbou	Schweizer-Reneke		

Region 15: North West South Eastern Region

Suidwes Landbou	Bloemhof	*Suidwes Landbou*	Christiana
Suidwes Landbou	Hertzogville	*Suidwes Landbou*	Hoopstad
Suidwes Landbou	Kingswood		

Region 16: North West Central Eastern Region

Senwes	Regina	*Senwes*	Klerksdorp
Suidwes Landbou	Bamboesspruit	*Suidwes Landbou*	Leeudoringstad
Suidwes Landbou	Makwassie	*Suidwes Landbou*	Strydpoort
Suidwes Landbou	Wolmaranstad		

Region 17: North West Central Northern Region (Ottosdal)

NWK	Bospoort	*NWK*	Rostrataville
NWK	Ottosdal	*NWK*	Kleinharts

Grain Production Regions (continue)

With each region is given the different Grain Handlers with specific silos.

Region 17: North West Central Northern Region (Ottosdal) (continue)

NWK	Vermaas	*Senwes*	Hartbeesfontein
Senwes	Melliodora	*Senwes*	Werda

Region 18: North West Central Region (Ventersdorp)

NWK	Bodenstein	*NWK*	Coligny
Senwes	Buckingham	*Senwes*	Makokskraal
Senwes	Ventersdorp	*Senwes*	Enselspruit
Senwes	Potchefstroom		

Region 19: North West Central Region (Lichtenburg)

NWK	Grootpan	*NWK*	Halfpad
NWK	Hibernia	*NWK*	Lichtenburg
NWK	Lottiehalte	*NWK*	Lusthof

Region 20: North West Eastern Region

MGK (Prodsure)	Battery	*MGK (Prodsure)*	Brits
MGK (Prodsure)	Rustenburg	*MGK (Prodsure)*	Pretoria-West
NWK	Boons	*NWK*	Koster
NWK	Derby	*NWK*	Syferbult
NWK	Swartruggens		

Region 21: Free State North Western Region (Viljoenskroon)

Senwes	Attie	*Senwes*	Groenebloem
Senwes	Heuningspruit	*Senwes*	Koppies
Senwes	Rooiwal	*Senwes*	Vierfontein
Senwes	Viljoenskroon	*Senwes*	Vredefort
Senwes	Weiveld		

Region 22: Free State North Western Region (Bothaville)

Senwes	Allanrigde	*Senwes*	Bothaville
Senwes	Mirage	*Senwes*	Odendaalsrus
Senwes	Schoonspruit	*Senwes*	Schuttesdraai

Region 23: Free state North Western Region (Bultfontein)

Senwes	Bultfontein	*Senwes*	Losdoorns
Senwes	Protespan	*Senwes*	Tierfontein
Senwes	Wesselsbron	*Senwes*	Willemsrust

Region 24: Free State Central Region

Senwes	Bloemfontein	*Senwes*	Brandfort
Senwes	De Brug	*Senwes*	Geneva
Senwes	Hennenman	*Senwes*	Koffiefontein

Grain Production Regions (continue)

With each region is given the different Grain Handlers with specific silos.

Region 24: Free State Central Region (continue)

Senwes	Kroonstad	*Senwes*	Petrusburg
Senwes	Theunissen	*Senwes*	Van Tonder
Senwes	Welgeleë	*Senwes*	Winburg

Region 25: Free State South Western Region

OVK	Marseilles	*OVK*	Modderpoort
OVK	Tweespruit	*OVK*	Westminster
OVK	Zastron	*OVK*	Clocolan
OVK	Ficksburg	*OVK*	Fouriesburg
OVK	Havenga Brug	*Afgri*	Bethlehem
Afgri	Slabberts	*Senwes*	De Wetsdorp

Region 26: Free State South Eastern Region

Senwes	Arlington	*Senwes*	Steynsrus
Afgri	Libertas	*Afgri*	Marquard
Afgri	Monte Video	*Afgri*	Senekal
Afgri	Kaallaagte	*Afgri*	Meets

Region 27: Free State Northern Region

Senwes	Gottenburg	*Senwes*	Heilbron
Senwes	Hoogte	*Senwes*	Mooigeleë
Senwes	Wolwehoek	*VKB*	Petrus Steyn

Region 28: Free State Eastern Region

Afgri	Afrikaskop	*Afgri*	Eeram
Afgri	Harrismith	*Afgri*	Kransfontein
VKB	Cornelia	*VKB*	Daniëlsrus
VKB	Frankfort	*VKB*	Jim Fouché
VKB	Reitz	*VKB*	Tweeling
VKB	Villiers	*VKB*	Warden
VKB	Windfield	*VKB*	Ascent
VKB	Robbertdrif	*VKB*	Vrede

Region 29: Mpumalanga Southern Region

Afgri	Balfour	*Afgri*	Greylingstad
Afgri	Grootvlei	*Afgri*	Harvard
Afgri	Holmdene	*Afgri*	Leeuspruit
Afgri	Platrand	*Afgri*	Standerton
Afgri	Val		

Region 30: Mpumalanga Eastern Region

Afgri	Amersfoort	*Afgri*	Badplaas
Afgri	Carolina	*Afgri*	Davel

Grain Production Regions (continue)

With each region is given the different Grain Handlers with specific silos.

Region 30: Mpumalanga Eastern Region (continue)

Afgri	Ermelo	*Afgri*	Estancia
Afgri	Lothair	*Afgri*	Maizefield
Afgri	Morgenzon	*Afgri*	Overvaal
TWK	Mkondo	*TWK*	Panbult

Region 31: Mpumalanga Central Region

Afgri	Bethal	*Afgri*	Devon
Afgri	Kinross	*Afgri*	Leslie
Afgri	Trichardt		

Region 32: Mpumalanga Western Region

Afgri	Argent	*Afgri*	Dryden
Afgri	Endicott	*Afgri*	Eloff
Afgri	Hawerklip	*Afgri*	Kendal
Afgri	Ogies		

Region 33: Mpumalanga Northern Region

Afgri	Driefontein	*Afgri*	Lydenburg
Afgri	Marble Hall	*Afgri*	Middelburg
Afgri	Stoffberg	*Afgri*	Pan
Afgri	Arnot	*Afgri*	Wonderfontein

Region 34: Gauteng Region

Afgri	Bloekomspruit	*Afgri*	Glenroy
Afgri	Goeie Hoek	*Afgri*	Kaalfontein
Afgri	Nigel	*Afgri*	Bronkhorstspruit
Senwes	Middelvlei	*Senwes*	Oberholzer
Senwes	Raathsvlei		

Region 35: Limpopo Region

MGK (Prodsure)	Northam	*NTK*	Alma
NTK	Lehau	*NTK*	Naboomspruit
NTK	Nylstroom	*NTK*	Pienaarsrivier
NTK	Pietersburg	*NTK*	Potgietersrus
NTK	Roedtan	*NTK*	Settlers
NTK	Tzaneen	*NTK*	Nutfield
NTK	Warmbad	*Other*	Vaalwater
Other	Crecy	*Other*	Immerpan

Region 36: KwaZulu-Natal Region

Afgri	Bergville	*Afgri*	Bloedrivier
Afgri	Dannhauser	*Afgri*	Dundee
Afgri	Mizpah	*Afgri*	Paulpietersburg
Afgri	Vryheid	*Afgri*	Winterton

TABLE 1: COMMERCIAL WHITE AND YELLOW MAIZE - FINAL PRODUCTION ESTIMATES FOR THE 2004/05 SEASON COMPARED TO THE 2003/04 SEASON

PROVINCES	FINAL ESTIMATE 2004/05			% difference to 2003/04	FINAL ESTIMATE 2003/04		
	White Tons	Yellow Tons	Total Tons		White Tons	Yellow Tons	Total Tons
Western Cape		20 000	20 000	+37,0	600	14 000	14 600
Northern Cape	30 500	526 400	556 900	+8,7	62 500	450 000	512 500
Free State	2 658 000	1 455 000	4 113 000	+28,9	2 125 000	1 065 000	3 190 000
Eastern Cape	19 000	68 900	87 900	+5,9	20 000	63 000	83 000
KwaZulu-Natal	170 000	230 000	400 000	0	180 000	220 000	400 000
Mpumalanga	1 133 500	1 673 200	2 806 700	+26,5	1 088 000	1 130 000	2 218 000
Limpopo	94 000	26 000	120 000	-1,2	101 400	20 000	121 400
Gauteng	250 700	232 300	483 000	+8,2	262 500	184 000	446 500
North West	2 185 000	677 500	2 862 500	+5,1	1 965 000	531 000	2 496 000
Total RSA	6 540 700	4 909 300	11 450 000	+20,76	5 805 000	3 677 000	9 482 000
% of crop	57	43			61	39	

Figures obtained from the National Crop Estimates Committee

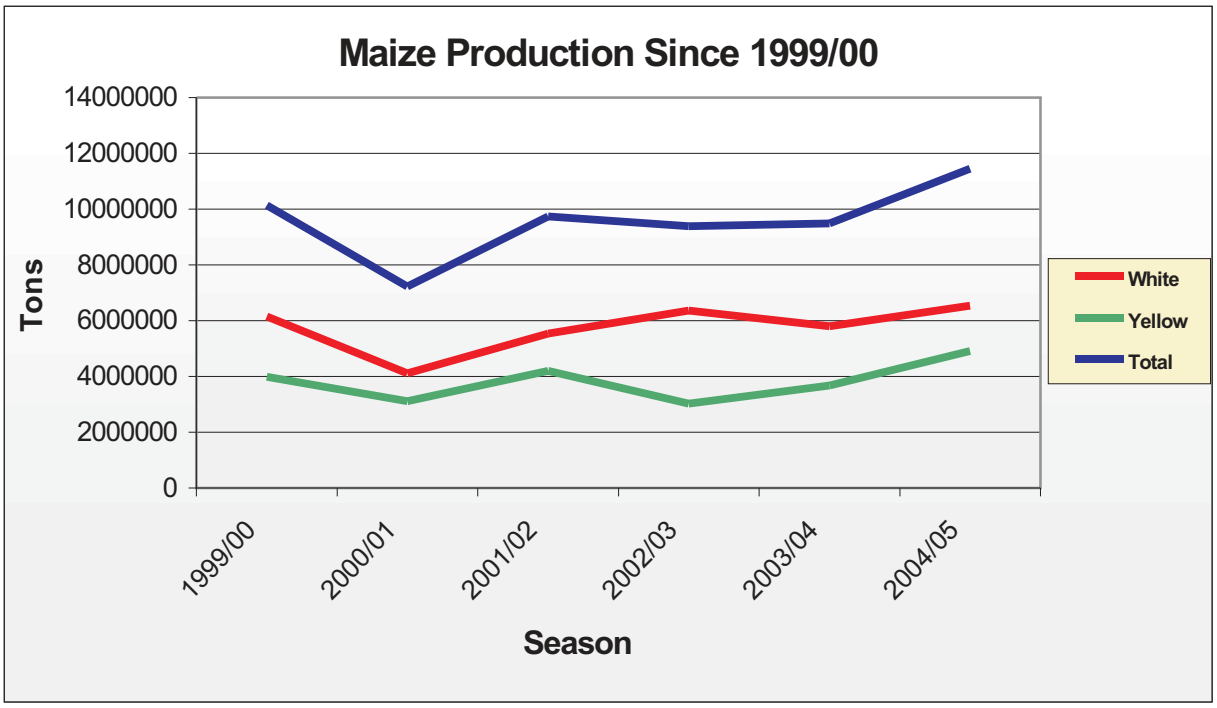


TABLE 2: RSA GRADING OF WHITE MAIZE (2004/2005)

Number of samples	Region	% Defective Kernels						% Total defective			% Foreign matter			% Another Colour			% Total Deviation			% Pinked Kernels			% Diplodia Kernels			% Fusarium Kernels			% Cobrot Kernels		
		Above 6.35 mm sieve			Below 6.35 mm sieve																										
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 1																														
3	Region 10	2.0	1.9	2.2	1.6	1.5	1.7	3.6	3.4	3.8	0.2	0.2	0.2	0.3	0.0	0.7	4.1	3.9	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	Region 11	0.5	0.5	0.5	3.0	3.0	3.0	3.5	3.5	3.5	0.1	0.1	0.1	0.0	0.0	0.0	3.7	3.7	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	Region 12	3.0	1.6	5.7	1.8	0.9	3.8	4.8	2.7	7.0	0.2	0.1	0.2	0.0	0.0	0.5	5.0	2.9	7.1	0.0	0.0	0.0	0.2	0.0	0.9	0.3	0.0	0.9	0.4	0.0	1.2
7	Region 13	3.3	2.2	5.6	1.5	0.5	2.1	4.8	3.5	7.0	0.1	0.1	0.2	0.2	0.0	0.5	5.1	3.7	7.4	0.0	0.0	0.0	0.2	0.0	0.8	0.4	0.0	1.4	0.4	0.0	1.3
19	Region 14	3.1	1.4	6.2	1.9	0.7	3.0	4.9	2.9	6.9	0.2	0.1	0.2	0.2	0.0	0.8	5.3	3.0	7.4	0.0	0.0	0.0	0.1	0.0	0.7	0.4	0.0	2.4	0.2	0.0	1.2
8	Region 15	2.2	1.9	2.7	1.8	1.4	2.7	4.0	3.2	4.8	0.2	0.2	0.2	0.4	0.0	1.2	4.6	3.6	6.2	0.0	0.0	0.0	0.2	0.0	0.6	0.1	0.0	0.4	0.0	0.0	0.0
22	Region 16	2.6	1.5	5.2	1.7	0.8	2.6	4.3	2.8	7.0	0.2	0.1	0.2	0.2	0.0	0.7	4.6	3.1	7.2	0.0	0.0	0.0	0.3	0.0	0.9	0.3	0.0	0.9	0.1	0.0	0.5
22	Region 17	2.5	1.0	4.3	2.2	1.1	6.0	4.7	3.0	7.0	0.2	0.1	0.2	0.2	0.0	0.8	5.0	3.1	7.7	0.0	0.0	0.0	0.2	0.0	0.7	0.3	0.0	1.1	0.2	0.0	0.5
17	Region 18	2.8	1.4	4.8	1.6	0.7	3.3	4.4	3.0	6.4	0.2	0.1	0.3	0.1	0.0	0.6	4.7	3.2	6.9	0.0	0.0	0.0	0.2	0.0	0.6	0.4	0.0	1.3	0.3	0.0	1.0
13	Region 19	3.2	1.9	5.7	1.9	1.1	3.3	5.1	3.5	7.0	0.2	0.1	0.3	0.2	0.0	0.5	5.5	3.6	7.5	0.0	0.0	0.0	0.2	0.0	0.7	0.3	0.0	0.9	0.4	0.0	1.2
8	Region 20	3.5	2.2	6.3	1.6	0.7	3.5	5.1	3.7	7.0	0.2	0.1	0.2	0.3	0.0	1.3	5.5	4.2	7.8	0.0	0.0	0.0	0.1	0.0	0.5	0.4	0.0	1.6	0.6	0.0	2.1
39	Region 21	3.1	1.6	5.0	1.6	0.6	3.7	4.7	2.6	6.6	0.2	0.1	0.3	0.2	0.0	0.7	5.1	2.8	7.2	0.0	0.0	0.0	0.3	0.0	0.7	0.4	0.0	1.3	0.2	0.0	0.9
49	Region 22	2.7	1.3	5.5	1.7	0.2	3.1	4.4	2.0	7.0	0.2	0.1	0.3	0.2	0.0	0.7	4.7	2.4	7.8	0.0	0.0	0.0	0.3	0.0	0.8	0.3	0.0	0.9	0.2	0.0	1.2
51	Region 23	2.2	0.8	6.1	1.6	0.8	4.5	3.9	2.1	7.0	0.2	0.1	0.2	0.2	0.0	0.7	4.2	2.3	7.6	0.0	0.0	0.0	0.3	0.0	1.5	0.2	0.0	1.0	0.1	0.0	0.7
40	Region 24	2.4	1.2	4.3	1.5	0.4	2.7	3.9	2.4	6.3	0.2	0.1	0.3	0.2	0.0	0.8	4.3	2.6	7.1	0.0	0.0	0.0	0.2	0.0	0.7	0.3	0.0	0.9	0.2	0.0	0.6
12	Region 25	2.5	1.8	4.3	2.0	0.5	4.0	4.5	2.5	6.7	0.2	0.1	0.2	0.3	0.0	0.8	5.0	2.6	7.0	0.0	0.0	0.0	0.3	0.0	0.7	0.2	0.0	0.7	0.1	0.0	0.3
13	Region 26	2.9	1.3	4.2	1.6	0.6	2.5	4.5	2.0	6.5	0.2	0.1	0.3	0.5	0.0	1.0	5.2	2.7	7.3	0.0	0.0	0.0	0.3	0.0	1.0	0.2	0.0	1.0	0.1	0.0	0.4
10	Region 27	2.8	1.5	4.7	1.3	0.3	2.5	4.1	2.3	6.2	0.1	0.1	0.2	0.1	0.0	0.4	4.3	2.8	6.7	0.0	0.0	0.0	0.3	0.0	0.7	0.4	0.0	0.9	0.1	0.0	0.7
12	Region 28	2.4	0.9	4.5	1.7	0.4	3.9	4.1	1.8	6.5	0.2	0.1	0.3	0.5	0.0	1.9	4.7	2.0	7.6	0.0	0.0	0.0	0.1	0.0	0.6	0.2	0.0	1.0	0.1	0.0	0.4
23	Region 29	2.6	1.2	4.0	1.6	0.5	3.0	4.1	1.6	6.9	0.2	0.1	0.2	0.2	0.0	0.7	4.5	2.0	7.2	0.0	0.0	0.0	0.2	0.0	3.2	0.3	0.0	0.7	0.2	0.0	0.9
16	Region 30	3.1	2.0	6.5	1.8	0.5	3.2	4.9	3.1	7.0	0.2	0.2	0.3	0.2	0.0	0.6	5.3	3.3	7.7	0.0	0.0	0.0	0.4	0.0	1.8	0.6	0.0	2.2	0.1	0.0	0.8
8	Region 31	2.3	1.3	3.6	2.2	0.6	4.3	4.5	2.6	6.1	0.2	0.1	0.2	0.4	0.0	0.8	5.0	2.7	7.1	0.0	0.0	0.0	0.1	0.0	0.3	0.2	0.0	0.5	0.1	0.0	0.3
21	Region 32	1.9	0.5	3.5	1.7	0.4	2.9	3.6	1.2	6.2	0.2	0.1	0.3	0.3	0.0	0.8	4.1	1.8	7.1	0.0	0.0	0.0	0.2	0.0	1.0	0.4	0.0	1.3	0.2	0.0	0.6
10	Region 33	2.9	1.2	5.8	2.0	1.1	3.0	4.8	3.2	7.0	0.2	0.1	0.3	0.3	0.0	0.8	5.4	3.5	7.3	0.0	0.0	0.0	0.4	0.0	1.1	0.5	0.0	1.1	0.2	0.0	0.4
40	Region 34	2.5	0.9	3.8	1.6	0.5	3.4	4.1	1.5	6.3	0.2	0.1	0.2	0.2	0.0	0.8	4.5	1.6	6.9	0.0	0.0	0.0	0.2	0.0	0.6	0.7	0.0	1.9	0.3	0.0	0.9
8	Region 35	1.7	1.2	2.1	1.7	1.1	2.4	3.4	2.4	4.2	0.1	0.1	0.2	0.2	0.0	0.4	3.7	2.5	4.4	0.0	0.0	0.0	0.1	0.0	0.3	0.1	0.0	0.5	0.0	0.0	0.2
11	Region 36	2.4	0.8	4.0	2.0	0.1	3.4	4.4	1.1	7.0	0.2	0.0	0.3	0.1	0.0	0.8	4.6	1.3	8.0	0.0	0.0	0.1	0.2	0.0	1.0	0.4	0.0	1.1	0.1	0.0	0.3
493	**Ave WM 1**	**2.6**			**1.7**			**4.3**			**0.2**			**0.2**			**4.7**			**0.0**			**0.2**			**0.3**			**0.2**		
	Min WM 1		**0.5**			**0.1**			**1.1**			**0.0**			**0.0**			**1.3**			**0.0**			**0.0**			**0.0**			**0.0**	
	Max WM 1			**6.5**			**6.0**			**7.0**			**0.3**			**1.9**			**8.0**			**0.1**			**3.2**			**2.4**			**2.1**

TABLE 2: RSA GRADING OF WHITE MAIZE (2004/2005) (continue)

Number of samples	Region	% Defective Kernels						% Total defective			% Foreign matter			% Another Colour			% Total Deviation			% Pinked Kernels			% Diplodia Kernels			% Fusarium Kernels			% Cobrot Kernels		
		Above 6.35 mm sieve			Below 6.35 mm sieve																										
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 2																														
4	Region 12	6.1	2.9	8.1	1.6	1.1	2.6	7.8	5.4	9.2	0.2	0.1	0.2	1.5	0.0	4.3	9.4	8.7	10.4	0.0	0.0	0.0	0.7	0.2	1.2	1.3	0.5	2.1	1.1	0.2	2.4
2	Region 13	8.4	7.9	8.9	1.2	0.9	1.5	9.6	9.4	9.8	0.2	0.2	0.3	0.0	0.0	0.0	9.8	9.7	9.9	0.0	0.0	0.0	0.9	0.9	1.0	2.0	2.0	2.0	2.6	2.2	2.9
4	Region 14	9.8	7.6	11.5	1.2	0.4	2.3	11.0	8.0	12.4	0.2	0.2	0.3	0.3	0.0	0.7	11.5	8.1	13.3	0.0	0.0	0.0	1.7	1.3	2.2	1.6	0.7	3.1	3.2	0.8	5.7
4	Region 15	5.9	2.6	9.4	3.1	0.4	6.3	9.0	7.0	12.2	0.2	0.1	0.4	0.7	0.0	1.2	9.9	8.3	12.4	0.0	0.0	0.0	1.1	0.0	1.8	1.0	0.0	1.5	0.6	0.0	1.1
1	Region 16	1.6	1.6	1.6	10.9	10.9	10.9	12.5	12.5	12.5	0.2	0.2	0.2	0.5	0.5	0.5	13.1	13.1	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0
3	Region 17	5.4	5.0	5.6	3.1	1.9	4.8	8.5	7.4	10.4	0.2	0.2	0.2	0.3	0.0	0.5	9.0	8.2	10.7	0.0	0.0	0.0	0.7	0.4	0.9	0.9	0.8	1.1	0.8	0.6	1.2
2	Region 18	8.2	7.4	9.0	1.8	0.8	2.7	10.0	8.2	11.8	0.3	0.2	0.3	0.6	0.0	1.1	10.8	8.4	13.2	0.0	0.0	0.0	1.0	0.9	1.1	1.6	1.2	2.1	2.5	2.3	2.6
3	Region 19	7.9	5.7	10.7	3.1	1.9	4.5	11.1	8.6	12.7	0.3	0.3	0.4	0.5	0.0	0.7	11.9	9.6	13.0	0.0	0.0	0.0	1.1	0.7	1.8	1.4	0.9	2.0	2.2	1.2	3.8
2	Region 20	7.7	7.4	8.0	2.3	1.5	3.2	10.0	8.9	11.1	0.4	0.3	0.5	0.0	0.0	0.0	10.4	9.2	11.6	0.0	0.0	0.0	0.9	0.8	1.0	1.3	1.2	1.3	3.2	3.0	3.3
4	Region 21	6.0	4.3	7.8	2.4	1.7	3.1	8.5	7.4	10.5	0.3	0.2	0.3	0.3	0.0	0.7	9.0	7.9	10.8	0.0	0.0	0.0	0.8	0.7	1.0	1.3	0.5	2.6	0.6	0.3	1.3
3	Region 22	7.1	5.9	9.4	2.6	1.5	4.5	9.7	7.6	10.9	0.2	0.2	0.3	0.0	0.0	0.0	9.9	7.9	11.1	0.0	0.0	0.0	1.1	0.7	1.6	1.1	1.0	1.2	0.8	0.6	1.0
10	Region 23	7.3	3.5	12.2	2.3	0.8	4.8	9.7	7.4	13.0	0.2	0.2	0.3	0.1	0.0	0.5	10.0	7.6	13.6	0.0	0.0	0.0	1.5	0.6	3.0	1.1	0.4	2.0	0.7	0.0	1.3
1	Region 24	4.8	4.8	4.8	1.6	1.6	1.6	6.5	6.5	6.5	0.3	0.3	0.3	3.5	3.5	3.5	10.3	10.3	10.3	0.0	0.0	0.0	0.8	0.8	0.8	0.5	0.5	0.5	0.3	0.3	0.3
4	Region 26	4.4	4.0	4.9	3.0	2.2	3.4	7.4	7.1	8.1	0.2	0.2	0.3	0.6	0.4	1.0	8.3	7.8	8.7	0.0	0.0	0.0	0.6	0.0	0.8	0.7	0.3	1.2	0.4	0.0	0.6
3	Region 27	5.9	4.5	8.7	3.5	2.6	4.4	9.4	7.1	13.0	0.2	0.2	0.2	0.4	0.0	0.8	10.0	7.2	14.1	0.0	0.0	0.0	0.8	0.4	1.5	0.8	0.7	0.9	0.3	0.0	0.7
10	Region 28	4.8	1.4	7.5	3.3	2.0	7.3	8.2	5.9	11.5	0.2	0.2	0.3	0.9	0.4	2.5	9.3	8.0	12.1	0.0	0.0	0.0	0.5	0.0	1.0	0.5	0.0	1.3	0.4	0.0	0.7
3	Region 29	8.0	6.0	11.4	1.0	0.5	1.2	9.0	7.2	11.8	0.2	0.2	0.2	0.1	0.0	0.4	9.3	7.3	12.0	0.0	0.0	0.0	0.6	0.5	0.9	1.4	1.1	1.6	1.0	0.4	1.9
9	Region 30	6.6	2.3	9.6	1.9	0.5	3.6	8.5	5.7	11.8	0.2	0.2	0.3	0.5	0.0	2.9	9.2	7.8	12.1	0.0	0.0	0.0	1.2	0.0	1.6	1.5	0.0	2.5	0.5	0.0	1.3
7	Region 31	6.1	2.6	10.0	2.7	1.4	4.2	8.8	4.9	12.4	0.3	0.2	0.4	1.2	0.0	5.1	10.3	8.6	13.4	0.0	0.0	0.0	0.7	0.3	1.1	1.2	0.7	1.4	0.7	0.0	1.7
1	Region 32	7.7	7.7	7.7	3.2	3.2	3.2	10.9	10.9	10.9	0.2	0.2	0.2	0.0	0.0	0.0	11.1	11.1	11.1	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	0.3	0.3	0.3
3	Region 34	5.2	4.2	6.6	3.4	1.7	5.3	8.6	8.0	9.6	0.2	0.2	0.3	0.3	0.0	0.5	9.1	8.6	9.9	0.0	0.0	0.0	0.7	0.4	1.1	1.2	1.0	1.4	0.8	0.7	0.9
3	Region 36	7.4	5.5	10.7	2.0	1.7	2.3	9.4	7.2	13.0	0.3	0.2	0.3	0.3	0.0	0.8	10.0	7.4	14.2	0.0	0.0	0.0	1.3	0.0	2.3	1.5	0.0	2.7	0.9	0.5	1.6
86	**Ave WM2**	**6.5**			**2.6**			**9.0**			**0.2**			**0.6**			**9.8**			**0.0**			**1.0**			**1.1**			**0.9**		
	Min WM 2		**1.4**			**0.4**			**4.9**			**0.1**			**0.0**			**7.2**			**0.0**			**0.0**			**0.0**			**0.0**	
	Max WM 2			**12.2**			**10.9**			**13.0**			**0.5**			**5.1**			**14.2**			**0.0**			**3.0**			**3.1**			**5.7**

TABLE 2: RSA GRADING OF WHITE MAIZE (2004/2005) (continue)

Number of samples	Region	% Defective Kernels						% Total defective			% Foreign matter			% Another Colour			% Total Deviation			% Pinked Kernels			% Diplodia Kernels			% Fusarium Kernels			% Cobrot Kernels		
		Above 6.35 mm sieve			Below 6.35 mm sieve																										
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 3																														
2	Region 12	13.2	13.1	13.3	1.0	1.0	1.0	14.3	14.1	14.4	0.3	0.2	0.3	0.4	0.3	0.4	14.9	14.8	15.1	0.0	0.0	0.0	1.6	0.9	2.2	2.0	1.8	2.2	1.7	1.4	2.0
2	Region 13	13.8	12.1	15.5	2.3	2.1	2.5	16.1	14.3	18.0	0.2	0.2	0.3	0.2	0.0	0.3	16.5	14.9	18.2	0.0	0.0	0.0	1.3	0.8	1.7	2.5	1.3	3.7	3.8	2.4	5.1
4	Region 14	15.9	9.0	22.5	3.3	0.8	6.9	19.3	13.1	29.3	0.3	0.2	0.5	0.2	0.0	0.4	19.7	13.6	29.8	0.0	0.0	0.0	2.5	1.5	4.0	2.4	1.0	4.5	4.5	0.8	10.9
1	Region 15	12.6	12.6	12.6	0.8	0.8	0.8	13.4	13.4	13.4	0.4	0.4	0.4	0.7	0.7	0.7	14.5	14.5	14.5	0.0	0.0	0.0	2.1	2.1	2.1	1.6	1.6	1.6	0.9	0.9	0.9
1	Region 17	10.8	10.8	10.8	5.7	5.7	5.7	16.5	16.5	16.5	0.2	0.2	0.2	0.0	0.0	0.0	16.7	16.7	16.7	0.0	0.0	0.0	0.9	0.9	0.9	2.6	2.6	2.6	2.2	2.2	2.2
1	Region 22	12.0	12.0	12.0	1.4	1.4	1.4	13.4	13.4	13.4	0.2	0.2	0.2	0.0	0.0	0.0	13.7	13.7	13.7	0.0	0.0	0.0	1.4	1.4	1.4	2.0	2.0	2.0	3.0	3.0	3.0
5	Region 23	13.2	11.5	17.3	1.6	0.7	2.0	14.8	13.5	18.1	0.2	0.2	0.2	0.3	0.0	0.6	15.3	14.2	18.3	0.0	0.0	0.0	3.0	1.3	4.3	1.6	0.6	2.2	1.1	0.0	2.0
1	Region 28	13.4	13.4	13.4	4.5	4.5	4.5	17.8	17.8	17.8	0.3	0.3	0.3	0.0	0.0	0.0	18.2	18.2	18.2	0.0	0.0	0.0	1.2	1.2	1.2	1.4	1.4	1.4	1.0	1.0	1.0
1	Region 29	3.0	3.0	3.0	16.4	16.4	16.4	19.4	19.4	19.4	0.2	0.2	0.2	0.0	0.0	0.0	19.6	19.6	19.6	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.3	0.3	0.3
1	Region 30	11.3	11.3	11.3	2.5	2.5	2.5	13.8	13.8	13.8	0.3	0.3	0.3	0.3	0.3	0.3	14.4	14.4	14.4	0.0	0.0	0.0	1.9	1.9	1.9	1.3	1.3	1.3	0.5	0.5	0.5
1	Region 33	9.0	9.0	9.0	4.1	4.1	4.1	13.1	13.1	13.1	0.2	0.2	0.2	0.0	0.0	0.0	13.3	13.3	13.3	0.0	0.0	0.0	1.5	1.5	1.5	1.8	1.8	1.8	0.3	0.3	0.3
20	**Ave WM 3**	**12.8**			**3.2**			**16.0**			**0.3**			**0.2**			**16.4**			**0.0**			**2.0**			**1.9**			**2.1**		
	Min WM 3		**3.0**			**0.7**			**13.1**			**0.2**			**0.0**			**13.3**			**0.0**			**0.0**			**0.6**			**0.0**	
	Max WM 3			**22.5**			**16.4**			**29.3**			**0.5**			**0.7**			**29.8**			**0.0**			**4.3**			**4.5**			**10.9**
GRADE: COM																														
1	Region 14	28.5	28.5	28.5	1.7	1.7	1.7	30.3	30.3	30.3	0.3	0.3	0.3	0.5	0.5	0.5	31.1	31.1	31.1	0.0	0.0	0.0	2.4	2.4	2.4	0.0	0.0	0.0	9.5	9.5	9.5
1	Region 29	4.4	4.4	4.4	0.4	0.4	0.4	4.8	4.8	4.8	0.3	0.3	0.3	12.3	12.3	12.3	17.3	17.3	17.3	0.0	0.0	0.0	0.4	0.4	0.4	0.7	0.7	0.7	0.8	0.8	0.8
2	**Ave COM**	**16.5**			**1.0**			**17.5**			**0.3**			**6.4**			**24.2**			**0.0**			**1.4**			**0.4**			**5.1**		
	Min COM		**4.4**			**0.4**			**4.8**			**0.3**			**0.5**			**17.3**			**0.0**			**0.4**			**0.0**			**0.8**	
	Max COM			**28.5**			**1.7**			**30.3**			**0.3**			**12.3**			**31.1**			**0.0**			**2.4**			**0.7**			**9.5**
601	**Ave white maize**	**3.5**			**1.9**			**5.4**			**0.2**			**0.3**			**5.9**			**0.0**			**0.4**			**0.5**			**0.4**		
	Min white maize		**0.5**			**0.1**			**1.1**			**0.0**			**0.0**			**1.3**			**0.0**			**0.0**			**0.0**			**0.0**	
	Max white maize			**28.5**			**16.4**			**30.3**			**0.5**			**12.3**			**31.1**			**0.1**			**4.3**			**4.5**			**10.9**
1000	**Ave maize**	**3.7**			**2.1**			**5.8**			**0.2**			**0.2**			**6.2**			**0.1**			**0.4**			**0.5**			**0.4**		
	Min maize		**0.5**			**0.1**			**1.0**			**0.0**			**0.0**			**1.0**			**0.0**			**0.0**			**0.0**			**0.0**	
	Max maize			**28.5**			**16.4**			**30.3**			**0.6**			**12.3**			**31.5**			**2.3**			**5.1**			**4.5**			**10.9**

TABLE 3: RSA GRADING OF YELLOW MAIZE (2004/2005)

Number of samples	Region	% Defective Kernels						% Total defective			% Foreign matter			% Another Colour			% Total Deviation			% Pinked Kernels			% Diplodia Kernels			% Fusarium Kernels			% Cobrot Kernels		
		Above 6.35 mm sieve			Below 6.35 mm sieve																										
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: YM 1																														
9	Region 10	2.8	1.6	5.2	2.0	1.5	2.6	4.7	3.3	7.7	0.2	0.1	0.2	0.0	0.0	0.0	4.9	3.5	7.9	0.1	0.0	0.7	0.1	0.0	0.6	0.2	0.0	1.4	0.1	0.0	0.5
29	Region 11	1.9	0.9	5.8	2.0	1.4	2.8	3.9	2.7	7.5	0.2	0.1	0.3	0.0	0.0	0.3	4.1	2.9	7.6	0.0	0.0	0.0	0.1	0.0	1.0	0.1	0.0	0.8	0.0	0.0	0.3
7	Region 12	3.4	2.0	4.5	1.9	1.4	2.4	5.3	3.7	6.5	0.2	0.1	0.3	0.0	0.0	0.0	5.4	3.9	6.6	0.1	0.0	0.4	0.1	0.0	0.4	0.1	0.0	0.6	0.1	0.0	0.5
4	Region 13	4.0	3.7	4.4	2.5	2.1	2.9	6.5	6.2	6.9	0.2	0.2	0.2	0.0	0.0	0.0	6.7	6.3	7.1	0.1	0.0	0.4	0.1	0.0	0.2	0.2	0.0	0.5	0.3	0.0	0.7
12	Region 14	4.0	1.7	7.3	2.1	0.6	3.9	6.1	3.2	8.9	0.2	0.1	0.2	0.1	0.0	0.7	6.4	3.4	9.0	0.1	0.0	0.7	0.1	0.0	0.5	0.3	0.0	2.7	0.2	0.0	1.0
5	Region 15	3.0	2.2	3.6	1.7	1.6	1.8	4.6	4.0	5.3	0.2	0.2	0.2	0.0	0.0	0.0	4.8	4.1	5.5	0.0	0.0	0.0	0.1	0.0	0.5	0.3	0.0	1.0	0.1	0.0	0.4
5	Region 16	2.9	1.6	4.2	1.8	1.4	2.6	4.7	3.2	6.2	0.2	0.2	0.2	0.0	0.0	0.1	4.9	3.5	6.4	0.0	0.0	0.0	0.3	0.0	0.7	0.5	0.0	1.0	0.1	0.0	0.3
8	Region 17	3.4	1.7	5.6	2.5	1.5	3.4	6.0	4.3	7.8	0.2	0.1	0.2	0.1	0.0	0.7	6.3	4.4	8.0	0.0	0.0	0.4	0.3	0.0	1.1	0.4	0.0	0.9	0.4	0.0	1.4
9	Region 18	2.8	1.4	4.4	1.9	1.5	2.8	4.8	3.1	6.0	0.2	0.1	0.2	0.2	0.0	0.7	5.1	3.2	6.3	0.2	0.0	1.0	0.2	0.0	0.7	0.2	0.0	0.4	0.2	0.0	0.5
8	Region 19	3.8	3.2	5.3	2.4	1.5	3.9	6.3	4.8	7.6	0.2	0.2	0.3	0.2	0.0	0.6	6.7	5.0	8.4	0.1	0.0	0.8	0.2	0.0	0.4	0.3	0.0	0.6	0.4	0.0	0.9
6	Region 20	4.6	3.8	7.1	2.2	1.6	3.0	6.8	5.7	8.6	0.2	0.2	0.3	0.0	0.0	0.0	7.0	5.8	9.0	0.4	0.0	0.9	0.2	0.0	1.2	0.6	0.0	1.8	0.6	0.0	1.7
8	Region 21	4.1	3.1	5.0	1.9	0.7	3.1	6.0	4.8	7.7	0.2	0.2	0.2	0.2	0.0	0.6	6.4	5.0	7.9	0.2	0.0	0.4	0.5	0.0	1.6	0.4	0.0	0.8	0.3	0.0	0.7
5	Region 22	3.4	1.8	4.2	1.9	1.6	2.6	5.3	3.7	6.8	0.2	0.1	0.2	0.0	0.0	0.0	5.5	3.9	7.0	0.1	0.0	0.4	0.1	0.0	0.3	0.2	0.0	0.5	0.3	0.0	0.7
10	Region 23	2.8	1.4	6.5	2.2	1.1	3.6	5.0	3.1	8.8	0.2	0.1	0.3	0.2	0.0	0.8	5.3	3.4	9.0	0.0	0.0	0.4	0.3	0.0	1.1	0.3	0.0	0.8	0.2	0.0	0.4
15	Region 24	2.7	1.7	3.9	1.7	0.9	2.8	4.4	2.8	6.1	0.2	0.1	0.2	0.3	0.0	0.6	4.8	3.2	6.7	0.1	0.0	0.5	0.1	0.0	0.8	0.1	0.0	0.7	0.0	0.0	0.3
9	Region 25	4.6	2.9	6.8	1.8	0.6	3.3	6.4	3.9	8.3	0.2	0.1	0.2	0.1	0.0	0.6	6.7	4.1	8.8	0.0	0.0	0.0	0.5	0.0	1.9	0.1	0.0	0.6	0.1	0.0	0.3
13	Region 26	3.0	1.9	4.0	2.0	0.9	3.0	5.1	2.8	6.8	0.2	0.1	0.3	0.0	0.0	0.4	5.3	2.9	7.0	0.3	0.0	1.3	0.2	0.0	0.7	0.1	0.0	0.7	0.1	0.0	0.5
9	Region 27	2.8	2.0	3.8	2.3	1.1	3.5	5.1	3.8	7.3	0.2	0.2	0.3	0.1	0.0	0.7	5.4	4.0	8.1	0.0	0.0	0.4	0.4	0.0	0.8	0.2	0.0	0.4	0.2	0.0	0.4
21	Region 28	2.4	1.3	4.5	2.0	1.3	3.5	4.4	2.8	7.0	0.2	0.1	0.2	0.1	0.0	0.6	4.7	3.0	7.4	0.2	0.0	1.3	0.3	0.0	0.9	0.1	0.0	0.4	0.1	0.0	0.5
26	Region 29	2.9	1.2	5.1	2.1	0.6	3.6	5.0	1.9	7.4	0.2	0.1	0.2	0.1	0.0	0.5	5.3	2.6	7.6	0.2	0.0	1.1	0.3	0.0	1.5	0.2	0.0	1.2	0.2	0.0	0.9
15	Region 30	3.4	1.3	6.0	2.4	1.3	3.7	5.8	2.5	8.6	0.2	0.2	0.3	0.0	0.0	0.4	6.1	2.7	8.8	0.0	0.0	0.0	0.1	0.0	1.0	0.1	0.0	0.6	0.0	0.0	0.3
23	Region 31	3.8	2.1	6.6	1.8	0.6	3.3	5.6	3.2	8.0	0.2	0.1	0.3	0.1	0.0	1.2	5.9	3.4	8.6	0.2	0.0	1.5	0.1	0.0	0.7	0.3	0.0	1.0	0.3	0.0	1.1
28	Region 32	3.1	1.6	5.7	1.9	1.2	2.8	5.0	3.2	7.9	0.2	0.1	0.3	0.1	0.0	1.6	5.3	3.4	8.2	0.1	0.0	1.8	0.2	0.0	0.9	0.3	0.0	1.1	0.1	0.0	0.5
9	Region 33	3.6	2.0	4.9	2.1	1.6	2.9	5.7	3.6	7.6	0.2	0.2	0.3	0.1	0.0	0.6	6.0	4.4	8.2	0.1	0.0	1.0	0.0	0.0	0.3	0.2	0.0	0.9	0.0	0.0	0.3
16	Region 34	4.0	0.6	5.2	2.4	0.4	3.6	6.4	1.0	8.6	0.2	0.1	0.2	0.0	0.0	0.4	6.6	1.0	8.8	0.1	0.0	0.5	0.1	0.0	0.5	0.3	0.0	1.2	0.4	0.0	1.0
9	Region 35	2.0	1.1	3.0	1.7	1.1	2.3	3.7	2.6	5.0	0.2	0.1	0.3	0.0	0.0	0.3	3.9	2.7	5.2	0.1	0.0	0.4	0.1	0.0	0.3	0.1	0.0	0.3	0.0	0.0	0.3
6	Region 36	4.5	3.1	6.7	1.9	0.3	3.1	6.3	3.5	8.7	0.1	0.0	0.2	0.1	0.0	0.4	6.6	3.5	8.8	0.0	0.0	0.0	0.5	0.0	1.1	0.7	0.0	1.7	0.1	0.0	0.3
324	**Ave YM 1**	**3.2**			**2.0**			**5.2**			**0.2**			**0.1**			**5.5**			**0.1**			**0.2**			**0.2**			**0.2**		
	Min YM 1		**0.6**			**0.3**			**1.0**			**0.0**			**0.0**			**1.0**			**0.0**			**0.0**			**0.0**			**0.0**	
	Max YM 1			**7.3**			**3.9**			**8.9**			**0.3**			**1.6**			**9.0**			**1.8**			**1.9**			**2.7**			**1.7**

TABLE 3: RSA GRADING OF YELLOW MAIZE (2004/2005) (continue)

Number of samples	Region	% Defective Kernels						% Total defective			% Foreign matter			% Another Colour			% Total Deviation			% Pinked Kernels			% Diplodia Kernels			% Fusarium Kernels			% Cobrot Kernels		
		Above 6.35 mm sieve			Below 6.35 mm sieve																										
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: YM 2																														
1	Region 10	7.9	7.9	7.9	3.3	3.3	3.3	11.3	11.3	11.3	0.2	0.2	0.2	0.0	0.0	0.0	11.5	11.5	11.5	0.0	0.0	0.0	1.5	1.5	1.5	1.3	1.3	1.3	0.5	0.5	0.5
1	Region 11	1.6	1.6	1.6	4.1	4.1	4.1	5.7	5.7	5.7	0.2	0.2	0.2	0.0	0.0	0.0	5.9	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Region 12	8.2	6.7	9.8	1.9	0.9	3.0	10.2	9.6	10.7	0.2	0.1	0.2	0.0	0.0	0.0	10.3	9.7	10.9	0.5	0.0	1.1	0.9	0.7	1.0	1.7	1.4	2.0	3.1	2.2	4.0
4	Region 13	10.0	7.0	15.4	1.8	0.4	3.6	11.8	9.3	15.8	0.2	0.1	0.3	0.4	0.0	0.7	12.3	9.3	16.3	0.2	0.0	0.7	0.6	0.5	0.9	1.2	0.5	1.7	2.0	1.0	3.8
3	Region 14	11.0	9.7	13.2	1.9	0.4	3.1	12.9	12.2	13.7	0.2	0.1	0.2	0.1	0.0	0.3	13.1	12.7	13.8	0.2	0.0	0.4	1.3	0.4	2.3	0.6	0.0	1.0	3.5	1.0	6.6
2	Region 15	11.6	10.3	12.9	1.4	0.4	2.4	13.0	12.7	13.3	0.2	0.2	0.2	1.0	1.0	1.0	14.1	13.9	14.4	6.0	0.0	1.2	1.9	1.7	2.2	1.2	1.0	1.4	1.3	1.1	1.5
2	Region 16	3.9	2.7	5.1	4.4	4.2	4.5	8.2	6.9	9.6	0.2	0.2	0.3	0.6	0.3	1.0	9.1	8.2	10.1	0.2	0.0	0.4	0.4	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
4	Region 17	6.4	4.6	7.7	4.8	2.5	6.4	11.2	8.2	13.5	0.2	0.2	0.3	1.0	0.5	1.5	12.4	9.2	14.2	0.0	0.0	0.0	0.9	0.2	1.8	0.7	0.2	1.0	1.1	0.5	1.7
2	Region 18	5.8	2.1	9.5	3.1	1.5	4.7	8.9	6.8	11.0	0.3	0.2	0.4	0.6	0.3	0.9	9.8	7.3	12.3	0.0	0.0	0.0	0.4	0.0	0.8	0.2	0.0	0.4	0.9	0.0	1.8
2	Region 19	5.7	3.5	7.9	4.2	3.9	4.5	9.9	8.0	11.8	0.3	0.3	0.3	0.0	0.0	0.0	10.2	8.3	12.1	0.0	0.0	0.0	0.5	0.3	0.7	0.1	0.0	0.3	1.3	1.1	1.5
1	Region 20	11.0	11.0	11.0	5.0	5.0	5.0	15.9	15.9	15.9	0.3	0.3	0.3	0.0	0.0	0.0	16.2	16.2	16.2	0.0	0.0	0.0	1.3	1.3	1.3	1.8	1.8	1.8	2.1	2.1	2.1
1	Region 21	9.0	9.0	9.0	2.4	2.4	2.4	11.5	11.5	11.5	0.2	0.2	0.2	0.3	0.3	0.3	12.0	12.0	12.0	0.0	0.0	0.0	2.2	2.2	2.2	1.0	1.0	1.0	0.7	0.7	0.7
3	Region 22	6.7	3.1	9.0	2.4	1.2	4.0	9.1	4.2	13.0	0.2	0.2	0.2	0.7	0.0	2.2	10.1	6.7	13.2	0.4	0.0	0.8	0.9	0.3	1.5	0.8	0.0	1.3	0.6	0.0	1.6
4	Region 23	7.2	3.2	13.5	3.9	1.7	5.6	11.1	8.8	15.3	0.2	0.2	0.2	0.2	0.0	0.4	11.4	8.9	15.5	0.0	0.0	0.0	1.1	0.0	2.6	0.7	0.0	1.4	0.5	0.0	1.0
3	Region 24	6.3	5.5	7.9	3.0	1.1	4.4	9.3	9.0	9.9	0.2	0.2	0.3	0.1	0.0	0.2	9.6	9.3	10.1	0.0	0.0	0.0	0.9	0.9	0.9	0.7	0.6	0.9	0.5	0.3	0.9
2	Region 25	6.3	3.7	9.0	3.5	2.0	5.0	9.8	8.7	11.0	0.2	0.1	0.3	0.0	0.0	0.0	10.1	8.8	11.3	0.0	0.0	0.0	0.8	0.0	1.6	0.4	0.0	0.8	0.4	0.0	0.8
4	Region 26	8.2	7.2	9.5	3.6	3.0	4.5	11.9	10.2	14.0	0.3	0.2	0.3	0.0	0.0	0.0	12.2	10.4	14.3	0.3	0.0	1.3	1.5	0.8	1.9	0.6	0.4	0.8	0.8	0.4	1.5
1	Region 27	5.4	5.4	5.4	3.5	3.5	3.5	8.8	8.8	8.8	0.3	0.3	0.3	0.7	0.7	0.7	9.8	9.8	9.8	0.0	0.0	0.0	0.7	0.7	1.7	0.7	0.7	0.7	0.8	0.8	0.8
8	Region 28	5.9	1.8	9.2	4.0	2.9	5.6	9.9	7.3	13.2	0.3	0.2	0.4	0.3	0.0	1.0	10.5	8.2	13.8	0.1	0.0	0.4	0.9	0.3	1.6	0.6	0.3	1.0	0.6	0.3	0.9
8	Region 29	3.5	0.9	8.0	5.6	3.0	9.4	9.1	5.7	14.2	0.2	0.1	0.4	0.0	0.0	0.4	9.4	5.8	14.5	0.2	0.0	0.7	0.3	0.0	0.9	0.4	0.0	1.1	0.4	0.0	1.3
5	Region 30	5.8	2.9	8.7	3.0	1.1	4.8	8.8	7.8	9.8	0.2	0.2	0.3	0.3	0.0	1.1	9.4	7.9	10.0	0.9	0.0	2.0	0.8	0.0	1.4	0.9	0.0	2.2	0.4	0.0	1.1
4	Region 31	6.0	4.3	9.6	4.8	3.2	8.1	10.8	8.0	13.7	0.3	0.2	0.4	1.1	0.0	2.8	12.2	9.0	15.8	0.6	0.0	2.3	1.1	0.4	1.6	1.4	0.7	1.9	0.6	0.3	0.9
3	Region 36	11.0	7.0	13.5	2.4	1.7	3.9	13.5	10.9	15.2	0.2	0.2	0.3	0.6	0.4	0.8	14.3	11.8	15.8	0.0	0.0	0.0	1.8	1.2	2.2	2.5	2.3	2.6	0.6	0.4	0.9
70	**Ave YM 2**	**6.8**			**3.6**			**10.4**			**0.2**			**0.4**			**11.0**			**0.2**			**0.9**			**0.8**			**0.9**		
	Min YM 2		**0.9**			**0.4**			**4.2**			**0.1**			**0.0**			**5.8**			**0.0**			**0.0**			**0.0**			**0.0**	
	Max YM 2			**15.4**			**9.4**			**15.9**			**0.4**			**2.8**			**16.3**			**2.3**			**2.6**			**2.6**			**6.6**

TABLE 3: RSA GRADING OF YELLOW MAIZE (2004/2005) (continue)

Number of samples	Region	% Defective Kernels						% Total defective			% Foreign matter			% Another Colour			% Total Deviation			% Pinked Kernels			% Diplodia Kernels			% Fusarium Kernels			% Cobrot Kernels		
		Above 6.35 mm sieve			Below 6.35 mm sieve																										
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: YM 3																														
2	Region 14	16.7	14.2	19.2	3.5	0.8	6.2	20.2	20.1	20.4	0.4	0.4	0.4	0.5	0.0	0.9	21.1	20.8	21.4	0.0	0.0	0.0	1.9	0.7	3.2	2.5	1.5	3.5	7.9	6.4	9.5
1	Region 26	15.9	15.9	15.9	5.2	5.2	5.2	21.1	21.1	21.1	0.4	0.4	0.4	0.0	0.0	0.0	21.5	21.5	21.5	0.0	0.0	0.0	5.1	5.1	5.1	1.8	1.8	1.8	1.8	1.8	1.8
1	Region 30	2.7	2.7	2.7	2.4	2.4	2.4	5.1	5.1	5.1	0.6	0.6	0.6	0.8	0.8	0.8	6.5	6.5	6.5	0.0	0.0	0.0	0.3	0.3	0.3	0.5	0.5	0.5	0.3	0.3	0.3
4	**Ave YM 3**	**13.0**			**3.7**			**16.7**			**0.4**			**0.4**			**17.5**			**0.0**			**2.3**			**1.8**			**4.5**		
	Min YM 3		**2.7**			**0.8**			**5.1**			**0.4**			**0.0**			**6.5**			**0.0**			**0.3**			**0.5**			**0.3**	
	Max YM 3			**19.2**			**6.2**			**21.1**			**0.6**			**0.9**			**21.5**			**0.0**			**5.1**			**3.5**			**9.5**
GRADE: COM																														
1	Region 14	27.2	27.2	27.2	2.9	2.9	2.9	30.1	30.1	30.1	0.4	0.4	0.4	1.0	1.0	1.0	31.5	31.5	31.5	0.0	0.0	0.0	3.9	3.9	3.9	4.5	4.5	4.5	10.4	10.4	10.4
1	**Ave COM**	**27.2**			**2.9**			**30.1**			**0.4**			**1.0**			**31.5**			**0.0**			**3.9**			**4.5**			**10.4**		
	Min COM		**27.2**			**2.9**			**30.1**			**0.4**			**1.0**			**31.5**			**0.0**			**3.9**			**4.5**			**10.4**	
	Max COM			**27.2**			**2.9**			**30.1**			**0.4**			**1.0**			**31.5**			**0.0**			**3.9**			**4.5**			**10.4**
399	**Ave yellow maize**	**4.0**			**2.3**			**6.3**			**0.2**			**0.1**			**6.6**			**0.1**			**0.4**			**0.4**			**0.4**		
	Min yellow maize		**0.6**			**0.3**			**1.0**			**0.0**			**0.0**			**1.0**			**0.0**			**0.0**			**0.0**			**0.0**	
	Max yellow maize			**27.2**			**9.4**			**30.1**			**0.6**			**2.8**			**31.5**			**2.3**			**5.1**			**4.5**			**10.4**
1000	**Ave maize**	**3.7**			**2.1**			**5.8**			**0.2**			**0.2**			**6.2**			**0.1**			**0.4**			**0.5**			**0.4**		
	Min maize		**0.5**			**0.1**			**1.0**			**0.0**			**0.0**			**1.0**			**0.0**			**0.0**			**0.0**			**0.0**	
	Max maize			**28.5**			**16.4**			**30.3**			**0.6**			**12.3**			**31.5**			**2.3**			**5.1**			**4.5**			**10.9**

TABLE 4: GRADING QUALITY OF SOUTH AFRICAN WHITE MAIZE 1995/96 - 2004/05

Season	Number of samples	RSA GRADING AVERAGES				
		% Defective kernels		% Foreign matter	% Other colour	% Total deviation
		Above 6.35 mm sieve	Below 6.35 mm sieve			
1995/96	142	6.3	1.9	0.0	0.3	8.5
1996/97	178	4.7	1.5	0.0	0.5	6.7
1997/98	470	5.9	1.8	0.1	0.4	8.1
1998/99	256	3.4	2.0	0.1	0.2	5.6
1999/00	493	6.0	1.7	0.0	0.4	8.1
2000/01	522	3.6	1.5	0.1	0.3	5.5
2001/02	471	5.0	1.4	0.0	0.3	6.7
2002/03	517	2.4	1.6	0.1	0.4	4.5
2003/04	599	4.0	2.1	0.3	0.3	6.7
2004/05	601	3.5	1.9	0.2	0.3	5.9
Weighted average		4.3	1.7	0.1	0.3	6.5

TABLE 5: GRADING QUALITY OF SOUTH AFRICAN YELLOW MAIZE 1995/96 - 2004/05

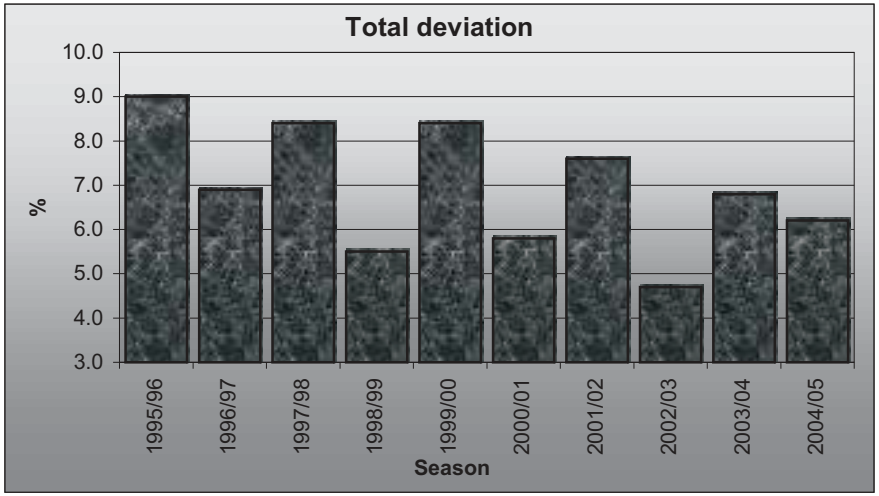
Season	Number of samples	RSA GRADING AVERAGES				
		% Defective kernels		% Foreign matter	% Other colour	% Total deviation
		Above 6.35 mm sieve	Below 6.35 mm sieve			
1995/96	151	6.8	2.4	0.1	0.2	9.5
1996/97	166	4.9	1.9	0.0	0.2	7.0
1997/98	267	6.0	2.4	0.1	0.4	8.9
1998/99	189	2.6	2.7	0.0	0.1	5.5
1999/00	407	6.5	2.1	0.0	0.2	8.8
2000/01	378	3.7	2.1	0.1	0.4	6.2
2001/02	429	6.3	1.9	0.1	0.3	8.6
2002/03	383	2.1	2.5	0.2	0.2	5.0
2003/04	301	4.3	2.3	0.3	0.2	7.0
2004/05	399	4.0	2.3	0.2	0.1	6.6
Weighted average		4.7	2.2	0.1	0.2	7.3

TABLE 6: GRADING QUALITY OF SOUTH AFRICAN MAIZE 1995/96 - 2004/05

Season	Number of samples	RSA GRADING AVERAGES				
		% Defective kernels		%	%	%
		Above 6.35 mm sieve	Below 6.35 mm sieve	Foreign matter	Other colour	Total deviation
1995/96	293	6.6	2.2	0.1	0.2	9.0
1996/97	344	4.8	1.7	0.0	0.4	6.9
1997/98	737	5.9	2.0	0.1	0.4	8.4
1998/99	445	3.1	2.3	0.0	0.1	5.5
1999/00	900	6.2	1.8	0.0	0.3	8.4
2000/01	900	3.6	1.8	0.1	0.3	5.8
2001/02	900	5.6	1.6	0.1	0.3	7.6
2002/03	900	2.3	2.0	0.2	0.3	4.7
2003/04	900	4.1	2.2	0.3	0.3	6.8
2004/05	1000	3.7	2.1	0.2	0.2	6.2
Weighted average		4.5	2.0	0.1	0.3	6.8

TABLE 7: HECTOLITRE MASS (kg/hl) OF SOUTH AFRICAN MAIZE 1995/96 - 2004/05

Season	White maize		Yellow maize		Ave maize	
	Number of samples	Hectolitre mass kg/hl	Number of samples	Hectolitre mass kg/hl	Number of samples	Hectolitre mass kg/hl
1995/96	142	75.3	151	74.8	293	75.0
1996/97	178	75.2	166	75.2	344	75.2
1997/98	470	76.6	267	76.0	737	76.4
1998/99	256	75.2	189	74.8	445	75.0
1999/00	493	74.8	407	74.6	900	74.7
2000/01	522	78.2	378	77.8	900	78.0
2001/02	471	77.3	429	76.7	900	77.0
2002/03	517	78.1	383	77.2	900	77.7
2003/04	599	78.1	301	77.0	900	77.8
2004/05	601	77.9	399	76.8	1000	77.5
Weighted average		77.1		76.3	76.7	



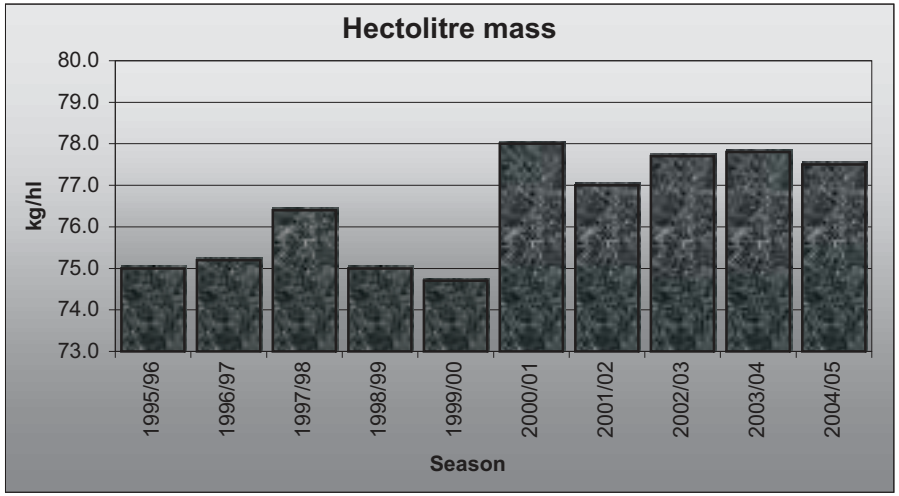


TABLE 8: USA GRADING OF WHITE MAIZE (2004/05)

Number of samples	Region	Damaged kernels						% Broken corn and foreign material			Bushel weight kg/hl			Other colour %		
		% Heat damaged			% Total damaged											
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: US 1																
3	Region 10	0.0	0.0	0.0	2.2	2.0	2.3	1.0	0.9	1.1	80.7	79.2	83.2	0.3	0.0	0.7
1	Region 11	0.0	0.0	0.0	0.6	0.6	0.6	1.7	1.7	1.7	80.6	80.6	80.6	0.0	0.0	0.0
6	Region 12	0.0	0.0	0.0	2.2	1.6	2.6	0.9	0.6	1.2	78.4	77.3	79.4	0.1	0.0	0.5
4	Region 13	0.0	0.0	0.0	2.5	2.4	2.6	0.9	0.7	1.2	77.5	77.2	78.3	0.1	0.0	0.5
14	Region 14	0.0	0.0	0.0	2.4	1.5	3.0	1.1	0.8	1.6	78.1	76.3	79.9	0.1	0.0	0.8
7	Region 15	0.0	0.0	0.0	2.3	2.0	2.9	1.0	0.9	1.2	78.9	77.6	80.8	0.2	0.0	0.6
15	Region 16	0.0	0.0	0.0	2.3	1.7	3.0	1.1	0.7	1.5	78.1	76.3	80.3	0.2	0.0	0.7
13	Region 17	0.0	0.0	0.0	2.2	1.3	3.0	1.1	0.8	1.5	78.0	74.8	79.0	0.1	0.0	0.4
11	Region 18	0.0	0.0	0.0	2.5	1.9	2.9	0.9	0.4	1.4	78.4	76.2	79.7	0.1	0.0	0.3
5	Region 19	0.0	0.0	0.0	2.2	2.1	2.4	1.0	0.8	1.1	78.0	77.2	78.7	0.1	0.0	0.5
4	Region 20	0.0	0.0	0.0	2.5	2.3	2.8	0.9	0.8	1.0	78.0	77.2	78.3	0.1	0.0	0.3
18	Region 21	0.0	0.0	0.0	2.5	1.7	3.0	1.0	0.5	2.0	77.8	76.9	79.4	0.2	0.0	0.6
28	Region 22	0.0	0.0	0.0	2.3	1.5	3.0	1.2	0.6	1.7	78.1	75.4	81.2	0.1	0.0	0.5
41	Region 23	0.0	0.0	0.0	2.2	1.3	2.9	1.0	0.7	1.7	78.8	72.3	81.1	0.2	0.0	1.0
28	Region 24	0.0	0.0	0.0	2.4	1.4	3.0	0.9	0.5	1.7	79.0	74.3	81.2	0.3	0.0	0.8
8	Region 25	0.0	0.0	0.0	2.4	2.0	3.0	1.0	0.4	1.3	77.8	75.9	81.7	0.3	0.0	0.8
5	Region 26	0.0	0.0	0.0	2.0	1.6	2.5	0.7	0.5	1.0	78.9	77.5	80.3	0.4	0.0	1.0
6	Region 27	0.0	0.0	0.0	2.2	1.6	2.9	0.8	0.3	1.4	77.6	76.8	79.7	0.1	0.0	0.4
8	Region 28	0.0	0.0	0.0	2.0	1.0	3.0	0.9	0.3	1.1	78.5	77.2	79.7	0.3	0.0	0.6
18	Region 29	0.0	0.0	0.0	2.4	1.3	3.0	0.9	0.3	1.4	78.5	77.0	80.1	0.2	0.0	0.7
11	Region 30	0.0	0.0	0.0	2.5	1.9	3.0	1.2	6.0	1.8	77.6	75.4	78.8	0.2	0.0	0.6
6	Region 31	0.0	0.0	0.0	2.3	1.9	3.0	1.0	0.4	1.5	77.7	76.8	78.5	0.4	0.0	0.8
15	Region 32	0.0	0.0	0.0	1.8	0.6	3.0	1.0	0.4	1.6	77.3	74.7	79.3	0.3	0.0	0.8
6	Region 33	0.0	0.0	0.0	2.3	1.5	2.9	1.1	0.7	1.4	77.8	76.3	79.0	0.3	0.0	0.7
27	Region 34	0.0	0.0	0.0	2.3	1.0	3.0	1.0	0.4	1.9	77.7	75.7	79.4	0.2	0.0	0.7
8	Region 35	0.0	0.0	0.0	1.9	1.3	2.2	1.0	0.7	1.6	78.3	76.7	81.7	0.2	0.0	0.4
4	Region 36	0.0	0.0	0.0	1.9	1.1	2.5	0.7	0.2	1.1	77.7	77.2	78.0	0.0	0.0	0.0
320	**Ave US 1**	**0.0**			**2.3**			**1.0**			**78.2**			**0.2**		
	Min US 1		**0.0**			**0.6**			**0.2**			**72.3**			**0.0**	
	Max US 1			**0.0**			**3.0**			**2.0**			**83.2**			**1.0**
GRADE: US 2																
2	Region 12	0.0	0.0	0.0	3.2	2.4	4.1	1.9	1.7	2.1	78.6	78.2	79.0	0.0	0.0	0.0
1	Region 13	0.0	0.0	0.0	3.1	3.1	3.1	1.2	1.2	1.2	77.9	77.9	77.9	0.5	0.5	0.5
2	Region 14	0.0	0.0	0.0	4.5	4.1	4.9	1.3	1.0	1.6	78.7	78.0	79.4	0.2	0.0	0.4
2	Region 15	0.0	0.0	0.0	3.7	3.3	4.2	1.5	1.3	1.6	79.9	78.8	81.0	1.1	1.0	1.2
4	Region 16	0.0	0.0	0.0	3.6	3.3	4.2	1.1	0.6	1.7	77.9	76.9	79.7	0.0	0.0	0.0
8	Region 17	0.0	0.0	0.0	3.5	2.8	4.4	1.2	0.6	2.2	78.2	77.6	79.2	0.2	0.0	0.8
6	Region 18	0.0	0.0	0.0	3.9	3.1	5.0	1.2	0.8	1.8	78.2	76.9	79.7	0.3	0.0	0.6
6	Region 19	0.0	0.0	0.0	3.5	3.1	4.0	1.3	0.8	1.8	78.3	77.7	79.4	0.2	0.0	0.5
2	Region 20	0.0	0.0	0.0	3.6	2.9	4.3	1.5	1.0	2.1	77.5	76.4	78.5	0.9	0.4	1.3
20	Region 21	0.0	0.0	0.0	3.8	2.9	4.8	1.2	0.7	2.1	77.6	75.8	79.4	0.3	0.0	0.7
20	Region 22	0.0	0.0	0.0	3.6	3.1	4.5	1.0	0.5	1.7	78.4	74.5	80.8	0.3	0.0	0.8
9	Region 23	0.0	0.0	0.0	3.7	2.2	5.0	1.7	1.0	2.9	78.3	76.3	80.6	0.2	0.0	0.5
12	Region 24	0.0	0.0	0.0	3.5	3.1	4.5	1.0	0.3	1.4	78.5	76.5	81.4	0.2	0.0	0.6
4	Region 25	0.0	0.0	0.0	3.3	2.3	4.5	1.6	1.1	2.3	77.5	75.3	78.9	0.3	0.0	0.7
11	Region 26	0.0	0.0	0.0	4.0	3.1	5.0	1.5	1.0	2.0	77.6	74.9	79.0	0.6	0.0	1.0
6	Region 27	0.0	0.0	0.0	4.2	3.3	4.8	1.2	0.3	2.0	77.4	76.2	78.9	0.2	0.0	0.3
6	Region 28	0.0	0.0	0.0	4.0	1.8	5.0	1.5	0.9	2.4	77.1	73.2	80.3	0.8	0.4	1.9
4	Region 29	0.0	0.0	0.0	3.7	3.1	4.2	1.3	1.0	1.7	78.6	77.5	79.7	0.3	0.0	0.4

TABLE 8: USA GRADING OF WHITE MAIZE (2004/05)
(continue)

Number of samples	Region	Damaged kernels						% Broken corn and foreign material			Bushel weight kg/hl			Other colour %		
		% Heat damaged			% Total damaged											
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
2	Region 30	0.0	0.0	0.0	3.7	3.2	4.2	1.4	0.8	2.0	76.8	76.6	77.0	0.0	0.0	0.0
3	Region 31	0.0	0.0	0.0	3.3	1.3	4.6	1.6	1.1	2.1	77.1	75.9	78.2	0.2	0.0	0.6
6	Region 32	0.0	0.0	0.0	3.1	1.6	3.8	1.1	0.3	1.7	75.8	71.7	78.5	0.3	0.0	0.7
3	Region 33	0.0	0.0	0.0	3.6	3.2	4.0	1.5	1.4	1.6	77.1	74.7	78.5	0.3	0.0	0.7
14	Region 34	0.0	0.0	0.0	3.5	3.1	4.4	1.1	0.5	3.0	77.8	75.8	79.0	0.3	0.0	0.8
7	Region 36	0.0	0.0	0.0	4.3	3.3	4.9	1.0	0.0	2.3	77.2	75.9	78.2	0.2	0.0	0.8
160	**Ave US 2**	**0.0**			**3.7**			**1.2**			**77.8**			**0.3**		
	Min US 2		**0.0**			**1.3**			**0.0**			**71.7**			**0.0**	
	Max US 2			**0.0**			**5.0**			**3.0**			**81.4**			**1.9**
GRADE: US 3																
3	Region 12	0.0	0.0	0.0	5.9	5.4	6.6	0.8	0.7	0.9	78.5	78.1	79.2	0.2	0.0	0.6
2	Region 13	0.0	0.0	0.0	5.3	5.1	5.6	0.7	0.3	1.2	77.8	77.4	78.2	0.1	0.0	0.2
3	Region 14	0.0	0.0	0.0	5.9	5.6	6.4	0.7	0.5	0.9	77.8	77.6	78.1	0.3	0.2	0.5
1	Region 15	0.0	0.0	0.0	3.3	3.3	3.3	3.5	3.5	3.5	80.5	80.5	80.5	1.2	1.2	1.2
3	Region 16	0.1	0.0	0.3	4.2	2.1	5.4	0.9	0.6	1.2	77.9	76.8	78.8	0.1	0.0	0.2
4	Region 17	0.0	0.0	0.0	4.5	1.2	5.8	2.4	1.3	4.0	77.6	76.8	78.7	0.3	0.0	0.5
3	Region 19	0.0	0.0	0.0	5.7	5.4	5.9	1.1	0.8	1.6	77.8	77.3	78.6	0.3	0.0	0.7
2	Region 20	0.0	0.0	0.0	5.7	5.1	6.4	0.4	0.3	0.5	78.5	78.3	78.6	0.2	0.0	0.4
4	Region 21	0.0	0.0	0.0	5.7	5.1	6.4	1.1	0.9	1.4	76.3	75.8	77.2	0.3	0.0	0.7
3	Region 22	0.0	0.0	0.0	6.0	5.6	6.2	1.6	0.9	3.0	78.2	77.3	78.8	0.2	0.0	0.7
6	Region 23	0.0	0.0	0.0	5.5	3.7	6.3	1.4	0.6	3.2	78.5	77.4	80.3	0.3	0.0	0.5
1	Region 26	0.0	0.0	0.0	5.2	5.2	5.2	1.4	1.4	1.4	74.1	74.1	74.1	0.4	0.4	0.4
4	Region 28	0.0	0.0	0.0	5.3	5.1	5.7	1.5	1.3	1.7	77.8	76.7	78.7	0.8	0.6	1.0
3	Region 29	0.1	0.0	0.3	5.6	3.8	7.0	0.8	0.6	0.9	76.9	73.2	79.3	0.2	0.0	0.4
5	Region 30	0.0	0.0	0.0	5.7	5.2	6.5	1.1	0.5	1.6	76.9	75.7	77.9	0.4	0.0	0.6
4	Region 31	0.0	0.0	0.0	6.6	6.3	6.8	1.6	1.0	1.9	78.6	75.7	81.7	0.7	0.4	0.9
1	Region 33	0.0	0.0	0.0	6.1	6.1	6.1	0.9	0.9	0.9	77.2	77.2	77.2	0.0	0.0	0.0
2	Region 34	0.0	0.0	0.0	5.9	5.1	6.8	1.4	1.0	1.8	76.9	76.4	77.4	0.4	0.4	0.5
2	Region 36	0.0	0.0	0.0	6.2	6.2	6.2	0.6	0.0	1.3	77.0	77.0	77.0	0.0	0.0	0.0
56	**Ave US 3**	**0.0**			**5.6**			**1.3**			**77.7**			**0.3**		
	Min US 3		**0.0**			**1.2**			**0.0**			**73.2**			**0.0**	
	Max US 3			**0.3**			**7.0**			**4.0**			**81.7**			**1.2**
GRADE: US 4																
2	Region 12	0.0	0.0	0.0	7.7	7.2	8.2	0.8	0.7	0.9	78.1	78.1	78.1	0.5	0.0	1.0
2	Region 13	0.0	0.0	0.0	8.5	8.0	8.9	0.8	0.6	1.0	77.5	77.4	77.5	0.0	0.0	0.0
2	Region 14	0.0	0.0	0.0	8.5	7.7	9.2	1.3	0.4	2.3	77.9	77.8	77.9	0.2	0.0	0.3
2	Region 15	0.0	0.0	0.0	8.6	7.6	9.6	1.2	0.3	2.1	77.6	76.5	78.6	0.3	0.0	0.6
2	Region 18	0.0	0.0	0.0	8.4	7.5	9.3	1.0	0.4	1.5	74.1	71.8	76.3	0.6	0.0	0.1
1	Region 19	0.0	0.0	0.0	7.7	7.7	7.7	2.4	2.4	2.4	77.5	77.5	77.5	0.7	0.7	0.7
2	Region 20	0.0	0.0	0.0	7.9	7.6	8.1	1.5	1.1	2.0	77.8	77.7	77.8	0.0	0.0	0.0
1	Region 21	0.0	0.0	0.0	8.1	8.1	8.1	1.7	1.7	1.7	77.0	77.0	77.0	0.0	0.0	0.0
1	Region 22	0.0	0.0	0.0	9.5	9.5	9.5	1.0	1.0	1.0	76.4	76.4	76.4	0.0	0.0	0.0
3	Region 23	0.0	0.0	0.0	9.1	8.3	9.5	1.1	0.9	1.5	77.6	77.2	78.3	0.1	0.0	0.3
1	Region 27	0.0	0.0	0.0	8.9	8.9	8.9	2.6	2.6	2.6	76.9	76.9	76.9	0.8	0.8	0.8
2	Region 28	0.0	0.0	0.0	7.5	7.3	7.8	1.9	1.4	2.3	76.6	75.0	78.1	0.5	0.4	0.7

TABLE 8: USA GRADING OF WHITE MAIZE (2004/05)
(continue)

Number of samples	Region	Damaged kernels						% Broken corn and foreign material			Bushel weight kg/hl			Other colour %		
		% Heat damaged			% Total damaged											
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
6	Region 30	0.0	0.0	0.0	8.6	7.2	9.7	0.9	0.4	1.7	77.3	75.6	79.3	0.1	0.0	0.4
1	Region 32	0.0	0.0	0.0	7.9	7.9	7.9	1.8	1.8	1.8	75.6	75.6	75.6	0.0	0.0	0.0
1	Region 33	0.0	0.0	0.0	9.2	9.2	9.2	2.1	2.1	2.1	77.6	77.6	77.6	0.0	0.0	0.0
29	**Ave US 4**	**0.0**			**8.4**			**1.3**			**77.1**			**0.2**		
	Min US 4		**0.0**			**7.2**			**0.3**			**71.8**			**0.0**	
	Max US 4			**0.0**			**9.7**			**2.6**			**79.3**			**1.1**
GRADE: US 5																
2	Region 12	0.0	0.0	0.0	13.4	13.2	13.6	0.8	0.7	0.9	76.5	75.0	78.0	0.4	0.3	0.4
1	Region 13	0.0	0.0	0.0	12.3	12.3	12.3	1.4	1.4	1.4	77.2	77.2	77.2	0.3	0.3	0.3
4	Region 14	0.0	0.0	0.0	11.6	10.1	14.4	1.0	0.7	1.4	77.5	75.6	79.6	0.4	0.0	0.7
1	Region 15	0.0	0.0	0.0	12.6	12.6	12.6	0.8	0.8	0.8	73.0	73.0	73.0	0.7	0.7	0.7
1	Region 16	0.0	0.0	0.0	1.7	1.7	1.7	5.6	5.6	5.6	78.6	78.6	78.6	0.5	0.5	0.5
1	Region 17	0.0	0.0	0.0	10.9	10.9	10.9	3.0	3.0	3.0	78.1	78.1	78.1	0.0	0.0	0.0
1	Region 19	0.0	0.0	0.0	10.9	10.9	10.9	1.2	1.2	1.2	78.4	78.4	78.4	0.0	0.0	0.0
1	Region 22	0.0	0.0	0.0	12.1	12.1	12.1	1.0	1.0	1.0	75.6	75.6	75.6	0.0	0.0	0.0
6	Region 23	0.1	0.0	0.3	12.2	11.5	13.4	1.0	0.6	1.3	78.2	77.3	79.6	0.4	0.0	0.6
2	Region 28	0.5	0.0	0.9	8.4	3.2	13.7	4.2	3.2	5.2	73.5	68.9	78.1	0.4	0.0	0.7
1	Region 29	0.0	0.0	0.0	11.4	11.4	11.4	0.4	0.4	0.4	77.6	77.6	77.6	0.0	0.0	0.0
1	Region 30	0.0	0.0	0.0	11.5	11.5	11.5	1.5	1.5	1.5	76.2	76.2	76.2	0.3	0.0	0.3
1	Region 31	0.0	0.0	0.0	10.1	10.1	10.1	1.5	1.5	1.5	74.7	74.7	74.7	0.7	0.0	0.7
1	Region 36	0.0	0.0	0.0	10.9	10.9	10.9	1.5	1.5	1.5	75.9	75.9	75.9	0.8	0.0	0.8
24	**Ave US 5**	**0.1**			**11.2**			**1.6**			**76.9**			**0.4**		
	Min US 5		**0.0**			**1.7**			**0.4**			**68.9**			**0.0**	
	Max US 5			**0.9**			**14.4**			**5.6**			**79.6**			**0.8**
GRADE: MIXED GRADE																
1	Region 12	0.0	0.0	0.0	3.0	3.0	3.0	1.4	1.4	1.4	73.2	73.2	73.2	4.3	4.3	4.3
1	Region 24	0.0	0.0	0.0	5.2	5.2	5.2	1.2	1.2	1.2	79.8	79.8	79.8	3.5	3.5	3.5
1	Region 28	0.0	0.0	0.0	1.6	1.6	1.6	3.0	3.0	3.0	73.2	73.2	73.2	2.5	2.5	2.5
1	Region 29	0.0	0.0	0.0	4.5	4.5	4.5	0.5	0.5	0.5	78.3	78.3	78.3	12.3	12.3	12.3
1	Region 30	0.0	0.0	0.0	2.5	2.5	2.5	1.9	1.9	1.9	72.0	72.0	72.0	2.9	2.9	2.9
1	Region 31	0.0	0.0	0.0	2.5	2.5	2.5	1.4	1.4	1.4	72.9	72.9	72.9	5.1	5.1	5.1
6	**Ave Mixed Grade**	**0.0**			**3.3**			**1.6**			**74.9**			**5.1**		
	Min Mixed Grade		**0.0**			**1.6**			**0.5**			**72.0**			**2.5**	
	Max Mixed Grade			**0.0**			**5.2**			**3.0**			**79.8**			**12.3**
GRADE: SAMPLE GRADE																
1	Region 13	0.0	0.0	0.0	15.6	15.6	15.6	1.4	1.4	1.4	77.7	77.7	77.7	0.0	0.0	0.0
3	Region 14	0.0	0.0	0.0	23.2	18.1	28.8	1.7	0.4	3.3	77.9	76.8	78.5	0.2	0.0	0.5
1	Region 23	0.0	0.0	0.0	17.4	17.4	17.4	0.6	0.6	0.6	78.5	78.5	78.5	0.0	0.0	0.0
1	Region 29	0.0	0.0	0.0	3.3	3.3	3.3	10.7	10.7	10.7	75.9	75.9	75.9	0.0	0.0	0.0
6	**Ave Sample Grade**	**0.0**			**17.6**			**3.0**			**77.6**			**0.1**		
	Min Sample Grade		**0.0**			**3.3**			**0.4**			**75.9**			**0.0**	
	Max Sample Grade			**0.0**			**28.8**			**10.7**			**78.5**			**0.5**
601	**Ave white maize**	**0.0**			**3.8**			**1.2**			**77.9**			**0.3**		
	Min white maize		**0.0**			**0.6**			**0.0**			**68.9**			**0.0**	
	Max white maize			**0.9**			**28.8**			**10.7**			**83.2**			**12.3**
1000	**Ave maize**	**0.0**			**3.9**			**1.2**			**77.5**			**0.2**		
	Min maize		**0.0**			**0.6**			**0.0**			**68.4**			**0.0**	
	Max maize			**0.9**			**28.8**			**10.7**			**83.2**			**12.3**

TABLE 9: USA GRADING OF YELLOW MAIZE (2004/05)

Number of samples	Region	Damaged kernels						% Broken corn and foreign material			Bushel weight kg/hl			Other colour %		
		% Heat damaged			% Total damaged											
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: US 1																
5	Region 10	0.0	0.0	0.0	2.0	1.8	2.1	1.3	0.9	1.6	78.0	76.8	79.7	0.0	0.0	0.0
26	Region 11	0.0	0.0	0.0	1.8	1.1	2.7	1.2	0.9	1.7	79.1	75.8	80.7	0.0	0.0	0.3
2	Region 12	0.0	0.0	0.0	2.5	2.2	2.9	1.1	1.1	1.1	76.8	76.6	76.9	0.0	0.0	0.0
2	Region 14	0.0	0.0	0.0	1.9	1.8	1.9	0.9	0.9	0.9	78.0	76.8	79.2	0.0	0.0	0.0
2	Region 15	0.0	0.0	0.0	2.4	2.4	2.5	1.4	1.0	1.8	76.8	76.3	77.2	0.0	0.0	0.0
2	Region 16	0.0	0.0	0.0	2.0	1.8	2.2	1.0	0.9	1.0	77.4	76.3	78.5	0.0	0.0	0.1
2	Region 17	0.0	0.0	0.0	2.0	1.8	2.2	1.5	1.5	1.5	77.0	76.8	77.2	0.2	0.0	0.4
5	Region 18	0.0	0.0	0.0	2.5	2.1	2.8	1.5	1.2	1.7	76.9	76.3	77.2	0.2	0.0	0.9
1	Region 22	0.0	0.0	0.0	1.9	1.9	1.9	1.2	1.2	1.2	75.9	75.9	75.9	2.1	2.1	2.1
2	Region 23	0.0	0.0	0.0	2.1	1.6	2.6	1.1	0.9	1.2	78.3	77.6	79.0	0.1	0.0	0.2
9	Region 24	0.0	0.0	0.0	2.3	1.7	3.0	1.0	0.6	1.6	76.8	74.0	77.9	0.3	0.0	0.6
1	Region 25	0.0	0.0	0.0	3.0	3.0	3.0	0.9	0.9	0.9	77.1	77.1	77.1	0.2	0.2	0.2
4	Region 26	0.0	0.0	0.0	2.3	2.0	2.5	0.9	0.6	1.2	77.4	77.1	78.1	0.1	0.0	0.4
7	Region 27	0.0	0.0	0.0	2.7	2.1	3.0	1.2	0.8	1.5	76.9	75.7	77.5	0.0	0.0	0.3
13	Region 28	0.0	0.0	0.0	1.9	1.5	2.8	1.1	0.8	1.5	76.4	72.7	78.2	0.2	0.0	0.6
12	Region 29	0.0	0.0	0.0	2.2	1.2	2.8	1.0	0.4	1.8	78.0	73.6	80.5	0.2	0.0	0.7
4	Region 30	0.0	0.0	0.0	2.1	1.7	2.7	1.1	0.5	1.8	77.8	76.6	78.7	0.0	0.0	0.0
3	Region 31	0.0	0.0	0.0	2.5	2.3	2.7	1.0	0.7	1.3	78.2	77.0	78.8	0.4	0.0	0.6
14	Region 32	0.0	0.0	0.0	2.6	1.6	3.0	1.1	1.0	1.5	75.7	73.5	78.1	0.1	0.0	1.6
1	Region 33	0.0	0.0	0.0	2.2	2.2	2.2	1.0	1.0	1.0	77.5	77.5	77.5	0.6	0.6	0.6
2	Region 34	0.0	0.0	0.0	1.9	1.3	2.6	0.5	0.4	0.5	78.9	76.8	81.0	0.0	0.0	0.0
7	Region 35	0.0	0.0	0.0	1.9	1.2	3.0	1.0	0.8	1.3	77.2	74.8	79.9	0.1	0.0	0.3
126	**Ave US 1**	**0.0**			**2.2**			**1.1**			**77.5**			**0.1**		
	Min US 1		**0.0**			**1.1**			**0.4**			**72.7**			**0.0**	
	Max US 1			**0.0**			**3.0**			**1.8**			**81.0**			**2.1**
GRADE: US 2																
2	Region 10	0.0	0.0	0.0	4.2	3.7	4.6	1.2	1.0	1.5	79.0	77.6	80.3	0.1	0.0	0.3
3	Region 11	0.0	0.0	0.0	3.1	1.8	3.8	1.6	1.2	2.3	77.4	76.6	78.4	0.0	0.0	0.0
5	Region 12	0.0	0.0	0.0	3.9	3.1	4.6	1.1	0.8	1.4	76.9	76.1	77.8	0.0	0.0	0.0
4	Region 13	0.0	0.0	0.0	4.1	3.9	4.4	1.4	1.1	1.6	76.9	76.2	77.5	0.0	0.0	0.0
7	Region 14	0.0	0.0	0.0	4.2	3.8	5.0	1.2	0.5	1.7	76.6	74.8	77.9	0.1	0.0	0.7
3	Region 15	0.0	0.0	0.0	3.6	3.4	3.8	1.0	0.9	1.0	76.1	75.0	78.1	0.0	0.0	0.0
4	Region 16	0.0	0.0	0.0	3.8	3.3	4.4	1.5	1.1	2.4	76.5	75.4	77.9	0.3	0.0	1.0
5	Region 17	0.0	0.0	0.0	3.8	3.3	4.0	1.5	0.9	1.9	76.0	73.9	77.8	0.1	0.0	0.7
5	Region 18	0.0	0.0	0.0	3.8	2.3	4.5	1.4	0.9	2.8	76.2	73.2	79.0	0.2	0.0	0.7
8	Region 19	0.0	0.0	0.0	3.8	3.4	4.2	1.6	0.9	2.5	76.7	75.7	77.8	0.2	0.0	0.7
4	Region 20	0.0	0.0	0.0	4.0	3.8	4.4	1.2	1.0	1.5	76.9	76.5	77.4	0.2	0.0	0.7
7	Region 21	0.0	0.0	0.0	4.1	3.3	4.8	1.2	0.6	1.7	76.9	76.2	77.8	0.2	0.0	0.6
5	Region 22	0.0	0.0	0.0	3.8	3.3	4.3	1.1	1.0	1.5	77.5	76.2	79.7	0.0	0.0	0.0
8	Region 23	0.0	0.0	0.0	3.7	3.1	4.3	1.4	0.8	2.1	77.3	74.4	79.0	0.2	0.0	0.8
6	Region 24	0.0	0.0	0.0	3.6	3.1	4.1	1.1	1.0	1.4	77.5	76.3	78.5	0.2	0.0	0.6
5	Region 25	0.0	0.0	0.2	3.8	3.2	4.6	1.5	0.6	2.7	77.1	75.2	78.8	0.0	0.0	0.0
9	Region 26	0.0	0.0	0.0	3.6	3.2	4.2	1.4	1.0	1.8	77.4	76.6	78.1	0.1	0.0	0.3
2	Region 27	0.0	0.0	0.0	4.0	3.9	4.0	2.0	1.9	2.1	76.8	76.4	77.1	0.3	0.0	0.7
9	Region 28	0.0	0.0	0.0	3.9	3.1	4.7	1.8	1.1	2.9	76.6	73.1	78.0	0.2	0.0	0.5
16	Region 29	0.0	0.0	0.0	3.4	1.0	4.5	1.6	1.0	2.8	77.8	75.4	79.8	0.1	0.0	0.4
11	Region 30	0.0	0.0	0.0	3.5	2.5	4.4	1.6	1.0	2.6	76.8	72.9	78.9	0.2	0.0	1.0
18	Region 31	0.0	0.0	0.0	3.8	3.1	4.8	1.3	0.9	2.5	76.8	72.5	78.3	0.2	0.0	1.2
11	Region 32	0.0	0.0	0.0	3.7	3.1	4.5	1.2	1.8	1.5	76.5	74.0	78.1	0.2	0.0	0.9
7	Region 33	0.0	0.0	0.0	3.8	3.1	5.0	1.3	1.0	1.6	77.5	77.1	78.5	0.1	0.0	0.4
13	Region 34	0.0	0.0	0.0	4.5	3.9	5.0	1.5	0.9	2.0	77.1	75.4	79.4	0.1	0.0	0.4

TABLE 9: USA GRADING OF YELLOW MAIZE (2004/05)
(continue)

Number of samples	Region	Damaged kernels						% Broken corn and foreign material			Bushel weight kg/hl			Other colour %		
		% Heat damaged			% Total damaged											
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
2	Region 35	0.1	0.0	0.2	3.2	3.1	3.2	1.0	0.8	1.2	74.9	74.3	75.4	0.0	0.0	0.0
2	Region 36	0.0	0.0	0.0	4.0	3.4	4.7	1.7	1.4	1.9	75.8	74.1	77.4	0.0	0.0	0.0
181	**Ave US 2**	**0.0**			**3.8**			**1.4**			**76.9**			**0.1**		
	Min US 2		**0.0**			**1.0**			**0.5**			**72.5**			**0.0**	
	Max US 2			**0.2**			**5.0**			**2.9**			**80.3**			**1.2**
GRADE: US 3																
2	Region 10	0.0	0.0	0.0	5.2	5.1	5.4	1.4	1.4	1.4	76.8	75.6	77.9	0.0	0.0	0.0
1	Region 11	0.0	0.0	0.0	6.0	6.0	6.0	1.0	1.0	1.0	78.5	78.5	78.5	0.0	0.0	0.0
1	Region 12	0.0	0.0	0.0	6.7	6.7	6.7	1.6	1.6	1.6	75.7	75.7	75.7	0.0	0.0	0.0
2	Region 14	0.0	0.0	0.0	5.4	5.2	5.6	1.9	1.7	2.0	77.2	76.8	77.5	0.0	0.0	0.0
1	Region 16	0.0	0.0	0.0	5.2	5.2	5.2	2.5	2.5	2.5	76.4	76.4	76.4	0.3	0.3	0.0
3	Region 17	0.0	0.0	0.0	5.6	5.1	6.0	2.1	1.4	3.2	75.2	73.2	76.4	0.6	0.0	1.2
1	Region 19	0.0	0.0	0.0	5.4	5.4	5.4	1.2	1.2	1.2	76.8	76.8	76.8	0.0	0.0	0.0
1	Region 20	0.0	0.0	0.0	5.2	5.2	5.2	1.7	1.7	1.7	75.4	75.4	75.4	0.0	0.0	0.0
1	Region 21	0.0	0.0	0.0	5.2	5.2	5.2	1.2	1.2	1.2	76.1	76.1	76.1	0.4	0.4	0.4
3	Region 23	0.0	0.0	0.0	6.3	6.2	6.7	2.1	1.5	2.5	75.0	74.9	75.3	0.2	0.0	0.4
2	Region 24	0.0	0.0	0.0	5.7	5.7	5.8	2.2	2.0	2.5	76.6	76.4	76.7	0.1	0.0	0.2
4	Region 25	0.0	0.0	0.0	6.1	5.4	6.9	1.0	0.4	1.8	76.1	75.0	77.4	0.2	0.0	0.6
1	Region 27	0.0	0.0	0.0	5.6	5.6	5.6	2.0	2.0	2.0	75.7	75.7	75.7	0.7	0.7	0.7
4	Region 28	0.0	0.0	0.0	4.2	2.1	6.5	2.2	1.0	4.0	73.8	68.4	76.7	0.2	0.0	0.6
4	Region 29	0.0	0.0	0.0	4.2	2.1	5.3	2.5	1.3	3.6	76.4	74.7	78.4	0.0	0.0	0.0
5	Region 30	0.0	0.0	0.0	5.4	2.8	6.4	2.1	1.4	3.5	75.7	72.3	77.8	0.5	0.0	1.1
4	Region 31	0.0	0.0	0.0	6.1	5.1	6.7	0.9	0.4	1.1	76.2	71.7	78.4	0.4	0.0	0.8
3	Region 32	0.0	0.0	0.0	4.7	2.7	5.8	1.3	0.7	4.6	74.6	69.0	78.5	0.0	0.0	0.0
1	Region 33	0.0	0.0	0.0	5.1	5.1	5.1	1.2	1.2	1.2	77.9	77.9	77.9	0.0	0.0	0.0
1	Region 34	0.0	0.0	0.0	5.4	5.4	5.4	1.2	1.2	1.2	76.2	76.2	76.2	0.0	0.0	0.0
4	Region 36	0.0	0.0	0.0	6.4	6.2	6.9	0.6	0.0	1.2	76.5	75.7	77.0	0.1	0.0	0.4
49	**Ave US 3**	**0.0**			**5.5**			**1.6**			**76.0**			**0.2**		
	Min US 3		**0.0**			**2.1**			**0.0**			**68.4**			**0.0**	
	Max US 3			**0.0**			**6.9**			**4.0**			**78.5**			**1.2**
GRADE: US 4																
1	Region 10	0.0	0.0	0.0	8.0	8.0	8.0	1.8	1.8	1.8	77.0	77.0	77.0	0.0	0.0	0.0
1	Region 12	0.0	0.0	0.0	9.8	9.8	9.8	0.7	0.7	0.7	77.4	77.4	77.4	0.2	0.2	0.2
3	Region 13	0.0	0.0	0.0	8.4	7.2	9.2	1.3	0.3	2.1	75.9	75.4	76.8	0.2	0.0	0.5
2	Region 14	0.0	0.0	0.0	8.6	7.4	9.7	1.1	0.6	1.6	77.0	76.8	77.1	0.0	0.0	0.0
2	Region 17	0.0	0.0	0.0	7.7	7.6	7.7	2.7	2.4	3.0	76.0	75.4	76.5	1.0	0.5	1.5
1	Region 18	0.0	0.0	0.0	9.6	9.6	9.6	1.5	1.5	1.5	71.1	71.1	71.1	0.9	0.9	0.9
1	Region 19	0.0	0.0	0.0	8.2	8.2	8.2	2.3	2.3	2.3	77.5	77.5	77.5	0.0	0.0	0.0
1	Region 20	0.0	0.0	0.0	7.3	7.3	7.3	1.1	1.1	1.1	77.4	77.4	77.4	0.2	0.2	0.2
1	Region 21	0.0	0.0	0.0	9.1	9.1	9.1	1.4	1.4	1.4	76.3	76.3	76.3	0.3	0.3	0.3
2	Region 22	0.0	0.0	0.0	8.6	8.0	9.2	1.8	1.3	2.3	76.2	75.9	76.4	0.0	0.0	0.0
1	Region 24	0.0	0.0	0.0	8.1	8.1	8.1	0.9	0.9	0.9	74.2	74.2	74.2	0.0	0.0	0.0
1	Region 25	0.7	0.7	0.7	9.3	9.3	9.3	1.4	1.4	1.4	72.0	72.0	72.0	0.0	0.0	0.0
4	Region 26	0.0	0.0	0.0	8.6	7.4	9.8	2.2	1.7	2.8	76.2	75.2	77.5	0.0	0.0	0.0
3	Region 28	0.0	0.0	0.0	9.0	8.4	9.4	2.3	1.6	3.2	74.2	70.9	77.9	0.3	0.0	1.0
1	Region 29	0.0	0.0	0.0	8.2	8.2	8.2	3.3	3.3	3.3	74.8	74.8	74.8	0.0	0.0	0.0
1	Region 30	0.0	0.0	0.0	8.9	8.9	8.9	0.9	0.9	0.9	75.0	75.0	75.0	0.6	0.6	0.6
2	Region 31	0.0	0.0	0.0	7.9	6.0	9.8	3.1	1.8	4.5	73.9	71.7	76.1	1.8	0.8	2.8
1	Region 36	0.0	0.0	0.0	7.3	7.3	7.3	2.2	2.2	2.2	74.5	74.5	74.5	0.6	0.6	0.6

TABLE 9: USA GRADING OF YELLOW MAIZE (2004/05)
(continue)

Number of samples	Region	Damaged kernels						% Broken corn and foreign material			Bushel weight kg/hl			Other colour %		
		% Heat damaged			% Total damaged											
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
29	**Ave US 4**	**0.0**			**8.5**			**1.9**			**75.5**			**0.3**		
	Min US 4		**0.0**			**6.0**			**0.3**			**70.9**			**0.0**	
	Max US 4			**0.7**			**9.8**			**4.5**			**77.9**			**2.8**
GRADE: US 5																
3	Region 14	0.0	0.0	0.0	12.7	10.2	14.4	1.6	0.4	3.3	76.8	76.1	77.2	0.1	0.0	0.2
2	Region 15	0.0	0.0	0.0	11.7	10.4	13.0	0.9	0.4	1.4	75.4	75.0	75.7	1.0	1.0	1.0
1	Region 20	0.0	0.0	0.0	11.2	11.2	11.2	2.8	2.8	2.8	77.5	77.5	77.5	0.0	0.0	0.0
1	Region 23	0.0	0.0	0.0	13.7	13.7	13.7	1.2	1.2	1.2	76.6	76.6	76.6	0.0	0.0	0.0
1	Region 29	0.0	0.0	0.0	3.6	3.6	3.6	5.1	5.1	5.1	75.6	75.6	75.6	0.0	0.0	0.0
2	Region 36	0.0	0.0	0.0	13.1	12.6	13.5	1.1	1.0	1.2	73.7	73.4	73.9	0.6	0.4	0.8
10	**Ave US 5**	**0.0**			**11.6**			**1.8**			**75.8**			**0.4**		
	Min US 5		**0.0**			**3.6**			**0.4**			**73.4**			**0.0**	
	Max US 5			**0.0**			**14.4**			**5.1**			**77.5**			**1.0**
GRADE: SAMPLE GRADE																
1	Region 13	0.0	0.0	0.0	15.4	15.4	15.4	0.3	0.3	0.3	76.5	76.5	76.5	0.5	0.5	0.5
2	Region 14	0.0	0.0	0.0	23.3	19.3	27.3	1.1	0.6	1.7	74.3	72.6	75.9	0.9	0.9	10.0
1	Region 26	0.0	0.0	0.0	16.3	16.3	16.3	3.2	3.2	3.2	71.2	71.2	71.2	0.0	0.0	0.0
4	**Ave Sample Grade**	**0.0**			**19.6**			**1.4**			**74.1**			**0.6**		
	Min Sample Grade		**0.0**			**15.4**			**0.3**			**71.2**			**0.0**	
	Max Sample Grade			**0.0**			**27.3**			**3.2**			**76.5**			**1.0**
399	**Ave yellow maize**	**0.0**			**4.2**			**1.4**			**76.8**			**0.2**		
	Min yellow maize		**0.0**			**1.0**			**0.0**			**68.4**			**0.0**	
	Max yellow maize			**0.7**			**27.3**			**5.1**			**81.0**			**2.8**
1000	**Ave maize**	**0.0**			**3.9**			**1.2**			**77.5**			**0.2**		
	Min maize		**0.0**			**0.6**			**0.0**			**68.4**			**0.0**	
	Max maize			**0.9**			**28.8**			**10.7**			**83.2**			**12.3**

TABLE 10: GRADES AND GRADE REQUIREMENTS FOR MAIZE ACCORDING TO RSA GRADING REGULATIONS

Description of deviation		Maximum percentage of deviation allowed (m/m)					
		White maize			Yellow maize		
		GRADE					
		WM1	WM2	WM3	YM1	YM2	YM3
I	Defective maize kernels	7	13	30	-	-	-
	above 6,35 grading sieve	-	-	-	9	20	30
	below 6,35 mm grading sieve	-	-	-	4	10	30
II	Maize kernels of another colour	3	6	10	2	5	5
III	Foreign matter (excluding stone, pieces of coal or glass and dung)	0,3	0,5	0,75	0,3	0,5	0,75
IV	Total deviations in terms I, II and III collectively, provided such deviations are individually within the limits specified above	8	16	30	9	20	30
V	Pinked maize kernels	12	12	12	12	12	12

If the maize does not comply with the standards for Class White Maize of Class Yellow Maize
It shall be classified as Class Other Maize.

TABLE 11: GRADES AND GRADE REQUIREMENTS FOR MAIZE ACCORDING TO USA GRADING REGULATIONS

			Maximum limits of -		
			Damaged kernels		
Grades	Minimum test weight per bushel (pounds)		Heat damaged kernels (percent)	Total (percent)	Broken corn and foreign meaterial (percent)
U.S. No. 1	56.0	72.1 kg/hl	0.1	3.0	2.0
U.S. No. 2	54.0	69.5 kg/hl	0.2	5.0	3.0
U.S. No. 3	52.0	66.9 kg/hl	0.5	7.0	4.0
U.S. No. 4	49.0	63.1 kg/hl	1.0	10.0	5.0
U.S. No. 5	46.0	59.2 kg/hl	3.0	15.0	7.0

U.S. Sample grade

U.S. Sample grade is corn that:

a) Does not meet the requirements for the grades U.S. Nos. 1, 2, 3, 4 or 5; or
b) Contains 8 or more stones which have an aggregate weight in excess of 0.20 percent of the sample weight, 2 or more pieces of glass, 3 or more crotalaria seeds (Crotalaria ssp.), 2 or more castor beans (Ricinus communis L.), 4 or more particles of an unknown foreign substance(s) or a commonly reconized harmful or toxic substance(s), 8 or more cockleburs (Xanthium ssp.) or similar seeds singly or in combination, or animal filth in excess of 0.20 ssp.) or similar seeds singly or in combination, or animal filth in excess of 0.20 percent in 1000 grams; or
c) Has a musty, sour, or commercially foreign odor; or
d) Is heating or otherwise of distinctly low quality.

Source: Offical United States Standard of Grain (excluding metric conversions.)

TABLE 12: NUTRITIONAL VALUES OF WHITE MAIZE ACCORDING TO GRADE 2004/05

Number of samples	Region	% (db) Fat			% (db) Protein			% (db) Starch		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 1										
3	Region 10	3.5	3.5	3.6	8.0	7.9	8.0	76.8	76.7	77.0
1	Region 11	3.5	3.5	3.5	8.0	8.0	8.0	76.9	76.9	76.9
10	Region 12	4.1	3.9	4.3	9.9	8.8	10.8	74.3	73.6	75.2
7	Region 13	4.1	3.9	4.3	8.7	8.1	9.1	75.0	74.3	75.7
19	Region 14	4.0	3.7	4.4	9.2	8.2	10.5	74.7	73.3	75.8
8	Region 15	4.2	4.0	4.5	9.4	8.8	9.8	74.5	73.9	75.1
22	Region 16	4.0	3.8	4.1	8.8	8.2	9.2	75.1	74.2	76.3
22	Region 17	4.0	3.7	4.1	8.6	8.2	9.2	75.3	74.6	76.1
17	Region 18	4.0	3.8	4.2	8.4	7.4	9.1	75.3	75.0	75.7
13	Region 19	4.1	3.9	4.5	8.7	8.1	9.8	74.9	73.4	75.7
8	Region 20	4.0	3.6	4.2	8.7	8.3	9.3	75.0	74.8	75.3
39	Region 21	4.1	3.8	4.3	8.8	8.3	10.1	75.2	74.5	75.9
49	Region 22	4.0	3.8	4.3	9.1	8.3	10.9	74.9	72.9	75.8
51	Region 23	4.1	3.4	4.3	9.4	7.4	10.2	74.8	73.5	77.7
40	Region 24	4.1	3.5	4.5	9.4	7.9	10.4	74.7	73.8	76.2
12	Region 25	3.9	3.3	4.3	8.5	7.6	9.6	75.5	74.3	77.7
13	Region 26	4.1	3.6	4.3	8.7	8.1	9.1	75.2	74.5	76.5
10	Region 27	4.0	3.7	4.2	8.9	8.3	9.6	75.1	74.3	75.7
12	Region 28	4.1	3.9	4.3	8.6	7.5	10.0	75.4	74.9	76.1
23	Region 29	4.0	3.8	4.1	8.2	6.7	9.3	75.2	74.0	76.8
16	Region 30	4.0	3.7	4.3	8.1	7.4	8.8	75.5	75.0	76.2
8	Region 31	4.0	3.8	4.3	8.3	8.0	8.9	75.3	74.6	75.7
21	Region 32	4.0	3.4	4.1	8.5	8.0	8.8	75.2	74.3	76.2
10	Region 33	4.0	3.8	4.5	8.7	7.7	10.7	75.2	74.2	76.3
40	Region 34	4.0	3.8	4.3	8.7	8.0	9.7	75.3	74.4	76.1
8	Region 35	4.1	3.9	4.3	9.3	8.3	11.1	74.6	73.1	75.1
11	Region 36	4.1	3.9	4.3	8.5	8.1	9.2	75.7	75.1	76.6
493	**Ave WM 1**	**4.0**			**8.9**			**75.1**		
	Min WM 1		**3.3**			**6.7**			**72.9**	
	Max WM 1			**4.5**			**11.1**			**77.7**

TABLE 13: NUTRITIONAL VALUES OF YELLOW MAIZE ACCORDING TO GRADE 2004/05

Number of samples	Region	% (db) Fat			% (db) Protein			% (db) Starch		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: YM 1										
9	Region 10	3.3	3.2	3.6	7.9	7.5	8.2	76.8	76.1	77.6
29	Region 11	3.1	3.0	3.4	8.0	7.3	8.9	77.2	75.8	78.3
7	Region 12	4.1	3.7	4.5	9.6	8.6	11.1	74.6	73.1	76.2
4	Region 13	4.0	3.7	4.3	9.0	8.6	9.2	75.2	74.7	75.9
12	Region 14	3.9	3.3	4.4	9.1	8.7	9.5	75.2	73.9	76.3
5	Region 15	3.8	3.4	4.0	9.2	8.9	9.9	75.4	74.6	76.1
5	Region 16	4.1	3.8	4.3	8.8	8.1	9.2	75.2	74.6	75.8
8	Region 17	3.9	3.4	4.2	8.8	8.2	9.8	75.5	74.8	76.7
9	Region 18	3.9	3.7	4.1	8.5	8.0	8.8	75.4	74.8	75.9
8	Region 19	4.0	3.8	4.2	8.7	8.3	9.3	75.4	74.9	75.9
6	Region 20	3.9	3.6	4.1	8.7	8.2	9.0	75.4	74.9	76.1
8	Region 21	4.0	3.8	4.2	8.9	8.4	9.3	75.3	74.7	75.8
5	Region 22	4.1	3.8	4.2	9.6	9.4	10.1	74.6	73.7	75.0
10	Region 23	3.7	3.1	4.4	9.2	8.7	9.6	75.5	73.9	76.5
15	Region 24	4.0	3.2	4.7	9.2	7.6	10.1	75.2	73.8	76.6
9	Region 25	3.8	3.2	4.3	8.7	7.8	9.5	75.7	74.7	75.9
13	Region 26	4.0	3.5	4.4	8.7	7.4	9.1	75.4	74.6	76.9
9	Region 27	3.9	3.5	4.0	9.0	8.4	10.2	75.4	74.8	76.1
21	Region 28	3.9	3.6	4.3	8.7	8.0	9.5	75.6	74.8	76.3
26	Region 29	3.9	3.6	4.1	8.3	7.4	10.1	75.7	74.9	76.4
15	Region 30	3.8	3.6	4.1	8.2	7.6	9.3	75.9	75.3	76.6
23	Region 31	3.8	3.4	4.4	8.4	6.9	9.7	75.7	75.0	76.4
28	Region 32	3.8	3.3	4.3	8.6	7.9	9.4	75.5	74.6	76.6
9	Region 33	3.9	3.2	4.5	8.6	8.2	8.9	75.7	74.5	76.5
16	Region 34	4.0	3.5	4.4	9.1	8.4	10.2	75.3	74.1	76.0
9	Region 35	3.7	3.3	4.2	8.5	7.7	9.4	75.9	74.6	76.8
6	Region 36	3.8	3.4	4.1	8.3	8.0	8.5	76.0	75.2	76.9
324	**Ave YM 1**	**3.8**			**8.6**			**75.7**		
	Min YM 1		**3.0**			**6.9**			**73.1**	
	Max YM 1			**4.7**			**11.1**			**78.3**

TABLE 12: NUTRITIONAL VALUES OF WHITE MAIZE ACCORDING TO GRADE 2004/05 (continue)

Number of samples	Region	% (db) Fat			% (db) Protein			% (db) Starch		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 2										
4	Region 12	4.0	3.7	4.1	9.3	8.6	9.6	74.9	74.3	75.7
2	Region 13	4.0	3.9	4.0	8.3	8.3	8.3	75.3	75.2	75.4
4	Region 14	4.0	3.8	4.1	9.0	8.8	9.2	75.0	74.5	75.3
4	Region 15	3.9	3.7	4.1	9.1	8.3	10.0	74.6	73.3	75.9
1	Region 16	4.2	4.2	4.2	9.1	9.1	9.1	74.8	74.8	74.8
3	Region 17	3.8	3.7	3.9	8.7	8.1	9.8	75.6	74.7	76.0
2	Region 18	3.9	3.8	3.9	9.2	8.7	9.6	74.6	74.1	75.0
3	Region 19	4.0	3.8	4.2	9.0	8.6	9.7	75.0	74.0	75.7
2	Region 20	3.6	3.3	3.9	9.5	9.0	9.9	75.2	75.2	75.2
4	Region 21	3.9	3.7	4.0	8.7	8.2	9.0	75.3	74.3	75.7
3	Region 22	4.0	3.9	4.1	9.5	8.7	10.7	74.7	74.0	75.5
10	Region 23	3.9	3.7	4.2	9.8	8.7	10.2	75.0	74.2	76.1
1	Region 24	4.1	4.1	4.1	12.0	12.0	12.0	73.4	73.4	73.4
4	Region 26	4.0	3.7	4.2	8.2	6.5	9.4	75.7	74.7	76.9
3	Region 27	3.8	3.6	4.2	8.6	8.2	8.9	76.0	75.1	76.7
10	Region 28	4.0	3.9	4.4	8.8	8.0	9.9	75.4	74.2	76.3
3	Region 29	3.9	3.9	4.0	7.9	7.2	8.9	75.3	74.9	75.6
9	Region 30	4.0	3.9	4.2	8.1	7.7	8.9	75.5	74.4	76.0
7	Region 31	4.0	3.8	4.5	8.9	7.8	9.5	75.1	74.4	76.2
1	Region 32	4.0	4.0	4.0	8.5	8.5	8.5	74.8	74.8	74.8
3	Region 34	4.0	3.9	4.0	9.0	8.7	9.1	74.7	74.2	75.2
3	Region 36	3.8	3.5	4.2	8.3	8.1	8.7	75.7	75.0	76.3
86	**Ave WM 2**	**3.9**			**8.9**			**75.2**		
	Min WM 2		**3.3**			**6.5**			**73.3**	
	Max WM 2			**4.5**			**12.0**			**76.9**

TABLE 13: NUTRITIONAL VALUES OF YELLOW MAIZE ACCORDING TO GRADE 2004/05 (continue)

Number of samples	Region	% (db) Fat			% (db) Protein			% (db) Starch		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: YM 2										
1	Region 10	3.7	3.7	3.7	8.6	8.6	8.6	76.0	76.0	76.0
1	Region 11	2.9	2.9	2.9	7.7	7.7	7.7	77.8	77.8	77.8
2	Region 12	3.5	3.5	3.5	9.1	8.9	9.2	75.8	75.6	75.9
4	Region 13	4.0	3.8	4.3	9.0	8.5	9.5	74.9	74.0	75.3
3	Region 14	3.9	3.8	3.9	9.0	8.8	9.3	75.3	74.9	75.6
2	Region 15	4.0	4.0	4.0	8.9	8.5	9.2	75.4	75.1	75.6
2	Region 16	3.8	3.7	3.8	9.2	8.7	9.7	75.8	75.6	75.9
4	Region 17	4.0	3.7	4.3	9.0	8.4	9.7	75.3	74.5	75.9
2	Region 18	4.1	4.1	4.1	9.0	8.7	9.2	75.1	74.9	75.2
2	Region 19	3.6	3.4	3.7	8.9	8.6	9.2	75.4	75.2	75.5
1	Region 20	3.5	3.5	3.5	8.4	8.4	8.4	76.0	76.0	76.0
1	Region 21	3.8	3.8	3.8	8.4	8.4	8.4	76.1	76.1	76.1
3	Region 22	3.9	3.7	4.2	9.1	8.7	9.3	75.2	74.3	75.7
4	Region 23	3.8	3.2	4.2	9.7	9.3	10.2	75.3	74.6	76.1
3	Region 24	4.1	3.7	4.5	9.2	8.7	9.5	75.2	74.4	75.8
2	Region 25	4.1	4.1	4.1	8.8	8.5	9.0	74.9	74.7	75.1
4	Region 26	4.1	3.6	4.4	8.6	7.9	9.9	75.4	74.1	76.6
1	Region 27	3.9	3.9	3.9	9.0	9.0	9.0	75.4	75.4	75.4
8	Region 28	3.8	3.3	4.2	8.5	8.2	8.8	76.0	75.2	77.1
8	Region 29	3.8	3.4	4.2	8.3	7.8	9.5	76.0	75.3	76.6
5	Region 30	3.7	3.4	3.8	8.2	7.6	8.6	75.9	75.4	76.5
4	Region 31	3.6	3.2	3.9	8.4	8.0	9.0	76.3	75.8	77.1
3	Region 36	3.4	3.2	3.7	7.4	7.0	8.1	76.6	75.9	77.0
70	**Ave YM 2**	**3.8**			**8.7**			**75.7**		
	Min YM 2		**2.9**			**7.0**			**74.0**	
	Max YM 2			**4.5**			**10.2**			**77.8**

TABLE 12: NUTRITIONAL VALUES OF WHITE MAIZE ACCORDING TO GRADE 2004/05 (continue)

Number of samples	Region	% (db) Fat			% (db) Protein			% (db) Starch		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 3										
2	Region 12	3.9	3.9	3.9	9.7	8.8	10.5	74.2	73.8	74.6
2	Region 13	4.0	3.8	4.1	9.3	8.6	10.0	74.6	74.5	74.7
4	Region 14	3.9	3.8	4.1	9.1	8.9	9.4	75.1	74.9	75.3
1	Region 15	3.1	3.1	3.1	8.1	8.1	8.1	77.4	77.4	77.4
1	Region 17	3.8	3.8	3.8	8.3	8.3	8.3	75.5	75.5	75.5
1	Region 22	3.5	3.5	3.5	8.7	8.7	8.7	75.6	75.6	75.6
5	Region 23	3.7	3.4	4.1	9.7	8.9	10.7	75.2	74.7	76.0
1	Region 28	3.7	3.7	3.7	10.2	10.2	10.2	74.8	74.8	74.8
1	Region 29	4.2	4.2	4.2	7.6	7.6	7.6	75.4	75.4	75.4
1	Region 30	4.3	4.3	4.3	8.6	8.6	8.6	74.8	74.8	74.8
1	Region 33	3.7	3.7	3.7	8.3	8.3	8.3	75.7	75.7	75.7
20	**Ave WM 3**	**3.8**			**9.1**			**75.2**		
	Min WM 3		**3.1**			**7.6**			**73.8**	
	Max WM 3			**4.3**			**10.7**			**77.4**
GRADE: COM										
1	Region 14	4.2	4.2	4.2	8.9	8.9	8.9	74.0	74.0	74.0
1	Region 29	4.2	4.2	4.2	9.8	9.8	9.8	73.6	73.6	73.6
2	**Ave COM**	**4.2**			**9.4**			**73.8**		
	Min COM		**4.2**			**8.9**			**73.6**	
	Max COM			**4.2**			**9.8**			**74.0**
601	**Ave White**	**4.0**			**8.9**			**75.1**		
	Min White		**3.1**			**6.5**			**72.9**	
	Max White			**4.5**			**12.0**			**77.7**
1000	**Ave Maize**	**3.9**			**8.8**			**75.3**		
	Min Maize		**2.9**			**6.5**			**72.9**	
	Max Maize			**4.7**			**12.0**			**78.3**

TABLE 13: NUTRITIONAL VALUES OF YELLOW MAIZE ACCORDING TO GRADE 2004/05 (continue)

Number of samples	Region	% (db) Fat			% (db) Protein			% (db) Starch		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: YM 3										
2	Region 14	4.0	3.7	4.2	9.0	8.7	9.2	75.3	74.5	76.1
1	Region 26	3.0	3.0	3.0	8.3	8.3	8.3	77.4	77.4	77.4
1	Region 30	3.8	3.8	3.8	8.5	8.5	8.5	75.1	75.1	75.1
4	**Ave YM 3**	**3.7**			**8.7**			**75.8**		
	Min YM 3		**3.0**			**8.3**			**74.5**	
	Max YM 3			**4.2**			**9.2**			**77.4**
GRADE: COM										
1	Region 14	4.1	4.1	4.1	9.0	9.0	9.0	74.8	74.8	74.8
1	**Ave COM**	**4.1**			**9.0**			**74.8**		
	Min COM		**4.1**			**9.0**			**74.8**	
	Max COM			**4.1**			**9.0**			**74.8**
399	**Ave Yellow**	**3.8**			**8.6**			**75.7**		
	Min Yellow		**2.9**			**6.9**			**73.1**	
	Max Yellow			**4.7**			**11.1**			**78.3**
1000	**Ave Maize**	**3.9**			**8.8**			**75.3**		
	Min Maize		**2.9**			**6.5**			**72.9**	
	Max Maize			**4.7**			**12.0**			**78.3**

TABLE 14: NUTRITIONAL VALUES OF WHITE AND YELLOW MAIZE 2004/2005

Number of samples	Region	% (db) Fat			% (db) Protein			% (db) Starch		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
	WHITE									
3	Region 10	3.5	3.5	3.6	8.0	7.9	8.0	76.8	76.7	77.0
1	Region 11	3.5	3.5	3.5	8.0	8.0	8.0	76.9	76.9	76.9
16	Region 12	4.0	3.7	4.3	9.7	8.6	10.8	74.4	73.6	75.7
11	Region 13	4.0	3.8	4.3	8.7	8.1	10.0	75.0	74.3	75.7
28	Region 14	4.0	3.7	4.4	9.2	8.2	10.5	74.8	73.3	75.8
13	Region 15	4.0	3.1	4.5	9.2	8.1	10.0	74.8	73.3	77.4
23	Region 16	4.0	3.8	4.2	8.8	8.2	9.2	75.1	74.2	76.3
26	Region 17	3.9	3.7	4.1	8.6	8.1	9.8	75.4	74.6	76.1
19	Region 18	4.0	3.8	4.2	8.5	7.4	9.6	75.2	74.1	75.7
16	Region 19	4.1	3.8	4.5	8.8	8.1	9.8	74.9	73.4	75.7
10	Region 20	3.9	3.3	4.2	8.9	8.3	9.9	75.1	74.8	75.3
43	Region 21	4.0	3.7	4.3	8.8	8.2	10.1	75.2	74.3	75.9
53	Region 22	4.0	3.5	4.3	9.1	8.3	10.9	74.9	72.9	75.8
66	Region 23	4.0	3.4	4.3	9.5	7.4	10.7	74.8	73.5	77.7
41	Region 24	4.1	3.5	4.5	9.5	7.9	12.0	74.7	73.4	76.2
12	Region 25	3.9	3.3	4.3	8.5	7.6	9.6	75.5	74.3	77.7
17	Region 26	4.1	3.6	4.3	8.6	6.5	9.4	75.3	74.5	76.9
13	Region 27	4.0	3.6	4.2	8.9	8.2	9.6	75.3	74.3	76.7
23	Region 28	4.0	3.7	4.4	8.8	7.5	10.2	75.3	74.2	76.3
28	Region 29	4.0	3.8	4.2	8.2	6.7	9.8	75.2	73.6	76.8
26	Region 30	4.0	3.7	4.3	8.1	7.4	8.9	75.5	74.4	76.2
15	Region 31	4.0	3.8	4.5	8.6	7.8	9.5	75.2	74.4	76.2
22	Region 32	4.0	3.4	4.1	8.5	8.0	8.8	75.2	74.3	76.2
11	Region 33	4.0	3.7	4.5	8.7	7.7	10.7	75.3	74.2	76.3
43	Region 34	4.0	3.8	4.3	8.7	8.0	9.7	75.3	74.2	76.1
8	Region 35	4.1	3.9	4.3	9.3	8.3	11.1	74.6	73.1	75.1
14	Region 36	4.0	3.5	4.3	8.5	8.1	9.2	75.7	75.0	76.6
601	**Ave white**	**4.0**			**8.9**			**75.1**		
	Min white		**3.1**			**6.5**			**72.9**	
	Max white			**4.5**			**12.0**			**77.7**
	YELLOW									
10	Region 10	3.4	3.2	3.7	7.9	7.5	8.6	76.7	76.0	77.6
30	Region 11	3.1	2.9	3.4	8.0	7.3	8.9	77.2	75.8	78.3
9	Region 12	3.9	3.5	4.5	9.5	8.6	11.1	74.9	73.1	76.2
8	Region 13	4.0	3.7	4.3	9.0	8.5	9.5	75.0	74.0	75.9
18	Region 14	3.9	3.3	4.4	9.0	8.7	9.5	75.2	73.9	76.3
7	Region 15	3.8	3.4	4.0	9.1	8.5	9.9	75.4	74.6	76.1
7	Region 16	4.0	3.7	4.3	8.9	8.1	9.7	75.3	74.6	75.9
12	Region 17	3.9	3.4	4.3	8.9	8.2	9.8	75.4	74.5	76.7
11	Region 18	4.0	3.7	4.1	8.6	8.0	9.2	75.4	74.8	75.9
10	Region 19	3.9	3.4	4.2	8.8	8.3	9.3	75.4	74.9	75.9
7	Region 20	3.8	3.5	4.1	8.7	8.2	9.0	75.5	74.9	76.1
9	Region 21	3.9	3.8	4.2	8.8	8.4	9.3	75.3	74.7	76.1
8	Region 22	4.0	3.7	4.2	9.4	8.7	10.1	74.8	73.7	75.7
14	Region 23	3.7	3.1	4.4	9.3	8.7	10.2	75.5	73.9	76.5
18	Region 24	4.0	3.2	4.7	9.2	7.6	10.1	75.2	73.8	76.6
11	Region 25	3.8	3.2	4.3	8.7	7.8	9.5	75.5	74.7	75.9
18	Region 26	4.0	3.0	4.4	8.7	7.4	9.9	75.5	74.1	77.4
10	Region 27	3.9	3.5	4.0	9.0	8.4	10.2	75.4	74.8	76.1
29	Region 28	3.9	3.3	4.3	8.6	8.0	9.5	75.7	74.8	77.1
34	Region 29	3.9	3.4	4.2	8.3	7.4	10.1	75.8	74.9	76.6

TABLE 14: NUTRITIONAL VALUES OF WHITE AND YELLOW MAIZE 2004/2005 (continue)

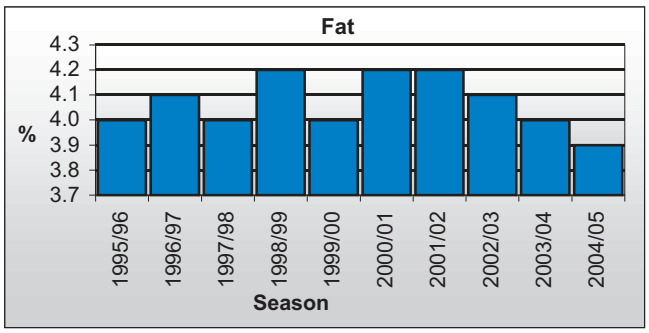
Number of samples	Region	% (db) Fat			% (db) Protein			% (db) Starch		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
	YELLOW									
21	Region 30	3.8	3.4	4.1	8.2	7.6	9.3	75.9	75.1	76.6
27	Region 31	3.7	3.2	4.4	8.4	6.9	9.7	75.8	75.0	77.1
28	Region 32	3.8	3.3	4.3	8.6	7.9	9.4	75.5	74.6	76.6
9	Region 33	3.9	3.2	4.5	8.6	8.2	8.9	75.7	74.5	76.5
16	Region 34	4.0	3.5	4.4	9.1	8.4	10.2	75.3	74.1	76.0
9	Region 35	3.7	3.3	4.2	8.5	7.7	9.4	75.9	74.6	76.8
9	Region 36	3.6	3.2	4.1	8.0	7.0	8.5	76.2	75.2	77.0
399	**Ave yellow**	**3.8**			**8.6**			**75.7**		
	Min yellow		**2.9**			**6.9**			**73.1**	
	Max yellow			**4.7**			**11.1**			**78.3**
	WHITE AND YELLOW									
13	Region 10	3.4	3.2	3.7	7.9	7.5	8.6	76.7	76.0	77.6
31	Region 11	3.1	2.9	3.5	8.0	7.3	8.9	77.2	75.8	78.3
25	Region 12	4.0	3.5	4.5	9.6	8.6	11.1	74.6	73.1	76.2
19	Region 13	4.0	3.7	4.3	8.8	8.1	10.0	75.0	74.0	75.9
46	Region 14	4.0	3.3	4.4	9.1	8.2	10.5	75.0	73.3	76.3
20	Region 15	4.0	3.1	4.5	9.2	8.1	10.0	75.0	73.3	77.4
30	Region 16	4.0	3.7	4.3	8.9	8.1	9.7	75.2	74.2	76.3
38	Region 17	3.9	3.4	4.3	8.7	8.1	9.8	75.4	74.5	76.7
30	Region 18	4.0	3.7	4.2	8.5	7.4	9.6	75.3	74.1	75.9
26	Region 19	4.0	3.4	4.5	8.8	8.1	9.8	75.1	73.4	75.9
17	Region 20	3.9	3.3	4.2	8.8	8.2	9.9	75.2	74.8	76.1
52	Region 21	4.0	3.7	4.3	8.8	8.2	10.1	75.2	74.3	76.1
61	Region 22	4.0	3.5	4.3	9.1	8.3	10.9	74.9	72.9	75.8
80	Region 23	4.0	3.1	4.4	9.5	7.4	10.7	75.0	73.5	77.7
59	Region 24	4.1	3.2	4.7	9.4	7.6	12.0	74.8	73.4	76.6
23	Region 25	3.9	3.2	4.3	8.6	7.6	9.6	75.5	74.3	77.7
35	Region 26	4.0	3.0	4.4	8.6	6.5	9.9	75.4	74.1	77.4
23	Region 27	3.9	3.5	4.2	8.9	8.2	10.2	75.4	74.3	76.7
52	Region 28	4.0	3.3	4.4	8.7	7.5	10.2	75.6	74.2	77.1
62	Region 29	3.9	3.4	4.2	8.3	6.7	10.1	75.5	73.6	76.8
47	Region 30	3.9	3.4	4.3	8.2	7.4	9.3	75.7	74.4	76.6
42	Region 31	3.8	3.2	4.5	8.5	6.9	9.7	75.6	74.4	77.1
50	Region 32	3.9	3.3	4.3	8.5	7.9	9.4	75.3	74.3	76.6
20	Region 33	4.0	3.2	4.5	8.6	7.7	10.7	75.5	74.2	76.5
59	Region 34	4.0	3.5	4.4	8.8	8.0	10.2	75.3	74.1	76.1
17	Region 35	3.9	3.3	4.3	8.9	7.7	11.1	75.3	73.1	76.8
23	Region 36	3.9	3.2	4.3	8.3	7.0	9.2	75.9	75.0	77.0
1000	**Ave white & yellow**	**3.9**			**8.8**			**75.3**		
	Min white & yellow		**2.9**			**6.5**			**72.9**	
	Max white & yellow			**4.7**			**12.0**			**78.3**

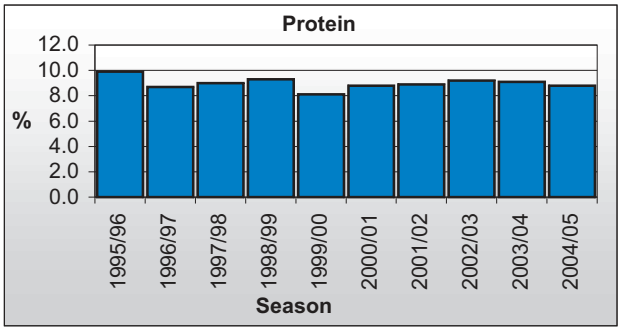
TABLE 15: AVERAGE NUTRITIONAL VALUES OF SOUTH AFRICAN MAIZE OVER THE PAST TEN MARKETING SEASONS (PERCENTAGE ON A DRY BASIS)

Season	White maize			Yellow maize		
	Fat	Protein	Starch	Fat	Protein	Starch
1995/96	3.8	9.9	73.6	4.2	9.9	73.2
1996/97	3.9	8.7	74.1	4.2	8.7	71.8
1997/98	4.0	8.9	73.6	4.1	9.0	74.2
1998/99	4.1	9.2	71.8	4.2	9.5	72.1
1999/00	4.0	8.1	71.9	4.1	8.0	72.0
2000/01	4.2	8.8	74.2	4.2	8.7	74.5
2001/02	4.2	8.9	75.4	4.1	8.9	75.7
2002/03	4.1	9.2	75.4	4.1	9.2	76.0
2003/04	4.0	9.1	75.2	4.0	9.0	75.1
2004/05	4.0	8.9	75.1	3.8	8.6	75.7
Average	**4.0**	**9.0**	**74.0**	**4.1**	**9.0**	**74.0**

TABLE 16: AVERAGE NUTRITIONAL VALUES OF SOUTH AFRICAN MAIZE (1995/96 - 2004/05)

Season	Fat %	Protein %	Starch %
1995/96	4.0	9.9	73.4
1996/97	4.1	8.7	73.1
1997/98	4.0	9.0	73.8
1998/99	4.2	9.3	71.9
1999/00	4.0	8.1	71.9
2000/01	4.2	8.8	74.3
2001/02	4.2	8.9	75.5
2002/03	4.1	9.2	75.6
2003/04	4.0	9.1	75.1
2004/05	3.9	8.8	75.3





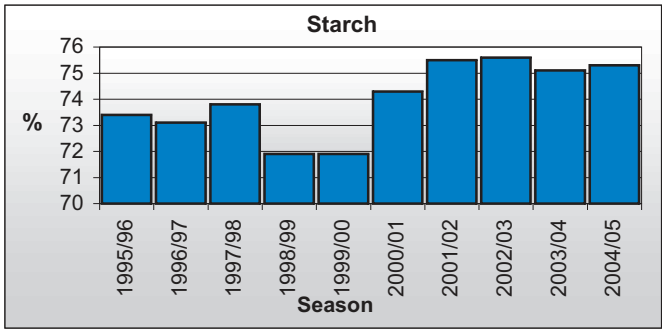


TABLE 17: PHYSICAL QUALITY FACTORS OF WHITE MAIZE ACCORDING TO GRADE 2004/2005

Number of samples	Region	Hectolitre mass kg/hl			100 kernel mass (g)			Kernel size (%)									Breakability (g)						Stress cracks (%)		
								Above 10 mm sieve			Above 8mm sieve			Below 8 mm sieve			< 6.3mm sieve			< 4.75mm sieve					
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 1																									
3	Region 10	80.7	79.2	83.2	33.6	31.8	36.1	11.2	0.8	30.8	61.6	56.7	71.2	27.3	12.5	41.3	0.9	0.5	1.1	0.7	0.4	1.0	5.7	4.0	7.0
1	Region 11	80.6	80.6	80.6	30.8	30.8	30.8	1.3	1.3	1.3	52.7	52.7	52.7	46.1	46.1	46.1	1.0	1.0	1.0	0.9	0.9	0.9	6.0	6.0	6.0
10	Region 12	78.5	77.3	79.4	35.4	32.6	38.0	27.8	16.5	43.2	61.1	48.6	67.9	11.1	2.6	17.3	1.6	0.8	2.5	1.0	0.0	1.9	4.2	2.0	7.0
7	Region 13	77.7	77.2	78.3	35.7	32.2	38.2	29.2	20.7	37.1	60.1	54.2	66.2	10.7	0.1	18.9	1.5	0.4	2.5	1.1	0.3	1.7	5.1	3.0	8.0
19	Region 14	77.9	75.6	79.9	34.9	26.3	38.3	29.0	12.1	40.3	59.0	34.3	68.8	11.9	5.0	31.5	1.4	0.2	3.0	1.1	0.1	2.6	4.4	0.0	10.0
8	Region 15	79.2	77.6	81.0	35.7	33.5	38.2	30.1	19.0	38.2	59.9	52.9	66.8	10.0	5.1	15.1	1.1	0.2	1.9	0.8	0.2	1.7	4.0	2.0	6.0
22	Region 16	78.0	76.3	80.2	36.3	32.2	41.3	31.4	13.8	40.7	59.9	53.7	68.5	8.8	2.3	22.4	1.4	0.8	3.9	1.1	0.7	2.6	4.1	0.0	12.0
22	Region 17	78.1	74.8	79.2	34.9	31.6	37.7	30.8	18.7	40.3	60.7	52.4	69.7	8.5	2.2	13.7	1.3	0.4	2.7	1.0	0.2	1.7	4.4	1.0	9.0
17	Region 18	78.3	76.2	79.7	36.2	31.6	39.0	31.1	18.2	41.9	60.8	50.2	71.6	8.1	3.8	17.0	1.2	0.5	2.4	1.0	0.5	2.0	4.6	2.0	7.0
13	Region 19	78.0	77.2	79.4	34.3	31.4	38.4	32.2	17.6	37.2	59.9	50.8	66.9	7.9	0.4	20.9	1.4	0.6	5.8	1.2	0.5	5.4	5.2	3.0	9.0
8	Region 20	78.0	76.4	78.6	36.3	32.8	38.2	29.1	13.0	37.3	58.2	50.1	61.8	12.8	4.0	26.6	1.7	0.8	2.3	1.4	0.5	2.2	4.3	1.0	7.0
39	Region 21	77.7	75.9	79.4	35.1	31.8	39.9	29.0	19.3	45.4	60.3	49.9	65.8	10.7	3.4	23.6	1.3	0.8	2.8	1.0	0.5	2.1	4.0	0.0	9.0
49	Region 22	78.2	74.5	81.2	34.9	28.9	39.1	28.8	14.9	49.2	61.3	48.2	69.7	10.0	0.6	23.7	1.2	0.4	2.8	0.9	0.0	1.8	5.7	1.0	23.0
51	Region 23	78.8	72.3	81.1	35.9	30.3	42.9	31.2	2.1	52.8	58.4	32.7	73.2	10.4	3.0	37.6	1.0	0.1	1.9	0.8	0.1	1.7	3.0	0.0	9.0
40	Region 24	78.9	74.3	81.4	36.2	30.1	44.3	32.1	19.3	49.5	59.1	47.9	65.4	8.9	2.6	17.0	1.2	0.5	2.8	0.9	0.5	2.5	4.4	0.0	13.0
12	Region 25	77.7	75.3	81.7	32.4	26.6	36.6	20.5	3.4	34.7	61.8	42.1	67.4	17.7	5.1	54.5	1.7	0.4	2.7	1.1	0.0	1.8	3.9	1.0	7.0
13	Region 26	78.1	74.9	80.3	34.8	31.5	36.7	22.1	10.3	38.3	64.9	53.6	71.2	12.9	5.9	25.4	2.5	0.6	4.6	1.8	0.5	3.0	3.0	0.0	6.0
10	Region 27	77.4	76.2	79.7	35.8	33.8	37.9	28.9	20.4	34.3	60.3	51.7	65.1	10.8	6.3	16.7	1.2	0.7	2.0	0.9	0.4	1.4	8.5	3.0	23.0
12	Region 28	77.9	73.2	80.3	34.8	29.1	40.0	28.3	13.2	50.6	60.2	45.8	71.1	11.5	3.6	24.2	2.0	0.5	8.0	1.4	0.3	5.4	3.0	1.0	8.0
23	Region 29	78.3	73.2	80.1	36.9	26.6	41.0	35.4	10.0	45.0	57.9	50.7	73.8	6.7	2.6	19.5	1.4	0.3	4.9	1.1	0.3	3.0	4.4	0.0	15.0
16	Region 30	77.3	75.4	78.8	35.2	28.3	39.9	30.1	5.9	45.1	60.5	51.8	69.2	9.4	0.2	24.9	1.8	0.7	6.5	1.4	0.6	6.2	4.8	1.0	22.0
8	Region 31	77.6	75.9	78.5	34.4	32.4	37.4	30.9	15.7	44.9	58.6	49.7	62.8	10.6	5.4	21.5	1.4	0.9	2.4	1.2	0.8	1.9	6.1	3.0	9.0
21	Region 32	76.9	71.7	79.3	36.9	29.4	41.4	32.8	19.0	47.5	60.0	48.6	70.8	7.2	2.4	11.8	1.3	0.4	2.2	1.0	0.3	1.9	3.0	0.0	9.0
10	Region 33	77.5	74.7	79.0	36.9	30.4	41.8	30.5	17.8	59.4	62.7	39.0	72.6	6.8	1.6	17.0	1.7	0.8	3.6	1.3	0.5	3.0	6.6	2.0	21.0
40	Region 34	77.8	75.7	79.4	35.4	31.9	40.2	30.0	14.8	45.5	59.8	36.8	74.9	10.2	0.7	32.7	1.1	0.2	2.2	0.9	0.0	1.7	5.2	0.0	13.0
8	Region 35	78.3	76.7	81.7	34.7	27.1	38.4	27.8	19.0	34.9	63.0	58.7	68.9	9.2	3.3	19.3	1.9	0.5	3.9	1.4	0.4	2.4	5.1	3.0	12.0
11	Region 36	77.3	75.9	78.2	35.5	30.2	38.0	25.9	13.7	46.4	62.1	50.3	66.7	12.0	3.3	22.8	1.2	0.3	2.3	0.9	0.0	1.6	5.7	1.0	12.0
493	**Ave WM 1**	**78.1**			**35.5**			**29.8**			**60.1**			**10.1**			**1.4**			**1.0**			**4.5**		
	Min WM 1		**71.7**			**26.3**			**0.8**			**32.7**			**0.1**			**0.1**			**0.0**			**0.0**	
	Max WM 1			**83.2**			**44.3**			**59.4**			**74.9**			**54.5**			**8.0**			**6.2**			**23.0**

TABLE 17: PHYSICAL QUALITY FACTORS OF WHITE MAIZE ACCORDING TO GRADE 2004/2005
(continue)

Number of samples	Region	Hectolitre mass kg/hl			100 kernel mass (g)			Kernel size (%)									Breakability (g)						Stress cracks (%)		
								Above 10 mm sieve			Above 8mm sieve			Below 8 mm sieve			< 6.3mm sieve			< 4.75mm sieve					
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 2																									
4	Region 12	76.9	73.2	78.1	32.3	29.9	34.9	17.7	16.2	19.7	65.1	60.1	70.6	17.3	12.8	21.7	1.8	0.9	2.6	1.0	0.0	1.8	5.3	4.0	7.0
2	Region 13	77.5	77.4	77.5	36.7	36.7	36.7	27.2	20.1	34.2	60.4	60.4	60.4	12.5	5.4	19.5	1.8	0.6	2.9	1.2	0.5	1.9	3.5	2.0	5.0
4	Region 14	78.1	77.2	79.6	34.6	33.7	36.2	27.3	18.8	33.7	65.2	60.6	72.0	7.5	5.7	9.2	1.1	0.8	1.5	0.8	0.7	1.1	5.3	2.0	8.0
4	Region 15	78.6	76.5	80.5	34.8	32.7	38.6	31.5	23.1	43.8	60.8	52.3	66.5	7.8	3.9	12.1	2.2	1.6	2.6	1.7	1.2	2.2	4.3	1.0	8.0
1	Region 16	78.6	78.6	78.6	33.1	33.1	33.1	19.8	19.8	19.8	60.4	60.4	60.4	19.8	19.8	19.8	1.0	1.0	1.0	0.8	0.8	0.8	11.0	11.0	11.0
3	Region 17	77.3	76.8	77.6	33.5	32.8	34.5	28.3	22.7	35.9	63.4	57.5	69.0	8.3	4.8	13.5	2.9	2.0	4.7	1.5	0.3	3.3	4.0	3.0	5.0
2	Region 18	74.1	71.8	76.3	35.8	35.3	36.3	36.9	30.8	43.0	58.9	52.1	65.7	4.2	3.5	4.9	1.7	1.5	1.9	1.4	1.3	1.4	4.5	3.0	6.0
3	Region 19	78.2	77.5	78.6	33.6	30.3	38.4	25.2	16.2	38.1	61.5	55.8	67.4	13.2	6.1	17.2	1.3	1.0	1.8	1.2	0.9	1.6	5.7	3.0	9.0
2	Region 20	77.8	77.7	77.8	37.6	36.8	38.4	15.4	12.8	18.0	60.6	55.4	65.7	24.1	21.5	26.6	1.5	0.9	2.1	1.3	0.8	1.7	5.0	3.0	7.0
4	Region 21	76.2	75.8	77.0	33.6	32.1	35.5	24.5	19.1	30.1	62.3	56.7	68.0	13.2	8.7	16.3	1.4	0.9	2.1	1.2	0.9	1.4	4.8	3.0	6.0
3	Region 22	77.5	76.4	78.8	32.9	30.2	35.4	23.6	19.0	28.7	59.7	58.1	62.8	16.7	13.0	22.9	1.2	1.0	1.7	1.0	0.9	1.3	3.3	0.0	6.0
10	Region 23	77.6	76.3	79.2	35.0	29.1	39.0	29.5	10.7	42.2	59.2	52.1	65.7	11.4	4.0	31.1	1.1	0.8	1.9	0.9	0.5	1.6	3.8	0.0	7.0
1	Region 24	79.8	79.8	79.8	40.4	40.4	40.4	29.4	29.4	29.4	57.3	57.3	57.3	13.3	13.3	13.3	1.0	1.0	1.0	0.9	0.9	0.9	8.0	8.0	8.0
4	Region 26	76.7	74.1	79.0	34.5	31.4	37.6	33.6	21.5	43.3	50.4	31.3	64.3	16.0	5.1	37.4	1.3	0.8	1.8	0.6	0.1	1.5	5.8	4.0	8.0
3	Region 27	77.7	76.9	78.9	31.8	31.0	33.2	27.0	20.7	31.9	61.5	54.9	66.8	11.5	1.3	16.8	1.0	0.9	1.0	0.8	0.7	0.9	5.3	4.0	7.0
10	Region 28	77.1	73.2	79.0	34.5	28.6	38.2	32.2	18.9	55.3	58.1	42.0	67.9	9.7	2.7	18.5	1.5	0.5	2.6	0.9	0.3	1.8	5.8	0.0	12.0
3	Region 29	78.4	77.6	79.3	37.5	36.3	39.4	36.9	25.7	45.0	59.6	51.5	70.9	3.4	3.4	3.5	1.4	0.9	2.2	1.0	0.8	1.4	6.0	5.0	7.0
9	Region 30	76.7	72.0	79.3	35.4	30.1	42.2	31.3	20.2	59.7	60.2	36.7	67.9	8.5	3.6	13.0	1.6	0.8	3.3	1.3	0.6	3.0	6.0	1.0	11.0
7	Region 31	77.0	72.9	81.7	34.8	30.9	40.3	27.4	15.2	38.3	61.4	56.7	67.5	11.1	4.0	21.7	1.3	0.8	2.0	1.0	0.7	1.4	6.7	2.0	14.0
1	Region 32	75.6	75.6	75.6	34.5	34.5	34.5	26.2	26.2	26.2	68.9	68.9	68.9	4.9	4.9	4.9	1.2	1.2	1.2	0.7	0.7	0.7	1.0	1.0	1.0
3	Region 34	76.5	75.8	77.4	31.6	30.3	32.8	15.2	10.3	19.3	70.8	65.8	80.3	14.0	9.4	17.6	1.5	1.0	1.8	1.3	0.9	1.6	8.0	7.0	9.0
3	Region 36	76.9	75.9	77.9	36.1	34.3	38.6	30.2	25.3	38.2	61.9	57.2	64.4	7.9	4.6	10.3	2.4	1.1	4.5	1.7	0.8	3.2	4.3	2.0	7.0
86	**Ave WM 2**	**77.2**			**34.6**			**28.2**			**60.7**			**11.1**			**1.5**			**1.1**			**5.3**		
	Min WM 2		**71.8**			**28.6**			**10.3**			**31.3**			**1.3**			**0.5**			**0.0**			**0.0**	
	Max WM 2			**81.7**			**42.2**			**59.7**			**80.3**			**37.4**			**4.7**			**3.3**			**14.0**

TABLE 17: PHYSICAL QUALITY FACTORS OF WHITE MAIZE ACCORDING TO GRADE 2004/2005
(continue)

Number of samples	Region	Hectolitre mass kg/hl			100 kernel mass (g)			Kernel size (%)									Breakability (g)						Stress cracks (%)		
								Above 10 mm sieve			Above 8mm sieve			Below 8 mm sieve			< 6.3mm sieve			< 4.75mm sieve					
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 3																									
2	Region 12	76.5	75.0	78.0	34.3	33.8	34.8	35.9	23.7	48.1	56.3	46.6	65.9	7.9	5.3	10.4	1.8	1.0	2.6	1.6	0.9	2.2	4.0	0.0	8.0
2	Region 13	77.5	77.2	77.7	35.0	34.8	35.2	25.0	16.0	34.0	63.3	60.2	66.4	11.7	5.8	17.6	2.7	2.6	2.8	1.7	1.3	2.1	4.0	2.0	6.0
4	Region 14	78.1	76.8	79.4	35.9	34.7	37.5	32.6	31.2	33.5	58.2	52.9	61.7	9.3	4.8	15.9	1.7	0.3	3.0	0.9	0.1	2.0	4.0	2.0	6.0
1	Region 15	73.0	73.0	73.0	34.8	34.8	34.8	44.3	44.3	44.3	49.2	49.2	49.2	6.5	6.5	6.5	1.8	1.8	1.8	1.1	1.1	1.1	4.0	4.0	4.0
1	Region 17	78.1	78.1	78.1	35.4	35.4	35.4	30.5	30.5	30.5	63.0	63.0	63.0	6.5	6.5	6.5	1.5	1.5	1.5	1.2	1.2	1.2	5.0	5.0	5.0
1	Region 22	75.6	75.6	75.6	34.7	34.7	34.7	41.8	41.8	41.8	53.9	53.9	53.9	4.3	4.3	4.3	1.7	1.7	1.7	1.4	1.4	1.4	2.0	2.0	2.0
5	Region 23	78.4	77.4	79.6	35.7	33.7	38.1	36.2	26.3	42.7	56.8	51.8	61.8	7.0	4.0	11.9	1.0	0.6	1.8	0.7	0.1	0.9	3.8	2.0	7.0
1	Region 28	68.9	68.9	68.9	32.2	32.2	32.2	44.7	44.7	44.7	48.7	48.7	48.7	6.6	6.6	6.6	2.6	2.6	2.6	2.1	2.1	2.1	11.0	11.0	11.0
1	Region 29	75.9	75.9	75.9	33.7	33.7	33.7	24.7	24.7	24.7	65.1	65.1	65.1	10.2	10.2	10.2	3.6	3.6	3.6	2.5	2.5	2.5	3.0	3.0	3.0
1	Region 30	76.2	76.2	76.2	32.8	32.8	32.8	29.1	29.1	29.1	56.7	56.7	56.7	14.2	14.2	14.2	1.0	1.0	1.0	0.9	0.9	0.9	4.0	4.0	4.0
1	Region 33	77.6	77.3	77.6	34.9	34.9	34.9	34.6	34.6	34.6	58.7	58.7	58.7	6.7	6.7	6.7	2.5	2.5	2.5	2.3	2.3	2.3	1.0	1.0	1.0
20	**Ave WM 3**	**76.9**			**35.0**			**34.1**			**57.6**			**8.3**			**1.8**			**1.2**			**4.1**		
	Min WM 3		**68.9**			**32.2**			**16.0**			**46.6**			**4.0**			**0.3**			**0.1**			**0.0**	
	Max WM 3			**79.6**			**38.1**			**48.1**			**66.4**			**17.6**			**3.6**			**2.5**			**11.0**
GRADE: COM																									
1	Region 14	78.5	78.5	78.5	36.9	36.9	36.9	16.5	16.5	16.5	74.7	74.7	74.7	8.8	8.8	8.8	3.6	3.6	3.6	3.0	3.0	3.0	3.0	3.0	3.0
1	Region 29	78.3	78.3	78.3	37.4	37.4	37.4	22.1	22.1	22.1	54.8	54.8	54.8	23.1	23.1	23.1	1.7	1.7	1.7	1.5	1.5	1.5	8.0	8.0	8.0
2	**Ave COM**	**78.4**			**37.2**			**19.3**			**64.8**			**16.0**			**2.7**			**2.3**			**5.5**		
	Min COM		**78.3**			**36.9**			**16.5**			**54.8**			**8.8**			**1.7**			**1.5**			**3.0**	
	Max COM			**78.5**			**37.4**			**22.1**			**74.7**			**23.1**			**3.6**			**3.0**			**8.0**
601	**Ave white maize**	**77.9**			**35.3**			**29.7**			**60.1**			**10.2**			**1.4**			**1.1**			**4.6**		
	Min white maize		**68.9**			**26.3**			**0.8**			**31.3**			**0.1**			**0.1**			**0.0**			**0.0**	
	Max white maize			**83.2**			**44.3**			**59.7**			**80.3**			**54.5**			**8.0**			**6.2**			**23.0**
1000	**Ave maize**	**77.5**			**34.4**			**25.7**			**61.8**			**12.5**			**1.5**			**1.1**			**4.8**		
	Min maize		**68.4**			**21.5**			**0.8**			**31.3**			**0.1**			**0.1**			**0.0**			**0.0**	
	Max maize			**83.2**			**44.4**			**59.7**			**82.3**			**66.1**			**24.4**			**12.9**			**23.0**

TABLE 17: PHYSICAL QUALITY FACTORS OF WHITE MAIZE 2004/2005

Number of samples	Region	Hectolitre mass kg/hl			100 kernel mass (g)			Kernel size (%)									Breakability (g)						Stress cracks (%)		
								Above 10 mm sieve			Above 8mm sieve			Below 8 mm sieve			< 6.3mm sieve			< 4.75mm sieve					
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
WHITE																									
3	Region 10	80.7	79.2	83.2	33.6	31.8	36.1	11.2	0.8	30.8	61.6	56.7	71.2	27.3	12.5	41.3	0.9	0.5	1.1	0.7	0.4	1.0	5.7	4.0	7.0
1	Region 11	80.6	80.6	80.6	30.8	30.8	30.8	1.3	1.3	1.3	52.7	52.7	52.7	46.1	46.1	46.1	1.0	1.0	1.0	0.9	0.9	0.9	6.0	6.0	6.0
16	Region 12	77.9	73.2	79.4	34.5	29.9	38.0	26.3	16.2	48.1	61.5	46.6	70.6	12.2	2.6	21.7	1.7	0.8	2.6	1.1	0.0	2.2	4.4	0.0	8.0
11	Region 13	77.6	77.2	78.3	35.7	32.2	38.2	28.1	16.0	37.1	60.7	54.2	66.4	11.2	0.1	19.5	1.8	0.4	2.9	1.2	0.3	2.1	4.6	2.0	8.0
28	Region 14	78.0	75.6	79.9	35.1	26.3	38.3	28.8	12.1	40.3	60.3	34.3	74.7	10.8	4.8	31.5	1.5	0.2	3.6	1.1	0.1	3.0	4.4	0.0	10.0
13	Region 15	78.5	73.0	81.0	35.3	32.7	38.6	31.6	19.0	44.3	59.4	49.2	66.8	9.1	3.9	15.1	1.5	0.2	2.6	1.1	0.2	2.2	4.1	1.0	8.0
23	Region 16	78.1	76.3	80.2	36.1	32.2	41.3	30.9	13.8	40.7	59.9	53.7	68.5	9.2	2.3	22.4	1.4	0.8	3.9	1.0	0.7	2.6	4.4	0.0	12.0
26	Region 17	78.0	74.8	79.2	34.8	31.6	37.7	30.5	18.7	40.3	61.1	52.4	69.7	8.4	2.2	13.7	1.5	0.4	4.7	1.1	0.2	3.3	4.4	1.0	9.0
19	Region 18	77.9	71.8	79.7	36.2	31.6	39.0	31.7	18.2	43.0	60.6	50.2	71.6	7.7	3.5	17.0	1.3	0.5	2.4	1.0	0.5	2.0	4.6	2.0	7.0
16	Region 19	78.1	77.2	79.4	34.2	30.3	38.4	30.9	16.2	38.1	60.2	50.8	67.4	8.9	0.4	20.9	1.4	0.6	5.8	1.2	0.5	5.4	5.3	3.0	9.0
10	Region 20	77.9	76.4	78.6	36.6	32.8	38.4	26.3	12.8	37.3	58.7	50.1	65.7	15.0	4.0	26.6	1.6	0.8	2.3	1.4	0.5	2.2	4.4	1.0	7.0
43	Region 21	77.6	75.8	79.4	35.0	31.8	39.9	28.6	19.1	45.4	60.5	49.9	68.0	10.9	3.4	23.6	1.3	0.8	2.8	1.0	0.5	2.1	4.0	0.0	9.0
53	Region 22	78.1	74.5	81.2	34.8	28.9	39.1	28.7	14.9	49.2	61.1	48.2	69.7	10.2	0.6	23.7	1.2	0.4	2.8	1.0	0.0	1.8	5.5	0.0	23.0
66	Region 23	78.6	72.3	81.1	35.8	29.1	42.9	31.3	2.1	52.8	58.4	32.7	73.2	10.3	3.0	37.6	1.0	0.1	1.9	0.8	0.1	1.7	3.2	0.0	9.0
41	Region 24	78.9	74.3	81.4	36.3	30.1	44.3	32.0	19.3	49.5	59.0	47.9	65.4	9.0	2.6	17.0	1.1	0.5	2.8	0.9	0.5	2.5	4.5	0.0	13.0
12	Region 25	77.7	75.3	81.7	32.4	26.6	36.6	20.5	3.4	34.7	61.8	42.1	67.4	17.7	5.1	54.5	1.7	0.4	2.7	1.1	0.0	1.8	3.9	1.0	7.0
17	Region 26	77.8	74.1	80.3	34.7	31.4	37.6	24.8	10.3	43.3	61.5	31.3	71.2	13.7	5.1	37.4	2.2	0.6	4.6	1.5	0.1	3.0	3.6	0.0	8.0
13	Region 27	77.5	76.2	79.7	34.9	31.0	37.9	28.4	20.4	34.3	60.6	51.7	66.8	11.0	1.3	16.8	1.1	0.7	2.0	0.9	0.4	1.4	7.8	3.0	23.0
23	Region 28	77.2	68.9	80.3	34.5	28.6	40.0	30.7	13.2	55.3	58.8	42.0	71.1	10.5	2.7	24.2	1.8	0.5	8.0	1.2	0.3	5.4	4.6	0.0	12.0
28	Region 29	78.2	73.2	80.1	36.9	26.6	41.0	34.7	10.0	45.0	58.3	50.7	73.8	7.1	2.6	23.1	1.5	0.3	4.9	1.1	0.3	3.0	4.7	0.0	15.0
26	Region 30	77.1	72.0	79.3	35.2	28.3	42.2	30.5	5.9	59.7	60.2	36.7	69.2	9.3	0.2	24.9	1.7	0.7	6.5	1.3	0.6	6.2	5.2	1.0	22.0
15	Region 31	77.3	72.9	81.7	34.6	30.9	40.3	29.3	15.2	44.9	59.9	49.7	67.5	10.8	4.0	21.7	1.3	0.8	2.4	1.1	0.7	1.9	6.4	2.0	14.0
22	Region 32	76.8	71.7	79.3	36.8	29.4	41.4	32.5	19.0	47.5	60.4	48.6	70.8	7.1	2.4	11.8	1.3	0.4	2.2	1.0	0.3	1.9	2.9	0.0	9.0
11	Region 33	77.5	74.7	79.0	36.7	30.4	41.8	30.9	17.8	59.4	62.3	39.0	72.6	6.8	1.6	17.0	1.8	0.8	3.6	1.4	0.5	3.0	6.1	1.0	21.0
43	Region 34	77.7	75.7	79.4	35.1	30.3	40.2	29.0	10.3	45.5	60.6	36.8	80.3	10.5	0.7	32.7	1.1	0.2	2.2	0.9	0.0	1.7	5.3	0.0	13.0
8	Region 35	78.3	76.7	81.7	34.7	27.1	38.4	27.8	19.0	34.9	63.0	58.7	68.9	9.2	3.3	19.3	1.9	0.5	3.9	1.4	0.4	2.4	5.1	3.0	12.0
14	Region 36	77.2	75.9	78.2	35.6	30.2	38.6	26.8	13.7	46.4	62.0	50.3	66.7	11.1	3.3	22.8	1.4	0.3	4.5	1.1	0.0	3.2	5.4	1.0	12.0
601	**Ave white**	**77.9**			**35.3**			**29.7**			**60.1**			**10.2**			**1.4**			**1.1**			**4.6**		
	Min white		**68.9**			**26.3**			**0.8**			**31.3**			**0.1**			**0.1**			**0.0**			**0.0**	
	Max white			**83.2**			**44.3**			**59.7**			**80.3**			**54.5**			**8.0**			**6.2**			**23.0**

TABLE 18: PHYSICAL QUALITY FACTORS OF YELLOW MAIZE ACCORDING TO GRADE 2004/2005

Number of samples	Region	Hectolitre mass kg/hl			100 kernel mass (g)			Kernel size (%)									Breakability (g)						Stress cracks (%)		
								Above 10 mm sieve			Above 8mm sieve			Below 8 mm sieve			< 6.3mm sieve			< 4.75mm sieve					
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: YM 1																									
9	Region 10	77.9	75.6	80.3	35.6	30.2	38.2	11.3	3.5	30.6	69.7	53.7	78.4	19.0	10.0	42.8	4.1	0.6	24.4	2.6	0.3	12.9	5.1	2.0	8.0
29	Region 11	78.9	75.8	80.7	34.1	29.2	44.4	7.4	1.5	17.8	72.6	63.8	79.5	20.0	9.3	32.5	1.6	0.8	4.0	1.2	0.4	2.9	5.0	2.0	9.0
7	Region 12	76.8	76.1	77.8	31.8	28.9	35.2	22.5	11.7	33.4	63.3	56.8	68.9	14.3	1.4	19.8	1.6	0.8	2.8	1.3	0.7	2.5	4.0	1.0	7.0
4	Region 13	76.9	76.2	77.4	34.8	32.2	36.6	23.7	13.8	32.2	61.7	57.4	65.9	14.6	1.9	24.4	2.5	0.6	3.9	2.1	0.5	3.4	5.3	4.0	7.0
12	Region 14	76.9	74.8	79.2	31.5	29.1	37.2	14.8	3.8	38.0	67.5	53.8	77.7	17.7	3.0	29.7	1.4	0.4	2.7	1.1	0.3	2.0	4.3	0.0	11.0
5	Region 15	76.4	75.0	78.1	30.0	27.8	34.0	10.4	4.5	17.3	69.4	65.2	73.4	20.2	14.8	26.3	1.7	1.1	2.0	1.2	0.9	1.4	4.8	3.0	8.0
5	Region 16	77.0	75.4	78.5	32.7	31.9	34.4	22.9	18.4	26.9	66.0	62.7	69.2	11.1	6.0	15.2	2.2	0.7	3.9	1.5	0.6	2.4	5.8	4.0	8.0
8	Region 17	76.2	73.9	77.8	31.3	27.6	33.4	15.6	4.8	23.6	66.6	61.8	73.8	17.8	10.1	27.4	1.8	1.0	2.9	1.4	0.7	2.7	4.6	2.0	9.0
9	Region 18	76.5	73.2	79.0	33.0	31.3	36.1	24.3	16.2	32.5	65.4	57.9	72.0	10.2	4.8	13.4	1.6	1.0	2.7	1.2	0.8	2.1	4.9	0.0	9.0
8	Region 19	76.7	75.7	77.8	32.1	31.2	32.5	26.2	15.5	34.2	62.9	60.1	68.9	10.9	5.7	17.8	1.2	0.6	1.8	0.9	0.0	1.6	6.5	4.0	10.0
6	Region 20	76.7	75.4	77.4	32.7	31.8	34.2	19.4	12.2	34.1	63.7	58.3	70.4	17.0	5.7	23.0	1.1	0.2	1.8	1.0	0.1	1.6	4.8	4.0	6.0
8	Region 21	76.8	76.1	77.8	33.2	31.4	37.2	19.6	9.4	26.2	63.8	57.2	74.9	16.6	13.0	26.0	1.4	1.0	1.9	1.0	0.7	1.3	4.0	2.0	6.0
5	Region 22	77.4	75.9	79.7	32.8	29.9	36.0	23.2	20.1	30.3	65.6	60.1	73.1	11.2	6.6	17.1	1.4	1.0	1.7	1.1	0.9	1.2	3.8	0.0	8.0
10	Region 23	77.4	74.4	79.0	31.9	29.0	37.3	15.1	4.9	37.0	67.1	59.3	81.1	17.8	3.7	25.6	2.1	0.8	4.3	1.6	0.7	3.3	2.7	0.0	5.0
15	Region 24	77.0	74.0	78.5	33.6	27.9	39.9	18.0	2.0	32.1	64.7	57.8	80.0	17.4	8.9	34.1	1.6	0.7	3.8	1.3	0.5	3.3	4.5	0.0	11.0
9	Region 25	76.7	75.0	79.8	33.2	29.6	36.9	19.0	3.4	34.4	63.6	58.6	71.3	17.4	2.8	37.9	1.9	0.8	2.9	1.3	0.2	2.1	6.7	5.0	10.0
13	Region 26	77.4	76.6	78.1	33.1	31.7	35.0	22.6	12.6	32.4	64.1	57.4	72.3	13.3	6.3	21.5	1.7	1.0	3.5	1.1	0.7	1.9	5.0	1.0	11.0
9	Region 27	76.9	75.7	77.5	33.3	31.7	35.2	19.4	8.6	30.3	63.9	57.9	72.1	16.7	10.6	27.7	1.3	0.9	2.3	1.0	0.7	1.4	4.8	3.0	10.0
21	Region 28	76.2	68.4	78.2	32.5	27.8	35.7	20.1	3.2	41.0	62.2	50.5	71.9	17.7	3.1	46.3	2.1	0.8	5.0	1.4	0.3	3.1	6.5	0.0	21.0
26	Region 29	77.9	73.6	80.5	34.6	25.2	44.1	24.2	4.9	36.4	62.5	53.1	71.3	13.2	3.5	33.1	1.4	0.3	2.8	1.1	0.2	2.2	4.8	1.0	14.0
15	Region 30	77.2	72.9	78.9	34.0	31.5	35.8	24.1	12.5	35.2	63.8	55.6	72.5	12.1	7.0	23.8	1.8	0.9	3.3	1.1	0.4	2.2	4.8	1.0	14.0
23	Region 31	77.1	72.5	78.8	33.7	30.2	36.6	27.8	15.3	33.4	62.8	57.4	71.5	9.4	5.4	22.9	1.3	0.6	2.8	1.0	0.5	1.9	5.6	1.0	18.0
28	Region 32	75.9	69.0	78.5	33.7	28.3	38.0	26.3	8.8	39.7	61.2	34.0	71.3	12.4	3.4	37.2	1.4	0.7	2.9	1.0	0.5	1.7	2.5	0.0	7.0
9	Region 33	77.5	77.1	78.5	33.8	31.4	36.3	22.9	6.6	35.4	65.7	52.4	75.0	11.4	5.9	20.9	1.4	0.4	5.3	1.1	0.4	3.8	4.7	0.0	15.0
16	Region 34	77.3	75.4	81.0	32.8	30.8	35.8	24.3	2.9	33.1	61.4	56.7	65.9	14.3	5.7	40.4	1.2	0.8	2.4	0.9	0.6	1.6	6.6	3.0	11.0
9	Region 35	76.7	74.3	79.9	32.4	26.2	39.6	14.8	2.9	33.4	65.5	59.3	71.3	19.7	4.8	34.3	2.1	0.7	5.4	1.5	0.4	4.1	4.4	1.0	13.0
6	Region 36	76.2	74.1	77.4	33.2	25.5	40.2	30.2	14.3	46.9	54.9	44.9	73.9	15.0	8.2	26.6	1.4	0.8	1.7	1.0	0.6	1.2	4.5	1.0	7.0
324	**Ave YM 1**	**77.1**			**33.2**			**20.4**			**64.6**			**15.0**			**1.6**			**1.2**			**4.8**		
	Min YM 1		**68.4**			**25.2**			**1.5**			**34.0**			**1.4**			**0.2**			**0.0**			**0.0**	
	Max YM 1			**81.0**			**44.4**			**46.9**			**81.1**			**46.3**			**24.4**			**12.9**			**21.0**

TABLE 18: PHYSICAL QUALITY FACTORS OF YELLOW MAIZE ACCORDING TO GRADE 2004/2005 (continue)

Number of samples	Region	Hectolitre mass kg/hl			100 kernel mass (g)			Kernel size (%)									Breakability (g)						Stress cracks (%)		
								Above 10 mm sieve			Above 8mm sieve			Below 8 mm sieve			< 6.3mm sieve			< 4.75mm sieve					
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: YM 2																									
1	Region 10	77.0	77.0	77.0	30.8	30.8	30.8	2.3	2.3	2.3	47.8	47.8	47.8	49.9	49.9	49.9	1.4	1.4	1.4	1.0	1.0	1.0	3.0	3.0	3.0
1	Region 11	77.1	77.1	77.1	29.9	29.9	29.9	4.1	4.1	4.1	82.3	82.3	82.3	13.6	13.6	13.6	2.3	2.3	2.3	1.4	1.4	1.4	15.0	15.0	15.0
2	Region 12	76.6	75.7	77.4	33.5	33.1	33.8	12.3	4.8	19.8	71.9	69.9	73.8	15.9	10.3	21.4	2.3	1.5	3.1	1.3	0.7	1.8	4.5	4.0	5.0
4	Region 13	76.0	75.4	76.8	32.9	32.5	33.8	19.5	11.2	22.6	60.7	57.9	65.8	19.8	17.9	23.0	2.1	0.9	3.5	1.9	0.7	3.3	5.3	4.0	6.0
3	Region 14	76.7	76.1	77.2	33.2	32.4	34.3	20.7	7.3	36.0	61.3	51.6	67.0	18.1	12.4	27.5	0.9	0.5	1.3	0.7	0.4	0.9	4.0	0.0	6.0
2	Region 15	75.4	75.0	75.7	29.2	26.7	31.6	21.7	20.8	22.5	62.1	60.4	63.7	16.3	13.8	18.8	1.8	1.0	2.6	1.1	0.8	1.4	6.0	5.0	7.0
2	Region 16	76.0	75.6	76.4	30.9	28.9	32.9	11.7	3.6	19.8	62.0	60.3	63.7	26.3	19.9	32.7	2.0	1.8	2.2	1.6	1.5	1.6	3.5	3.0	4.0
4	Region 17	75.4	73.2	76.5	30.2	25.8	32.5	17.4	8.9	26.8	64.4	60.7	68.6	18.3	9.8	26.4	2.9	1.7	4.4	2.0	1.2	2.8	5.8	3.0	7.0
2	Region 18	74.0	71.1	76.9	31.5	31.3	31.6	24.7	24.3	25.1	60.8	59.2	62.4	14.5	13.3	15.7	3.3	1.6	5.0	2.3	1.3	3.2	8.0	3.0	13.0
2	Region 19	76.9	76.2	77.5	34.0	31.3	36.7	11.4	4.5	18.2	66.1	54.9	77.3	22.6	18.2	26.9	2.2	0.9	3.5	1.9	0.8	3.0	5.5	5.0	6.0
1	Region 20	77.5	77.5	77.5	34.8	34.8	34.8	13.8	13.8	13.8	63.2	63.2	63.2	23.0	23.0	23.0	1.0	1.0	1.0	0.9	0.9	0.9	4.0	4.0	4.0
1	Region 21	76.3	76.3	76.3	29.7	29.7	29.7	16.7	16.7	16.7	67.3	67.3	67.3	16.0	16.0	16.0	1.0	1.0	1.0	0.8	0.8	0.8	4.0	4.0	4.0
3	Region 22	76.2	75.9	76.4	33.4	31.9	34.5	20.1	16.4	24.2	65.0	61.6	68.7	14.9	7.1	22.0	1.2	1.0	1.6	1.1	0.8	1.4	8.7	8.0	9.0
4	Region 23	75.6	74.9	76.6	30.2	23.1	34.8	11.6	3.4	20.1	62.3	51.1	68.3	26.2	15.6	45.5	1.9	1.5	2.3	1.4	1.1	1.6	4.8	3.0	6.0
3	Region 24	75.8	74.2	76.7	31.1	27.3	34.2	20.9	12.7	29.4	60.5	56.9	62.8	18.6	13.7	25.5	0.9	0.8	1.0	0.7	0.6	0.9	6.0	3.0	11.0
2	Region 25	74.4	72.0	76.8	34.1	33.2	35.0	18.6	10.1	27.0	66.7	63.5	69.8	14.8	9.5	20.1	2.0	0.5	3.5	1.4	0.4	2.3	6.5	6.0	7.0
4	Region 26	76.2	75.2	77.5	33.8	30.2	38.5	23.5	14.5	34.4	59.9	56.6	63.7	16.6	6.2	28.9	3.3	0.9	4.8	2.3	0.7	3.8	8.3	5.0	12.0
1	Region 27	75.7	75.7	75.7	36.1	36.1	36.1	18.9	18.9	18.9	63.2	63.2	63.2	17.9	17.9	17.9	2.6	2.6	2.6	1.4	1.4	1.4	14.0	14.0	14.0
8	Region 28	74.9	70.9	77.9	31.0	26.3	34.8	18.3	2.3	41.7	61.8	49.0	69.5	20.0	9.3	38.3	2.0	1.5	2.9	1.4	0.7	2.0	4.1	0.0	9.0
8	Region 29	76.3	74.8	78.4	30.7	22.5	34.3	13.8	1.9	33.1	61.9	50.5	71.1	24.4	6.1	47.6	1.7	0.9	3.0	1.2	0.7	1.6	6.3	2.0	19.0
5	Region 30	75.8	73.2	77.8	33.1	32.3	34.4	19.9	12.9	33.1	63.3	55.5	78.1	16.8	8.7	31.6	1.7	1.0	3.5	1.2	0.9	2.4	7.8	2.0	20.0
4	Region 31	75.4	71.7	77.3	29.3	21.5	32.0	17.6	1.0	32.6	55.4	32.9	70.1	27.0	5.1	66.1	2.0	0.9	4.2	1.4	0.8	2.5	4.0	1.0	9.0
3	Region 36	73.9	73.4	74.5	31.8	30.5	33.2	13.4	10.5	18.4	68.1	63.3	72.2	18.6	17.3	20.1	2.7	1.9	3.6	2.0	1.3	2.7	4.7	1.0	9.0
70	**Ave YM 2**	**75.7**			**31.7**			**17.1**			**62.6**			**20.3**			**2.0**			**1.4**			**5.9**		
	Min YM 2		**70.9**			**21.5**			**1.0**			**32.9**			**5.1**			**0.5**			**0.4**			**0.0**	
	Max YM 2			**78.4**			**38.5**			**41.7**			**82.3**			**66.1**			**5.0**			**3.8**			**20.0**

TABLE 18: PHYSICAL QUALITY FACTORS OF YELLOW MAIZE ACCORDING TO GRADE 2004/2005
(continue)

Number of samples	Region	Hectolitre mass kg/hl			100 kernel mass (g)			Kernel size (%)									Breakability (g)						Stress cracks (%)		
								Above 10 mm sieve			Above 8mm sieve			Below 8 mm sieve			< 6.3mm sieve			< 4.75mm sieve					
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: YM 3																									
2	Region 14	74.9	72.6	77.2	34.3	32.0	36.6	22.9	18.7	27.0	64.8	62.8	66.7	12.4	6.3	18.5	1.7	1.7	1.7	1.0	0.9	1.1	7.0	4.0	10.0
1	Region 26	71.2	71.2	71.2	25.0	25.0	25.0	2.1	2.1	2.1	70.2	70.2	70.2	27.7	27.7	27.7	4.3	4.3	4.3	2.6	2.6	2.6	2.0	2.0	2.0
1	Region 30	72.3	72.3	72.3	36.9	36.9	36.9	25.9	25.9	25.9	67.1	67.1	67.1	7.0	7.0	7.0	3.8	3.8	3.8	2.7	2.7	2.7	11.0	11.0	11.0
4	**Ave YM 3**	**73.3**			**32.6**			**18.4**			**66.7**			**14.9**			**2.9**			**1.8**			**6.8**		
	Min YM 3		**71.2**			**25.0**			**2.1**			**62.8**			**6.3**			**1.7**			**0.9**			**2.0**	
	Max YM 3			**77.2**			**36.9**			**27.0**			**70.2**			**27.7**			**4.3**			**2.7**			**11.0**
GRADE: COM																									
1	Region 14	75.9	75.9	75.9	33.4	33.4	33.4	16.6	16.6	16.6	70.6	70.6	70.6	12.8	12.8	12.8	1.2	1.2	1.2	1.0	1.0	1.0	2.0	2.0	2.0
1	**Ave COM**	**75.9**			**33.4**			**16.6**			**70.6**			**12.8**			**1.2**			**1.0**			**2.0**		
	Min COM		**75.9**			**33.4**			**16.6**			**70.6**			**12.8**			**1.2**			**1.0**			**2.0**	
	Max COM			**75.9**			**33.4**			**16.6**			**70.6**			**12.8**			**1.2**			**1.0**			**2.0**
399	**Ave yellow maize**	**76.8**			**33.0**			**19.8**			**64.3**			**15.9**			**1.7**			**1.2**			**5.0**		
	Min yellow maize		**68.4**			**21.5**			**1.0**			**32.9**			**1.4**			**0.2**			**0.0**			**0.0**	
	Max yellow maize			**81.0**			**44.4**			**46.9**			**82.3**			**66.1**			**24.4**			**12.9**			**21.0**
1000	**Ave maize**	**77.5**			**34.4**			**25.7**			**61.8**			**12.5**			**1.5**			**1.1**			**4.8**		
	Min maize		**68.4**			**21.5**			**0.8**			**31.3**			**0.1**			**0.1**			**0.0**			**0.0**	
	Max maize			**83.2**			**44.4**			**59.7**			**82.3**			**66.1**			**24.4**			**12.9**			**23.0**

TABLE 18: PHYSICAL QUALITY FACTORS OF YELLOW MAIZE 2004/2005

Number of samples	Region	Hectolitre mass kg/hl			100 kernel mass (g)			Kernel size (%)									Breakability (g)						Stress cracks (%)		
								Above 10 mm sieve			Above 8mm sieve			Below 8 mm sieve			< 6.3mm sieve			< 4.75mm sieve					
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
YELLOW																									
10	Region 10	77.9	75.6	80.3	35.1	30.2	38.2	10.4	2.3	30.6	67.5	47.8	78.4	22.1	10.0	49.9	3.9	0.6	24.4	2.4	0.3	12.9	4.9	2.0	8.0
30	Region 11	78.9	75.8	80.7	33.9	29.2	44.4	7.3	1.5	17.8	72.9	63.8	82.3	19.8	9.3	32.5	1.7	0.8	4.0	1.3	0.4	2.9	5.3	2.0	15.0
9	Region 12	76.8	75.7	77.8	32.1	28.9	35.2	20.2	4.8	33.4	65.2	56.8	73.8	14.6	1.4	21.4	1.7	0.8	3.1	1.3	0.7	2.5	4.1	1.0	7.0
8	Region 13	76.5	75.4	77.5	33.9	32.2	36.6	21.6	11.2	32.2	61.2	57.4	65.9	17.2	1.9	24.4	2.3	0.6	3.9	2.0	0.5	3.4	5.3	4.0	7.0
18	Region 14	76.6	72.6	79.2	32.2	29.1	37.2	16.8	3.8	38.0	66.3	51.6	77.7	16.9	3.0	29.7	1.3	0.4	2.7	1.0	0.3	2.0	4.4	0.0	11.0
7	Region 15	76.1	75.0	78.1	29.8	26.7	34.0	13.6	4.5	22.5	67.3	60.4	73.4	19.1	13.8	26.3	1.7	1.0	2.6	1.2	0.8	1.4	5.1	3.0	8.0
7	Region 16	76.7	75.4	78.5	32.2	28.9	34.4	19.7	3.6	26.9	64.8	60.3	69.2	15.5	6.0	32.7	2.1	0.7	3.9	1.5	0.6	2.4	5.1	3.0	8.0
12	Region 17	75.9	73.2	77.8	30.9	25.8	33.4	16.2	4.8	26.8	65.9	60.7	73.8	18.0	9.8	27.4	2.1	1.0	4.4	1.6	0.7	2.8	5.0	2.0	9.0
11	Region 18	76.1	71.1	79.0	32.7	31.3	36.1	24.4	16.2	32.5	64.6	57.9	72.0	11.0	4.8	15.7	1.9	1.0	5.0	1.4	0.8	3.2	5.5	0.0	13.0
10	Region 19	76.8	75.7	77.8	32.5	31.2	36.7	23.2	4.5	34.2	63.5	54.9	77.3	13.3	5.7	26.9	1.4	0.6	3.5	1.1	0.0	3.0	6.3	4.0	10.0
7	Region 20	76.8	75.4	77.5	33.0	31.8	34.8	18.6	12.2	34.1	63.6	58.3	70.4	17.8	5.7	23.0	1.1	0.2	1.8	1.0	0.1	1.6	4.7	4.0	6.0
9	Region 21	76.8	76.1	77.8	32.8	29.7	37.2	19.3	9.4	26.2	64.2	57.2	74.9	16.6	13.0	26.0	1.3	1.0	1.9	1.0	0.7	1.3	4.0	2.0	6.0
8	Region 22	77.0	75.9	79.7	33.0	29.9	36.0	22.1	16.4	30.3	65.4	60.1	73.1	12.6	6.6	22.0	1.3	1.0	1.7	1.1	0.8	1.4	5.6	0.0	9.0
14	Region 23	76.9	74.4	79.0	31.4	23.1	37.3	14.1	3.4	37.0	65.7	51.1	81.1	20.2	3.7	45.5	2.1	0.8	4.3	1.5	0.7	3.3	3.3	0.0	6.0
18	Region 24	76.8	74.0	78.5	33.1	27.3	39.9	18.5	2.0	32.1	64.0	56.9	80.0	17.6	8.9	34.1	1.5	0.7	3.8	1.2	0.5	3.3	4.8	0.0	11.0
11	Region 25	76.3	72.0	78.8	33.4	29.6	36.9	18.9	3.4	34.4	64.1	58.6	71.3	17.0	2.8	37.9	1.9	0.5	3.5	1.3	0.2	2.3	6.6	5.0	10.0
18	Region 26	76.8	71.2	78.1	32.8	25.0	38.5	21.6	2.1	34.4	63.5	56.6	72.3	14.9	6.2	28.9	2.2	0.9	4.8	1.4	0.7	3.8	5.6	1.0	12.0
10	Region 27	76.8	75.7	77.5	33.6	31.7	36.1	19.4	8.6	30.3	63.8	57.9	72.1	16.8	10.6	27.7	1.5	0.9	2.6	1.0	0.7	1.4	5.7	3.0	14.0
29	Region 28	75.9	68.4	78.2	32.1	26.3	35.7	19.6	2.3	41.7	62.1	49.0	71.9	18.3	3.1	46.3	2.0	0.8	5.0	1.4	0.3	3.1	5.8	0.0	21.0
34	Region 29	77.5	73.6	80.5	33.7	22.5	44.1	21.8	1.9	36.4	62.4	50.5	71.3	15.9	3.5	47.6	1.5	0.3	3.0	1.1	0.2	2.2	5.1	1.0	19.0
21	Region 30	76.6	72.3	78.9	33.9	31.5	36.9	23.2	12.5	35.2	63.8	55.5	78.1	13.0	7.0	31.6	1.9	0.9	3.8	1.2	0.4	2.7	5.8	1.0	20.0
27	Region 31	76.8	71.7	78.8	33.0	21.5	36.6	26.3	1.0	33.4	61.7	32.9	71.5	12.0	5.1	66.1	1.4	0.6	4.2	1.1	0.5	2.5	5.4	1.0	18.0
28	Region 32	75.9	69.0	78.5	33.7	28.3	38.0	26.3	8.8	39.7	61.2	34.0	71.3	12.4	3.4	37.2	1.4	0.7	2.9	1.0	0.5	1.7	2.5	0.0	7.0
9	Region 33	77.5	77.1	78.5	33.8	31.4	36.3	22.9	6.6	35.4	65.7	52.4	75.0	11.4	5.9	20.9	1.4	0.4	5.3	1.1	0.4	3.8	4.7	0.0	15.0
16	Region 34	77.3	75.4	81.0	32.8	30.8	35.8	24.3	2.9	33.1	61.4	56.7	65.9	14.3	5.7	40.4	1.2	0.8	2.4	0.9	0.6	1.6	6.6	3.0	11.0
9	Region 35	76.7	74.3	79.9	32.4	26.2	39.6	14.8	2.9	33.4	65.5	59.3	71.3	19.7	4.8	34.3	2.1	0.7	5.4	1.5	0.4	4.1	4.4	1.0	13.0
9	Region 36	75.5	73.4	77.4	32.8	25.5	40.2	24.6	10.5	46.9	59.3	44.9	73.9	16.2	8.2	26.6	1.8	0.8	3.9	1.3	0.6	2.7	4.6	1.0	9.0
399	**Ave yellow**	**76.8**			**33.0**			**19.8**			**64.3**			**15.9**			**1.7**			**1.2**			**5.0**		
	Min yellow		**68.4**			**21.5**			**1.0**			**32.9**			**1.4**			**0.2**			**0.0**			**0.0**	
	Max yellow			**81.0**			**44.4**			**46.9**			**82.3**			**66.1**			**24.4**			**12.9**			**21.0**

TABLE 19: PHYSICAL QUALITY FACTORS OF WHITE AND YELLOW MAIZE 2004/2005

Number of samples	Region	Hectolitre mass kg/hl			100 kernel mass (g)			Kernel size (%)									Breakability (g)						Stress cracks (%)		
								Above 10 mm sieve			Above 8mm sieve			Below 8 mm sieve			< 6.3mm sieve			< 4.75mm sieve					
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
WHITE AND YELLOW																									
13	Region 10	78.5	75.6	83.2	34.8	30.2	38.2	10.6	0.8	30.8	66.1	47.8	78.4	23.3	10.0	49.9	3.2	0.5	24.4	2.0	0.3	12.9	5.1	2.0	8.0
31	Region 11	78.9	75.8	80.7	33.8	29.2	44.4	7.1	1.3	17.8	72.3	52.7	82.3	20.6	9.3	46.1	1.6	0.8	4.0	1.2	0.4	2.9	5.3	2.0	15.0
25	Region 12	77.5	73.2	79.4	33.6	28.9	38.0	24.1	4.8	48.1	62.8	46.6	73.8	13.1	1.4	21.7	1.7	0.8	3.1	1.1	0.0	2.5	4.3	0.0	8.0
19	Region 13	77.1	75.4	78.3	34.9	32.2	38.2	25.4	11.2	37.1	60.9	54.2	66.4	13.7	0.1	24.4	2.0	0.4	3.9	1.5	0.3	3.4	4.9	2.0	8.0
46	Region 14	77.4	72.6	79.9	34.0	26.3	38.3	24.1	3.8	40.3	62.7	34.3	77.7	13.2	3.0	31.5	1.4	0.2	3.6	1.0	0.1	3.0	4.4	0.0	11.0
20	Region 15	77.7	73.0	81.0	33.4	26.7	38.6	25.3	4.5	44.3	62.1	49.2	73.4	12.6	3.9	26.3	1.6	0.2	2.6	1.1	0.2	2.2	4.5	1.0	8.0
30	Region 16	77.8	75.4	80.2	35.2	28.9	41.3	28.3	3.6	40.4	61.1	53.7	69.2	10.7	2.3	32.7	1.5	0.7	3.9	1.2	0.6	2.6	4.6	0.0	12.0
38	Region 17	77.4	73.2	79.2	33.6	25.8	37.7	26.0	4.8	40.3	62.6	52.4	73.8	11.4	2.2	27.4	1.7	0.4	4.7	1.3	0.2	3.3	4.6	1.0	9.0
30	Region 18	77.2	71.1	79.7	34.9	31.3	39.0	29.0	16.2	43.0	62.0	50.2	72.0	8.9	3.5	17.0	1.5	0.5	5.0	1.2	0.5	3.2	4.9	0.0	13.0
26	Region 19	77.6	75.7	79.4	33.5	30.3	38.4	27.9	4.5	38.1	61.5	50.8	77.3	10.6	0.4	26.9	1.4	0.6	5.8	1.2	0.0	5.4	5.7	3.0	10.0
17	Region 20	77.5	75.4	78.6	35.1	31.8	38.4	23.1	12.2	37.3	60.7	50.1	70.4	16.2	4.0	26.6	1.4	0.2	2.3	1.2	0.1	2.2	4.5	1.0	7.0
52	Region 21	77.4	75.8	79.4	34.6	29.7	39.9	27.0	9.4	45.4	61.1	49.9	74.9	11.9	3.4	26.0	1.3	0.8	2.8	1.0	0.5	2.1	4.0	0.0	9.0
61	Region 22	78.0	74.5	81.2	34.5	28.9	39.1	27.8	14.9	49.2	61.6	48.2	73.1	10.5	0.6	23.7	1.3	0.4	2.8	1.0	0.0	1.8	5.5	0.0	23.0
80	Region 23	78.3	72.3	81.1	35.0	23.1	42.9	28.3	2.1	52.8	59.7	32.7	81.1	12.0	3.0	45.5	1.2	0.1	4.3	1.0	0.1	3.3	3.2	0.0	9.0
59	Region 24	78.3	74.0	81.4	35.4	27.3	44.3	27.9	2.0	49.5	60.5	47.9	80.0	11.6	2.6	34.1	1.2	0.5	3.8	1.0	0.5	3.3	4.6	0.0	13.0
23	Region 25	77.0	72.0	81.7	32.9	26.6	36.9	19.7	3.4	34.7	62.9	42.1	71.3	17.3	2.8	54.5	1.8	0.4	3.5	1.2	0.0	2.3	5.2	1.0	10.0
35	Region 26	77.3	71.2	80.3	33.7	25.0	38.5	23.2	2.1	43.3	62.5	31.3	72.3	14.3	5.1	37.4	2.2	0.6	4.8	1.5	0.1	3.8	4.6	0.0	12.0
23	Region 27	77.1	75.7	79.7	34.3	31.0	37.9	24.5	8.6	34.3	62.0	51.7	72.1	13.5	1.3	27.7	1.3	0.7	2.6	1.0	0.4	1.4	6.9	3.0	23.0
52	Region 28	76.4	68.4	80.3	33.2	26.3	40.0	24.5	2.3	55.3	60.6	42.0	71.9	14.9	2.7	46.3	1.9	0.5	8.0	1.3	0.3	5.4	5.3	0.0	21.0
62	Region 29	77.9	73.2	80.5	35.1	22.5	44.1	27.6	1.9	45.0	60.5	50.5	73.8	11.9	2.6	47.6	1.5	0.3	4.9	1.1	0.2	3.0	4.9	0.0	19.0
47	Region 30	76.9	72.0	79.3	34.6	28.3	42.2	27.2	5.9	59.7	61.8	36.7	78.1	10.9	0.2	31.6	1.8	0.7	6.5	1.3	0.4	6.2	5.5	1.0	22.0
42	Region 31	77.0	71.7	81.7	33.6	21.5	40.3	27.4	1.0	44.9	61.1	32.9	71.5	11.6	4.0	66.1	1.4	0.6	4.2	1.1	0.5	2.5	5.7	1.0	18.0
50	Region 32	76.3	69.0	79.3	35.0	28.3	41.4	29.1	8.8	47.5	60.9	34.0	71.3	10.1	2.4	37.2	1.4	0.4	2.9	1.0	0.3	1.9	2.7	0.0	9.0
20	Region 33	77.5	74.7	79.0	35.4	30.4	41.8	27.3	6.6	59.4	63.9	39.0	75.0	8.9	1.6	20.9	1.6	0.4	5.3	1.2	0.4	3.8	5.5	0.0	21.0
59	Region 34	77.6	75.4	81.0	34.5	30.3	40.2	27.7	2.9	45.5	60.8	36.8	80.3	11.5	0.7	40.4	1.2	0.2	2.4	0.9	0.0	1.7	5.7	0.0	13.0
17	Region 35	77.4	74.3	81.7	33.5	26.2	39.6	20.9	2.9	34.9	64.3	58.7	71.3	14.8	3.3	34.3	2.0	0.5	5.4	1.4	0.4	4.1	4.8	1.0	13.0
23	Region 36	76.5	73.4	78.2	34.5	25.5	40.2	25.9	10.5	46.9	61.0	44.9	73.9	13.1	3.3	26.6	1.6	0.3	4.5	1.2	0.0	3.2	5.1	1.0	12.0
1000	**Ave w & y**	**77.5**			**34.4**			**25.7**			**61.8**			**12.5**			**1.5**			**1.1**			**4.8**		
Min white & yellow			**68.4**			**21.5**			**0.8**			**31.8**			**0.1**			**0.1**			**0.0**			**0.0**	
Max white & yellow				**83.2**			**44.4**			**59.7**			**82.3**			**66.1**			**24.4**			**12.9**			**23.0**

TABLE 20: MILLING- AND WHITENESS INDEX OF WHITE MAIZE AND ACCORDING TO GRADE (2004/2005)

Number of samples	Region	Milling index			Whiteness index unsifted			Whiteness index sifted 87:13			Number of samples	Region	Milling index			Whiteness index unsifted			Whiteness index sifted 87:13		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.			ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WHITE											**GRADE: WM 1**										
3	Region 10	111.1	110.1	112.5	26.5	23.1	29.7	14.9	12.9	16.5	3	Region 10	111.1	110.1	112.5	26.5	23.1	29.7	14.9	12.9	16.5
1	Region 11	100.2	100.2	100.2	26.2	26.2	26.2	14.2	14.2	14.2	1	Region 11	100.2	100.2	100.2	26.2	26.2	26.2	14.2	14.2	14.2
16	Region 12	107.6	98.1	120.9	24.8	18.6	30.7	16.2	11.7	21.8	10	Region 12	109.9	99.3	120.9	26.2	21.2	30.7	17.7	12.9	21.8
11	Region 13	100.7	91.5	108.3	25.1	17.1	28.8	17.1	10.3	21.0	7	Region 13	103.6	96.3	108.3	26.1	23.3	28.8	18.1	14.4	21.0
28	Region 14	104.2	82.1	119.9	25.2	16.9	33.2	15.7	6.5	23.7	19	Region 14	105.6	86.2	119.9	26.1	22.9	29.9	16.5	12.0	21.1
13	Region 15	104.5	86.3	116.7	25.3	22.6	30.5	15.9	12.6	18.5	8	Region 15	106.0	96.3	116.7	25.6	23.5	27.5	16.2	13.1	18.5
23	Region 16	104.2	92.0	114.1	26.3	22.5	31.4	17.2	11.7	24.9	22	Region 16	104.7	92.0	114.1	26.1	22.5	30.9	16.9	11.7	20.2
26	Region 17	101.3	89.9	109.9	27.0	23.4	29.1	16.8	11.5	21.7	22	Region 17	102.2	94.2	109.9	26.7	23.4	29.1	16.4	11.5	19.6
19	Region 18	101.9	92.8	107.9	25.9	18.6	31.2	16.3	10.2	22.2	17	Region 18	101.9	92.8	107.9	26.1	18.6	31.2	16.6	10.2	22.2
16	Region 19	103.2	91.2	112.8	27.1	19.2	31.0	18.9	13.2	22.2	13	Region 19	102.8	91.2	112.8	27.4	25.4	31.0	19.1	17.8	22.2
10	Region 20	97.8	77.7	104.0	26.6	20.5	33.8	17.6	10.8	25.0	8	Region 20	100.2	89.8	104.0	26.5	22.2	32.8	17.5	14.6	23.8
43	Region 21	99.6	88.8	112.0	27.2	21.9	32.0	17.4	13.8	24.1	39	Region 21	100.1	90.4	112.0	27.2	21.9	31.9	17.3	13.8	21.4
53	Region 22	105.6	84.7	122.8	26.4	22.1	29.5	17.1	10.0	21.2	49	Region 22	106.2	96.1	122.8	26.4	22.1	29.5	17.1	10.0	21.2
66	Region 23	107.1	82.7	116.2	24.7	17.5	32.1	15.5	9.0	20.5	51	Region 23	108.4	82.7	116.2	25.1	17.5	32.1	15.9	9.0	20.5
41	Region 24	107.1	89.4	116.8	25.6	11.5	32.2	16.2	3.4	23.3	40	Region 24	106.8	89.4	116.3	25.9	20.7	32.2	16.5	10.4	23.3
12	Region 25	96.8	88.5	104.8	25.9	20.0	29.4	15.6	10.1	19.6	12	Region 25	96.8	88.5	104.8	25.9	20.0	29.4	15.6	10.1	19.6
17	Region 26	98.3	83.6	105.4	23.8	17.2	29.7	15.3	8.4	21.8	13	Region 26	99.8	85.1	105.4	23.8	20.1	29.3	14.6	8.4	19.7
13	Region 27	100.0	90.0	108.3	27.9	24.2	32.1	17.9	14.5	21.5	10	Region 27	101.0	95.2	108.3	27.5	24.2	32.1	17.3	14.5	21.4
23	Region 28	98.6	71.1	119.4	22.4	12.8	28.9	12.7	5.3	18.3	12	Region 28	99.7	89.4	119.4	23.3	12.8	28.9	13.8	5.3	18.3
28	Region 29	99.8	74.8	110.8	27.1	14.2	34.0	17.1	-1.2	23.6	23	Region 29	100.2	74.8	110.8	27.7	19.8	34.0	18.0	12.2	23.4
26	Region 30	96.8	86.3	110.7	29.4	16.4	35.3	18.4	6.6	25.6	16	Region 30	97.8	91.1	107.7	30.7	25.9	35.3	19.5	16.0	25.6
15	Region 31	101.2	85.8	113.4	26.7	16.7	31.9	16.2	2.1	23.4	8	Region 31	102.3	92.6	113.4	27.9	21.5	31.9	18.2	10.5	23.4
22	Region 32	100.0	91.8	112.1	29.0	23.1	37.4	19.2	15.0	24.1	21	Region 32	100.2	91.8	112.1	28.9	23.1	37.4	19.1	15.0	24.1
11	Region 33	97.7	78.5	112.5	30.9	27.6	34.0	20.8	16.4	25.5	10	Region 33	97.1	78.5	112.5	31.2	28.0	34.0	21.2	18.9	25.5
43	Region 34	100.0	85.5	111.2	26.8	21.7	34.1	18.0	12.3	27.3	40	Region 34	100.0	86.8	111.2	26.9	21.7	34.1	18.0	12.3	27.3
8	Region 35	107.2	98.0	120.0	27.3	20.4	30.6	18.0	13.6	21.0	8	Region 35	107.2	98.0	120.0	27.3	20.4	30.6	18.0	13.6	21.0
14	Region 36	97.4	81.1	105.2	27.9	21.9	33.3	17.9	12.5	23.2	11	Region 36	97.7	81.1	105.2	28.7	26.1	33.3	18.8	15.2	23.2
601	**Ave white**	**102.3**			**26.3**			**16.8**			**493**	**Ave WM 1**	**103.0**			**26.7**			**17.2**		
	Min white		**71.1**			**11.5**			**-1.2**			**Min WM 1**		**74.8**			**12.8**			**5.3**	
	Max white			**122.8**			**37.4**			**27.3**		**Max WM 1**			**122.8**			**37.4**			**27.3**

TABLE 20: MILLING- AND WHITENESS INDEX OF WHITE MAIZE ACCORDING TO GRADE (2004/2005) (continue)

Number of samples	Region	Milling index			Whiteness index unsifted			Whiteness index sifted 87:13		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 2										
4	Region 12	103.4	98.1	109.8	23.4	22.3	25.3	14.3	11.7	16.7
2	Region 13	96.0	91.5	100.4	25.4	24.2	26.6	16.8	15.0	18.7
4	Region 14	105.7	98.6	109.8	24.5	21.6	26.1	14.6	11.3	18.0
4	Region 15	106.2	100.6	116.3	25.3	22.9	30.5	16.0	14.1	18.4
1	Region 16	93.3	93.3	93.3	31.4	31.4	31.4	24.9	24.9	24.9
3	Region 17	94.8	89.9	98.0	28.3	27.2	29.0	20.0	18.1	21.7
2	Region 18	102.0	98.7	105.2	23.6	22.7	24.5	14.0	14.0	14.1
3	Region 19	105.2	101.5	109.8	25.6	19.2	29.3	18.1	13.2	22.0
2	Region 20	88.0	77.7	98.2	27.1	20.5	33.8	17.9	10.8	25.0
4	Region 21	95.2	88.8	101.0	27.5	24.0	32.0	18.4	15.5	24.1
3	Region 22	102.9	95.4	107.9	27.5	25.7	29.3	16.8	15.4	19.5
10	Region 23	102.7	96.0	111.1	24.7	19.5	29.5	15.1	9.6	19.8
1	Region 24	116.8	116.8	116.8	11.5	11.5	11.5	3.4	3.4	3.4
4	Region 26	93.4	83.6	104.1	24.0	17.2	29.7	17.5	13.3	21.8
3	Region 27	96.3	90.0	101.1	29.0	28.1	30.1	19.9	17.9	21.5
10	Region 28	100.0	89.1	112.3	21.1	15.4	25.3	10.9	7.4	14.4
3	Region 29	98.5	90.7	109.0	26.7	21.2	33.0	17.5	11.5	23.6
9	Region 30	96.2	86.3	110.7	27.1	16.4	32.8	16.5	6.6	21.3
7	Region 31	99.9	85.8	105.2	25.3	16.7	28.9	13.9	2.1	18.6
1	Region 32	95.2	95.2	95.2	30.4	30.4	30.4	20.3	20.3	20.3
3	Region 34	99.4	85.5	106.6	26.5	24.3	30.1	18.0	15.5	21.5
3	Region 36	96.3	91.0	99.3	25.1	21.9	27.6	14.4	12.5	15.5
86	**Ave WM 2**	**99.6**			**25.2**			**15.7**		
	Min WM 2		**77.7**			**11.5**			**2.1**	
	Max WM 2			**116.8**			**33.8**			**25.0**

Number of samples	Region	Milling index			Whiteness index unsifted			Whiteness index sifted 87:13		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 3										
2	Region 12	104.4	103.8	105.0	20.6	18.6	22.6	13.1	12.5	13.6
2	Region 13	95.3	92.9	97.6	21.2	17.1	25.3	13.9	10.3	17.5
4	Region 14	101.8	91.4	112.3	23.9	18.4	33.2	15.3	10.5	23.7
1	Region 15	86.3	86.3	86.3	22.6	22.6	22.6	12.6	12.6	12.6
1	Region 17	100.2	100.2	100.2	28.8	28.8	28.8	16.4	16.4	16.4
1	Region 22	84.7	84.7	84.7	26.1	26.1	26.1	16.6	16.6	16.6
5	Region 23	102.5	93.4	111.8	21.3	19.4	25.0	12.1	9.6	14.3
1	Region 28	71.1	71.1	71.1	24.9	24.9	24.9	17.8	17.8	17.8
1	Region 29	96.9	96.9	96.9	28.8	28.8	28.8	13.9	13.9	13.9
1	Region 30	87.4	87.4	87.4	27.9	27.9	27.9	18.3	18.3	18.3
1	Region 33	102.9	102.9	102.9	27.6	27.6	27.6	16.4	16.4	16.4
20	**Ave WM 3**	**97.4**			**23.6**			**14.4**		
	Min WM 3		**71.1**			**17.1**			**9.6**	
	Max WM 3			**112.3**			**33.2**			**23.7**
GRADE: COM										
1	Region 14	82.1	82.1	82.1	16.9	16.9	16.9	6.5	6.5	6.5
1	Region 29	96.2	96.2	96.2	14.2	14.2	14.2	-1.2	-1.2	-1.2
2	**Ave COM**	**89.2**			**15.6**			**2.6**		
	Min COM		**82.1**			**14.2**			**-1.2**	
	Max COM			**96.2**			**16.9**			**6.5**
601	**Ave white maize**	**102.3**			**26.3**			**16.8**		
	Min white maize		**71.1**			**11.5**			**-1.2**	
	Max white maize			**122.8**			**37.4**			**27.3**

TABLE 21: MILLING INDEX OF YELLOW MAIZE ACCORDING TO GRADE (2004/2005)

Number of samples	Region	Milling index			Number of samples	Region	Milling index			Number of samples	Region	Milling index			Number of samples	Region	Milling index		
		ave.	min.	max.			ave.	min.	max.			ave.	min.	max.			ave.	min.	max.
GRADE: YM 1					**GRADE: YM 2**					**GRADE: YM 3**					**GRADE: COM**				
9	Region 10	92.6	83.5	100.6	1	Region 10	86.4	86.4	86.4	2	Region 14	97.3	96.9	97.6	1	Region 14	96.6	96.6	96.6
29	Region 11	94.6	79.7	102.5	1	Region 11	97.5	97.5	97.5	1	Region 26	47.3	47.3	47.3					
7	Region 12	105.0	99.5	115.0	2	Region 12	102.1	97.9	106.2	1	Region 30	83.2	83.2	83.2					
4	Region 13	103.6	99.0	108.1	4	Region 13	102.3	92.5	108.1										
12	Region 14	100.1	88.2	112.4	3	Region 14	99.4	95.5	106.2										
5	Region 15	95.9	90.9	101.7	2	Region 15	102.7	102.1	103.3										
5	Region 16	102.3	96.1	111.1	2	Region 16	95.6	92.4	98.8										
8	Region 17	98.4	90.0	104.4	4	Region 17	96.0	83.4	105.9										
9	Region 18	97.8	93.2	102.4	2	Region 18	99.1	95.4	102.8										
8	Region 19	101.9	96.8	110.5	2	Region 19	84.4	71.3	97.5										
6	Region 20	96.0	89.6	103.4	1	Region 20	89.1	89.1	89.1										
8	Region 21	97.0	87.6	108.4	1	Region 21	95.6	95.6	95.6										
5	Region 22	101.4	94.4	113.0	3	Region 22	95.9	93.1	99.7										
10	Region 23	96.6	88.0	107.7	4	Region 23	94.0	89.2	97.9										
15	Region 24	98.1	73.8	108.7	3	Region 24	95.1	88.8	98.7										
9	Region 25	91.2	77.9	106.9	2	Region 25	101.2	97.2	105.1										
13	Region 26	100.8	90.6	107.9	4	Region 26	91.3	74.9	110.2										
9	Region 27	92.1	72.5	98.3	1	Region 27	99.9	99.9	99.9										
21	Region 28	96.2	82.6	108.4	8	Region 28	89.1	66.8	101.6										
26	Region 29	99.8	90.4	116.8	8	Region 29	95.5	89.6	102.9										
15	Region 30	94.7	82.0	108.1	5	Region 30	91.3	84.6	97.7										
23	Region 31	96.4	86.5	104.8	4	Region 31	85.8	74.2	94.8										
28	Region 32	95.6	81.0	106.4	3	Region 36	69.7	64.5	76.6										
9	Region 33	96.7	88.7	106.5															
16	Region 34	102.0	76.8	120.0															
9	Region 35	92.4	81.4	102.2															
6	Region 36	88.4	78.0	97.3															
324	**Ave YM 1**	**97.1**			**70**	**Ave YM 2**	**93.3**			**4**	**Ave YM 3**	**81.3**			**1**	**Ave COM**	**96.6**		
	Min YM 1		**72.5**			**Min YM 2**		**64.5**			**Min YM 3**		**47.3**			**Min COM**		**96.6**	
	Max YM 1			**120.0**		**Max YM 2**			**110.2**		**Max YM 3**			**97.6**		**Max COM**			**96.6**

TABLE 22: MILLING INDEX OF WHITE AND YELLOW MAIZE (2004/2005)

Number of samples	Region	Milling index			Number of samples	Region	Milling index			Number of samples	Region	Milling index		
		ave.	min.	max.			ave.	min.	max.			ave.	min.	max.
WHITE					**YELLOW**					**WHITE & YELLOW**				
3	Region 10	111.1	110.1	112.5	10	Region 10	92.0	83.5	100.6	13	Region 10	96.4	83.5	112.5
1	Region 11	100.2	100.2	100.2	30	Region 11	94.7	79.7	102.5	31	Region 11	94.9	79.7	102.5
16	Region 12	107.6	98.1	120.9	9	Region 12	104.3	97.9	115.0	25	Region 12	106.4	97.9	120.9
11	Region 13	100.7	91.5	108.3	8	Region 13	102.9	92.5	108.1	19	Region 13	101.6	91.5	108.3
28	Region 14	104.2	82.1	119.9	18	Region 14	99.4	88.2	112.4	46	Region 14	102.3	82.1	119.9
13	Region 15	104.5	86.3	116.7	7	Region 15	97.8	90.9	103.3	20	Region 15	102.2	86.3	116.7
23	Region 16	104.2	92.0	114.1	7	Region 16	100.4	92.4	111.1	30	Region 16	103.3	92.0	114.1
26	Region 17	101.3	89.9	109.9	12	Region 17	97.6	83.4	105.9	38	Region 17	100.1	83.4	109.9
19	Region 18	101.9	92.8	107.9	11	Region 18	98.1	93.2	102.8	30	Region 18	100.5	92.8	107.9
16	Region 19	103.2	91.2	112.8	10	Region 19	98.4	71.3	110.5	26	Region 19	101.4	71.3	112.8
10	Region 20	97.8	77.7	104.0	7	Region 20	95.0	89.1	103.4	17	Region 20	96.6	77.7	104.0
43	Region 21	99.6	88.8	112.0	9	Region 21	96.9	87.6	108.4	52	Region 21	99.2	87.6	112.0
53	Region 22	105.6	84.7	122.8	8	Region 22	99.3	93.1	113.0	61	Region 22	104.8	84.7	122.8
66	Region 23	107.1	82.7	116.2	14	Region 23	95.9	88.0	107.7	80	Region 23	105.1	82.7	116.2
41	Region 24	107.1	89.4	116.8	18	Region 24	97.6	73.8	108.7	59	Region 24	104.2	73.8	116.8
12	Region 25	96.8	88.5	104.8	11	Region 25	93.0	77.9	106.9	23	Region 25	95.0	77.9	106.9
17	Region 26	98.3	83.6	105.4	18	Region 26	95.7	47.3	110.2	35	Region 26	97.0	47.3	110.2
13	Region 27	100.0	90.0	108.3	10	Region 27	92.9	72.5	99.9	23	Region 27	96.9	72.5	108.3
23	Region 28	98.6	71.1	119.4	29	Region 28	94.3	66.8	108.4	52	Region 28	96.2	66.8	119.4
28	Region 29	99.8	74.8	110.8	34	Region 29	98.8	89.6	116.8	62	Region 29	99.2	74.8	116.8
26	Region 30	96.8	86.3	110.7	21	Region 30	93.4	82.0	108.1	47	Region 30	95.3	82.0	110.7
15	Region 31	101.2	85.8	113.4	27	Region 31	94.9	74.2	104.8	42	Region 31	97.1	74.2	113.4
22	Region 32	100.0	91.8	112.1	28	Region 32	95.6	81.0	106.4	50	Region 32	97.5	81.0	112.1
11	Region 33	97.7	78.5	112.5	9	Region 33	96.7	88.7	106.5	20	Region 33	97.2	78.5	112.5
43	Region 34	100.0	85.5	111.2	16	Region 34	102.0	76.8	120.0	59	Region 34	100.5	76.8	120.0
8	Region 35	107.2	98.0	120.0	9	Region 25	92.4	81.4	102.2	17	Region 25	99.3	81.4	120.0
14	Region 36	97.4	81.1	105.2	9	Region 36	82.2	64.5	97.3	23	Region 36	91.4	64.5	105.2
601	**Ave white**	**102.3**			**399**	**Ave yellow**	**96.2**			**1000**	**Ave w & y**	**99.9**		
	Min white		**71.1**			**Min yellow**		**47.3**			**Min w & y**		**47.3**	
	Max white			**122.8**		**Max yellow**			**120.0**		**Max w & y**			**122.8**

TABLE 23: ROFF MILLING OF WHITE MAIZE (2004/2005)

Number of samples	Region	Roff Milling																	
		Break 1, %			Break 2, %			Break 3, %			Grits, %			Bran/Germ, %			Extraction, % (Total meal)		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WHITE																			
3	Region 10	12.6	12.2	13.0	9.4	9.3	9.5	23.3	22.8	23.7	34.9	33.5	36.8	19.8	18.7	21.0	80.2	79.0	81.3
1	Region 11	13.4	13.4	13.4	9.9	9.9	9.9	26.7	26.7	26.7	30.5	30.5	30.5	19.5	19.5	19.5	80.5	80.5	80.5
16	Region 12	11.0	8.4	12.5	9.3	8.3	10.8	23.0	20.9	27.3	35.2	31.9	40.6	21.5	18.1	24.0	78.5	76.0	81.9
11	Region 13	12.3	10.3	14.2	9.4	8.6	10.1	21.8	20.6	23.2	33.6	31.3	35.9	22.9	20.8	23.8	77.1	76.2	79.2
28	Region 14	11.6	9.6	14.5	9.2	6.5	11.7	23.2	20.4	25.4	34.2	29.9	37.2	21.8	19.2	25.0	78.2	75.0	80.8
13	Region 15	11.4	9.8	13.1	9.1	8.4	9.7	23.1	20.0	24.7	35.5	31.5	38.8	20.9	17.7	25.6	79.1	74.4	82.3
23	Region 16	12.0	10.9	13.8	9.4	8.8	10.3	23.7	22.0	26.3	34.2	30.6	38.8	20.6	17.2	23.9	79.4	76.1	82.8
26	Region 17	12.8	11.8	13.6	9.8	9.3	10.4	23.3	21.1	25.6	32.4	29.3	36.3	21.7	19.6	24.1	78.3	75.9	80.4
19	Region 18	12.8	11.3	14.0	9.8	8.9	10.8	23.7	19.9	26.8	31.9	29.1	34.5	21.8	19.8	25.3	78.2	74.7	80.2
16	Region 19	12.3	10.6	13.6	9.7	9.0	10.9	22.4	20.6	23.8	33.3	30.6	36.4	22.3	20.7	25.0	77.7	75.0	79.3
10	Region 20	13.2	12.1	13.9	9.7	9.3	10.1	22.9	21.0	24.6	32.0	30.0	33.5	22.2	20.5	25.1	77.8	74.9	79.5
43	Region 21	12.2	10.0	13.4	9.7	8.8	10.7	23.2	21.2	27.1	33.0	30.0	35.5	21.9	18.7	24.8	78.1	75.2	81.3
53	Region 22	11.6	8.6	14.3	9.5	8.7	10.2	23.9	21.0	28.5	34.7	30.3	39.0	20.4	16.8	24.3	79.6	75.7	83.2
66	Region 23	10.8	9.2	13.6	9.4	8.5	10.2	24.2	20.9	28.0	35.0	30.8	38.8	20.5	16.9	24.1	79.5	75.9	83.1
41	Region 24	11.1	7.9	14.0	9.2	5.9	10.2	23.2	18.5	27.0	35.1	30.7	41.1	21.4	18.7	25.2	78.6	74.8	81.3
12	Region 25	13.4	11.0	15.2	9.6	8.9	10.9	22.7	20.1	25.1	33.3	30.2	38.1	21.1	19.0	23.2	78.9	76.8	81.0
17	Region 26	13.3	11.4	16.9	10.0	9.4	10.9	23.5	20.8	25.9	31.9	26.5	35.2	21.4	19.5	23.9	78.9	76.1	80.5
13	Region 27	12.3	10.5	13.9	9.4	6.7	11.3	23.0	21.5	25.6	32.8	29.8	37.4	22.6	20.0	26.2	77.4	73.8	79.9
23	Region 28	13.1	9.4	15.5	10.0	9.0	11.1	23.6	21.4	26.1	31.4	28.4	38.3	21.9	19.7	24.1	78.1	75.9	80.3
28	Region 29	13.6	11.2	17.5	9.9	8.9	11.7	22.8	19.2	26.3	31.5	26.0	34.2	22.2	18.5	26.9	77.8	73.1	81.5
26	Region 30	13.9	11.4	15.5	9.7	8.7	10.7	22.0	18.9	24.8	31.5	27.0	36.0	23.0	19.3	27.2	77.0	72.8	80.7
15	Region 31	13.0	10.6	15.9	9.6	9.0	10.6	22.4	20.1	26.1	32.6	29.3	36.4	22.4	18.5	25.3	77.6	74.7	81.5
22	Region 32	13.0	12.1	14.1	9.7	9.0	10.3	22.1	19.1	24.5	32.6	30.1	34.5	22.6	19.7	25.8	77.4	74.2	80.3
11	Region 33	12.5	10.3	14.9	9.4	8.4	9.8	21.7	18.9	26.2	32.9	28.6	34.6	23.5	20.6	27.2	76.5	72.8	79.4
43	Region 34	12.7	10.9	15.1	9.9	9.1	10.8	22.8	20.1	25.7	32.3	28.1	35.6	22.3	19.6	25.7	77.7	74.3	80.4
8	Region 35	11.3	8.6	12.6	9.6	8.9	9.9	23.3	22.2	24.0	34.0	31.5	39.5	21.9	19.6	23.2	78.1	76.8	80.4
14	Region 36	13.2	12.1	15.0	9.3	8.3	9.8	21.6	20.1	23.8	33.6	28.5	38.2	22.3	19.6	25.9	77.7	74.1	80.4
601	**Ave white**	**12.2**			**9.6**			**23.1**			**33.4**			**21.7**			**78.3**		
	Min white		**7.9**			**5.9**			**18.5**			**26.0**			**16.8**			**72.8**	
	Max white			**17.5**			**11.7**			**28.5**			**41.1**			**27.2**			**83.2**

TABLE 23: ROFF MILLING OF WHITE MAIZE ACCORDING TO GRADE (2004/2005)

Number of samples	Region	Roff Milling																	
		Break 1, %			Break 2, %			Break 3, %			Grits, %			Bran/Germ, %			Extraction, % (Total meal)		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 1																			
3	Region 10	12.6	12.2	13.0	9.4	9.3	9.5	23.3	22.8	23.7	34.9	33.5	36.8	19.8	18.7	21.0	80.2	79.0	81.3
1	Region 11	13.4	13.4	13.4	9.9	9.9	9.9	26.7	26.7	26.7	30.5	30.5	30.5	19.5	19.5	19.5	80.5	80.5	80.5
10	Region 12	10.6	8.4	12.4	9.2	8.3	9.9	22.6	20.9	24.8	36.0	32.4	40.6	21.7	18.3	24.0	78.3	76.0	81.7
7	Region 13	12.0	11.1	13.3	9.4	9.2	9.8	22.0	21.1	23.2	33.6	31.7	34.8	23.1	22.2	23.8	76.9	76.2	77.8
19	Region 14	11.5	9.6	14.1	9.0	6.5	9.7	23.2	21.6	25.4	34.4	31.6	37.2	21.8	19.2	23.6	78.2	76.4	80.8
8	Region 15	11.3	10.4	12.4	9.2	8.4	9.7	23.8	21.0	24.7	35.8	33.6	37.9	20.0	17.7	22.1	80.0	77.9	82.3
22	Region 16	12.0	10.9	13.8	9.4	8.8	10.3	23.8	22.1	26.3	34.2	30.6	38.8	20.6	17.2	23.9	79.4	76.1	82.8
22	Region 17	12.7	11.8	13.6	9.8	9.3	10.4	23.5	21.6	25.6	32.4	29.3	36.3	21.6	19.6	24.0	78.4	76.0	80.4
17	Region 18	12.9	12.0	14.0	9.8	8.9	10.8	23.7	19.9	26.8	32.1	29.1	34.5	21.5	19.8	24.5	78.5	75.5	80.2
13	Region 19	12.4	10.6	13.6	9.6	9.0	10.0	22.4	20.6	23.8	33.3	31.2	36.4	22.2	20.7	24.4	77.8	75.6	79.3
8	Region 20	13.1	12.1	13.6	9.7	9.3	10.1	23.2	21.0	24.6	32.1	30.6	33.5	22.0	20.5	24.5	78.0	75.5	79.5
39	Region 21	12.2	10.0	13.3	9.7	8.8	10.5	23.3	21.2	27.1	33.0	30.0	35.5	21.9	18.7	24.5	78.1	75.5	81.3
49	Region 22	11.5	8.6	13.2	9.5	8.7	10.2	24.0	21.0	28.5	34.7	30.3	39.0	20.3	16.8	24.3	79.7	75.7	83.2
51	Region 23	10.8	9.2	13.6	9.5	8.5	10.2	24.2	20.9	28.0	35.3	30.8	38.8	20.3	16.9	23.4	79.7	76.6	83.1
40	Region 24	11.2	9.0	14.0	9.3	5.9	10.2	23.2	18.5	27.0	34.9	30.7	41.1	21.4	18.7	25.2	78.6	74.8	81.3
12	Region 25	13.4	11.0	15.2	9.6	8.9	10.9	22.7	20.1	25.1	33.3	30.2	38.1	21.1	19.0	23.2	78.9	76.8	81.0
13	Region 26	13.1	12.1	15.3	10.0	9.4	10.5	23.5	20.8	25.9	32.2	27.9	34.0	21.4	19.8	23.9	78.6	76.1	80.2
10	Region 27	12.2	10.5	13.9	9.4	6.7	11.3	23.3	21.5	25.6	33.1	30.0	37.4	22.0	20.1	26.2	78.0	73.8	79.9
12	Region 28	13.1	9.4	15.5	10.1	9.0	11.1	23.8	21.4	26.1	31.4	28.4	38.3	21.6	19.7	23.7	78.4	76.3	80.3
23	Region 29	13.6	11.8	17.5	9.8	8.9	11.0	22.9	20.0	26.3	31.6	26.0	34.2	22.2	18.5	25.9	77.8	74.1	81.5
16	Region 30	13.9	11.7	15.5	9.7	8.7	10.7	21.8	19.8	24.8	31.8	29.9	36.0	22.9	19.3	25.2	77.1	74.8	80.7
8	Region 31	12.9	10.6	14.1	9.6	9.0	10.1	22.5	20.1	26.1	32.5	29.7	36.4	22.5	19.3	25.3	77.5	74.7	80.7
21	Region 32	13.0	12.1	14.1	9.7	9.0	10.3	22.1	19.1	24.5	32.6	30.1	34.5	22.6	19.7	25.8	77.4	74.2	80.3
10	Region 33	12.5	10.3	14.9	9.4	8.4	9.8	21.6	18.9	26.2	32.8	28.6	34.6	23.7	20.6	27.2	76.3	72.8	79.4
40	Region 34	12.7	10.9	15.1	9.9	9.1	10.8	22.8	20.1	25.7	32.3	28.1	35.6	22.2	19.6	25.6	77.8	74.4	80.4
8	Region 35	11.3	8.6	12.6	9.6	8.9	9.9	23.3	22.2	24.0	34.0	31.5	39.5	21.9	19.6	23.2	78.1	76.8	80.4
11	Region 36	13.2	12.1	15.0	9.2	8.3	9.8	21.6	20.7	23.8	33.7	28.5	38.2	22.2	19.6	25.9	77.8	74.1	80.4
493	**Ave WM 1**	**12.2**			**9.6**			**23.2**			**33.5**			**21.5**			**78.5**		
	Min WM 1		**8.4**			**5.9**			**18.5**			**26.0**			**16.8**			**72.8**	
	Max WM 1			**17.5**			**11.3**			**28.5**			**41.1**			**27.2**			**83.2**

TABLE 23: ROFF MILLING OF WHITE MAIZE ACCORDING TO GRADE (2004/2005)
(continue)

Number of samples	Region	Roff Milling																	
		Break 1, %			Break 2, %			Break 3, %			Grits, %			Bran/Germ, %			Extraction, % (Total meal)		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 2																			
4	Region 12	11.8	11.5	12.5	9.4	9.1	9.9	22.8	21.0	25.4	34.0	32.4	35.9	22.0	20.6	23.6	78.0	76.4	79.4
2	Region 13	13.3	12.5	14.2	9.4	8.6	10.1	21.7	21.1	22.3	33.6	31.3	35.8	22.1	20.8	23.3	77.9	76.7	79.2
4	Region 14	11.5	11.0	12.3	9.1	8.7	9.4	23.9	22.9	24.9	34.0	31.7	36.5	21.4	19.3	24.9	78.6	75.1	80.7
4	Region 15	11.6	9.8	13.1	9.0	8.5	9.3	22.1	20.0	23.8	35.6	31.5	38.8	21.7	19.2	24.4	78.3	75.6	80.8
1	Region 16	11.4	11.4	11.4	9.5	9.5	9.5	22.0	22.0	22.0	34.8	34.8	34.8	22.4	22.4	22.4	77.6	77.6	77.6
3	Region 17	13.0	12.0	13.6	10.0	9.8	10.4	22.4	21.1	23.2	31.6	29.8	33.2	23.0	21.0	24.1	77.0	75.9	79.0
2	Region 18	12.0	11.3	12.7	9.6	9.5	9.6	23.6	23.5	23.7	30.3	30.3	30.4	24.5	23.8	25.3	75.5	74.7	76.2
3	Region 19	12.0	10.8	13.1	10.0	9.3	10.9	22.0	21.7	22.7	33.4	30.6	36.1	22.6	21.0	25.0	77.4	75.0	79.0
2	Region 20	13.7	13.4	13.9	9.6	9.6	9.6	22.0	21.3	22.6	31.8	30.0	33.5	23.0	20.8	25.1	77.0	74.9	79.2
4	Region 21	12.6	11.2	13.4	10.2	9.3	10.7	22.5	21.3	24.0	32.3	30.3	34.3	22.4	20.8	24.8	77.6	75.2	79.2
3	Region 22	11.4	10.1	12.2	9.7	9.5	9.9	22.3	21.3	23.3	35.2	34.6	35.8	21.4	20.2	23.4	78.6	76.6	79.8
10	Region 23	11.0	10.1	12.8	9.4	9.0	9.9	24.3	21.4	26.1	34.2	32.6	36.2	21.1	19.6	23.8	78.9	76.2	80.4
1	Region 24	7.9	7.9	7.9	8.2	8.2	8.2	21.3	21.3	21.3	39.9	39.9	39.9	22.8	22.8	22.8	77.2	77.2	77.2
4	Region 26	13.9	11.4	16.9	10.3	9.8	10.9	23.5	22.0	24.6	30.9	26.5	35.2	21.3	19.5	23.7	78.7	76.3	80.5
3	Region 27	12.5	11.7	13.4	9.5	9.0	9.9	21.8	21.6	22.2	31.7	29.8	34.0	24.5	23.7	25.3	75.5	74.7	76.3
10	Region 28	13.0	10.8	14.9	9.9	9.2	10.7	23.4	21.9	25.1	31.5	29.3	34.9	22.2	20.8	24.1	77.8	75.9	79.2
3	Region 29	14.1	12.7	14.9	10.8	10.1	11.7	23.9	22.7	25.8	31.2	29.6	32.6	20.0	18.9	22.2	80.0	77.8	81.1
9	Region 30	13.9	11.4	15.5	9.7	9.1	10.0	22.8	21.6	24.0	30.9	27.0	33.9	22.7	21.0	25.4	77.3	74.6	79.0
7	Region 31	13.0	11.5	15.9	9.6	9.1	10.6	22.3	20.2	24.1	32.8	29.3	36.0	22.4	18.5	24.1	77.6	75.9	81.5
1	Region 32	12.3	12.3	12.3	9.5	9.5	9.5	20.6	20.6	20.6	33.2	33.2	33.2	24.3	24.3	24.3	75.7	75.7	75.7
3	Region 34	12.5	11.3	14.5	9.9	9.6	10.4	22.5	21.0	23.5	32.2	29.2	34.5	22.8	21.3	25.7	77.2	74.3	78.7
3	Region 36	13.3	13.1	13.7	9.7	9.6	9.8	21.4	20.1	23.2	33.2	32.9	33.6	22.4	21.2	23.1	77.6	76.9	78.8
86	**Ave WM 2**	**12.5**			**9.7**			**22.9**			**32.7**			**22.2**			**77.8**		
	Min WM 2		**7.9**			**8.2**			**20.0**			**26.5**			**18.5**			**74.3**	
	Max WM 2			**16.9**			**11.7**			**26.1**			**39.9**			**25.7**			**81.5**

TABLE 23: ROFF MILLING OF WHITE MAIZE ACCORDING TO GRADE (2004/2005)
(continue)

Number of samples	Region	Roff Milling																	
		Break 1, %			Break 2, %			Break 3, %			Grits, %			Bran/Germ, %			Extraction, % (Total meal)		
		ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.	ave.	min.	max.
GRADE: WM 3																			
2	Region 12	11.4	10.8	12.0	9.9	9.1	10.8	25.2	23.2	27.3	33.8	31.9	35.8	19.7	18.1	21.2	80.3	78.8	81.9
2	Region 13	12.2	10.3	14.1	9.6	9.3	9.8	21.3	20.6	22.0	33.9	32.0	35.9	23.0	22.5	23.5	77.0	76.5	77.5
4	Region 14	11.6	11.1	12.3	9.9	8.5	11.7	22.9	22.2	24.0	34.4	31.1	36.4	21.3	19.3	24.3	78.7	75.7	80.7
1	Region 15	11.0	11.0	11.0	8.8	8.8	8.8	21.3	21.3	21.3	33.2	33.2	33.2	25.6	25.6	25.6	74.4	74.4	74.4
1	Region 17	13.2	13.2	13.2	9.6	9.6	9.6	22.6	22.6	22.6	33.1	33.1	33.1	21.5	21.5	21.5	78.5	78.5	78.5
1	Region 22	14.3	14.3	14.3	9.8	9.8	9.8	23.0	23.0	23.0	31.2	31.2	31.2	21.7	21.7	21.7	78.3	78.3	78.3
5	Region 23	11.1	10.1	12.5	9.2	8.7	9.5	23.7	22.6	25.1	33.8	32.5	34.9	22.2	20.3	24.1	77.8	75.9	79.7
1	Region 28	13.5	13.5	13.5	10.9	10.9	10.9	23.5	23.5	23.5	29.0	29.0	29.0	23.1	23.1	23.1	76.9	76.9	76.9
1	Region 29	15.3	15.3	15.3	10.2	10.2	10.2	22.4	22.4	22.4	28.4	28.4	28.4	23.7	23.7	23.7	76.3	76.3	76.3
1	Region 30	13.8	13.8	13.8	9.5	9.5	9.5	18.9	18.9	18.9	30.6	30.6	30.6	27.2	27.2	27.2	72.8	72.8	72.8
1	Region 33	12.6	12.6	12.6	9.3	9.3	9.3	23.0	23.0	23.0	34.0	34.0	34.0	21.1	21.1	21.1	78.9	78.9	78.9
20	**Ave WM 3**	**12.1**			**9.6**			**22.9**			**33.1**			**22.3**			**77.7**		
	Min WM 3		**10.1**			**8.5**			**18.9**			**28.4**			**18.1**			**72.8**	
	Max WM 3			**15.3**			**11.7**			**27.3**			**36.4**			**27.2**			**81.9**
GRADE: COM																			
1	Region 14	14.5	14.5	14.5	10.1	10.1	10.1	20.4	20.4	20.4	29.9	29.9	29.9	25.0	25.0	25.0	75.0	75.0	75.0
1	Region 29	11.2	11.2	11.2	9.1	9.1	9.1	19.2	19.2	19.2	33.6	33.6	33.6	26.9	26.9	26.9	73.1	73.1	73.1
2	**Ave COM**	**12.9**			**9.6**			**19.8**			**31.8**			**26.0**			**74.0**		
	Min COM		**11.2**			**9.1**			**19.2**			**29.9**			**25.0**			**73.1**	
	Max COM			**14.5**			**10.1**			**20.4**			**33.6**			**26.9**			**75.0**
601	**Ave white maize**	**12.2**			**9.6**			**23.1**			**33.4**			**21.7**			**78.3**		
	Min white maize		**7.9**			**5.9**			**18.5**			**26.0**			**16.8**			**72.8**	
	Max white maize			**17.5**			**11.7**			**28.5**			**41.1**			**27.2**			**83.2**

Genetic modification

Ten percent of this crop samples (100 samples) were selected randomly and tested for the presence of MON 810 (Bt maize event) and NK 603 (RUR). The MON 810 limit of detection for the methodology used is 0,15 %. The highest reference standard was 2,0 % and the accuracy of results can only be guaranteed up to 2,0 %. Seventy-seven percent of the samples tested positive with values between 0,15 to 2,0 %.

The NK 603 limit of detection for the methodology used is 0,25 %. The highest reference standard was 1,8 % and the accuracy of the results can only be guaranteed up to 1,8 %. Thirty-one percent of the samples tested positive with values between 0,25 to 1,8 %.

TABLE 24: PRESENCE OF GENETICALLY MODIFIED MAIZE

Region	Grade	% MON810	% RUR	Region	Grade	% MON810	% RUR
10	**YM1**	>2	0.9	24	**WM1**	>2	0.3
10	**WM1**	0.5	< LOD	24	**YM1**	>2	< LOD
11	**YM1**	>2	>1.8	25	**YM1**	>2	< LOD
11	**YM1**	< LOD	< LOD	25	**WM1**	>2	< LOD
12	**WM1**	0.2	< LOD	25	**YM1**	>2	< LOD
12	**YM1**	< LOD	< LOD	25	**WM1**	>2	< LOD
13	**YM1**	0.4	< LOD	26	**WM1**	>2	< LOD
13	**WM1**	>2	< LOD	26	**YM2**	>2	0.3
14	**WM1**	2.0	< LOD	27	**WM1**	0.9	< LOD
14	**YM1**	>2	< LOD	27	**YM1**	>2	< LOD
14	**WM1**	0.2	< LOD	27	**YM1**	>2	< LOD
15	**WM1**	0.7	< LOD	27	**WM1**	1.1	< LOD
15	**YM1**	< LOD	< LOD	28	**YM2**	>2	0.3
15	**YM1**	>2	< LOD	28	**YM1**	>2	0.4
15	**WM1**	0.3	< LOD	28	**YM1**	>2	< LOD
16	**YM2**	>2	>1.8	28	**WM2**	< LOD	< LOD
16	**WM1**	< LOD	< LOD	29	**WM1**	< LOD	0.5
16	**YM1**	< LOD	< LOD	29	**YM2**	0.5	< LOD
16	**WM1**	>2	1.0	29	**YM1**	< LOD	0.9
17	**WM1**	>2	< LOD	29	**YM1**	0.2	0.6
17	**YM1**	>2	0.3	29	**WM1**	>2	>1.8
17	**WM1**	>2	< LOD	30	**YM1**	>2	< LOD
17	**YM1**	< LOD	< LOD	30	**WM1**	< LOD	< LOD
18	**YM1**	>2	< LOD	30	**WM2**	< LOD	< LOD
18	**WM1**	< LOD	>1.8	30	**YM2**	>2	< LOD
18	**WM1**	>2	>1.8	30	**YM2**	1.1	< LOD
18	**WM1**	< LOD	>1.8	30	**WM1**	>2	< LOD
19	**WM1**	< LOD	< LOD	31	**WM2**	< LOD	0.7
19	**YM1**	>2	>1.8	31	**YM1**	>2	< LOD
20	**WM1**	>2	>1.8	31	**YM1**	< LOD	< LOD
20	**YM1**	>2	< LOD	31	**WM1**	>2	0.3
21	**WM1**	0.6	< LOD	32	**YM1**	>2	0.7
21	**YM1**	>2	>1.8	32	**WM1**	0.2	1.7
21	**WM1**	>2	< LOD	32	**WM1**	1.2	< LOD
21	**YM1**	>2	< LOD	32	**YM1**	< LOD	< LOD
21	**WM1**	>2	< LOD	32	**WM1**	>2	< LOD
22	**YM1**	1.8	< LOD	33	**YM1**	0.3	< LOD
22	**WM1**	>2	< LOD	33	**WM1**	>2	0.3
22	**WM1**	>2	< LOD	33	**WM1**	< LOD	< LOD
22	**WM1**	>2	< LOD	33	**YM1**	0.8	>1.8
22	**WM1**	>2	< LOD	34	**WM1**	< LOD	< LOD
23	**WM1**	>2	< LOD	34	**YM1**	< LOD	< LOD
23	**YM1**	>2	< LOD	34	**WM1**	>2	< LOD
23	**YM1**	>2	< LOD	34	**YM1**	< LOD	>1.8
23	**WM1**	>2	< LOD	35	**YM1**	0.6	< LOD
23	**WM2**	1.5	< LOD	35	**YM1**	< LOD	< LOD
23	**WM1**	>2	0.6	36	**WM1**	1.5	< LOD
24	**YM1**	< LOD	< LOD	36	**YM2**	>2	>1.8
24	**WM1**	>2	1.4	36	**WM2**	0.6	1.6
24	**WM1**	>2	< LOD	36	**YM1**	>2	>1.8

% Samples positive with MON 810		% Samples positive with NK 603	
2003/2004	71,1 %	2003/2004	1,1 %
2004/2005	78,0 %	2004/2005	31,0 %

TABLE 25: MYCOTOXIN RESULTS 2004/2005

Region	Grade	Aflatoxin ppb	Fumonisin ppm	Deoxynivalenol ppm	Zearalenone ppm	Ochratoxin ppb
10	**YM1**	0	1.1	0.00	<0.1	0
10	**WM1**	0	0	0.96	<0.1	0
11	**YM1**	0	1.6	0.00	<0.1	0
11	**YM1**	0	1.3	<0.5	<0.1	<2.0
12	**WM1**	0	0.99	0.00	<0.1	0
12	**YM1**	0	0.56	<0.5	<0.1	0
13	**YM1**	0	0.33	<0.5	<0.1	0
13	**WM1**	0	<0.25	2.36	<0.1	0
14	**WM1**	0	0.70	0.00	0	0
14	**YM1**	0	3.5	<0.5	<0.1	0
14	**WM1**	0	<0.25	0.00	<0.1	0
15	**WM1**	0	1.1	0.66	<0.1	0
15	**YM1**	0	1.3	<0.5	0	<2.0
15	**YM1**	0	0.93	0.00	<0.1	<2.0
15	**WM1**	0	3.0	0.00	<0.1	0
16	**YM2**	0	0.55	0.00	<0.1	0
16	**WM1**	0	0.28	0.00	<0.1	0
16	**YM1**	0	2.7	<0.5	<0.1	0
16	**WM1**	0	3.3	<0.5	<0.1	<2.0
17	**WM1**	0	0.44	<0.5	<0.1	<2.0
17	**YM1**	0	1.2	<0.5	<0.1	0
17	**WM1**	0	1.3	0.66	<0.1	0
17	**YM1**	0	0.75	1.86	0.15	0
18	**YM1**	0	1.2	<0.5	<0.1	0
18	**WM1**	0	0.53	0.66	0.12	0
18	**WM1**	0	<0.25	0.00	0.33	0
18	**WM1**	0	1.7	<0.5	<0.1	<2.0
19	**WM1**	0	<0.25	1.26	<0.1	0
19	**YM1**	0	0.54	0.00	<0.1	0
20	**WM1**	0	<0.25	0.56	<0.1	0
20	**YM1**	0	0	<0.5	<0.1	0
21	**WM1**	0	1.6	1.16	<0.1	<2.0
21	**YM1**	0	<0.25	<0.5	<0.1	0
21	**WM1**	0	2.9	1.06	0.18	0
21	**YM1**	0	4.5	0.66	0.23	<2.0
21	**WM1**	0	1.0	2.16	<0.1	0
22	**YM1**	0	3.3	0.00	<0.1	0
22	**WM1**	0	6.6	<0.5	<0.1	0
22	**WM1**	0	0.36	<0.5	<0.1	0
22	**WM1**	0	0.63	<0.5	<0.1	0
22	**WM1**	0	2.6	<0.5	<0.1	0
23	**WM1**	0	0.51	<0.5	<0.1	<2.0
23	**YM1**	0	<0.25	0.00	<0.1	0
23	**YM1**	0	1.8	<0.5	<0.1	0
23	**WM1**	0	1.3	<0.5	<0.1	<2.0
23	**WM2**	0	0.80	0.86	<0.1	0
23	**WM1**	0	1.4	<0.5	<0.1	<2.0
24	**YM1**	0	2.1	<0.5	<0.1	<2.0
24	**WM1**	0	0.33	<0.5	<0.1	0
24	**WM1**	0	0.92	0.00	<0.1	<2.0
24	**WM1**	0	1.1	0.00	<0.1	0
24	**YM1**	0	0.96	<0.5	<0.1	0
25	**YM1**	0	0	1.46	<0.1	0

TABLE 25: MYCOTOXIN RESULTS 2004/2005 (continue)

Region	Grade	Aflatoxin ppb	Fumonisin ppm	Deoxynivalenol ppm	Zearalenone ppm	Ochratoxin ppb
25	**WM1**	0	0.31	<0.5	<0.1	0
25	**YM1**	0	0.59	0.56	<0.1	2.4
25	**WM1**	0	1.4	0.00	<0.1	0
26	**WM1**	0	0.29	0.86	<0.1	0
26	**YM2**	0	0.63	<0.5	<0.1	0
27	**WM1**	0	0.72	2.76	<0.1	0
27	**YM1**	0	<0.25	0.56	<0.1	<2.0
27	**YM1**	0	0.68	<0.5	<0.1	<2.0
27	**WM1**	0	1.0	0.86	<0.1	<2.0
28	**YM2**	0	3.5	3.26	0.13	<2.0
28	**YM1**	0	0.31	1.36	<0.1	0
28	**YM1**	0	0	<0.5	<0.1	<2.0
28	**WM2**	0	1.9	3.86	<0.1	0
29	**WM1**	0	0.63	1.86	0.16	0
29	**YM2**	0	<0.25	0.96	0.31	0
29	**YM1**	0	<0.25	0.00	<0.1	0
29	**YM1**	0	1.1	<0.5	<0.1	0
29	**WM1**	0	1.4	0.66	0.10	0
30	**YM1**	0	1.7	0.00	<0.1	0
30	**WM1**	0	0	0.00	<0.1	0
30	**WM2**	0	2.3	2.56	0.24	0
30	**YM2**	0	0	1.26	<0.1	0
30	**YM2**	0	3.1	0.76	<0.1	0
30	**WM1**	0	0.52	<0.5	<0.1	0
31	**WM2**	0	0.94	2.56	<0.1	0
31	**YM1**	0	0.27	0.66	<0.1	0
31	**YM1**	0	0.60	<0.5	<0.1	0
31	**WM1**	0	<0.25	0.96	<0.1	0
32	**YM1**	0	0.63	<0.5	0.12	0
32	**WM1**	0	1.0	<0.5	<0.1	0
32	**WM1**	0	1.8	<0.5	<0.1	0
32	**YM1**	0	0.33	<0.5	<0.1	0
32	**WM1**	0	1.7	1.56	0.40	<2.0
33	**YM1**	0	0.48	<0.5	0.12	<2.0
33	**WM1**	0	<0.25	<0.5	0.10	0
33	**WM1**	0	1.8	<0.5	<0.1	0
33	**YM1**	0	0.41	1.06	0.44	<2.0
34	**WM1**	0	5.3	0.76	<0.1	0
34	**YM1**	0	0.34	0.56	0	0
34	**WM1**	0	<0.25	<0.5	<0.1	<2.0
34	**YM1**	0	<0.25	<0.5	<0.1	0
35	**YM1**	0	0.35	1.56	0.14	0
35	**YM1**	0	<0.25	0.76	<0.1	0
36	**WM1**	0	0.46	2.16	0.13	0
36	**YM2**	0	1.1	0.76	<0.1	<2.0
36	**WM2**	0	0.86	1.36	0.17	<2.0
36	**YM1**	0	<0.25	<0.5	<0.1	<2.0
N=100 Average2004/2005		**0**	**1.08**	**0.60**	**<0.1**	**<2.0**
Average 2003/2004		**0**	**1.14**	**<0.5**	**0**	**0.6**
Average 2002/2003		**0**	**0.73**	**<0.5**	**<0.1**	**<2.0**
Average 2001/2002		**0**	**0.76**	**0.6**	**<0.1**	**<2.0**
Average 2000/2001		**0**	**1.67**	**0.7**	**<0.1**	**<2.0**
Average 1999/2000		**0**	**0.64**	**-**	**-**	**-**

Methods

1.Grading

1.1 RSA grading

RSA grading was done in accordance with the Grading Regulations for maize, as published in the Government Gazette No. 19131 of 14 August 1998, regulation No. R.905.

Description of deviations relating to RSA grading

a. Defective maize kernels
The term "defective kernels" means all maize kernels and pieces of maize kernels which are shrivelled, obviously immature, frost-damaged, heat-damaged, mouldy or discoloured, have sprouted (including kernels whose growing point in the germ is visibly discoloured), have cavities in the germ or endosperm caused by insects or rodents, are visibly contaminated by smut, soil, smoke or coal-dust, can pass through the 6.35 mm round-hole sieve, are clearly of inferior quality and of subspecies other than ***Zea mays indentata*** or ***Zea Mays indurata***.

b. Foreign matter
The term "foreign matter" means all matter other than maize, glass, stone, coal, dung or metal.

c. Other colour
The term "other colour" means maize kernels of a colour other than white or yellow but excludes pinked maize kernels.

d. Total deviation
The term "total deviation" means the total defective kernels plus foreign matter plus other colour kernels.

e. Pinked kernels
The term "pinked kernels" means maize kernels whose endosperm is white or yellow and whose pericarp or part thereof is red or pink in colour.

The specification, according to the Grading Regulations for classes 1 to 3 of white and yellow maize is a maximum of 12 %.

Fungal infection

All samples were inspected for the visual symptoms of *Diplodia* and F*usarium cobrot*. There are four fungi which cause cobrot in South Africa namely *Stenocarpella maydis (Diplodia maydis)*, *Fusarium moniliforme, Fusarium graminearum* and *Stenocarpella macrospora(Diplodia Macrospora) Fusarium* spp infections are localized on the cob and discoloured maize kernels, which become reddish (light pink to lilac). *Diplodia maydis* normally rots the entire maize cob and infected maize kernels are recognized by a light ash colour to black colour that appears at the germ and can infest the whole kernel.

1.2 USA grading

USA grading was determined in accordance with the method of the American Grading Regulations (United States Department of Agriculture).
There are seven grades or standards in US grading, Grades nos. 1 to 5, sample grade and mixed grade. No.1 is the most desirable followed by no. 2 down to sample grade and mixed grade.

Description of deviations relating to USA grading

a. Damaged kernels
Kernels and pieces of corn kernels that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat-damaged, insect-bored, mould-damaged, sprout-damaged, or otherwise materially damaged.

b. Heat-damaged kernels
Kernels and pieces of kernels which are materially discoloured by excessive respiration, with the dark discoloration extending out of the germ through the sides and into the back of the kernel as well as

kernels and pieces of kernels which are puffed or swollen and materially discoloured by external heat caused by artificial drying methods.

b. Broken corn and foreign material
Broken corn is all matter that passes readily through a 12/64-inch (4.76 mm) round-hole sieve and over a 6/64-inch (2.38 mm) round-hole sieve.
Foreign material is all matter that passes readily through a 2.38 mm round-hole sieve and all matter other than corn that remains on top of the 4.76 mm round-hole sieve after sieving.
Broken corn and foreign material is all matter that passes readily through a 4.76 mm round-hole sieve and all matter other than corn that remains in the sieved sample.

c. Bushel weight
Test weight per bushel is the weight of grain required to fill a level Winchester bushel. Bushel weight is multiplied by the factor 1.2872 to get the hectolitre mass.
Bushel weight is done according to the Federal Grain Inspection Services' (FGIS) Grain Inspection Handbook II, Chapter 1, Section 1.11.

d. Other colour
Maize samples are deemed to be mixed grade when maize kernels of another colour for white maize exceeds 2 % and for yellow maize exceeds 5 %.

2. Nutritional value

The Infratec 1241 Grain Analyzer (Near Infrared) (NIT) was calibrated against the different international chemical methods for determining nutritional values.

The chemical methods used to establish a set of calibration samples were:
a) for fat, the petroleum ether extraction (Soxhlet) method (AACC 30-25, 1999),
b) for protein, the Dumas (Leco) method (AACC 46-30,1999), and
c) for starch, the Hydrochloric Acid dissolution method (Polarimeter) (ICC standard no. 123, 1976 - Revised 1994).

These sets of calibration samples were used to calibrate the Infratec 1241 Grain Analyzer (NIT).

3. Physical characteristics

Hectolitre mass
Hectolitre mass (grain density or bushel weight) means the mass in kilogram per hectolitre.

100 kernel mass - Industry accepted method 001

100 kernel mass is the weight in grams of one hundred whole maize kernels and provides a measure of grain size and density.

Kernel size - Industry accepted method 017

Kernel size is important to the sophisticated starch manufacturing industry as well as to the dry milling industry. Kernels that are too small hamper the separation of kernel fractions in the wet milling process. The result is a lower starch yield. A mixture of small and large kernels causes additional problems, as homogeneous steeping cannot be achieved. On the other hand, very large kernels can also cause problems since the ratio between volume and mass is unfavourable to proper steeping.

The dry milling industry also prefers fairly larger maize kernels. However, a uniform kernel size is of particular importance to this industry, as kernels that are too large create problems especially when mixed with smaller kernels.

Kernel size is less important to the animal feed manufacturing industry. Larger kernels are nevertheless preferred, as small kernels are easily lost during the screening stage of processing.
The determination of kernel size comprises

the sieving of a 100 g representative whole maize kernels for each sample through both 8 mm and 10 mm round-hole grading sieves, normally used in the seed industry.

Breakability - Industry accepted method 007

Maize is normally cleaned before processing. In the cleaning process, broken kernels are removed with other impurities, causing losses. Broken kernels are further broken during handling, resulting in much grain dust being generated. This creates the potential for dust explosions, health hazards, hygiene problems and so forth. Maize containing a high percentage of broken kernels tends to become insect infected more easily and is subject to general deterioration.

In the modern dry milling industry, maize is first cleaned and then conditioned by dampening before the germ is removed. Broken kernels cause many problems during these stages of processing. Broken kernels can also lead to a lower extraction of the so-called high-quality products, like samp and maize grits. The presence of many broken kernels cause problems with the fibre and fat content of other maize products, like the various grades of maize meal, because the quantity of germ required to be returned to the milled endosperm cannot be accurately determined.

In the wet milling process broken kernels steep more rapidly than whole kernels and by the time the whole kernels have been sufficiently steeped, the broken kernels have been over-steeped, causing an ineffective separation of protein and starch.

In the livestock feed industry breakability is not an important quality characteristic, except for dust and hygiene problems.

Every sample was subjected to a breakage susceptibility test. After the sample of whole maize kernels was propelled in a Stein Breakage tester for 4 minutes, the fraction below the 6.3 mm and 4.75 mm sieve was collected and the percentage broken kernels < 6.35 mm and < 4.75 mm was determined.

Stress cracks - Industry accepted method 006

Stress cracks are determined by visual inspection of a certain amount of whole maize kernels examined on top of a light box for small internal cracks in the endosperm. Some kernels may even have two or more internal cracks. Any form of stress may cause internal cracks, for example rapid moisture loss on the land, during harvest or during drying. Stress cracks are genetic and different cultivars will differ.

Milling index - Industry accepted method 015

Milling index is an indication of the milling abilities and milling quality of maize kernels where a higher milling index means a higher extraction of the high-grade and most profitable products like samp, maize rice and maize grits (degermed products) that are manufactured from the corneous part of the endosperm . The milling index is an indication of the relative differences between samples tested. The milling index is measured with the Infratec 1241 Grain Analyzer. The SAGL uses a calibration developed by the Grain Crops Institute of the ARC and updated by the agents of the apparatus in Sweden.

Whiteness index - Industry accepted method 004

Whiteness index of white maize meal was determined with the Hunterlab colorflex 45°/0°. Whiteness is associated with a region or volume in colour space in which objects are recognized as white. The degree of whiteness is measured by the degree of departure of the object from a perfect white. The higher the whiteness index value the whiter the sample.

Milling of maize on Roff maize mill - Industry accepted method 013

The Roff 150 Series maize mill is used to mill representative samples of 500 g. The mill should be pre-set to the following specifications: Break 1 roll nip - 0.3 mm, Break 2 roll nip - 0.18 mm and Break 3 roll nip - 0.08 mm. These settings are according to the specifications in the method developed by the ARC Grain Crops Institute (GCI). Every mill has three separations, namely germ, grits and maize meal. The grits from Break 1 are transferred to the Break 2 rolls and the grits from Break 2 are transferred to Break 3 rolls.
The following fractions are weighed and determined as percentage:
Break 1 meal
Break 2 meal
Break 3 meal
Break 3 grits
Break 1, 2 and 3 germ and bran are combined and then weighed for determination of Bran/Germ %.
Break 3 grits is weighed for determination of % Grits.
Break 1, 2 and 3 meal are combined and weighed for determination of % extraction total meal.

4. Mycotoxin analyses

The pathogenic nature of certain species of fungi to plants has been observed virtually since the beginning of agriculture. These plant pathogens can produce metabolites (mycotoxins) that show toxic effects when they are ingested.
The mycotoxin analyses were carried out in accordance with the Vicam immunoaffinity column technique using the different Vicam Instruction Manuals for the different mycotoxins. Detection of the toxins was done on a Fluorometer. 100 samples of the 1000 maize crop samples were tested for Aflatoxin, Fumonisin, Deoxynivalenol, Zearalenone and Ochratoxin.

Fungi	Toxin	Method reference	Detection limits
Aspergillus flavus	Aflatoxin	Vicam Aflatest Instruction Manual May 5, 1999	1,0 ppb
Aspergillus ochraceus and several species of *Penicillium sp*.	Ochratoxin	Vicam Ochratest Instruction Manual May 4, 1999	2,0 ppb
Fusarium moniliforme	Fumonisin	Vicam Fumonitest Instruction Manual Nov 15, 2002	0,25 ppm
Fusarium graminearum	Zearalenone	Vicam Zearalatest Instruction Manual Nov 19, 1998	0,1 ppm
Fusarium graminearum	Deoxynivalenol (DON)	Vicam DONFQ Instruction Manual Nov 1, 2004	0,5 ppm

5. GMO (Genetically Modified Organisms)

100 samples of the 1000 maize crop samples were tested for Bt (MON 810) and RUR Modified maize. Quantitative analyses for MON 810 maize were done using the procedure supplied with the Strategic Diagnostics Incorporated GMO Bt maize test kit. Cry 1 Ab protein in corn is produced from a gene derived from *Bacillus thuringiensis (Bt)*. This method is a quantitative enzyme-linked immunosorbent assay (ELISA) test for the determination of *Bt* modified corn in corn flour. Proprietary antibodies specific for Cry 1 Ab protein are used.

The GMO Soya test kit from Strategic Diagnostics Incorporated (SDI) were used to quantitatively determine Roundup Ready (RUR). The procedure was adapted by SDI for maize.

IMPORTED MAIZE QUALITY

Imported maize quality versus RSA crop quality

2003/2004

Country of origin	Argentina	RSA Crop Average
Class and grade yellow maize	**YM2**	**YM2**
RSA Grading		
Defective kernels above 6.35 mm sieve, %	2.3	7.1
Defective kernels below 6.35 mm sieve, %	6.0	3.0
Total defective kernels, %	8.3	10.1
Other colour maize kernels, %	0.0	0.4
Foreign matter, %	0.2	0.3
Combined deviation, %	8.6	10.9
Pinked maize kernels, %	6.9	0.3
Live insects	0	0
Noxious seeds	0	0
Undesirable odour	No	No
Physical Factors		
Hectolitre mass, kg/hl	75.8	76.3
100 Kernel mass, g	29.8	33.5
Stress cracks, %	11	8
Milling Index	96.9	101.5
Kernel Size		
% on top 10 mm	4.0	20.4
% on top 8 mm	61.5	65.8
% through 8 mm	34.5	13.8
Breakage susceptibility, g		
Below 6.35 mm sieve	1.2	2.0
Below 4.8 mm sieve	0.8	1.3
Nutritional Factors		
Protein, %	8.6	9.0
Fat, % (db)	4.9	4.0
Starch, % (db)	74.2	74.9
Number of samples	***21***	***68***
Mycotoxins		
Total Aflatoxin, ppb (ug/kg)	0	0
Fumonisin, ppm (mg/kg)	1.9	2.1
Deoxynivalenol, ppm (mg/kg)	0	0
Ochratoxin, ppb (ug/kg)	0	0
Zearalenone, ppm (mg/kg)	0	0
GMO		
MON810, %	>2	>2
NK603 (Roundup Ready), %	1.0	1.6
Number of samples	***7***	***7***

IMPORTED MAIZE QUALITY

Imported maize quality versus RSA crop quality

2004/2005

Country of origin	Argentina		RSA Crop Average	
Class and grade yellow maize	**YM2**	**COM**	**YM2**	**COM**
RSA Grading				
Defective kernels above 6.35 mm sieve, %	3.2	1.7	6.8	27.2
Defective kernels below 6.35 mm sieve, %	7.6	12.0	3.6	2.9
Total defective kernels, %	10.8	13.7	10.4	30.1
Other colour maize kernels, %	0.0	0.0	0.4	1.0
Foreign matter, %	0.1	0.0	0.2	0.4
Combined deviation, %	10.9	13.7	11.0	31.5
Pinked maize kernels, %	11.3	13.2	0.2	0.0
Live insects	0	0	0	0
Noxious seeds	0	0	0	0
Undesirable odour	No	No	No	No
Physical Factors				
Hectolitre mass, kg/hl	66.6	58.9	75.7	75.9
100 Kernel mass, g	30.7	31.0	31.7	33.4
Stress cracks, %	11	11	6	2
Milling Index	89.7	93.2	93.3	96.6
Kernel Size				
% on top 10 mm	3.7	3.6	17.1	16.6
% on top 8 mm	60.6	60.9	62.6	70.6
% through 8 mm	35.8	35.5	20.3	12.8
Breakage susceptibility, g				
Below 6.35 mm sieve	0.7	1.0	2.0	1.2
Below 4.8 mm sieve	0.8	0.8	1.4	1.0
Nutritional Factors				
Protein, %	8.0	7.9	8.7	9.0
Fat, %(db)	4.8	4.8	3.8	4.1
Starch, %(db)	75.1	74.5	75.7	74.8
Number of samples	***2***	***1***	***70***	***1***
Mycotoxins				
Total Aflatoxin, ppb(ug/kg)	0		0	-
Fumonisin, ppm (mg/kg)	1.1		1.3	-
Deoxynivalenol, ppm (mg/kg)	0		1.0	-
Ochratoxin, ppb (ug/kg)	0		0	-
Zearalenone, ppm (mg/kg)	0		0	-
GMO				
MON810, %	>2		>2	-
NK603 (Roundup Ready), %	1.3		0.6	-
Number of samples	***2***		***7***	***-***