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BELANGRIK

Resultate van 'n kultivarproef by 'n enkele lokaliteit in enige jaar, of selfs 'n beperkte aantal lokaliteite in 'n enkele jaar, kan as gevolg van die kenmerkende seisoenale variasie in die Republic of South Africa (RSA) hoogs misleidend wees en kan sodoende onregverdiglik teen die beste genotypes vir daardie omgewing diskrimineer. **'N ERNSTIGE BEROEP WORD OP ALLE BETROKKENES GEDOEN OM NIE HUL GENOTIPEADVIES OP SO 'N HOOGS ONBETROUBARE METODE TE BASEER NIE.** Produsente word veral versoek om nougeset daarteen te waak dat hulle nie ook foutiewe genotipe uitsprake op dieselfde wyse doen nie, of op hierdie wyse mislei word nie.

Resultate van hierdie nasionale kultivarproewe, wat deur die LNR- Instituut vir Graangewasse uitgevoer is en gepubliseer word, geskied in belang van produsente, adviesdienste en die teeltbedryf. Die resultate mag derhalwe vryelik gebruik word, mits dit wetenskaplik korrek gedoen word deur die totale spektrum van lokaliteite en waarnemings in berekening te bring. Vrye gebruik van die resultate word ook met 'n verdere voorwaarde toegelaat, naamlik dat die nodige erkenning aan die bron van die inligting verleen word.

LNR-Instituut vir Graangewasse

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POTCHEFSTROOM

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DANKBETUIGINGS

Die sukses van hierdie navorsingsprojek is toe te skryf aan die goeie samewerking en medewerking tussen die private en openbare sektore asook boere by wie genotipeproewe geplant is. Die verantwoordelike navorsers betuig hiermee hul grootste waardering vir die besondere samewerking en ondersteuning wat hulle van al die betrokkenes ontvang het.

Medewerkende Instansies

Medewerkers vir die 2015/2016 proefreeks word onder aangedui. **Hul getroue ondersteuning en uitstekende samewerking verdien vermelding en word erken.**

Agricol Saad (Edms) Bpk

Departement Landbou

Link Saad (Edms) Bpk

Klein Karoo

Monsanto SA (Edms) Bpk

Pannar Saad (Edms) Bpk

DuPont Pioneer RSA (Edms) Bpk

Seed-Co

LNR - Navorsingsinstituut vir Graangewasse

Hierdie verslag se samestelling, voorbereiding en vermeerdering het bydraes deur verskeie kollegas en beamptes geverg. Spesiale vermelding moet egter gemaak word aan Mnr. D De V Bruwer vir sy beplanning en bestuur van die proewe. Me T. Mathobisa-Manyokole vir data voorbereiding.

Die LNR-IGG wil hiermee ook sy dank uitspreek teenoor die Mielietrust vir hul finansiële ondersteuning wat die uitvoering van die proewe moontlik gemaak het.

IMPORTANT

Due to typical seasonal variations in the Republic of South Africa (RSA), results of a Cultivar trial at a single locality in any year, or even at a limited amount of localities in a single year can be highly misleading and can discriminate unfairly against genotypes which may in reality be the best for certain areas. **ALL THOSE INVOLVED, ARE STRONGLY URGED NOT TO BASE THEIR GENOTYPE RECOMMENDATIONS ON A HIGHLY UNRELIABLE METHOD SUCH AS THIS.** Producers, especially, are requested to avoid being misled in this way and against making incorrect genotype judgements.

The Agricultural Research Council (ARC) - Grain Crops Institute (GCI) in the interest of producers, advisory services and the breeding industry publishes results of these national Cultivar trials. These results may thus be freely used, as long as they are used in a scientifically correct manner, incorporating the whole spectrum of localities and observations. The source of the information should also be awarded the necessary recognition when using these results.

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POTCHEFSTROOM

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ACKNOWLEDGEMENTS

The success of this research project is a result of the good co-operation between the private, co-operative, and public sectors as well as farmers on whose farms cultivar trials were planted. The researchers wish to express their utmost appreciation for the exceptional co-operation and support received from all those involved.

Co-workers

The 2015/2016 trial series co-workers are listed below. **Their loyal support and excellent co-operation deserves mentioning and is acknowledged.**

Agricol Seed (Pty) Ltd

Department of Agriculture (DoA)

Link Seed (Pty) Ltd

Klein Karoo

Monsanto SA (Pty) Ltd

Pannar Seed (Pty) Ltd

DuPont Pioneer RSA (Pty) Ltd

Seed-Co

ARC - Grain Crops Institute

The compilation of this report was made possible by the efforts of many colleagues and officials. A special thanks goes to Mr D De V Bruwer for his planning and management of the trials. Ms. T. Mathobisa-Manyokole for data preparation

The ARC-GCI would like to thank the Maize Trust for their financial support that made these trials possible.

KULTIVAREVALUERING

Inligting rondom kultivars wat deur die produsent aangeplant word, is van kardinale belang. Dit beïnvloed 'n groot deel van die produsent se beplanning vir die seisoen. Betroubare en indien moontlik, onafhanklike inligting rakende kultivars moet aan elke produsent beskikbaar wees. Die LNR - Instituut vir Graangewasse (LNR-IGG), in samewerking met landboubesighede en die saadbedryf, poog om in hierdie belangrike behoefte van die produsent te voldoen. Die onus rus op die produsent om nuwe of onbekende kultivars eers op sy plaas te toets, voordat daar op groot skaal van beproefde kultivars afgesien word.

KULTIVARINLIGTING

Die boer moet aan die einde van elke seisoen 'n baie belangrike besluit neem naamlik: Watter kultivars gaan die volgende jaar geplant word? 'n Korrek beplande kultivarkeuse kan beslis 'n belangrike bydrae lewer om risiko te verminder en moet 'n belangrike onderdeel uitmaak van 'n produsent se produksiebeplanning.

Kultivars verskil van mekaar in een of meer van 'n verskeidenheid eienskappe en elkeen het dus 'n eiesoortige aanpasbaarheid en opbrengspotensiaal. Hierdie kultivar-verskeidenheid stel alternatiewes beskikbaar wat goed benut kan word en die volgende is belangrike riglyne vir kultivarbeplanning wat oorweeg moet word:

- Moet nooit 'n staatmaker-kultivar binne een seisoen met 'n nuwe of onbekende kultivar vervang nie.
- Kultivarverskeidenheid versprei risiko. Plant 'n reeks cultivars wat verskil in groeiseisoenlengte en eienskappe.
- Kultivars moet aanpas by 'n spesifieke opbrengs-potensiaal, maar moet in staat wees om hoër potensiaaltoestande te benut en 'n aanvaarbare opbrengs by laer potensiaaltoestande te lewer. Kultivars met 'n wye aanpassingsvermoë kan hier 'n rol speel.
- Hersien Kultivarkeuse jaarliks.

DIAGNOSTIESE PARAMETERS

KV Die Koëffisient van Variasie verwys na die fout van enkel persele en gee 'n aanduiding van die grootte van die variasie tussen perseelwaardes wat vanaf verskeie bronne afkomstig is. Die KV gee dus 'n aanduiding van die akkuraatheid van die perseelwaardes (grootte van die waarde). Bronne van variasie is byvoorbeeld grondvariasie (vrugbaarheid, diepte, grondvog, kleipersentasie, ongelykheid, ens) enplantvariasie (bevolkingsgrootte, oneweredige groei ens). Stremmingstoestande (vog, temperatuur, siektes, ens) het so dikwels tot gevolg dat normaalweg aanvaarbare grond- en plantvariasie baie sterker in die proefdata tot uiting kan kom en die KV vergroot. 'n Relatief hoë KV, wat aan hand van bekende bronne van variasie verklaar kan word, kan nie as die enigste parameter gebruik word om onbetroubare proefdata te identifiseer nie.

GKV Die Genetiese Koëffisient van Variasie verwys na die verskille in genotype-opbrengs. Die GKV is dus 'n aanduiding van die variasiegrootte wat aan verskille in genetiese samestelling tussen genotypeinskrywings toegeskryf kan word. Hoë waardes kan die gevolg wees van siektevatbaarheid, groot verskille in rypwordingstadium, temperatuurgevoeligheid en soortgelyke afwykings. Dit word ook gebruik om uitskieterproewe te identifiseer.

tn Genotipeherhaalbaarheid verwys na die herhaalbaarheid van genotypeGemiddeldes en kan gedefinieer word as die verwantskap tussen die genotipe variansie en die totale variansie. Hierdie parameter is eintlik van waarde vir proewe waarvan die aantal herhalings nie dieselfde is nie.

t Die Intraklas Korrelasie verwys na die herhaalbaarheid van perseelwaardes oor herhalings. Hoe groter die ooreenstemming tussen perseelwaardes oor herhalings vir elke genotipeinskrywing is, hoe nader sal "t" na 1.0 neig.

SF(t) Die Standaard Fout van die Intraklas Korrelasie (t) gee 'n aanduiding van hoe akkuraat die skatting van "t" is.

t/SF(t) Hierdie verhouding word as 'n belangrike parameter beskou daar die Intraklas Korrelasie (t) moet verkieslik minstens drie keer groter as sy foutterm moet wees. 'n Verhouding van kleiner as 3.0 dui aan dat die betrokke stel proefdata as minder betroubaar beskou kan word.

KULTIVARS VOLGENS MIELIE PRODUKSIESTREKE

Vir die doel van hierdie publikasie is die kultivarproewe ingedeel in streke volgens hitte eenhede, reënval en produksie en verder verwerk tot opbrengswaarskynlikheid. Waar voldoende inligting oor 'n betrokke kultivar beskikbaar is, is die inligting van twee en drie seisoene saamgevoeg. Andersins is die inligting van die nuwer kultivars bekom uit die eenjarige en tweejarige data van die onderskeie groter westelike streke. Om voldoende betroubare inligting te verskaf, is van die produksiegebiede saamgevoeg. Proewe wat in die besproeiings- produksiegebied gedoen is, is saamgevoeg as warm en koue streke.

Hierdie inligtingstuk poog nie om die enigste bron van inligting te wees nie. Kultivarinligting is ook by koöperasies en die saadmaatskappye beskikbaar.

VRYWARING

Die opsteller van die dokument en enige ander bron/instansie/persoon verantwoordelik vir enige inligting genoem in hierdie dokument is na die beste wete van die opstellers korrek met druktyd. Die inligting is ontwikkel deur wetenskaplike prosesse en word in goeder trou aangebied. Enige persoon/instansie wat hierdie inligting gebruik doen dit op eie risiko en die opstellers of enige ander party sal onder geen omstandighede verantwoordelik gehou kan word vir enige verliese gelei deur enige persoon/instansie wat die inligting in hierdie dokument gebruik nie.

CULTIVAR EVALUATION

Information on cultivars planted by producers is of utmost importance. It affects seasonal planning by producers to a large extent. Reliable and if possible independent information regarding cultivars should be available to every producer. The ARC- Grain Crops Institute (ARC-GCI) in co-operation with agricultural businesses and the seed industry attempt to satisfy the producers` requirements. The responsibility is with the producer to test new or unknown cultivars first before dispensing with the known cultivars on a large scale.

CULTIVAR INFORMATION

At the end of each season the farmer has to decide which cultivars are to be planted during the following season. A correctly planned cultivar choice can contribute greatly to reduce risk and constitutes an important part of the producer's production planning.

Cultivars differ in one or more of a number of characteristics. Each cultivar has a particular adaptability and yield potential. Variability of cultivars provides alternatives, which can be utilized effectively. The following are important guidelines in cultivar planning which can be considered:

- Never replace a reliable cultivar with a new or unknown cultivar in a single season.

- Cultivar variability divides the risk factor. Use a series of cultivars, which differ in length of growing season and other characteristics.

- Cultivars must be adapted to a specific yield potential but should be able to utilize increased potential conditions and still deliver an acceptable yield at reduced yield potential. Cultivars with a wide adaptability can play a role under these conditions.

- Cultivar choice should be revised annually.

DIAGNOSTIC PARAMETERS

CV- The coefficient of variation - relates to the error of a single plot, and as such relays to the variability as induced by soil variation or plant population i.e. the larger the variation the larger the CV. Stress conditions (moisture, temperature, diseases, etc.) result in acceptable soil variation to be more pronounced in trials and a higher CV is recorded. The CV on its own cannot be used as a parameter to discard trials.

GCV- The genetic coefficient of variation - relates to the yield differential between the highest and lowest entry yield, relative to the trial mean i.e. the greater the difference between the extreme values, the larger the GCV. High values are indicative of disease sensitivity, differences in maturity stage, temperature sensitivity and like problems.

tn - Repeatability of genotype mean yield - relates to the repeatability of entry means, and can be defined as the relationship of genetic variance of observed means. In genotype trials this parameter is useful only when the number of replications between trials varies, otherwise the t-value is sufficient.

t - The repeatability of plot yield or intra class correlation coefficient - relates to the repeatability of plot means over replications, and is interpreted as is the normal correlation coefficient, i.e. the greater the concurrence of plot values per entry over replications the closer “t” will strive towards unity. The standard error calculated for a particular t-value indicates the accuracy of the estimate of "t"

SE (t) - Standard Error of the Intra-class Correlation (t) denotes how accurate the estimation of "t" is.

t/ SE (t) - This relationship is considered an important parameter as the Inter Class Correlation (t) - Should be at least three times greater than its error term. A relationship of less than 3.0 denotes low reliability.

CULTIVAR GROUPING ACCORDING TO MAIZE PRODUCTION REGIONS

For the purpose of this publication the cultivar trials were divided into regions according to heat unit, precipitation and production for which yield reliability values were calculated. Information pertaining to three seasons was combined where sufficient information on a particular cultivar was available. Information on the newer cultivars was obtained from data of the annual and bi-annual reports of the greater eastern and western regions. Data for certain production regions have been combined in order to obtain more reliable information. Trials conducted in the irrigation areas (warm and cold regions) were combined.

Note that this brochure is not the only source of information. Cultivar information is also available at co-operatives and seed companies.

INDEMNITY

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Table 1: Diagnostiese parameters vir die statistiese aanvaarbaarheid van proewe vir betroubare opbrengsanalises, 2015/2016 seisoen

Table 1: Diagnostic parameters for the statistical acceptability of trials for reliable yield analysis for the 2015/2016 season

Omgewing Environment	Diagnostic parameters SF SE	KV(%) CV(%)	GKV GCV	t t	SF(t) SE(t)	tn tn
Bapsfontein [5]	0,61	9,7	18,7	0,79	0,06	0,92
Bethelhem [1]	0,67	11,8	5,1	0,16	0,13	0,36
Potchefstroom[10]	0,72	9,4	.	0	0,11	0
Stilfontein[10]	0,86	15,9	6,2	0,13	0,12	0,31
Hoogekraal[2]	1,47	16,3	12	0,35	0,13	0,62
Hopetown[2]	0,39	5,4	18,6	0,92	0,03	0,97
Jacobsdal[4]	0,68	10,4	15,7	0,7	0,08	0,88
Lukehoff[3]	1,11	12,9	14,6	0,56	0,11	0,79
Orania[3]	1,51	15,9	8,1	0,21	0,13	0,44
Vaalharts[1]	1,11	15,60	8,10	0,21	0,13	0,44

[1] ARC; [2] Pannar; [3] Monsanto; [4] Pioneer; [5] Klein Karoo; [10] Agricol

Table 2: Gemiddelde graanopbrengs (t ha^{-1}) vir kort groeiseisoen mieliegenotipes by verskillende besproeiingsomgewings (warm en koel streke) gedurende die 2015/2016 seisoen

Table 2: Mean yield (t ha^{-1}) for maize genotypes under different irrigated environments (hot and cool regions) during the 2015/2016 season

Omgewing Environment	Genotipes/Genotypes BG 3292	BG 3492B	BG 3592R	BG379 2BR	DKC61 -90	DKC61 -94BR	DKC62-80BRGEN	DKC64 -54BR	DKC64-78BRGEN	DKC65 -52BR
Bapsfontein [5]	13,79	14,01	12,82	13,11	9,49	7,93	7,78	11,93	8,54	7,33
Bethelhem [1]	10,23	10,10	9,68	10,22	9,64	9,42	9,70	12,15	10,37	9,40
Hoogekraal[2]	17,54	18,85	16,26	18,34	14,35	12,58	10,76	18,35	15,69	14,40
Hopetown[2]	13,15	13,60	8,14	14,29	13,60	13,62	14,29	14,04	13,24	13,72
Jacobsdal[4]	13,19	13,00	10,40	12,31	9,48	10,55	8,49	9,87	8,60	7,16
Lukehoff[3]	15,49	16,19	15,23	7,53	15,23	14,65	16,67	15,95	16,00	15,99
Orania[3]	16,70	21,16	18,23	19,52	20,69	16,81	16,55	16,32	18,02	14,38
Potchefstroom[10]	13,64	13,48	13,84	14,58	13,00	13,08	13,19	12,94	12,66	14,01
Stilfontein[10]	11,06	9,62	8,81	8,90	7,88	7,77	9,89	8,70	10,19	6,89
Vaalharts[1]	13,28	13,99	11,91	10,52	11,37	14,96	14,20	10,67	11,27	12,12
Gemiddelde/ Average (t ha^{-1})	13,81	14,40	12,53	12,93	12,47	12,14	12,15	13,09	12,46	11,54

[1] ARC; [2] Pannar; [3] Monsanto; [4] Pioneer; [5] Klein Karoo; [10] Agricol

Tabel 2 Vervolg...
Table 2 Continue...

Omgewing Environment	Genotipes/Genotypes									
	IMP50-10B	IMP50-10BR	IMP50-10R	KKS82 14R	KKS82 16BR	KKS83 26B	LG 3607Y	P1 184BR	P 1517W	P 1745R
Bapsfontein [5]	9,01	8,41	8,55	10,39	9,07	12,94	10,44	10,61	13,37	14,14
Bethelhem [1]	10,94	10,52	9,79	9,25	10,00	8,93	8,05	9,86	11,23	10,20
Hoogekraal[2]	15,48	15,73	10,28	14,70	15,56	11,92	14,05	15,71	18,36	16,17
Hopetown[2]	13,95	12,00	12,83	8,16	5,70	12,23	9,68	11,52	14,75	14,55
Jacobsdal[4]	11,11	10,21	10,35	12,02	12,37	12,73	13,55	10,44	13,88	11,31
Lukehoff[3]	14,88	13,69	15,50	13,95	13,42	12,24	12,34	18,15	14,02	18,45
Orania[3]	14,77	17,64	16,47	14,52	15,72	13,95	8,24	17,56	17,39	17,23
Potchefstroom[10]	13,06	13,75	13,20	13,78	12,12	13,35	12,44	12,29	14,51	13,68
Stilfontein[10]	9,74	8,06	9,79	8,58	10,62	8,56	10,05	11,12	9,73	10,04
Vaalharts[1]	12,43	13,40	12,18	15,29	11,08	11,51	12,14	9,67	10,72	9,93
Gemiddelde/ Average (t ha^{-1})	12,54	12,34	11,89	12,07	11,57	11,84	11,10	12,69	13,80	13,57

[1] ARC; [2] Pannar; [3] Monsanto; [4] Pioneer; [5] Klein Karoo; [10] Agricol

Tabel 2 Vervolg...
Table 2 Continue...

Omgewing Environment	Genotipes/Genotypes							
	PAN3D -736BR	PAN3P -502R	PAN3Q -240	PAN3Q -740BR	PAN61 26	Phb32 B07BR	Phb32 D96B	Gemiddelde/ Average (t ha^{-1})
Bapsfontein [5]	10,43	12,45	12,20	12,33	9,14	11,38	11,21	10,89
Bethelhem [1]	9,47	9,27	8,89	9,23	9,02	10,55	9,06	9,77
Hoogekraal[2]	16,93	17,54	15,41	19,20	18,51	14,05	15,36	15,74
Hopetown[2]	13,77	9,77	13,86	15,41	12,92	15,24	14,02	12,76
Jacobsdal[4]	9,87	10,33	12,18	12,34	10,26	15,38	13,83	11,38
Lukehoff[3]	15,28	16,22	11,13	11,67	18,87	16,27	17,21	14,93
Orania[3]	14,82	16,63	9,22	16,21	17,35	15,30	15,78	16,08
Potchefstroom[10]	14,58	13,22	14,83	12,75	13,31	12,46	13,81	13,41
Stilfontein[10]	9,67	9,24	10,57	9,42	9,54	10,67	8,72	9,43
Vaalharts[1]	12,27	12,54	13,97	13,51	13,08	13,51	10,89	12,36
Gemiddelde/ Average (t ha^{-1})	12,71	12,72	12,22	13,21	13,20	13,48	12,99	12,67

[1] ARC; [2] Pannar; [3] Monsanto; [4] Pioneer; [5] Klein Karoo; [10] Agricol

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Tabel 3: Gemiddelde graanopbrengs (t ha^{-1}) vir kort groeiseisoen mieliegenotipes by verskillende besproeiingsomgewings (koel/matige streke) gedurende die 2014/2015 & 2015/2016 seisoene

Table 3: Mean yield (t ha^{-1}) for different short growing maize genotypes under different irrigated environments (cool/temperate regions) during the 2014/2015 & 2015/2016 seasons

Omgewing Environment	Genotipes/Genotypes		Gemiddelde/ Average (t ha^{-1})
	KKS8214R	LG3607Y	
2014/2015 season			
Bapsfontein [5]	9,73	10,85	10,29
Bergville [8]	15,86	14,05	14,96
Bethelhem [1]	12,23	11,03	11,63
Delmas[2]	13,42	12,53	12,98
Greytown[8]	5,81	5,93	5,87
Grootpan [2]	16,72	17,23	16,98
Potchefsroom([1]	12,21	13,78	13,00
Stilfontein[10]	11,37	13,46	12,42
Swartruggens[1]	10,85	13,67	12,26
Winterton[2]	15,78	16,73	16,26
2015/2016 season			
Bapsfontein [5	10,39	10,44	10,42
Bethelhem [1]	9,25	8,05	8,65
Potchefstroom[10	13,78	12,44	13,11
Stilfontein[10]	8,58	10,05	9,32
Gemiddelde/ Average (t ha^{-1})	11,64	12,01	11,82

[1] ARC; [2] Pannar; [5] Klein Karoo; [8] Linkseed; ([10] Agricol

Tabel 4: Gemiddelde graanopbrengs (t ha^{-1}) vir kort groeiseisoen mieliegenotipes by verskillende besproeiingsomgewings (warm streke) gedurende die 2014/2015 & 2015/2016 seisoene

Table 4: Mean yield (t ha^{-1}) for different short growing maize genotypes under different irrigated environments (warm regions) during the 2014/2015 & 2015/2016 seasons

Omgewing Environment	Genotipes/ Genotypes		Gemiddelde/ Average (t ha^{-1})
	KKS8214R	LG3607Y	
2014/2015 season			
Groblersdal [5]	12,89	14,27	13,58
Hopetown [3]	15,96	11,84	13,9
Jacobsdal [2]	16,81	13,29	15,05
Orania [3]	13,15	15,14	14,145
Steynsville[3]	16,35	14,38	15,365
Vaalharts[1]	15,89	13,07	14,48
2015/2016 season			
Hopetown[2]	8,16	9,68	8,92
Hoogekraal[2	14,7	14,05	14,375
Jacobsdal[4]	12,02	13,55	12,785
Lukehoff[3]	13,95	12,34	13,145
Orania[3]	14,52	12,35	13,435
Vaalharts[1]	15,29	12,14	13,715
Gemiddelde/ Average (t ha^{-1})	13,99	13,01	

[1] ARC; [2] Pannar; [3] Monsanto; [4] Pioneer; [5] Klein Karoo

Tabel 5: Gemiddelde graanopbrengs (t ha^{-1}) vir kort groeiseisoen mieliegenotipes by verskillende besproeiingsomgewings (koel/matige streke) gedurende die 2013/2014, 2014/2015 & 2015/2016 seisoene

Table 5: Mean yield (t ha^{-1}) for different short growing maize genotypes under different irrigated environments (cool/temperate regions) during the 2013/2014, 2014/2015 & 2015/2016 seasons

Omgewing Environment	Genotipes/Genotypes								
	BG3292	BG3492B	BG3592R	BG3792BR	DKC61-90	DKC61-94BR	DKC62-80BRGEN	DKC64-78BRGEN	IMP50-10B
2013/2014 season									
Bapsfontein [5]	13,89	15,53	13,37	13,81	11,42	10,20	10,99	12,38	11,05
Bergville [8]	13,39	15,25	13,88	12,81	13,35	12,10	14,02	13,28	10,73
Bethelhem [1]	11,80	12,17	12,04	13,89	10,71	9,93	11,81	9,48	10,73
Delmas[2]	9,67	9,26	9,76	9,19	8,37	9,93	9,13	9,89	7,14
Greytown[8]	15,27	14,94	15,23	15,41	13,37	12,44	12,95	12,86	12,19
Grootpan [2]	16,69	17,49	14,67	15,65	15,70	14,42	15,41	13,54	13,94
Potchefsroom[1]	11,60	13,43	12,45	12,55	12,45	11,52	11,75	14,04	11,86
Swartruggens[1]	8,84	8,61	8,06	9,77	12,20	11,82	14,08	13,92	5,95
Ventersdorp[8]	12,66	10,81	12,57	12,39	10,00	10,16	10,67	10,53	8,71
Winterton[2]	18,41	19,04	18,07	18,95	14,87	13,37	15,03	14,74	17,00
2014/2015 season									
Bapsfontein [5]	11,74	10,90	12,89	11,45	11,73	12,40	13,74	12,26	14,32
Bergville [8]	15,21	15,64	18,76	17,45	16,79	17,56	15,20	17,75	13,30
Bethelhem [1]	11,97	12,97	12,06	13,50	14,30	10,73	11,14	11,52	13,52
Delmas[2]	15,37	14,63	13,46	15,26	13,89	14,67	16,15	14,49	12,32
Greytown[8]	5,48	6,22	5,67	7,06	6,05	5,71	3,23	4,41	7,85
Grootpan [2]	17,33	17,23	16,28	16,67	15,17	17,94	15,75	17,68	14,03
Potchefsroom[1]	12,48	13,32	15,79	14,80	14,88	15,87	14,64	14,11	12,73
Stilfontein[10]	14,15	12,16	12,10	12,75	14,68	13,70	13,77	15,28	11,95
Swartruggens[1]	9,64	13,33	11,11	13,25	12,76	9,92	8,83	12,98	8,04
Winterton[2]	16,73	15,10	16,90	16,25	14,30	15,23	13,64	18,02	17,51
2015/2016 season									
Bapsfontein [5]	13,79	14,01	12,82	13,11	9,49	7,93	7,78	8,54	9,01
Bethelhem [1]	10,23	10,10	9,68	10,22	9,64	9,42	9,70	10,37	10,94
Potchefstroom[10	13,64	13,48	13,84	14,58	13,00	13,08	13,19	12,66	13,06
Stilfontein[10]	11,06	9,62	8,81	8,90	7,88	7,77	9,89	10,19	9,74
Gemiddelde/ Average (t ha^{-1})	12,84	12,96	12,80	13,11	12,20	11,86	12,06	12,57	11,50

[1] ARC; [2] Pannar; [5] Klein Karoo; [8] Linkseed; [10] Agricol

Tabel 5 Vervolg...
Table 5 Continue...

Omgewing Environment	Genotipes/Genotypes									Gemiddelde/ Average (t ha^{-1})
	IMP50-10BR	IMP50-10R	KKS82 16BR	KKS83 26B	PAN3D -736BR	PAN3Q -240	PAN3Q -740BR	PAN61 26	Phb32 D96B	
2013/2014 season										
Bapsfontein [5]	10,80	12,60	10,89	11,22	12,57	13,80	14,10	10,86	13,86	12,41
Bergville [8]	11,92	12,27	13,95	13,82	13,66	13,67	12,92	12,90	11,08	13,06
Bethelhem [1]	11,11	11,91	9,73	13,97	11,98	11,17	11,56	10,22	10,75	11,39
Delmas[2]	9,93	9,45	9,94	10,12	9,88	9,53	10,28	10,63	10,21	9,57
Greytown[8]	12,96	13,25	12,28	12,24	12,01	14,46	13,65	10,56	13,98	13,34
Grootpan [2]	14,74	15,49	14,87	12,64	15,70	15,29	17,05	14,21	14,62	15,12
Potchefsroom[1]	11,47	12,29	12,04	12,51	13,71	13,01	12,07	12,95	12,65	12,46
Swartruggens[1]	5,89	6,76	9,50	11,86	11,43	12,48	12,72	12,32	8,20	10,24
Ventersdorp[8]	10,26	10,06	12,89	10,44	11,94	13,41	14,79	10,52	11,49	11,35
Winterton[2]	17,12	15,60	15,69	16,03	14,96	13,46	15,57	15,12	16,59	16,09
2014/2015 season										
Bapsfontein [5]	13,22	11,87	13,71	13,70	9,45	13,66	12,58	12,15	11,14	12,38
Bergville [8]	16,57	14,60	14,66	16,51	14,21	16,77	16,35	15,91	13,92	15,95
Bethelhem [1]	10,18	11,52	11,79	13,64	12,53	11,72	12,58	13,91	13,97	12,42
Delmas[2]	11,07	12,92	13,92	12,13	10,95	12,00	13,08	13,20	13,04	13,47
Greytown[8]	5,94	5,43	6,42	7,01	5,61	8,30	3,56	6,30	6,69	5,94
Grootpan [2]	15,03	15,71	16,31	15,74	15,64	14,85	15,52	15,67	16,24	16,04
Potchefsroom[1]	13,39	13,63	14,65	13,29	14,85	13,21	14,97	14,38	13,54	14,14
Stilfontein[10]	12,32	14,08	13,90	11,67	12,96	8,24	14,44	11,99	14,00	13,01
Swartruggens[1]	6,29	6,18	10,42	13,39	12,54	13,14	14,83	12,28	13,67	11,25
Winterton[2]	15,08	14,41	15,19	16,72	16,61	16,06	15,09	15,32	15,46	15,76
2015/2016 season										
Bapsfontein [5]	8,41	8,55	9,07	12,94	10,43	12,20	12,33	9,14	11,21	10,60
Bethelhem [1]	10,52	9,79	10,00	8,93	9,47	8,89	9,23	9,02	9,06	9,73
Potchefstroom[10]	13,75	13,20	12,12	13,35	14,58	14,83	12,75	13,31	13,81	13,46
Stilfontein[10]	8,06	9,79	10,62	8,56	9,67	10,57	9,42	9,54	8,72	9,38
Gemiddelde/ Average (t ha^{-1})	12,96	13,14	12,93	13,32	12,38	11,99	12,19	12,71	11,57	

[1] ARC; [2] Pannar; [3] Monsanto; [5] Klein Karoo; [8] Linkseed; [10] Agricol

Tabel 6: Gemiddelde graanopbrengs (t ha^{-1}) vir kort groeiseisoen mieliegenotipes by verskillende besproeiingsomgewings (warm streke) gedurende die 2013/2014, 2014/2015 & 2015/2016 seisoene

Table 6: Mean yield (t ha^{-1}) for different short growing maize genotypes under different irrigated environments (warm regions) during the 2013/2014, 2014/2015 & 2015/2016 seasons

	Genotipes/Genotypes								
Omgewing Environment	BG3292	BG3492B	BG3592R	BG3792BR	DKC61-90	DKC61-94BR	DKC62-80BRGEN	DKC64-78BRGEN	IMP50-10B
2013/2014 season									
Hopetown [3]	14,34	16,15	13,96	13,28	10,99	13,53	13,04	14,25	14,82
Hopetown [2]	14,66	14,34	14,00	13,74	13,69	13,14	14,48	11,72	13,69
Hoogekraal[2]	14,41	13,51	12,04	13,14	11,34	12,16	12,49	12,95	12,67
Lukehoff[3]	17,78	16,36	13,97	16,63	15,08	14,48	16,94	16,16	16,60
Orania[3]	14,94	17,51	16,07	17,98	13,29	18,41	16,98	13,50	14,22
Vaalharts[1]	11,06	15,61	12,60	13,04	12,24	12,00	14,87	14,54	12,11
2014/2015 season									
Groblersdal [5]	15,55	11,73	15,96	15,22	16,44	15,56	16,57	9,48	15,54
Hopetown [3]	13,04	14,86	14,59	18,69	17,72	14,30	14,49	15,89	14,87
Jacobsdal [2]	15,46	16,62	17,96	17,03	15,12	17,25	16,50	16,08	18,14
Orania [3]	15,56	15,24	15,82	16,91	15,50	16,42	14,17	16,48	15,39
Steynsville[3]	15,45	16,93	17,45	15,26	15,78	15,88	15,42	16,69	15,32
Vaalharts[1]	14,12	16,06	15,30	17,02	14,20	16,56	16,70	15,83	14,61
2015/2016 season									
Vaalharts[1]	13,28	13,99	11,91	10,52	11,37	14,96	14,20	11,27	12,43
Hoogekraal[2]	17,54	18,85	16,26	18,34	14,35	12,58	10,76	15,69	15,48
Hopetown[2]	13,15	13,60	8,14	14,29	13,60	13,62	14,29	13,24	13,95
Jacobsdal[4]	13,19	13,00	10,40	12,31	9,48	10,55	8,49	8,60	11,11
Lukehoff[3]	15,49	16,19	15,23	7,53	15,23	14,65	16,67	16,00	14,88
Orania[3]	16,70	21,16	18,23	19,52	20,69	16,81	16,55	18,02	14,77
Gemiddelde/ Average (t ha^{-1})	14,76	15,65	14,44	15,03	14,23	14,60	14,65	14,24	14,48

[1] ARC; [2] Pannar; [3] Monsanto; [4] Pioneer; [5] Klein Karoo

Tabel 6 Vervolg...
Table 6 Continue...

Omgewing Environment	Genotipes/Genotypes									Gemiddelde/ Average (t ha^{-1})
	IMP50-10BR	IMP50-10R	KKS82 16BR	KKS83 26B	PAN3D -736BR	PAN3Q -240	PAN3Q -740BR	PAN6126	Phb32 D96B	
2013/2014 season										
Hopetown [3]	15,05	14,86	14,34	15,65	12,54	14,24	13,90	15,15	13,21	14,07
Hopetown [2]	10,79	13,72	13,82	13,96	14,21	14,02	12,92	13,83	13,81	13,59
Hoogekraal[2]	13,00	12,04	13,01	11,39	13,01	13,09	13,36	11,24	11,65	12,58
Lukehoff[3]	14,73	13,10	17,25	14,89	16,30	18,21	18,84	15,50	18,77	16,20
Orania[3]	14,74	11,01	16,63	19,74	19,51	15,62	17,70	19,09	12,44	16,08
Vaalharts[1]	12,97	11,67	10,12	14,46	14,35	11,87	15,86	13,80	12,43	13,09
2014/2015 season										
Groblersdal [5]	11,90	15,30	14,55	14,87	13,17	14,11	15,15	12,33	11,33	14,15
Hopetown [3]	17,40	15,69	13,94	15,01	14,71	19,35	18,99	12,38	14,58	15,58
Jacobsdal [2]	17,16	14,93	16,59	17,17	15,14	16,41	15,60	15,08	14,84	16,28
Orania [3]	14,63	15,70	15,77	15,98	14,35	12,68	12,97	15,83	12,75	15,12
Steynsville[3]	15,94	14,97	16,50	15,77	15,87	12,93	16,41	14,73	15,46	15,71
Vaalharts[1]	15,90	13,63	15,84	14,84	16,87	16,57	15,30	16,40	16,79	15,70
2015/2016 season										
Vaalharts[1]	13,40	12,18	11,08	11,51	12,27	13,97	13,51	13,08	10,89	12,54
Hoogekraal[2]	15,73	10,28	15,56	11,92	16,93	15,41	19,20	18,51	15,36	15,49
Hopetown[2]	12,00	12,83	5,70	12,23	13,77	13,86	15,41	12,92	14,02	12,81
Jacobsdal[4]	10,21	10,35	12,37	12,73	9,87	12,18	12,34	10,26	13,83	11,18
Lukehoff[3]	13,69	15,50	13,42	12,24	15,28	11,13	11,67	18,87	17,21	14,49
Orania[3]	17,64	16,47	15,72	13,95	14,82	13,83	16,21	17,35	15,78	16,90
Gemiddelde/ Average (t ha^{-1})	14,27	13,57	14,01	14,35	14,61	14,42	15,30	14,80	14,18	

[1] ARC; [2] Pannar; [3] Monsanto; [4] Pioneer; [5] Klein Karoo

Tabel 7: Gemiddelde persentasie plante omval, 2015/2016 seisoen (Warm streek)
Table 7: Mean percentage lodged plants for the 2015/2016 season (Hot region)

Genotipes Genotypes	Lodged plants (%) Root lodging			Gemiddelde Average (%)	Lodged plants (%) Stalk lodging		Gemiddelde Average (%)
	Hopetown[3]	Lukehoff [3]	Orania[3]		Lukehoff [3]	Orania [3]	
BG3292	2,35	0,00	2,50	1,62	0,00	0,42	0,21
BG3492B	2,13	0,00	2,13	1,42	0,00	0,00	0,00
BG3592R	1,28	0,00	0,83	0,70	0,00	0,00	0,00
BG3792BR	0,00	1,80	5,55	2,45	0,00	0,67	0,34
DKC61-90	0,35	0,70	2,84	1,30	0,36	0,00	0,18
DKC61-94BR	1,53	0,00	0,67	0,73	0,00	0,00	0,00
DKC62-80BRGEN	4,27	0,00	0,00	1,42	0,00	0,00	0,00
DKC64-54BR	1,69	0,00	2,70	1,46	0,00	0,00	0,00
DKC64-78BRGEN	1,15	0,35	1,43	0,98	0,00	0,36	0,18
DKC65-52BR	0,35	0,00	3,32	1,22	0,00	0,00	0,00
IMP50-10B	2,92	0,72	1,99	1,88	0,36	0,00	0,18
IMP50-10BR	2,70	2,13	1,78	2,20	0,00	0,44	0,22
IMP50-10R	5,88	1,11	2,74	3,24	0,89	0,00	0,45
KKS8214R	0,00	0,00	2,67	0,89	0,60	0,00	0,30
KKS8216BR	3,89	0,80	1,38	2,02	4,20	0,00	2,10
KKS8326B	3,22	1,40	4,19	2,94	0,00	0,54	0,27
LG3607Y	3,73	1,54	3,96	3,08	1,42	0,00	0,71
P1184BR	1,48	0,65	0,00	0,71	0,00	0,00	0,00
P1517W	0,42	0,00	2,40	0,94	0,00	0,00	0,00
P1745R	0,35	0,70	3,49	1,51	0,37	0,70	0,54
PAN3D-736BR	4,55	0,65	0,77	1,99	1,36	0,00	0,68
PAN3P-502R	0,78	1,46	2,11	1,45	1,85	0,00	0,93
PAN3Q-240	1,09	8,07	0,34	3,17	2,41	0,00	1,21
PAN3Q-740BR	0,37	0,37	5,53	2,09	0,00	0,00	0,00
PAN6126	0,78	0,68	0,36	0,61	0,33	0,00	0,17
PHB32B07BR	0,00	0,00	3,31	1,10	0,00	0,00	0,00
PHB32D96B	0,00	2,65	1,61	1,42	0,33	0,40	0,37
Gemiddelde Average (%)	1,75	0,95	2,25	1,65	0,54	0,13	0,33

[3] Monsanto

Tabel 8: Gemiddelde persentasie spruitvorming vir die 2015/2016 seisoen (Warm streek)
Table 8: Mean percentage tillering for the 2015/2016 season (Hot region)

Genotipes Genotypes	Spruit /Tillering (%)			Gemiddelde Average (%)
	Hopetown[3]	Lukehoff[3]	Orania[3]	
BG3292	0,00	2,41	1,67	1,36
BG3492B	0,00	0,64	2,87	1,17
BG3592R	0,36	1,40	3,31	1,69
BG3792BR	0,38	1,44	2,58	1,47
DKC61-90	0,00	0,36	1,79	0,71
DKC61-94BR	0,00	0,39	2,68	1,02
DKC62-80BRGEN	0,00	0,00	3,02	1,01
DKC64-54BR	0,67	0,00	0,78	0,48
DKC64-78BRGEN	0,00	0,00	2,90	0,97
DKC65-52BR	0,80	0,00	2,31	1,04
IMP50-10B	1,54	4,10	1,03	2,22
IMP50-10BR	0,38	0,00	0,98	0,45
IMP50-10R	0,78	1,26	1,03	1,02
KKS8214R	0,00	0,00	0,00	0,00
KKS8216BR	0,90	0,84	1,70	1,15
KKS8326B	0,38	0,67	1,59	0,88
LG3607Y	0,00	1,16	3,77	1,64
P1184BR	0,74	0,00	1,42	0,72
P1517W	0,73	0,74	2,09	1,19
P1745R	0,00	0,73	3,63	1,45
PAN3D-736BR	1,08	0,00	2,52	1,20
PAN3P-502R	0,00	0,35	3,13	1,16
PAN3Q-240	0,00	0,00	0,87	0,29
PAN3Q-740BR	0,69	1,04	1,96	1,23
PAN6126	0,00	0,33	0,69	0,34
PHB32B07BR	0,72	0,00	5,12	1,95
PHB32D96B	0,00	1,08	5,33	2,14
Gemiddelde/Average	0,38	0,70	2,25	1,11

[3] Monsanto

Tabel 9: Gemiddelde graanvogpersentasie met oestyd vir die 2015/2016 seisoen (Warm streek)
Table 9: Mean percentage grain moisture at harvest for the 2015/2016 season (Hot region)

Genotipes Genotypes	Graan vog /Grain moisture (%)					Gemiddelde Average (%)
	Lukehoff[3]	Orania[3]	Hopetown[2]	Jacobsdal[4]	Vaalharts[1]	
BG3292	20,7	21,0	20,3	14,2	13,6	
BG3492B	21,6	22,4	21,1	14,6	15,8	19,1
BG3592R	21,8	20,6	21,1	14,5	13,7	18,3
BG3792BR	28,6	22,6	21,6	14,8	14,1	20,3
DKC61-90	19,2	18,2	17,7	14,1	14,2	16,7
DKC61-94BR	17,3	19,5	19,7	13,9	13,5	16,8
DKC62-80BRGEN	20,6	19,4	20,3	13,6	13,3	17,4
DKC64-54BR	21,0	22,2	19,6	14,4	14,4	18,3
DKC64-78BRGEN	20,7	20,3	19,9	14,0	13,6	17,7
DKC65-52BR	22,1	21,2	22,7	14,2	15,6	19,2
IMP50-10B	20,5	18,9	20,6	15,0	14,8	18,0
IMP50-10BR	20,7	20,4	23,1	15,2	15,2	18,9
IMP50-10R	22,7	21,2	19,6	15,1	15,2	18,8
KKS8214R	24,7	23,4	24,7	14,8	16,0	20,7
KKS8216BR	21,5	24,1	24,9	15,7	15,0	20,2
KKS8326B	21,7	21,7	25,3	16,3	15,7	20,1
LG3607Y	23,6	21,4	20,8	14,0	13,1	18,6
P1184BR	19,7	19,1	17,1	14,0	13,5	16,7
P1517W	25,1	20,8	20,4	15,0	13,8	19,0
P1745R	20,1	18,1	22,0	14,9	13,3	17,7
PAN3D-736BR	20,1	20,6	22,1	14,3	14,1	18,2
PAN3P-502R	21,6	21,0	22,8	14,8	13,2	18,7
PAN3Q-240	21,1	21,3	22,9	14,9	13,0	18,6
PAN3Q-740BR	22,8	21,0	21,5	14,5	15,1	19,0
PAN6126	19,0	19,1	21,8	14,2	14,2	17,7
PHB32B07BR	23,6	22,4	23,3	14,9	14,1	19,7
PHB32D96B	22,2	21,9	22,6	15,3	12,4	18,9
Gemiddelde Average (%)	21,6	20,9	21,5	14,6	14,2	18,6

[1] ARC; [2] Pannar; [3] Monsanto; [4] Pioneer

Tabel 10: Opsomming van gemiddelde waardes vir alle agronomiese parameters vir die 2015/2016 seisoen (Warm streek)

Table 10: Summary of mean values for all agronomic parameters for the 2015/2016 season (Hot region)

Genotipes Genotypes	Omval % Logded(%) (Root)	Omval % Logded(%) (Stalk)	Spruit % Tillering %	Koppe plant^{-1} Ears plant^{-1}	Graan vog % Grain moisture %	Graan opbrengs Grain yield (t ha^{-1})
BG3292	1,62	0,21	1,36	0,86	19,8	14,55
BG3492B	1,42	0,00	1,17	0,88	21,0	15,40
BG3592R	0,70	0,00	1,69	0,84	20,1	13,39
BG3792BR	2,45	0,34	1,47	0,90	22,4	12,97
DKC61-90	1,30	0,18	0,71	0,93	17,6	13,86
DKC61-94BR	0,73	0,00	1,02	0,91	17,7	14,04
DKC62-80BRGEN	1,42	0,00	1,01	0,87	18,3	13,73
DKC64-54BR	1,46	0,00	0,48	0,79	20,0	13,66
DKC64-78BRGEN	0,98	0,18	0,97	0,90	19,1	13,67
DKC65-52BR	1,22	0,00	1,04	0,98	21,2	12,91
IMP50-10B	1,88	0,18	2,22	0,95	18,9	13,73
IMP50-10BR	2,20	0,22	0,45	0,88	20,1	13,48
IMP50-10R	3,24	0,45	1,02	0,94	19,6	12,86
KKS8214R	0,89	0,30	0,00	0,81	22,1	12,72
KKS8216BR	2,02	2,10	1,15	0,74	22,2	11,84
KKS8326B	2,94	0,27	0,88	0,87	21,7	12,25
LG3607Y	3,08	0,71	1,64	0,85	19,9	11,73
P1184BR	0,71	0,00	0,72	0,90	17,9	13,65
P1517W	0,94	0,00	1,19	0,78	20,5	14,41
P1745R	1,51	0,54	1,45	0,92	19,5	14,34
PAN3D-736BR	1,99	0,68	1,20	0,88	19,1	13,71
PAN3P-502R	1,45	0,93	1,16	0,82	20,1	13,78
PAN3Q-240	3,17	1,21	0,29	0,95	20,4	12,29
PAN3Q-740BR	2,09	0,00	1,23	0,86	21,2	14,11
PAN6126	0,61	0,17	0,34	0,88	18,8	14,60
PHB32B07BR	1,10	0,00	1,95	0,95	21,4	14,55
PHB32D96B	1,42	0,37	2,14	0,96	20,9	14,21
Gemiddelde/ Average	1,65	0,33	1,11	0,88	20,0	

Tabel 11: Gemiddelde persentasie spruitvorming vir die 2015/2016 seisoen (Koel/matige streek)
Table 11: Mean number of tillers for the 2015/2016 season (Cool/ temperate region)

Genotipes Genotypes	Spruit/ Tillering (%) Bethlehem[1]
BG3292	0,84
BG3492B	4,17
BG3592R	2,11
BG3792BR	3,78
DKC61-90	3,33
DKC61-94BR	3,33
DKC62-80BRGEN	2,12
DKC64-54BR	0,00
DKC64-78BRGEN	2,12
DKC65-52BR	0,00
IMP50-10B	1,25
IMP50-10BR	2,54
IMP50-10R	0,00
KKS8214R	1,74
KKS8216BR	2,16
KKS8326B	2,54
LG3607Y	0,87
P1184BR	0,00
P1517W	2,51
P1745R	4,20
PAN3D-736BR	3,10
PAN3P-502R	2,60
PAN3Q-240	3,75
PAN3Q-740BR	1,26
PAN6126	0,00
PHB32B07BR	2,22
PHB32D96B	5,02
Gemiddelde/ Average	2,13

[1] ARC

Tabel 12: Gemiddelde aantal koppe per plant vir die 2015/2016 seisoen (Koel/matige streek)
Table 12: Mean number of ears per plant for the 2015/2016 season (Cool/temperate region)

Genotipes Genotypes	Koppe /Ears plant^{-1}		Gemiddelde/Average
	Potchefstroom[1]	Bethlehem[1]	
BG3292	1,22	0,97	1,10
BG3492B	1,22	1,00	1,11
BG3592R	1,20	0,96	1,08
BG3792BR	1,17	0,98	1,08
DKC61-90	1,32	1,01	1,17
DKC61-94BR	1,31	0,90	1,11
DKC62-80BRGEN	1,03	0,98	1,01
DKC64-54BR	1,27	1,02	1,15
DKC64-78BRGEN	1,27	0,93	1,10
DKC65-52BR	1,47	1,03	1,25
IMP50-10B	1,29	1,04	1,17
IMP50-10BR	1,23	0,96	1,10
IMP50-10R	1,32	0,94	1,13
KKS8214R	1,16	0,93	1,05
KKS8216BR	1,25	0,99	1,12
KKS8326B	1,24	0,91	1,08
LG3607Y	1,31	0,95	1,13
P1184BR	1,27	1,00	1,14
P1517W	1,28	0,98	1,13
P1745R	1,20	1,09	1,15
PAN3D-736BR	1,33	0,95	1,14
PAN3P-502R	1,30	0,94	1,12
PAN3Q-240	1,29	0,95	1,12
PAN3Q-740BR	1,28	0,90	1,09
PAN6126	1,36	0,97	1,17
PHB32B07BR	1,24	1,03	1,14
PHB32D96B	1,15	0,98	1,07
Gemiddelde/ Average	1,26	0,97	1,12

[1] ARC

Tabel 13: Gemiddelde graanvogpersentasie met oestyd vir die 2015/2016 seisoen (Koel/matige streek)

Table 13: Mean percentage grain moisture at harvest for the 2015/2016 season (Cool/temperate region)

Genotipes Genotypes	Graan vog /Grain moisture (%)						Gemiddelde/ Average (%)
	Potchefstroom[1]	Swartruggens[1]	Bethlehem[1]	Stilfontein[10]	Bapsfontein[5]	Grootpan[4]	
BG3292	12,2	11,6	13,3	13,3	15,0	14,7	13,4
BG3492B	13,8	12,7	13,5	13,3	15,2	15,0	13,9
BG3592R	13,3	11,1	14,0	12,4	14,7	14,7	13,4
BG3792BR	14,2	12,2	13,1	13,3	14,5	15,1	13,7
DKC61-90	12,0	12,2	12,6	12,2	13,2	14,3	12,8
DKC61-94BR	14,4	12,2	12,4	12,3	13,4	14,6	13,2
DKC62-80BRGEN	14,4	12,3	12,6	12,5	13,4	14,8	13,3
DKC64-54BR	14,3	13,0	14,3	13,4	14,7	15,2	14,2
DKC64-78BRGEN	13,1	13,2	12,2	12,9	14,4	14,6	13,4
DKC65-52BR	12,7	12,5	13,3	12,2	14,3	15,1	13,4
IMP50-10B	12,1	11,1	13,3	13,1	14,6	14,3	13,1
IMP50-10BR	14,1	12,2	13,8	13,5	14,6	14,3	13,8
IMP50-10R	11,9	10,8	13,6	13,1	14,5	13,7	12,9
KKS8214R	13,7	11,8	12,8	13,3	13,9	15,0	13,4
KKS8216BR	14,7	11,0	13,3	12,7	13,7	15,9	13,6
KKS8326B	16,2	16,9	18,4	13,9	18,3	17,2	16,8
LG3607Y	13,6	10,9	11,4	10,9	13,9	14,2	12,5
P1184BR	12,7	11,4	12,3	12,8	14,2	15,4	13,1
P1517W	11,5	13,9	13,1	13,9	14,7	16,0	13,9
P1745R	16,1	11,8	13,5	12,9	14,6	14,6	13,9
PAN3D-736BR	12,0	11,4	12,2	12,9	13,8	14,6	12,8
PAN3P-502R	13,8	11,3	12,8	12,7	14,9	14,8	13,4
PAN3Q-240	12,4	11,0	12,1	11,9	15,3	15,2	13,0
PAN3Q-740BR	15,0	11,1	11,8	11,9	14,6	10,0	12,4
PAN6126	14,8	11,0	11,5	11,8	13,2	14,7	12,8
PHB32B07BR	13,7	11,8	13,9	12,9	14,0	16,1	13,7
PHB32D96B	15,1	13,5	13,1	13,4	16,5	16,5	14,7
Gemiddelde/ Average (%)	13,6	12,1	13,1	12,8	14,5	14,8	

[1] ARC [4] Pioneer; [5] Klein Karoo; [10] Agricol

Tabel 14: Opsomming van gemiddelde waardes vir alle agronomiese parameters vir die 2015/2016 seisoen (koel/matige streke)

Table 14: Summary of mean values for all agronomic parameters for the 2015/2016 season (Cool/ temperate region)

Genotipes Genotypes	Omval % Logded	Spruit % Tillering	Koppe (plant^{-1}) Ears (plant^{-1})	Graan vog (%) Grain moisture (%)	Graan opbrengs Grain yield (t ha^{-1})
BG3292	*	12,32	1,51	13,1	9,95
BG3492B	*	15,36	1,44	13,6	9,71
BG3592R	*	11,71	1,39	13,1	8,87
BG3792BR	*	17,92	1,43	13,3	9,63
DKC61-90	*	11,58	1,48	12,5	8,72
DKC61-94BR	*	11,15	1,33	13	8,44
DKC62-80BRGEN	*	11,99	1,31	12,9	8,93
DKC64-54BR	*	13,03	1,45	13,6	9,99
DKC64-78BRGEN	*	13,84	1,36	13,1	9
DKC65-52BR	*	10,11	1,52	13	8,55
IMP50-10B	*	11,14	1,4	12,9	9,09
IMP50-10BR	*	11,57	1,32	13,3	8,46
IMP50-10R	*	16,26	1,45	12,8	8,28
KKS8214R	*	10,27	1,33	13,1	9,33
KKS8216BR	*	10,62	1,33	13,4	9,38
KKS8326B	*	10,86	1,34	16	9,56
LG3607Y	*	11,67	1,39	12,3	9,05
P1184BR	*	10,6	1,39	12,9	9,31
P1517W	*	16,14	1,44	13,6	9,86
P1745R	*	11,38	1,39	13,5	10,27
PAN3D-736BR	*	10,16	1,41	12,6	9,17
PAN3P-502R	*	9,2	1,36	13	9,64
PAN3Q-240	*	13,98	1,41	12,6	9,94
PAN3Q-740BR	*	10,8	1,38	12,2	9
PAN6126	*	10,55	1,36	12,5	9,18
PHB32B07BR	*	11,65	1,43	13,4	9,74
PHB32D96B	*	13,3	1,38	14,2	9,2
Gemiddelde/ Average	*	12,19	1,4	13,2	

*No data available

Tabel 15: Meerjarige gemiddeldes ten opsigte van persentasie spruitvorming vir die 2013/2014, 2014/2015 & 2015/2016 seisoene (warm en koel streke)

Table 15: Multi seasonal means for total percentage lodged plants for the 2013/2014, 2014/2015 & 2015/2016 seasons (Hot and cool regions)

Genotipes Genotypes	Omval /Lodged plants (%)			Gemiddelde/ Average (%)
	2013/2014	2014/2015	2015/2016	
BG3292	0,90	0,50	0,92	0,77
BG3492B	1,56	1,05	0,71	1,11
BG3592R	1,59	0,55	0,35	0,83
BG3792BR	1,78	1,10	1,40	1,43
DKC61-90	3,10	0,50	0,74	1,45
DKC61-94BR	0,57	0,00	0,37	0,31
DKC62-80BRGEN	2,78	0,00	0,71	1,16
DKC64-78BRGEN	1,33	0,00	0,58	0,64
IMP50-10B	1,47	1,60	1,03	1,37
IMP50-10BR	5,73	1,60	1,21	2,85
IMP50-10R	5,26	1,10	1,85	2,74
KKS8216BR	4,71	1,05	2,06	2,61
KKS8326B	8,65	0,00	1,61	3,42
PAN3D-736BR	3,52	0,55	1,34	1,80
PAN3Q-240	5,23	0,55	2,19	2,66
PAN3Q-740BR	2,72	0,00	1,05	1,26
PAN6126	2,36	1,10	0,39	1,28
PHB32D96B	2,42	0,00	0,90	1,11
Gemiddelde/ Average (%)	3,09	0,63	1,08	

Tabel 16: Meerjarige gemiddeldes ten opsigte van persentasie spruitvorming vir die 2013/2014, 2014/2015 & 2015/2016 seisoene (warm en koel streke)

Table 16: Multi seasonal means for tillering percentages for the 2013/2014, 2014/2015 & 2015/2016 seasons (Hot and cool regions)

Genotipes Genotypes	Spruit /Tillering (%)			Gemiddelde/ Average (%)
	2013/2014	2014/2015	2015/2016	
BG3292	10,65	9,93	6,84	9,14
BG3492B	18,70	9,77	8,27	12,25
BG3592R	18,10	10,35	6,70	11,72
BG3792BR	17,96	10,90	9,70	12,85
DKC61-90	14,47	8,15	6,15	9,59
DKC61-94BR	19,94	9,48	6,09	11,84
DKC62-80BRGEN	20,29	10,32	6,50	12,37
DKC64-78BRGEN	22,02	10,42	7,41	13,28
IMP50-10B	15,28	11,17	6,68	11,04
IMP50-10BR	16,08	10,65	6,01	10,91
IMP50-10R	14,81	9,13	8,64	10,86
KKS8216BR	10,53	12,28	5,89	9,57
KKS8326B	21,14	8,53	5,87	11,85
PAN3D-736BR	15,77	11,07	5,68	10,84
PAN3Q-240	17,11	7,80	7,14	10,68
PAN3Q-740BR	19,42	13,03	6,02	12,82
PAN6126	18,99	9,90	5,45	11,45
PHB32D96B	14,14	10,00	7,72	10,62
Gemiddelde/ Average (%)	16,97	10,16	6,82	

Tabel 17: Meerjarige gemiddeldes ten opsigte van aantal koppe per plant vir die 2013/2014, 2014/2015 & 2015/2016 seisoene (warm en koel streke)

Table 17: Multi seasonal means of number ears per plant for the 2013/2014, 2014/2015 & 2015/2016 seasons (Hot and cool regions)

Genotipes Genotypes	Koppe/ Ears (plant^{-1})			Gemiddelde/ Average
	2013/2014	2014/2015	2015/2016	
BG3292	1,05	1,08	1,19	1,11
BG3492B	1,06	1,11	1,16	1,11
BG3592R	1,08	1,11	1,12	1,10
BG3792BR	1,07	8,9	1,17	3,71
DKC61-90	1,04	1,1	1,21	1,12
DKC61-94BR	1,1	1,09	1,12	1,10
DKC62-80BRGEN	1,12	1,09	1,09	1,10
DKC64-78BRGEN	1,04	1,12	1,13	1,10
IMP50-10B	1,13	1,1	1,18	1,14
IMP50-10BR	1,06	0,96	1,10	1,04
IMP50-10R	1,1	1,05	1,20	1,12
KKS8216BR	1	1,18	1,04	1,07
KKS8326B	1,08	0,99	1,11	1,06
PAN3D-736BR	1,06	1,08	1,15	1,10
PAN3Q-240	1,04	1,06	1,18	1,09
PAN3Q-740BR	1,1	1,15	1,12	1,12
PAN6126	1,07	1,13	1,12	1,11
PHB32D96B	1,11	1,14	1,17	1,14
Gemiddelde/ Average	1,07	1,52	1,14	

Tabel 18: Meerjarige gemiddeldes ten opsigte van persentasie graanvog vir die 2013/2014, 2014/2015 & 2015/2016 seisoene(warm en koel streke)

Table 18: Multi seasonal means of percentage grain moisture for the 2013/2014, 2014/2015 & 2015/2016 seasons (Hot and Cool regions)

Genotipes Genotypes	Graan vog /Grain moisture (%)			Gemiddelde/ Average (%)
	2013/2014	2014/2015	2015/2016	
BG3292	14,93	16,34	16,45	15,91
BG3492B	15,56	16,16	17,30	16,34
BG3592R	14,97	16,21	16,60	15,93
BG3792BR	15,39	16,33	17,85	16,52
DKC61-90	14,96	15,12	15,05	15,04
DKC61-94BR	14,59	14,73	15,35	14,89
DKC62-80BRGEN	14,74	14,68	15,60	15,01
DKC64-78BRGEN	14,89	16,48	16,10	15,82
IMP50-10B	15,85	16,23	15,90	15,99
IMP50-10BR	15,69	16,73	16,70	16,37
IMP50-10R	15,62	16,41	16,20	16,08
KKS8216BR	16,06	17,44	17,80	17,10
KKS8326B	17,89	19,33	18,85	18,69
PAN3D-736BR	15,02	16,1	15,85	15,66
PAN3Q-240	15,38	15,91	16,50	15,93
PAN3Q-740BR	15,22	16,4	16,70	16,11
PAN6126	14,9	15,93	15,65	15,49
PHB32D96B	16,29	17,8	17,55	17,21
Gemiddelde/ Average (%)	15,44	16,35	16,56	

Tabel 19: Opsomming van gemiddelde waardes vir alle agronomiese parameters vir die 2013/2014, 2014/2015 en 2015/2016 seisoene (warm en koel streke)

Table 19: Summary of mean values for all agronomic parameters for the 2013/2014, 2014/2015 & 2015/2016 seasons (Hot and cool regions)

Genotipes Genotypes	Omval(%) Lodged plants (%)	Spruit (%) Tillering(%)	Koppe plant^{-1} Ears plant^{-1}	Graan vog(%) Grain moisture(%)	Graan Grain yield
BG 3292	0,95	7,31	1,22	17,0	13,65
BG 3492B	1,29	9,88	1,20	17,6	14,07
BG 3592R	0,96	10,05	1,19	17,1	13,55
BG 3792BR	1,70	8,17	1,20	18,0	14,02
DKC 61 - 90	2,04	7,78	1,21	15,9	13,12
DKC 61 - 94BR	0,48	10,15	1,17	15,7	13,01
DKC 62 - 80BR GEN	0,98	10,54	1,17	15,9	13,19
DKC 64 - 78BR GEN	0,85	11,14	1,17	16,8	13,40
IMP 50 - 10B	1,56	9,56	1,21	17,0	12,79
IMP 50 - 10BR	2,97	6,40	1,16	17,5	12,61
IMP 50 - 10R	2,70	8,32	1,20	17,2	12,48
KKS 8216BR	2,67	7,99	1,17	18,6	12,94
KKS 8326B	3,51	7,74	1,18	19,6	13,32
PAN 3D - 736BR	1,94	9,35	1,18	16,7	13,22
PAN 3Q- 240	3,00	8,40	1,17	17,2	13,32
PAN 3Q - 740BR	2,14	11,23	1,21	17,6	13,91
PAN 6126	1,73	9,74	1,19	16,5	13,24
Phb 32D96B	1,50	8,76	1,21	18,3	13,08
Gemiddelde/ Average (%)	1,83	9,03	1,19	17,2	