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VERSLAG VAN DIE NASIONALE SOJABOON KULTIVARPROEWE/ 2015/16

REPORT OF THE NATIONAL SOYBEAN CULTIVAR TRIALS

Verantwoordelike beampte:
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1 INTRODUCTION

The National Soybean Cultivar Trials (project M101/62) were planted for the 38th successive year this past growing season. A total of 19 trials were planted at 18 localities, illustrated in the locality list.

1.1 AIM

The aim of the project was primarily the following:

(I) To compare cultivars for agronomic and economic performance;

(ii) to test the adaptability of cultivars and new releases for specific areas and cultivation practices.

2 MATERIALS AND METHODS

2.1 GENERAL

The trials were planted as randomized block designs as well as a Latinized row-column design using three replications with 28 cultivars. Cultivar characteristics are shown in Table 1.

Each trial plot consisted of four, 5 m rows. Four metres were harvested from each of the middle two rows, in order to avoid border effects. Soil form, fertilization and weed control are indicated together with row spacing in Table 2. All seeds were inoculated with Bradyrhizobium japonicum bacteria at planting.

The localities where trials were planted represent a wide range of climatic conditions. Trials were carried out on the ARC and Departmental Research Stations as well as on privately owned farms. Observations were recorded by responsible officers and collaborators as indicated in the list of collaborators. Planting time and cultivation practice were executed to correspond with that of commercial plantings in the specific

areas. Rainfall and irrigation are indicated in Table 3. Note that rainfall is only recorded from October to April and not for the specific growing season of a trial.

2.2 OBSERVATIONS

A brief definition of some of the observations in the trials is as follow:

2.2.1 Date of flowering: The time at which one fully open flower per plant was observed across 50% of the plots.

2.2.2 Date of harvest maturity: When 95% of the pods for a given plot had turned brown.

2.2.3 Length of growing season: The number of days from date of planting to date of maturity.

2.2.4 Plant height: The average height in centimeter (cm) of plants from the soil surface to the growth point at maturity.

2.2.5 Pod height: The average height in centimeter (cm) of the lowest pods on the plant from soil surface at maturity.

2.2.6 Green stem: The percentage green stems at harvest rated on a 1 (normally mature) to 5 (more than 80% green stems) scale.

2.2.7 Lodging: Lodging at time of harvest was rated on the following scale:

1 = No lodging
2 = Few lodging, will not hamper mechanical harvesting
3 = Few lodging, lodging less than what will hamper mechanical harvesting
4 = Few lodging, will hamper mechanical harvesting, with yield loss
5 = Fair number of plants lodged, will hamper mechanical harvesting, with yield loss

6 = Many plants lodged, will hamper mechanical harvesting, with yield loss

7 = A large number of plants lodged, will hamper mechanical harvesting, with yield loss

8 = Nearly all plants lodged, will hamper mechanical harvesting, yield loss

9 = All plants lodged, will hamper mechanical harvesting, yield loss

2.2.8 Shattering: Measured at time of harvest and three weeks later. Shattering is reported on a scale of 1 (no shattering) to 5 (more than 91-100% pods shattered).

2.2.9 100 seeds mass: Determined on an air dry basis from a randomly selected sample retained on a 4,75 mm standard grading screen.

2.2.10 Undesirable seed: The mass of undesirable seed was determined in a random 100 g sample with seed size greater than 4,75 mm (excluding mechanical damaged seeds).

2.2.11 Protein and oil percentage: The determinations were done on a sample with whole seeds (moisture free) and a variation can be expected.

2.2.12 Seed yield: Four metres of the two centre rows were harvested by hand at soil level and threshed. Seed moisture was determined and seed yield calculated on a basis of 12,5% moisture content.

2.3 THE EVALUATION OF TRIALS

The yield data of the individual trials were subjected to analysis of variance (ANOVA) with a randomized complete block design (RCBD) as well as a Latinized row-column design.

The localities with coefficient of variance higher than 25% were rejected from the

The trial means (x-axis) versus the cultivar means (y-axis) is plotted. A regression line is then fitted with the trial means as x variable and cultivar means as predictor variable. Out of the regression estimates the yield probability percentage above the mean for each cultivar at different yield potentials is then calculated and presented in a table as a guideline for the use of different cultivars under different circumstances.

A yield probability of more than 50% indicated above average yield and a yield probability of less than 50% indicated a below average yield.

3 DISCUSSION OF RESULTS

3.1 GENERAL

The rainfall and irrigation data are shown in Table 3. **Mpumalanga:** The main soybean production areas of the province received more than 80% of the long-term rainfall, however the rainfall was sporadic early in the season. Some areas also experienced a drought just after planting. Normal rainfall figures were recorded during November and December with extremely high temperatures. Most of the area received above average rainfall during January and March, while average temperatures were recorded.

Western production areas for the Free State and North West: The production areas in North West received less than 40% of the average long-term rainfall which was also poorly distributed and accompanted with extremely high temperatures. Due to the drought the trials at Migdol, Hoopstad and Clocolan could not be planted! The dryland trial at Potchefstroom was also planted late during the beginning of December when extreme high temperatures was recorded. Although the eastern areas of the Free State also received below average rainfall the distribution was good and most of the plantings were done on time.

KwaZulu Natal: The Northern and Western areas of KwaZulu Natal received below average rainfall until November with a slight recovery from December onwards.

Two(2) of the trials was terminated at an early stage while three (3) other trials could not be included (high CV%) in the report compared to the five (5) out of 21 trials (23.8%) in the 2013/14 season.

The following trials could not be included in the report for the following reasons:

1 Dundee –damage by pigeons (terminated).
2 Middelburg – High CV%. Low plant counts due to drought just after planting.
3 Koedoeskop – Damage by cut and false wire worms (terminated).
4 Potchefstroom Irrigation – High CV%. Damage by pigeons.
5 Potchefstroom Dryland – High CV%. Late planting and severe drought.

As in the previous seasons the evaluation of the trials was based on a number of parameters. No conclusion can be made on a single parameter.

3.2 DISCUSSION OF TABLES

3.2.1 Days to flowering (Table 4), physiologically mature (Table 5) and length of the growing season (Table 6)

The number of days from planting to flowering (Table 4) is an effective measure for the grouping of cultivars because the relative order of rank for this characteristic is repeated to a great extent over localities and years. As expected the average days to flowering was the shortest in the warm areas (43 days Brits) and the longest in the cooler areas (80 days at Kinross).

The number of days to physiological maturity is shown in Table 5. The longest average days to maturity was experienced at Bethlehem and Kinross (149 days).

The number of days to harvest maturity (Table 6) was used to determine the length of the growing season of a cultivar. The number of days to harvest maturity is however, more dependent on climatic changes and planting date for soybeans and, the number of days to flowering is therefore a more reliable maturity grouping criterion.

3.2.2 Plant height (Table 7)

The indeterminate cultivar DM 6.8i RR (MG 6.8) as the previous season showed a mean plant height of 94 cm (highest) in the cool area compared to 52 cm (lowest) of the semi-determinate cultivar LS 6240 R (MG 4) in the warm region. Plant height for cultivars with an indeterminate growth habit was in general higher than those with a determinate growth habit.

The average plant height between localities varied from a mean of 46 cm at Kroonstad to 103 cm at Delmas.

3.2.3 Pod height (Table 8)

The variation in pod and plant height between cultivars is linked with the length of the growing season of a cultivar. The indeterminate cultivars NS 5909 R (MG 5.9), LS 6164 R (MG 6.0; determinate) and PAN 1614 R (MG 6.2) an indeterminate cultivar showed a mean pod height of 14cm in the moderate area, while PAN 6161 R (MG 6.3; determinate) also had an above average pod height in all the areas.

SSS 4945 (tuc) (MG 4.5) (semi-determinate) had the lowest reading of 5, 6 and 4 in the cool, moderate and warm regions. Considerable harvest losses can occur due to low pod height; thus pod height is an important factor influencing cultivar choice. Differences in pod height between localities can mainly be attributed to differences in row width and climate. A pod height of at least 7.5 cm (combine harvesting height) is preferable.

3.2.4 Lodging (Table 9)

The highest lodging occurred in the trial as the previous year at Delmas including Bergville this season. The highest lodging figures was reported for DM 6.2i RR and LS 6164 R at Bergville (cool area) and DM 6.8i RR in Delmas.

3.2.5 Green stem (Table 10)

A high percentage of green stem was recorded at Brits, while the cultivar NS 5909 R, LS 6261 R and DM 6.8i RR showed a high tendency for green stem, across all three climatic regions. Plants also retained their leaves that could hamper the harvesting process.

3.2.6 Shattering 3 weeks after harvesting (Table 11)

The highest shattering occurred at Brits in the warm production area. Limited shattering was recorded at Glen and Kinross.

3.2.7 Number of plants (Table 12)

Enough certified seed was provided to establish 400 000 plants ha^{-1} for the irrigation and high rainfall areas and 350 000 for dryland. The low plant numbers at Groblersdal were due to pigeon damage and very high temperatures just after planting.

3.2.8 Percentage undesirable seed (Table 13)

The lowest mean of 0.31% undesirable seeds was recorded for the cool region. The range varied from 1.16% at Kroonstad to 0.13% at Kokstad.

3.2.9 Mass (g) 100^{-1} seeds (Table 14)

The variation in seed mass among localities ranged between 12.40 g 100^{-1} seeds at Clarens to 17.84 g 100^{-1} seeds at Greytown Kranskop. The highest seed mass was recorded for LS 6240 R across all climatic regions, while SSS 5449 (tuc), as last season, had the smallest seed across all areas.

3.2.10 Oil percentage (Table 15)

PHB 95 Y 20 R had, the highest average oil percentage for all the regions (14.47%

3.2.11 Crude Protein percentage (Table 16)

LS 6146 R, SSS 4945 (tuc), SSS 5449 (tuc)and DM 5.1i RR had the highest values for all the climate regions.

3.2.12 Profat (Table 17)

The inclusion of this table in the report was requested by Dr Erhard Bredenham as the total value of oil and protein is a much better indicator for the selection of a cultivar than the single oil or protein factor. SSS 4945 (tuc) had the highest average profat value for all the regions. Both the oil- and protein values are significant lower than the previous season. However, the values compared well with the 1997/98 and 2009/10 seasons which is also regarded as extreme dry seasons.

3.2.13 Yield (Table 18)

Due to the sensitivity of soybean cultivars to environmental conditions, it is preferable to divide the soybean production areas into cool, moderate and warm regions. A better yield can be established by choosing a cultivar suitably adapted for a specific region. It is also necessary to use data from more than one year to select between cultivars. Due to the significant cultivar and locality interaction, conclusions on cultivar performance should not be made from average yield data alone. The mean yield over localities has therefore been omitted.

4 INTERPRETATION OF YIELD RESULTS

4.1 INTRODUCTION

A stated aim of the national soybean cultivar trials is the evaluation of cultivars for their adaptability to a potential production area, and for their yield performance. Adaptability is especially important because of the fact that soybean cultivars are known to be restricted in terms of recommended production area. This fact is also demonstrated by the results discussed in this report.

Because of genotypic restriction in adaptability the statistical analysis of data over all trial entries and localities tend to demonstrate strong interaction components which confound interpretation. Interaction makes genotype rankings at one site inapplicable to another site. The larger the interaction the more information is lost if interaction is not analysed effectively. This will be a lesser problem for homogeneous areas than for non-homogeneous areas. However, a purpose of the national trials is to identify homogeneous areas or homogeneous growing conditions based on cultivar performance. Localities were therefore grouped together based on past research experience and with the assistance of photo thermal charts provided by the Institute for Soil, Climate and Water. Localities were grouped in cool, moderate and warm production areas.

4.2 YIELD PROBABILITY AND YIELD (Tables 19, 20, 21, 22, 23 & 24)

A minimum number of successful trials per climatic area are needed to calculate saved yield probability values. Yield probability tables are set up for cool-, moderate and warm regions, if enough data is available.

Yield probability of a cultivar is the chance to get an above average yield at a particular yield potential. For instance, if the yield probability of a cultivar, at a particular yield potential equals 60%, the chance to get a yield above the mean of all cultivars is 60% with a 40% chance of obtaining a yield below the mean. Thus a 60% probability indicated a 10% change of an above average yield, while a 40% probability indicated a 10% change of getting a below average yield.

PAN 1500 R and PAN 1623 R showed an above average yield probability (Table 19) for the low to medium yield potential, (cool area), while PAN 1521 R had an above average yield probability in the medium to high yield potential range for the same climatic region. For the moderate area PAN 1521 R and PAN 1623 R showed above average figures over the whole production potential range. DM 6.2i RR, PAN 1623 R and PAN 1521 R also performed above average for the warm areas.

Lokaliteite, medewerkers en adresse van kultivarproewe soos beplan vir, 2015/16
Localities, co-operators and addresses of the cultivar trials , 2015/16

Nr No	Lokaliteit Locality	Adres van proeflokaliteit Adress of trial locality	Tel. no. Tel. nr.	Verantwoordelike beampte Responsible officer
1	Atlanta	JH Steenkamp P/bus 1022 Atlanta Slagkraal Brits 0250	072 606 5094	G Engelbrecht & R Boshoff
2	Bergville	J Jackson Shamrock H4 Bergville 3350	082 388 0311	R Wessels
3	Bethlehem	Kleingraan Instituut Bethlehem 9700	082 375 8999	L Bronkhorst & E Maree
4	Brits	Hartebeespoort Nav. Stasie Posbus 1261 Brits 0250	082 375 8999	L Bronkhorst & T Kruger
5	Cedara	Cedara P/bag X9059 Pietermaritzburg 3200	033-355 9495/079 898 5522	J Arathoon
6	Clarens	D Terblanche Taillefert Clarens 9707	082 388 0311	R Wessels
7	Delmas-Pannar	Pannar Saad Navorsingsplaas Posbus 439 Delmas 2210	013-665 8524/082 969 1981	A Mathebula
8	Dundee	Dundee Navorsingstasie Posbus 626 Dundee 3000	034 212 479/076 953 3587	M Buthelezi
9	Glen	Glen Proefplaas Bloemfontein 9300	082 375 8999	L Bronkhorst, J Richter & E Maree
10	Greytown	Pannar Proefplaas Posbus 19 Greytown 3250	033-413 9639	A Jarvie
11	Greytown Kranskop	Umvoyuna Farm Posbus 755 Greytown 3250	033-417 1494(6)/082 558 1766	P Herbst
12	Groblersdal-Loskop	Loskopproefplaas Posbus 1367 Groblersdal 0470	013-262 3042/083 274 1951	C Fourie
13	Kinross	Vosstoffel Boerdery Posbus 80 Kinross 2270	082 375 8999	L Bronkhorst
14	Koedoeskop	Sanleohan Trust Plaas Rietfontein Koedoeskop 0361	083 625 4906	R van Niekerk
15	Kokstad	Research Station P/Bag X501 Kokstad 4700	039 727 2105/072 778 8785	MP Skhakhane
16	Kroonstad	Hoërskool Kroonstad Kroonstad 9500	082 375 8999	L Bronkhorst, N Schultz & E Maree
17	Middelburg	G Anderson Postnet Suite 15 P/Bag 1866 Middelburg 1050	082 375 8999	L Bronkhorst
18-19	Potchefstroom	IGG Proefplaas Privaatsak X1251 Potchefstroom 2520	018-299 6366/082 375 8999	L Bronkhorst

Tabel 1 Sojaboonsaad eienskappe en inligting oor verskaffers, 2015/16
Table 1 Soybean seed characteristics and information about agents, 2015/16

Kultivar Cultivar	Volwassenheids-groeperings Maturity Group	Groeiwyse Growth habit *1	Hilum kleur Hilum colour *2	Blomkleur Flower colour *3	Haarkleur Pubescence *4	Op varieteits lys On variety list	Verskaffer Agent	Telersregte Breeding rights
LS 6240 R	4.0	SD	BL	W	W	JA/YES	Linkseed	JA/YES
PAN 1454 R	4.3	I	BL	P	B	JA/YES	Pannar	JA/YES
SSS 4945 (tuc)	4.5	SD	-	W	-	JA/YES	Sensako	JA/YES
LS 6146 R	4.4	I	BL	P	G	JA/YES	Link Seed	JA/YES
PHB 94 Y 80 R	4.8	ID	LB	P	W	JA/YES	Pioneer	JA/YES
LS 6248 R	4.8	SD	BL	W	W	JA/YES	Link Seed	JA/YES
SSS 5449 (tuc)	4.9	I	-	P	-	JA/YES	Sensako	JA/YES
NS 5009 R	5.0	I	B	W	T	JA/YES	K2	NEE/NO
DM 5.1i RR	5.1	I	S	W	W	JA/YES	GDM Seeds	JA/YES
PHB 95 Y 20	5.2	D	BL	P	G	JA/YES	Pioneer	JA/YES
DM 5953 RSF	5.3	I	IB	P	W	JA/YES	GDM Seeds	JA/YES
SSS 5052 (tuc)	5.5	I	-	W	-	JA/YES	Sensako	JA/YES
PAN 1521 R	5.7	I	IB	P	G	JA/YES	Pannar	JA/YES
PAN 1500 R	5.8	I	IB	P	G	JA/YES	Pannar	JA/YES
NS 5909 R	5.9	I	IB	P	G	JA/YES	K2	NEE/NO
LS 6261 R	6.0	SD	BL	W	B	JA/YES	Link Seed	JA/YES
PHB 96 T 06 R	6.0	I	KL	W	G	JA/YES	Pioneer	NEE/NO
PAN 1623 R	6.1	I	KL	W	G	JA/YES	Pannar	JA/YES
LS 6161 R	6.3	D	IB	P	B	JA/YES	Link Seed	JA/YES
DM 6.2i RR	6.2	I	LB	P	G	JA/YES	GDM Seeds	JA/YES
SSS 6560 (tuc)	6.2	I	-	W	-	JA/YES	Sensako	JA/YES
LS 6164 R	6.0	D	LB	W	G	JA/YES	Link Seed	JA/YES
PAN 1614 R	6.2	I	B	W	G	JA/YES	Pannar	NEE/NO
NS 6448 R	6.4	SD	LB	P	G	JA/YES	K2	NEE/NO
DM 6.8i RR	6.8	I	B	P	G	JA/YES	GDM Seeds	JA/YES
NS 7211 R	7.2	D	LB	W	G	JA/YES	K2	NEE/NO

*1 D - Bepaald/determinate; I - Onbepaald/indeterminate; SD - Semi-Bepaald/semi deteminate

*2 BL - Swart/black; IB - Onvollodig swart/imperfect black; B - Bruin/brown; LB - Ligbruin/buff; G - Grys/grey; KL - Kleurloos/buff

*3 P - Pers/purple; W - Wit/white

*4 B - Bruin/brown; G - Grys/grey; W - Wit/white; T – Taankleurig/Tawny

Tabel 2 Algemene inligting aangaande grond en verbouiingpraktyke by die onderskeie proeflokaliteite van die kultivarproewe, 2015/16
Table 2 General information in connection with soil and cultivation practices at the different trial localities, 2015/16

Lokaliteit Locality	Plantdatum Date of planting	Grondvorm Soil type	Grond ontleding Soil analysis			Bemesting Fertilization			Spasiëring Spacing (cm)	Onkruid beheer Weed control	Koördinate van lokaliteite Co-ordinate of localities	
			pH (H_2O)	P	K	N	P	K				
Atlanta/B	09/12/15	Katspruit	6.44	4	292	0	0	0	75	Geen. Slegs geskoffel	25,591916S	27,719345E
Bergville/B	25/11/15	-	4.05	13.7	148.35	-	-	-	90	-	28°43.234"S	29°18.433"E
Bethlehem/D	21/10/15	Avalon	6.54	54	283	3.64	2.52	0	90	Strongarm, Agill, Round-up, skoffel	28º09'36.1''S	028º18'14.9''E
Brits/B	02/11/15	Arcadia	8.01	16	40	1.4	13.86	21	75	Strongarm, Agill, Round-up, skoffel	26°21'31.7''S	029°08'04.5''E
Cedara/D	17/11/15	Hutton	4.63	13	103	0	20	0	45	Dual S Gold, Hammer, Basagran	29°32'10"S	30°16'00"E
Clarens/D	18/11/15		4.95	69.4	133.6	-	-	-	90	-	28°23.987"S	28°25.254"E
Clocolan/D	Droogte/Dry	-	4.82	54	78	-	-	-	75	-	-	-
Delmas/D	07/12/15	Sandy loam (Bloemdal)	5.0-5.5	35	-	11.2	0.84	4	90	Flumetsulam, Metolachlor 960, Roundup	26°08'45.7S	028°42'53.7E
Dundee/D	21/12/15	Hutton	3.83	28	174	-	-	-	45	-	-	-
Glen/B	17/11/15	Hutton	7.32	20	150	4.2	13.02	0	75	Strongarm, Agill, Round-up	28°55.747'S	026°19.586'S
Greytown/D	02/12/15	Hutton	-	-	-	-	-	-	75	Metagan Gold, Roundup		
Greytown Kranskop/D	30/11/15	Hutton	-	-	-	0	21	50	90	Felgan Gold, Classic	29°03'40.31'S	30°41'09.95'E
Groblersdal/B	04/11/15	Avalon	5.92	43	323	0	18.38	0	75	Strongarm, Agill, Round-up	25°10'43.2"S	29°23'16.2"E
Hoopstad	Droogte/Dry	-	7.04	28	130	-	-	-	75	-	-	-
Kinross/D	28/10/15	-	5.62	52	230	2.8	2.31	0	75	Strongarm, Agill, Round-up, skoffel	26º21''31.8'' S	029º08'04.4''E
Koedoeskop/B	Wurms/Worms	-	-	-	-	-	-	-	52	-	-	-
Kokstad/D	02/12/15	-	4.06	18	116	-	-	-	45	Dual Gold	-	-
Kroonstad/D	08/12/15	-	5.17	32	133	5.04	2.31	0	90	Strongarm, Agill, Round-up, skoffel	27º36'28.9''S	027°14'00''E
Middelburg/D	24/11/15	-	Boer werk op globale monster			-	-	-	75	Strongarm, Agill, Round-up, skoffel	25º41'25.0''S	029º43'48.7''E
Migdol/D	Droogte/Dry	-	5.61	70	218	-	-	-	75	-	-	-
Potchefstroom/B	12/11/15	Hutton	6.61	12	370	0	15.12	0	75	Strongarm, Alachlor, Round-up, skoffel	26º44'.12.8''S	027º03'36.6''E
Potchefstroom/D	15/12/15	Hutton	5.79	21	350	0	7.56	0	90	Strongarm, Alachlor, Round-up, skoffel	26º44'12.5''S	027º03'38.9''E

- Inligting nie beskikbaar/information not available

Tabel 3 Reënval en besproeiing vir die verskillende lokaliteite (mm), 2015/16

Table 3 Rainfall and irrigation at the different localities (mm), 2015/16

Lokaliteit Locality	Maandelikse reënval (mm)/Monthly rainfall (mm)							Totaal Total *	Besproeiing Irrigation	Totaal Total **
	Okt	Nov	Des	Jan	Feb	Mrt	Apr			
Atlanta	0	20	19	148	48	190	10	435	365	800
Bethlehem	32.77	52.58	39.37	166.12	89.92	52.83	61.21	494.8	140	634.8
Brits	2	24	25	152	52	185	14	454	700	1154
Cedara	24.9	54.1	84.6	158.3	115.8	95.5	20.1	553.3	50	603.3
Delmas	37.8	78.2	97.4	170.2	92.2	182.2	2.8	660.8	0	660.8
Glen	0	26	0	0	85	14	82	207	571	778
Greytown	24	234.8	236	122.4	60.2	104.6	21	803	0	803
Greytown Kranskop	28	68	135	85	65	142	28	551	40	591
Groblersdal	28.19	45.21	37.59	56.9	72.4	50.8	41.15	332.24	400	732.24
Kokstad	17.5	65.2	67	47	109	133.3	36	475	0	475
Potchefstroom B	30.48	36.58	64.7	94.74	76.96	60.2	76.96	440.62	470	910.62
Potchefstroom Drg	30.48	36.58	64.7	94.74	76.96	60.2	76.96	440.62	0	440.62

* Vir reënval/For rainfall

* Vir reënval en besproeiing/For rainfall and irrigation

Tabel 4 Die aantal dae vanaf plant tot 50% blomstadium van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16
Table 4 The number of days from planting to 50% flowering stage of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool						Matig/Moderate						Warm		
Kultivar Cultivar	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Bergville	Cedara	Glen	Greytown Kranskop	Kroonstad	Gem/Mean	Brits	Groblersdal	Gem/Mean
LS 6240 R	70	57	41	68	65	60	63	46	57	35	36	47	53	44	49
PAN 1454 R	78	57	42	78	65	64	57	46	57	35	36	46	43	41	42
SSS 4945 (tuc)	78	57	44	68	68	63	43	46	57	35	36	43	43	41	42
LS 6146 R	78	76	45	70	68	67	43	45	57	35	36	43	45	41	43
PHB 94 Y 80 R	81	57	46	70	68	64	60	49	57	42	36	49	50	41	46
LS 6248 R	72	57	57	82	76	69	61	63	72	49	64	62	50	41	46
SSS 5449 (tuc)	84	76	56	86	75	75	79	60	72	51	49	62	61	44	53
NS 5009 R	78	76	47	72	65	68	43	46	57	40	36	44	43	41	42
DM 5.1i RR	84	81	46	68	68	69	43	45	57	35	36	43	43	41	42
PHB 95 Y 20 R	81	57	60	86	76	72	60	67	72	59	64	64	58	44	51
DM 5953 RSF	84	84	47	72	64	70	43	48	57	37	49	47	52	41	47
SSS 5052 (tuc)	78	76	60	86	72	74	58	64	72	57	64	63	53	44	49
PAN 1521 R	78	57	60	93	75	73	59	64	67	57	64	62	55	41	48
PAN 1500 R	67	79	60	93	75	75	43	67	72	57	66	61	53	44	49
NS 5909 R	86	84	60	94	72	79	59	67	72	57	64	64	58	44	51
LS 6261 R	72	76	58	86	75	73	52	64	72	51	62	60	61	44	53
PHB 96 T 06 R	78	84	62	86	71	76	63	69	74	60	64	66	61	44	53
PAN 1623 R	78	76	60	86	75	75	62	67	72	55	49	61	53	41	47
LS 6161 R	84	57	62	78	72	71	63	65	72	49	64	63	58	41	50
DM 6.2i RR	78	57	62	93	76	73	43	66	72	57	64	60	55	44	50
SSS 6560 (tuc)	78	76	56	82	75	73	63	64	72	57	62	64	53	41	47
LS 6164 R	72	76	58	79	75	72	58	63	72	52	62	61	58	41	50
PAN 1614 R	76	84	60	82	75	75	62	66	72	57	64	64	55	55	55
NS 6448 R	78	84	58	93	76	78	63	67	72	57	64	65	58	47	53
DM 6.8i RR	72	84	63	68	76	73	43	69	72	55	64	61	55	47	51
NS 7211 R	78	76	60	82	72	74	64	68	72	55	64	65	45	41	43
Standaard 1	78	76	39	72	65	66	43	45	62	37	36	45	43	41	42
Standaard 2	78	76	58	78	72	72	59	67	72	57	64	64	61	41	51
Gem/Mean	78	72	55	80	72	71	55	59	67	49	54	57	53	43	48

Tabel 5 Die aantal dae vanaf plant tot fisiologiesrypstadium van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16
Table 5 The number of days from planting to physiological maturity of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool						Matig/Moderate				Warm		
Kultivar Cultivar	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Bergville	Cedara	Kroonstad	Gem/Mean	Brits	Groblersdal	Gem/Mean
LS 6240 R	134	104	119	139	125	124	105	117	107	110	127	106	117
PAN 1454 R	134	111	124	133	121	125	110	119	106	112	120	110	115
SSS 4945 (tuc)	137	105	120	126	121	122	113	117	106	112	127	106	117
LS 6146 R	134	107	121	133	125	124	110	117	107	111	127	106	117
PHB 94 Y 80 R	134	115	119	133	125	125	113	120	106	113	127	106	117
LS 6248 R	155	116	131	154	128	137	115	130	107	117	135	124	130
SSS 5449 (tuc)	144	117	144	146	132	137	108	128	112	116	120	114	117
NS 5009 R	134	115	120	133	125	125	112	123	106	114	120	110	115
DM 5.1i RR	134	116	119	133	125	125	112	115	106	111	127	106	117
PHB 95 Y 20 R	160	116	135	161	138	142	110	133	115	119	127	124	126
DM 5953 RSF	134	118	126	133	135	129	109	120	106	112	127	106	117
SSS 5052 (tuc)	160	118	140	161	140	144	112	137	118	122	135	117	126
PAN 1521 R	155	122	135	154	138	141	116	131	109	119	127	117	122
PAN 1500 R	155	123	140	154	140	142	116	135	118	123	135	110	123
NS 5909 R	155	124	139	154	138	142	118	139	118	125	135	106	121
LS 6261 R	160	125	141	154	140	144	118	134	118	123	135	117	126
PHB 96 T 06 R	160	128	135	161	142	145	121	138	118	126	129	110	120
PAN 1623 R	160	127	131	154	142	143	121	135	118	125	135	117	126
LS 6161 R	160	132	134	161	140	145	122	138	118	126	135	124	130
DM 6.2i RR	155	127	144	161	142	146	122	135	118	125	127	110	119
SSS 6560 (tuc)	160	124	137	154	142	143	122	137	118	126	135	124	130
LS 6164 R	155	128	142	161	140	145	125	139	118	127	135	117	126
PAN 1614 R	155	128	137	161	140	144	123	136	115	125	135	110	123
NS 6448 R	155	127	137	161	142	144	123	141	118	127	135	117	126
DM 6.8i RR	157	131	144	161	145	148	124	145	118	129	135	117	126
NS 7211 R	157	130	138	154	142	144	124	143	118	128	142	117	130
Standaard 1	134	114	120	133	125	125	110	117	106	111	120	106	113
Standaard 2	155	121	132	154	142	141	114	135	118	122	135	110	123
Gem/Mean	149	120	132	149	135	137	116	130	113	120	130	113	122

Tabel 6 Die aantal dae vanaf plant tot oesstadium van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16

Table 6 The number of days from planting to maturity of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool						Matig/Moderate					Warm		
Kultivar Cultivar	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Bergville	Cedara	Greytown Kranskop	Kroonstad	Gem/Mean	Brits	Groblersdal	Gem/Mean
LS 6240 R	158	142	137	149	142	146	138	134	120	118	128	137	118	128
PAN 1454 R	158	142	137	147	142	145	142	134	120	118	129	137	142	140
SSS 4945 (tuc)	156	142	137	147	131	143	138	134	120	116	127	150	120	135
LS 6146 R	158	142	137	149	142	146	138	134	120	118	128	144	122	133
PHB 94 Y 80 R	155	142	137	149	155	148	142	134	121	118	129	145	122	134
LS 6248 R	175	149	144	152	145	153	142	143	123	125	133	147	126	137
SSS 5449 (tuc)	175	149	148	151	142	153	138	138	121	118	129	139	118	129
NS 5009 R	153	149	137	149	153	148	138	134	120	118	128	147	122	135
DM 5.1i RR	150	142	137	147	142	144	142	134	120	118	129	153	122	137
PHB 95 Y 20 R	186	157	148	185	155	166	138	147	136	134	139	147	136	142
DM 5953 RSF	150	149	137	154	155	149	138	134	120	118	128	142	122	132
SSS 5052 (tuc)	183	157	148	180	155	165	147	153	134	136	143	150	129	139
PAN 1521 R	175	157	148	175	145	160	138	147	121	140	137	144	124	134
PAN 1500 R	188	168	148	180	155	168	142	151	123	136	138	153	136	145
NS 5909 R	192	168	148	189	155	170	147	153	136	136	143	150	136	143
LS 6261 R	182	149	144	185	155	163	142	153	134	132	140	155	122	139
PHB 96 T 06 R	187	157	148	185	155	166	142	153	136	140	143	150	134	142
PAN 1623 R	186	157	151	176	155	165	142	149	134	140	141	150	139	145
LS 6161 R	190	157	148	180	155	166	138	153	134	140	141	150	139	145
DM 6.2i RR	195	157	156	189	155	170	147	149	136	140	143	147	129	138
SSS 6560 (tuc)	179	157	148	170	155	162	142	153	134	136	141	150	141	146
LS 6164 R	192	168	148	175	155	168	152	153	136	140	145	150	127	138
PAN 1614 R	192	168	148	189	155	170	142	149	134	136	140	142	129	136
NS 6448 R	190	168	148	189	155	170	138	153	136	140	142	147	141	144
DM 6.8i RR	195	168	157	189	155	173	147	160	136	140	146	152	141	147
NS 7211 R	187	157	148	185	155	166	147	160	136	140	146	158	146	152
Standaard 1	155	142	137	147	145	145	138	144	120	118	130	139	118	129
Standaard 2	175	157	148	170	145	159	138	147	123	140	137	144	126	135
Gem/Mean	176	154	145	169	150	159	142	146	128	130	136	147	130	138

Tabel 7 Die planthoogte van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16
Table 7 The plant height of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool						Matig/Moderate							Warm		
Kultivar Cultivar	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Bergville	Cedara	Glen	Greytown	Greytown Kranskop	Kroonstad	Gem/Mean	Brits	Groblersdal	Gem/Mean
LS 6240 R	62	60	81	62	48	62	80	51	55	54	63	44	58	51	54	52
PAN 1454 R	78	75	110	63	58	77	100	51	65	66	87	42	68	58	78	68
SSS 4945 (tuc)	58	50	81	57	39	57	80	45	58	54	65	43	58	47	70	59
LS 6146 R	77	65	96	73	45	71	105	48	58	64	93	43	69	62	76	69
PHB 94 Y 80 R	61	65	81	70	38	63	90	52	50	55	75	33	59	50	68	59
LS 6248 R	80	75	106	58	54	75	105	58	67	77	88	43	73	62	96	79
SSS 5449 (tuc)	55	75	107	60	52	70	75	53	67	69	80	47	65	65	62	63
NS 5009 R	72	60	89	60	43	65	75	52	50	62	70	35	57	57	68	62
DM 5.1i RR	52	65	92	45	41	59	95	46	60	56	80	40	63	57	67	62
PHB 95 Y 20 R	63	60	81	65	62	66	105	56	70	69	88	30	70	40	40	40
DM 5953 RSF	66	75	95	73	44	70	95	50	77	59	82	38	67	70	77	74
SSS 5052 (tuc)	75	85	102	62	55	76	100	68	62	64	75	50	70	65	72	68
PAN 1521 R	93	80	106	60	66	81	100	63	80	68	78	53	74	83	91	87
PAN 1500 R	76	85	104	52	60	75	115	63	60	61	78	51	71	62	67	64
NS 5909 R	80	60	113	73	63	78	110	71	80	71	83	45	77	67	79	73
LS 6261 R	73	75	100	65	48	72	80	57	52	56	70	37	59	53	64	59
PHB 96 T 06 R	90	100	118	85	74	93	110	81	78	72	107	57	84	72	89	81
PAN 1623 R	92	90	109	52	59	80	115	67	75	70	97	55	80	68	75	72
LS 6161 R	95	85	111	68	67	85	100	81	68	64	78	53	74	80	91	85
DM 6.2i RR	87	80	113	68	66	83	105	73	78	64	73	58	75	77	94	85
SSS 6560 (tuc)	90	80	115	65	56	81	100	59	73	68	85	53	73	80	71	76
LS 6164 R	97	90	124	75	62	89	110	71	80	75	103	52	82	78	80	79
PAN 1614 R	83	95	123	83	69	91	110	76	75	76	98	53	82	63	82	73
NS 6448 R	78	75	115	90	65	85	105	66	78	71	80	38	73	62	63	62
DM 6.8i RR	95	100	128	83	64	94	115	77	87	72	102	53	84	78	89	84
NS 7211 R	55	65	83	70	55	65	90	59	63	70	87	38	68	55	37	46
Standaard 1	62	55	88	62	44	62	90	50	53	56	68	41	60	58	58	58
Standaard 2	85	90	105	63	61	81	105	67	87	63	85	63	78	92	94	93
Gem/Mean	76	76	103	67	56	75	99	61	68	65	83	46	70	65	73	69

Tabel 8 Die peulhoogte van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16

Table 8 The pod height of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool						Matig/Moderate							Warm		
Kultivar Cultivar	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Bergville	Cedara	Glen	Greytown	Greytown Kranskop	Kroonstad	Gem/Mean	Brits	Groblersdal	Gem/Mean
LS 6240 R	5	7	11	5	5	7	10	8	5	10	8	1	7	2	4	3
PAN 1454 R	10	7	11	5	5	8	10	8	7	9	11	1	8	4	5	4
SSS 4945 (tuc)	5	5	6	4	3	5	6	6	7	6	10	1	6	4	4	4
LS 6146 R	8	6	8	9	3	7	16	7	6	11	8	1	8	6	6	6
PHB 94 Y 80 R	5	4	6	8	2	5	5	7	11	7	16	1	8	5	4	4
LS 6248 R	7	7	11	7	3	7	10	9	13	12	23	2	11	9	7	8
SSS 5449 (tuc)	5	5	14	6	6	7	16	8	8	10	17	1	10	5	4	5
NS 5009 R	8	6	6	4	2	5	6	7	7	9	11	1	7	5	5	5
DM 5.1i RR	2	4	7	1	3	3	10	7	8	8	7	1	7	6	3	5
PHB 95 Y 20 R	6	7	10	9	5	7	6	10	13	11	23	1	11	5	9	7
DM 5953 RSF	5	6	8	8	8	7	10	9	10	4	12	1	8	6	4	5
SSS 5052 (tuc)	8	7	12	6	5	8	12	13	12	13	15	3	11	7	5	6
PAN 1521 R	9	7	11	6	6	8	15	11	15	13	21	1	13	9	8	9
PAN 1500 R	6	10	12	5	6	8	18	13	14	12	22	2	13	8	5	7
NS 5909 R	7	4	9	10	5	7	19	13	17	14	20	2	14	10	12	11
LS 6261 R	9	13	11	8	3	9	10	11	10	11	16	1	10	5	8	7
PHB 96 T 06 R	7	14	8	11	4	9	15	15	17	13	16	2	13	7	6	6
PAN 1623 R	8	7	13	7	4	8	15	10	13	11	20	1	12	9	9	9
LS 6161 R	8	10	10	8	13	10	17	18	14	15	18	3	14	10	15	13
DM 6.2i RR	7	11	11	9	3	8	11	13	14	8	15	2	10	13	4	9
SSS 6560 (tuc)	9	11	12	7	4	9	7	13	9	13	20	2	11	8	8	8
LS 6164 R	9	10	16	11	5	10	16	12	16	15	20	3	14	9	5	7
PAN 1614 R	7	8	13	11	6	9	17	15	11	16	25	3	14	8	6	7
NS 6448 R	8	11	8	13	5	9	13	13	16	15	20	2	13	9	9	9
DM 6.8i RR	8	10	13	13	4	9	19	14	15	9	20	2	13	9	6	8
NS 7211 R	6	7	8	9	5	7	11	13	12	14	20	1	12	6	4	5
Standaard 1	6	5	7	6	6	6	9	9	11	9	11	1	8	4	5	5
Standaard 2	9	7	13	7	6	8	8	10	17	12	23	1	12	13	6	10
Gem/Mean	7	8	10	8	5	7	12	11	12	11	17	2	11	7	6	7

Tabel 9 Omvalwaarnemings (1-5) van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16
Table 9 Lodging dat (1-5) of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool						Matig/Moderate						Warm		
Kultivar Cultivar	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Bergville	Cedara	Glen	Greytown	Kroonstad	Gem/Mean	Brits	Groblersdal	Gem/Mean
LS 6240 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
PAN 1454 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
SSS 4945 (tuc)	1,00	1,00	1,00	1,00	1,00	1,00	2,00	1,00	1,00	1,00	1,00	1,20	1,00	1,00	1,00
LS 6146 R	1,00	1,00	1,00	1,00	1,00	1,00	2,00	1,00	1,00	1,00	1,00	1,20	1,00	1,00	1,00
PHB 94 Y 80 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
LS 6248 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
SSS 5449 (tuc)	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
NS 5009 R	1,00	1,00	1,00	1,00	1,00	1,00	2,00	1,00	1,00	1,00	1,00	1,20	1,00	1,00	1,00
DM 5.1i RR	1,00	1,00	1,00	1,00	1,00	1,00	2,00	1,00	1,00	1,00	1,00	1,20	1,00	1,00	1,00
PHB 95 Y 20 R	1,00	1,00	1,67	1,00	1,00	1,13	2,00	1,00	1,00	2,00	1,00	1,40	1,00	1,00	1,00
DM 5953 RSF	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
SSS 5052 (tuc)	1,00	1,00	1,67	1,00	1,00	1,13	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
PAN 1521 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,33	1,17
PAN 1500 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
NS 5909 R	1,00	1,00	1,33	1,00	1,00	1,07	1,00	1,00	1,00	1,00	2,00	1,20	1,00	1,00	1,00
LS 6261 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
PHB 96 T 06 R	1,00	1,00	2,00	1,00	1,00	1,20	1,00	1,00	1,00	1,33	1,00	1,07	1,00	1,00	1,00
PAN 1623 R	1,00	1,00	1,00	1,00	1,00	1,00	2,00	1,00	1,00	1,00	1,00	1,20	1,00	1,00	1,00
LS 6161 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
DM 6.2i RR	1,00	1,00	2,00	1,00	1,00	1,20	2,67	1,00	1,00	1,33	1,00	1,40	1,00	1,00	1,00
SSS 6560 (tuc)	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
LS 6164 R	1,00	1,00	1,00	1,00	1,00	1,00	3,67	1,00	1,00	1,00	1,00	1,53	1,00	1,00	1,00
PAN 1614 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
NS 6448 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
DM 6.8i RR	1,00	1,00	2,67	1,00	1,00	1,33	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
NS 7211 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Standaard 1	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Standaard 2	1,00	1,00	1,67	1,00	1,00	1,13	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,33	1,17
Gem/Mean	1,00	1,00	1,21	1,00	1,00	1,04	1,37	1,00	1,00	1,06	1,04	1,09	1,00	1,02	1,01

Tabel 10 Groenstam (1-5) van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16
Table 10 Greenstem (1-5) of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool						Matig/Moderate						Warm		
Kultivar Cultivar	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Bergville	Cedara	Glen	Greytown	Kroonstad	Gem/Mean	Brits	Groblersdal	Gem/Mean
LS 6240 R	2,00	1,00	1,00	2,00	1,00	1,40	2,00	1,00	1,67	1,00	1,00	1,33	3,67	1,00	2,33
PAN 1454 R	1,33	1,00	1,00	3,67	1,00	1,60	2,00	3,33	2,33	1,00	1,00	1,93	3,67	1,67	2,67
SSS 4945 (tuc)	1,00	1,00	1,00	2,00	1,00	1,20	2,67	1,67	3,33	1,00	1,00	1,93	3,67	1,00	2,33
LS 6146 R	1,00	1,00	1,00	1,33	1,00	1,07	2,00	2,00	1,00	1,00	1,00	1,40	4,00	3,00	3,50
PHB 94 Y 80 R	1,00	1,00	1,00	2,67	1,00	1,33	1,00	4,67	3,67	1,00	1,33	2,33	4,33	1,67	3,00
LS 6248 R	4,33	1,00	1,00	2,67	1,00	2,00	1,00	1,00	1,33	2,33	2,33	1,60	3,33	1,33	2,33
SSS 5449 (tuc)	2,00	1,00	2,00	1,33	1,00	1,47	2,00	1,33	1,00	1,33	1,00	1,33	3,00	1,33	2,17
NS 5009 R	1,67	1,00	1,00	1,67	1,00	1,27	4,00	3,33	3,67	1,00	1,00	2,60	4,00	2,00	3,00
DM 5.1i RR	1,00	1,00	1,00	2,00	1,00	1,20	3,00	3,67	2,67	1,00	1,00	2,27	4,33	1,67	3,00
PHB 95 Y 20 R	2,33	1,00	1,33	3,33	1,00	1,80	3,00	1,33	1,67	3,00	1,33	2,07	3,33	1,00	2,17
DM 5953 RSF	1,00	1,00	1,00	1,67	1,00	1,13	2,00	4,67	1,33	1,33	1,00	2,07	3,00	1,00	2,00
SSS 5052 (tuc)	1,33	1,00	1,00	2,00	1,00	1,27	1,00	1,33	1,33	2,33	1,00	1,40	4,00	1,00	2,50
PAN 1521 R	2,67	1,00	1,00	2,00	1,33	1,60	1,00	1,00	2,00	1,33	2,33	1,53	2,33	1,67	2,00
PAN 1500 R	4,67	1,00	1,00	2,67	1,33	2,13	2,00	1,67	2,33	1,67	3,33	2,20	3,33	1,33	2,33
NS 5909 R	2,33	1,00	1,67	4,33	1,67	2,20	1,00	1,00	2,00	3,00	4,00	2,20	4,00	1,00	2,50
LS 6261 R	4,67	1,00	1,00	4,33	1,00	2,40	4,00	2,00	2,33	4,00	1,00	2,67	4,00	1,67	2,83
PHB 96 T 06 R	1,00	1,67	1,00	2,33	1,00	1,40	2,00	1,00	1,33	1,00	1,33	1,33	4,00	1,00	2,50
PAN 1623 R	3,67	1,00	1,00	1,67	1,00	1,67	1,00	1,00	1,00	1,67	3,33	1,60	3,67	1,00	2,33
LS 6161 R	1,33	1,67	1,00	4,67	1,00	1,93	2,00	2,00	3,00	2,33	2,00	2,27	3,67	1,00	2,33
DM 6.2i RR	1,67	1,33	2,00	4,33	2,00	2,27	1,00	1,33	3,33	1,00	1,00	1,53	3,33	1,00	2,17
SSS 6560 (tuc)	3,33	1,00	2,00	3,67	1,00	2,20	1,00	1,67	1,33	2,00	2,33	1,67	3,33	1,00	2,17
LS 6164 R	2,67	2,00	1,00	2,67	1,00	1,87	1,00	1,00	1,67	1,33	2,00	1,40	3,00	1,00	2,00
PAN 1614 R	1,33	1,00	1,00	2,67	1,00	1,40	2,33	1,00	1,67	2,67	2,00	1,93	3,33	1,00	2,17
NS 6448 R	1,00	1,00	1,33	3,33	1,33	1,60	1,00	1,00	1,67	1,33	3,33	1,67	3,67	1,00	2,33
DM 6.8i RR	2,00	1,00	3,00	5,00	1,00	2,40	1,00	1,33	3,33	1,00	3,50	2,03	4,00	1,00	2,50
NS 7211 R	2,67	1,00	2,33	2,67	1,33	2,00	1,00	2,67	2,00	2,00	3,33	2,20	3,33	1,00	2,17
Standaard 1	1,33	1,00	1,00	3,67	1,00	1,60	1,00	2,33	2,33	1,33	1,00	1,60	3,00	1,00	2,00
Standaard 2	3,33	1,00	1,00	2,67	1,00	1,80	1,00	1,67	2,00	1,33	1,00	1,40	2,33	1,67	2,00
Gem/Mean	2,13	1,10	1,27	2,82	1,11	1,69	1,75	1,89	2,08	1,65	1,82	1,84	3,52	1,29	2,40

Tabel 11 Oopspring (1-5) van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16
Table 11 Shattering (1-5) of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool			Matig/Moderate			Warm	
Kultivar Cultivar	Bethlehem	Kinross	Gem/Mean	Glen	Kroonstad	Gem/Mean	Brits	Gem/Mean
LS 6240 R	1,00	1,00	1,00	1,00	1,00	1,00	2,00	2,00
PAN 1454 R	1,00	1,00	1,00	1,00	3,00	2,00	3,00	3,00
SSS 4945 (tuc)	5,00	2,00	3,50	1,00	5,00	3,00	5,00	5,00
LS 6146 R	1,00	1,00	1,00	1,00	1,00	1,00	2,00	2,00
PHB 94 Y 80 R	1,00	1,00	1,00	1,00	4,00	2,50	5,00	5,00
LS 6248 R	2,00	1,00	1,50	1,00	3,00	2,00	5,00	5,00
SSS 5449 (tuc)	1,00	1,00	1,00	1,67	2,00	1,83	5,00	5,00
NS 5009 R	2,00	1,00	1,50	1,00	2,00	1,50	3,00	3,00
DM 5.1i RR	1,00	1,00	1,00	1,00	4,00	2,50	5,00	5,00
PHB 95 Y 20 R	1,00	1,00	1,00	1,00	4,00	2,50	3,00	3,00
DM 5953 RSF	1,00	1,00	1,00	1,00	5,00	3,00	3,00	3,00
SSS 5052 (tuc)	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
PAN 1521 R	1,00	1,00	1,00	1,00	1,00	1,00	4,00	4,00
PAN 1500 R	1,00	2,00	1,50	1,00	1,00	1,00	2,00	2,00
NS 5909 R	1,00	2,00	1,50	1,00	3,00	2,00	3,00	3,00
LS 6261 R	1,00	1,00	1,00	1,00	3,00	2,00	3,00	3,00
PHB 96 T 06 R	1,00	1,00	1,00	1,00	1,00	1,00	3,00	3,00
PAN 1623 R	1,00	1,00	1,00	1,00	1,00	1,00	3,00	3,00
LS 6161 R	2,00	1,00	1,50	1,00	1,00	1,00	3,00	3,00
DM 6.2i RR	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
SSS 6560 (tuc)	1,00	1,00	1,00	1,00	1,00	1,00	2,00	2,00
LS 6164 R	1,00	2,00	1,50	1,00	1,00	1,00	2,00	2,00
PAN 1614 R	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
NS 6448 R	3,00	1,00	2,00	1,00	2,00	1,50	5,00	5,00
DM 6.8i RR	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
NS 7211 R	2,00	2,00	2,00	1,00	1,00	1,00	2,00	2,00
Standaard 1	1,00	1,00	1,00	1,00	1,00	1,00	5,00	5,00
Standaard 2	1,00	1,00	1,00	1,00	1,00	1,00	2,00	2,00
Gem/Mean	1,36	1,18	1,27	1,02	2,00	1,51	3,00	3,00

Tabel 12 Die planttelling geoes (x 1000) van die verskillende sojaboonkultivars by die verskillende proeflokaliteite, 2015/16
Table 12 The number of plant harvested (x 1000) of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool					Matig/Moderate				Warm		
Kultivar Cultivar	Bethlehem	Delmas	Kinross	Kokstad	Gem/Mean	Cedara	Glen	Kroonstad	Gem/Mean	Brits	Groblersdal	Gem/Mean
LS 6240 R	222	125	237	103	172	276	227	166	223	256	198	227
PAN 1454 R	239	150	229	111	182	275	224	167	222	270	229	249
SSS 4945 (tuc)	260	209	259	157	221	255	292	183	243	219	228	223
LS 6146 R	250	129	267	142	197	286	243	197	242	249	264	257
PHB 94 Y 80 R	247	202	302	133	221	309	361	168	279	255	313	284
LS 6248 R	256	190	253	134	208	284	323	192	266	238	219	229
SSS 5449 (tuc)	223	192	248	133	199	304	252	161	239	272	215	244
NS 5009 R	249	195	277	128	212	279	277	180	245	235	244	240
DM 5.1i RR	218	156	218	87	170	267	214	197	226	238	256	247
PHB 95 Y 20 R	194	175	253	106	182	214	227	146	195	203	172	188
DM 5953 RSF	235	201	293	206	234	325	344	145	272	266	210	238
SSS 5052 (tuc)	215	119	242	87	166	208	213	159	193	233	280	257
PAN 1521 R	241	246	271	190	237	316	305	194	272	277	304	291
PAN 1500 R	209	176	252	159	199	283	251	189	241	237	230	234
NS 5909 R	191	228	283	151	213	281	273	210	255	264	247	256
LS 6261 R	234	180	268	106	197	278	301	180	253	231	320	276
PHB 96 T 06 R	237	237	266	125	216	303	307	171	260	253	302	277
PAN 1623 R	225	189	215	84	178	296	273	189	253	211	216	213
LS 6161 R	213	179	234	236	215	282	247	199	243	244	243	244
DM 6.2i RR	114	136	258	66	144	201	158	176	179	219	237	228
SSS 6560 (tuc)	207	188	271	83	187	255	192	184	210	223	190	207
LS 6164 R	178	212	263	181	209	273	272	204	250	236	296	266
PAN 1614 R	225	175	271	98	192	299	267	197	254	221	199	210
NS 6448 R	197	219	274	135	206	301	248	187	245	259	263	261
DM 6.8i RR	118	153	219	76	142	164	134	105	134	222	201	212
NS 7211 R	213	148	263	79	176	251	268	144	221	246	289	268
Standaard 1	233	156	254	88	183	284	322	152	253	269	203	236
Standaard 2	215	131	272	133	188	257	232	188	226	263	177	220
Gem/Mean	216	178	258	126	194	272	259	176	236	243	241	242

Tabel 13 Persentasie ongewenste sade van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16

Table 13 Percentage undesirable seed of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool						Matig/Moderate						Warm		
Kultivar Cultivar	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Cedara	Glen	Greytown	Greytown Kranskop	Kroonstad	Gem/Mean	Brits	Groblersdal	Gem/Mean
LS 6240 R	0,34	0,35	0,16	0,32	0,43	0,32	0,78	0,62	1,08	1,72	0,11	0,86	0,47	0,29	0,38
PAN 1454 R	0,14	0,18	0,02	0,32	0,00	0,13	0,67	0,60	1,17	2,00	0,37	0,96	2,29	0,38	1,34
SSS 4945 (tuc)	0,32	0,29	0,00	0,52	0,00	0,23	0,46	1,09	1,52	1,05	0,27	0,88	0,30	0,19	0,25
LS 6146 R	0,32	0,05	0,00	0,43	0,20	0,20	0,55	1,06	1,90	1,39	0,71	1,12	0,80	0,25	0,53
PHB 94 Y 80 R	0,00	0,12	0,11	0,16	0,76	0,23	0,70	0,57	0,71	0,00	0,95	0,59	0,13	0,00	0,07
LS 6248 R	0,31	1,16	0,10	0,73	0,00	0,46	0,56	0,43	1,34	1,58	0,74	0,93	0,30	0,32	0,31
SSS 5449 (tuc)	0,05	0,26	0,10	0,82	0,27	0,30	0,77	0,81	1,06	0,58	0,23	0,69	0,87	0,08	0,48
NS 5009 R	0,19	0,04	0,00	0,21	0,17	0,12	0,52	0,65	1,03	0,95	0,72	0,77	0,88	0,43	0,66
DM 5.1i RR	0,25	0,09	0,06	0,13	0,00	0,11	0,86	1,26	1,04	1,00	0,23	0,88	0,22	0,24	0,23
PHB 95 Y 20 R	0,16	0,46	0,86	0,22	0,00	0,34	0,72	0,69	0,67	1,05	1,59	0,94	0,11	0,17	0,14
DM 5953 RSF	0,48	0,37	0,20	0,62	0,03	0,34	1,57	0,44	0,98	0,60	0,28	0,77	0,42	0,03	0,23
SSS 5052 (tuc)	0,24	0,84	0,37	0,67	0,38	0,50	0,89	0,24	0,39	1,04	1,09	0,73	0,62	0,23	0,43
PAN 1521 R	0,10	0,61	0,20	0,34	0,04	0,26	0,80	0,35	1,49	0,81	1,68	1,03	0,39	0,49	0,44
PAN 1500 R	0,43	1,11	0,00	0,37	0,00	0,38	0,78	1,52	0,83	0,65	1,32	1,02	0,69	0,24	0,47
NS 5909 R	0,48	0,55	0,25	0,33	0,00	0,32	1,21	0,43	0,42	0,82	1,36	0,85	0,64	0,71	0,68
LS 6261 R	0,69	0,41	0,56	0,71	0,29	0,53	0,71	0,26	0,51	1,75	2,84	1,21	0,71	0,15	0,43
PHB 96 T 06 R	0,27	0,71	0,25	0,67	0,18	0,42	0,94	1,77	0,58	0,29	1,57	1,03	0,96	0,65	0,81
PAN 1623 R	0,45	0,55	0,00	0,24	0,00	0,25	1,01	1,24	0,42	0,49	0,74	0,78	0,53	0,28	0,41
LS 6161 R	0,42	0,75	0,29	0,70	0,04	0,44	0,99	1,58	0,48	0,83	0,53	0,88	0,80	0,34	0,57
DM 6.2i RR	0,16	0,39	0,08	0,04	0,39	0,21	1,64	0,24	0,09	0,91	2,74	1,12	0,48	0,29	0,39
SSS 6560 (tuc)	0,34	0,56	0,10	0,40	0,00	0,28	1,49	0,75	0,72	1,02	0,97	0,99	0,79	0,40	0,60
LS 6164 R	0,16	0,88	0,34	0,35	0,07	0,36	1,03	0,68	0,70	1,38	1,97	1,15	0,55	0,75	0,65
PAN 1614 R	0,15	0,34	0,06	0,55	0,08	0,24	0,83	1,20	0,86	0,60	0,73	0,84	0,68	0,31	0,50
NS 6448 R	0,03	0,60	0,57	0,93	0,00	0,43	0,99	0,67	0,72	1,45	2,36	1,24	0,96	0,31	0,64
DM 6.8i RR	0,31	0,87	0,34	0,42	0,22	0,43	0,56	0,98	0,76	2,11	2,65	1,41	1,23	0,30	0,77
NS 7211 R	0,03	0,72	0,27	0,39	0,00	0,28	1,04	0,92	0,79	2,09	2,16	1,40	1,28	0,39	0,84
Standaard 1	0,32	0,87	0,20	0,26	0,00	0,33	0,89	0,12	0,70	2,19	0,91	0,96	0,44	0,06	0,25
Standaard 2	0,20	0,51	0,05	0,19	0,00	0,19	1,21	0,17	0,77	0,53	0,57	0,65	0,17	0,12	0,15
Gem/Mean	0,26	0,52	0,20	0,43	0,13	0,31	0,90	0,76	0,85	1,10	1,16	0,95	0,67	0,30	0,48

Tabel 14 Massa van 100 sade (g) van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16
Table 14 Mass 100 seeds (g) of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool						Matig/Moderate						Warm			
Kultivar Cultivar	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Cedara	Glen	Greytown	Greytown Kranskop	Kroonstad	Gem/Mean	Atlanta	Brits	Groblersdal	Gem/Mean
LS 6240 R	19,69	15,30	18,60	16,57	21,62	18,35	19,72	20,47	18,90	20,75	15,14	19,00	16,93	16,96	19,52	17,81
PAN 1454 R	16,59	14,45	16,75	14,94	18,17	16,18	19,11	16,88	17,78	18,86	13,39	17,20	14,85	13,77	17,04	15,22
SSS 4945 (tuc)	15,19	13,89	15,60	14,17	16,33	15,03	18,20	17,76	15,88	17,61	14,65	16,82	14,72	13,89	17,76	15,46
LS 6146 R	15,27	13,76	14,30	13,34	16,10	14,55	16,63	15,57	15,86	18,25	12,22	15,71	13,15	12,91	15,41	13,83
PHB 94 Y 80 R	16,45	14,30	16,16	15,06	17,38	15,87	18,46	17,44	15,74	18,88	14,17	16,94	15,49	13,78	18,77	16,01
LS 6248 R	15,63	11,12	15,11	13,16	15,58	14,12	14,72	15,12	15,90	14,77	13,46	14,79	14,79	12,53	17,09	14,80
SSS 5449 (tuc)	14,64	11,03	14,29	12,85	14,96	13,55	13,89	13,79	14,79	14,57	12,18	13,84	12,72	11,11	15,09	12,98
NS 5009 R	17,31	14,30	16,15	13,53	18,04	15,86	18,51	17,45	16,46	18,80	14,97	17,24	15,94	13,04	17,98	15,65
DM 5.1i RR	15,64	14,72	16,48	15,09	16,92	15,77	18,53	16,37	16,27	18,79	13,05	16,60	14,42	12,88	16,60	14,63
PHB 95 Y 20 R	16,09	11,48	15,27	15,70	16,10	14,93	14,54	14,30	17,11	17,98	15,02	15,79	14,67	13,62	16,63	14,97
DM 5953 RSF	14,49	12,65	15,56	13,94	16,78	14,68	17,35	15,56	16,38	16,85	12,06	15,64	14,86	11,75	15,65	14,08
SSS 5052 (tuc)	14,89	10,98	14,08	14,82	15,29	14,01	14,82	13,15	16,53	16,00	14,03	14,91	16,00	13,12	17,39	15,50
PAN 1521 R	18,08	11,38	16,57	15,66	17,32	15,80	16,37	16,08	19,77	15,15	16,61	16,79	15,90	13,06	17,55	15,51
PAN 1500 R	18,58	11,53	15,13	15,75	16,84	15,57	15,60	15,56	18,70	17,13	14,81	16,36	15,42	12,64	18,24	15,43
NS 5909 R	15,51	12,15	15,51	16,61	16,56	15,27	17,45	13,93	19,63	17,58	15,22	16,76	16,63	13,04	17,25	15,64
LS 6261 R	16,41	12,21	15,64	14,93	17,78	15,39	17,89	15,11	16,92	17,35	13,48	16,15	15,86	13,70	17,60	15,72
PHB 96 T 06 R	14,43	12,54	15,62	15,57	16,29	14,89	16,41	13,41	18,35	18,37	13,66	16,04	16,96	11,99	16,50	15,15
PAN 1623 R	15,57	11,38	14,43	15,10	16,25	14,55	15,66	14,62	17,00	16,40	13,91	15,52	16,42	12,17	16,72	15,10
LS 6161 R	14,05	11,06	14,49	15,21	15,38	14,04	16,00	12,41	18,25	17,42	13,73	15,56	15,53	11,19	15,44	14,05
DM 6.2i RR	17,82	12,22	17,97	18,89	17,78	16,94	19,69	16,37	20,17	21,49	17,13	18,97	17,68	13,62	18,84	16,71
SSS 6560 (tuc)	15,00	11,34	15,72	14,49	15,75	14,46	16,58	12,61	18,62	17,02	14,24	15,81	15,64	12,39	15,89	14,64
LS 6164 R	15,57	11,64	14,33	14,68	15,20	14,29	15,67	13,36	18,78	16,62	14,60	15,81	15,55	11,76	16,49	14,60
PAN 1614 R	16,19	11,38	15,19	16,30	15,49	14,91	16,26	14,24	18,95	17,99	13,60	16,21	16,30	14,20	17,13	15,88
NS 6448 R	15,50	11,47	14,65	16,95	16,60	15,03	17,38	15,17	17,88	20,39	15,20	17,20	17,23	12,85	16,48	15,52
DM 6.8i RR	16,63	12,25	18,15	17,82	17,82	16,53	17,40	14,39	18,70	20,72	16,68	17,58	18,96	13,97	17,89	16,94
NS 7211 R	17,92	11,21	15,38	16,06	17,06	15,53	17,38	13,16	19,01	19,18	18,10	17,37	18,85	15,67	17,94	17,49
Standaard 1	17,49	14,25	19,43	17,83	21,25	18,05	20,77	20,14	20,10	18,92	14,80	18,95	16,08	13,76	20,93	16,92
Standaard 2	17,64	11,20	16,23	16,14	18,15	15,87	16,43	15,53	19,96	15,58	15,88	16,68	16,88	12,89	17,90	15,89
Gem/Mean	16,22	12,40	15,81	15,40	16,96	15,36	17,05	15,36	17,80	17,84	14,50	16,51	15,87	13,15	17,28	15,43

Tabel 15 Oliepersentasie op vogvrye basis van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16

Table 15 Oil percentage on moisture free basis of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool					Matig/Moderate						Warm		
Kultivar Cultivar	Bethlehem	Delmas	Kinross	Kokstad	Gem/Mean	Cedara	Glen	Greytown	Greytown Kranskop	Kroonstad	Gem/Mean	Atlanta	Groblersdal	Gem/Mean
LS 6240 R	13.27	13.43	14.21	13.49	13.60	12.90	15.47	15.69	15.02	12.99	14.41	16.31	13.87	15.09
PAN 1454 R	14.42	13.24	13.64	12.37	13.42	13.41	15.86	17.19	13.55	13.63	14.73	16.42	13.16	14.79
SSS 4945 (tuc)	14.68	13.33	13.01	11.04	13.02	13.44	15.23	17.05	14.17	11.94	14.37	15.67	11.34	13.51
LS 6146 R	9.73	11.13	11.29	11.90	11.01	12.07	13.43	16.20	13.79	12.30	13.56	14.60	9.08	11.84
PHB 94 Y 80 R	13.86	14.38	13.65	13.19	13.77	13.95	16.25	18.24	14.70	10.57	14.74	15.26	13.64	14.45
LS 6248 R	13.38	14.02	10.33	11.56	12.32	11.50	14.80	16.92	13.72	12.13	13.81	14.89	12.78	13.84
SSS 5449 (tuc)	12.51	14.54	9.71	10.98	11.94	11.52	13.31	16.64	14.19	11.23	13.38	15.19	10.91	13.05
NS 5009 R	13.19	12.73	13.50	12.87	13.07	12.47	13.81	16.16	14.13	11.11	13.54	13.53	13.80	13.67
DM 5.1i RR	12.69	12.85	13.71	10.29	12.39	12.88	12.99	15.58	13.76	10.06	13.05	14.63	11.55	13.09
PHB 95 Y 20 R	14.54	15.44	16.03	11.88	14.47	11.45	15.59	18.71	13.93	15.32	15.00	15.84	14.73	15.29
DM 5953 RSF	11.38	12.69	13.46	11.58	12.28	11.74	13.17	16.35	12.91	11.99	13.23	14.50	13.31	13.91
SSS 5052 (tuc)	11.82	14.01	10.43	12.06	12.08	10.91	12.62	15.30	11.85	14.13	12.96	13.22	12.77	13.00
PAN 1521 R	13.25	13.70	9.69	10.31	11.74	11.83	15.24	16.98	12.77	13.02	13.97	14.83	11.98	13.41
PAN 1500 R	15.38	14.83	11.04	14.27	13.88	14.43	15.56	16.99	14.51	15.07	15.31	15.04	15.70	15.37
NS 5909 R	10.13	13.36	12.54	11.72	11.94	11.30	13.31	17.30	11.73	13.85	13.50	13.77	13.31	13.54
LS 6261 R	12.38	13.56	14.54	12.16	13.16	13.36	16.20	18.19	13.71	14.89	15.27	14.75	14.31	14.53
PHB 96 T 06 R	11.67	13.77	12.66	9.86	11.99	10.77	16.42	17.06	11.27	14.40	13.98	13.80	13.35	13.58
PAN 1623 R	14.33	15.45	12.69	10.57	13.26	13.45	14.50	18.03	12.59	14.69	14.65	15.19	13.98	14.59
LS 6161 R	11.63	13.65	15.24	9.87	12.60	14.40	16.72	17.68	12.62	13.50	14.98	15.88	14.85	15.37
DM 6.2i RR	11.76	13.83	14.81	12.51	13.23	11.29	14.26	17.32	12.42	13.95	13.85	14.27	12.42	13.35
SSS 6560 (tuc)	13.80	13.88	10.73	12.39	12.70	11.95	14.75	18.58	12.11	15.08	14.49	13.75	14.12	13.94
LS 6164 R	11.12	14.21	9.70	9.03	11.02	11.34	14.23	16.95	10.91	15.08	13.70	14.23	12.58	13.41
PAN 1614 R	12.05	13.39	14.36	12.10	12.98	11.55	14.81	17.12	11.20	12.64	13.46	13.62	9.76	11.69
NS 6448 R	11.73	14.90	14.83	9.46	12.73	11.71	15.24	17.35	11.23	14.65	14.04	13.72	12.54	13.13
DM 6.8i RR	11.18	13.63	14.94	10.84	12.65	11.86	13.98	16.39	12.04	11.74	13.20	15.14	13.08	14.11
NS 7211 R	13.39	14.17	13.51	12.91	13.50	12.01	14.90	18.04	12.28	14.01	14.25	15.25	14.16	14.71
Standaard 1	12.58	14.00	16.41	12.78	13.94	13.27	15.05	16.94	15.11	13.34	14.74	14.63	12.79	13.71
Standaard 2	12.42	13.89	13.55	9.59	12.36	12.13	13.56	16.23	12.36	13.94	13.64	12.73	11.64	12.19
Gem/Mean	12.65	13.79	13.01	11.56	12.75	12.32	14.69	17.04	13.02	13.26	14.07	14.67	12.91	13.79

Tabel 16 Ru-proteïenpersentasie op vogvrye basis van die verskillende sojaboonkultivars by die verskillende proef lokaliteite, 2015/16
Table 16 Percentage crude protein on moisture free basis of the different soybean cultivars at the different trial localities, 2015/16

	Koel/Cool					Matig/Moderate						Warm		
Kultivar Cultivar	Bethlehem	Delmas	Kinross	Kokstad	Gem/Mean	Cedara	Glen	Greytown	Greytown Kranskop	Kroonstad	Gem/Mean	Atlanta	Groblersdal	Gem/Mean
LS 6240 R	35.57	34.44	35.10	34.83	34.99	35.76	35.60	34.78	35.65	35.27	35.41	34.98	37.06	37.06
PAN 1454 R	35.11	33.87	36.34	35.02	35.09	36.07	34.78	33.86	36.54	35.32	35.31	35.07	36.62	36.62
SSS 4945 (tuc)	35.62	35.28	36.54	36.50	35.99	36.47	34.85	34.25	36.64	36.03	35.65	35.64	38.44	38.44
LS 6146 R	37.12	35.62	36.25	35.53	36.13	36.42	35.82	34.47	36.55	35.58	35.77	35.70	38.84	38.84
PHB 94 Y 80 R	35.09	34.37	35.78	34.66	34.98	35.14	33.59	32.65	35.66	36.45	34.70	35.51	36.71	36.71
LS 6248 R	34.67	33.12	35.86	34.41	34.52	36.25	34.71	34.32	36.09	36.26	35.53	35.89	37.77	37.77
SSS 5449 (tuc)	35.78	33.85	36.93	35.91	35.62	36.80	35.52	35.49	36.25	36.67	36.15	36.02	38.53	38.53
NS 5009 R	35.24	34.43	35.30	34.49	34.87	34.74	34.58	33.38	35.84	35.85	34.88	35.70	36.47	36.47
DM 5.1i RR	35.95	35.70	36.02	36.18	35.96	35.88	35.51	34.81	36.08	36.53	35.76	35.83	38.44	38.44
PHB 95 Y 20 R	34.25	31.93	33.14	33.06	33.10	36.06	33.87	33.91	35.61	34.89	34.87	34.48	37.59	37.59
DM 5953 RSF	36.05	34.48	34.91	35.01	35.11	35.85	34.78	33.93	36.20	35.67	35.29	35.44	35.86	35.86
SSS 5052 (tuc)	35.38	34.02	36.48	34.58	35.12	36.19	35.54	35.81	36.29	35.38	35.84	36.33	37.87	37.87
PAN 1521 R	34.33	33.16	35.74	34.57	34.45	35.43	33.28	34.18	35.43	35.63	34.79	35.46	37.33	37.33
PAN 1500 R	33.76	33.15	35.97	33.50	34.10	34.67	33.57	34.83	35.13	35.03	34.65	34.92	35.97	35.97
NS 5909 R	35.46	33.86	34.86	34.79	34.74	36.34	35.39	34.80	36.83	35.85	35.84	37.76	37.92	37.92
LS 6261 R	34.54	33.24	34.84	34.19	34.20	35.06	33.57	33.27	35.47	35.07	34.49	35.54	36.02	36.02
PHB 96 T 06 R	35.04	33.97	35.56	35.08	34.91	36.39	33.27	35.66	36.64	34.96	35.38	36.60	37.48	37.48
PAN 1623 R	34.72	33.42	35.98	35.04	34.79	35.96	34.97	35.05	36.69	35.14	35.56	36.31	37.80	37.80
LS 6161 R	34.69	33.40	34.35	34.76	34.30	34.90	33.31	34.92	36.07	35.76	34.99	35.57	36.09	36.09
DM 6.2i RR	35.15	32.27	33.18	32.01	33.15	35.42	34.71	33.88	35.49	34.45	34.79	35.51	38.08	38.08
SSS 6560 (tuc)	33.90	33.13	36.04	34.21	34.32	35.56	34.27	33.71	35.86	34.84	34.85	35.95	35.85	35.85
LS 6164 R	35.13	33.20	35.38	34.71	34.61	35.87	34.23	34.96	36.36	34.95	35.27	35.77	37.45	37.45
PAN 1614 R	35.12	34.54	34.94	34.29	34.72	36.00	34.21	35.00	36.70	35.95	35.57	35.66	39.07	39.07
NS 6448 R	35.36	34.25	34.91	35.80	35.08	36.80	34.47	35.07	37.27	35.69	35.86	36.93	37.43	37.43
DM 6.8i RR	33.90	31.54	33.82	33.87	33.28	35.22	33.70	34.46	35.78	35.04	34.84	34.89	36.61	36.61
NS 7211 R	33.71	32.49	34.18	33.08	33.37	35.62	33.74	34.20	35.68	35.20	34.89	35.58	36.50	36.50
Standaard 1	36.01	34.83	34.92	35.12	35.22	35.83	34.70	34.03	36.11	35.56	35.25	35.73	36.81	36.81
Standaard 2	34.50	33.11	34.40	35.13	34.29	35.43	34.40	34.78	35.39	34.85	34.97	36.63	37.46	37.46
Gem/Mean	35.04	33.74	35.28	34.65	34.68	35.79	34.46	34.45	36.08	35.50	35.26	35.76	37.29	37.29

Tabel 17 Gemiddelde van die olie-en proteïen persentasie saamgevoeg (Protolie), 2015/16

Table 17 Average of the oil and protein percentage joined (Profat), 2015/16

	Koel/Cool					Matig/Moderate						Warm		
Kultivar Cultivar	Bethlehem	Delmas	Kinross	Kokstad	Gem/Mean	Cedara	Glen	Greytown	Greytown Kranskop	Kroonstad	Gem/Mean	Atlanta	Groblersdal	Gem/Mean
LS 6240 R	48.84	47.87	49.31	48.32	48.59	48.66	51.07	50.47	50.67	48.26	49.83	51.29	50.93	51.11
PAN 1454 R	49.53	47.11	49.98	47.39	48.50	49.48	50.64	51.05	50.09	48.95	50.04	51.49	49.78	50.64
SSS 4945 (tuc)	50.30	48.61	49.55	47.54	49.00	49.91	50.08	51.30	50.81	47.97	50.01	51.31	49.78	50.55
LS 6146 R	46.85	46.75	47.54	47.43	47.14	48.49	49.25	50.67	50.34	47.88	49.33	50.30	47.92	49.11
PHB 94 Y 80 R	48.95	48.75	49.43	47.85	48.75	49.09	49.84	50.89	50.36	47.02	49.44	50.77	50.35	50.56
LS 6248 R	48.05	47.14	46.19	45.97	46.84	47.75	49.51	51.24	49.81	48.39	49.34	50.78	50.55	50.67
SSS 5449 (tuc)	48.29	48.39	46.64	46.89	47.55	48.32	48.83	52.13	50.44	47.90	49.52	51.21	49.44	50.33
NS 5009 R	48.43	47.16	48.80	47.36	47.94	47.21	48.39	49.54	49.97	46.96	48.41	49.23	50.27	49.75
DM 5.1i RR	48.64	48.55	49.73	46.47	48.35	48.76	48.50	50.39	49.84	46.59	48.82	50.46	49.99	50.23
PHB 95 Y 20 R	48.79	47.37	49.17	44.94	47.57	47.51	49.46	52.62	49.54	50.21	49.87	50.32	52.32	51.32
DM 5953 RSF	47.43	47.17	48.37	46.59	47.39	47.59	47.95	50.28	49.11	47.66	48.52	49.94	49.17	49.56
SSS 5052 (tuc)	47.20	48.03	46.91	46.64	47.20	47.10	48.16	51.11	48.14	49.51	48.80	49.55	50.64	50.10
PAN 1521 R	47.58	46.86	45.43	44.88	46.19	47.26	48.52	51.16	48.20	48.65	48.76	50.29	49.31	49.80
PAN 1500 R	49.14	47.98	47.01	47.77	47.98	49.10	49.13	51.82	49.64	50.10	49.96	49.96	51.67	50.82
NS 5909 R	45.59	47.22	47.40	46.51	46.68	47.64	48.70	52.10	48.56	49.70	49.34	51.53	51.23	51.38
LS 6261 R	46.92	46.80	49.38	46.35	47.36	48.42	49.77	51.46	49.18	49.96	49.76	50.29	50.33	50.31
PHB 96 T 06 R	46.71	47.74	48.22	44.94	46.90	47.16	49.69	52.72	47.91	49.36	49.37	50.40	50.83	50.62
PAN 1623 R	49.05	48.87	48.67	45.61	48.05	49.41	49.47	53.08	49.28	49.83	50.21	51.50	51.78	51.64
LS 6161 R	46.32	47.05	49.59	44.63	46.90	49.30	50.03	52.60	48.69	49.26	49.98	51.45	50.94	51.20
DM 6.2i RR	46.91	46.10	47.99	44.52	46.38	46.71	48.97	51.20	47.91	48.40	48.64	49.78	50.50	50.14
SSS 6560 (tuc)	47.70	47.01	46.77	46.60	47.02	47.51	49.02	52.29	47.97	49.92	49.34	49.70	49.97	49.84
LS 6164 R	46.25	47.41	45.08	43.74	45.62	47.21	48.46	51.91	47.27	50.03	48.98	50.00	50.03	50.02
PAN 1614 R	47.17	47.93	49.30	46.39	47.70	47.55	49.02	52.12	47.90	48.59	49.04	49.28	48.83	49.06
NS 6448 R	47.09	49.15	49.74	45.26	47.81	48.51	49.71	52.42	48.50	50.34	49.90	50.65	49.97	50.31
DM 6.8i RR	45.08	45.17	48.76	44.71	45.93	47.08	47.68	50.85	47.82	46.78	48.04	50.03	49.69	49.86
NS 7211 R	47.10	46.66	47.69	45.99	46.86	47.63	48.64	52.24	47.96	49.21	49.14	50.83	50.66	50.75
Standaard 1	48.59	48.83	51.33	47.90	49.16	49.10	49.75	50.97	51.22	48.90	49.99	50.36	49.60	49.98
Standaard 2	46.92	47.00	47.95	44.72	46.65	47.56	47.96	51.01	47.75	48.79	48.61	49.36	49.10	49.23
Gem/Mean	47.69	47.52	48.28	46.21	47.43	48.11	49.15	51.49	49.10	48.75	49.32	50.43	50.20	50.32

Tabel 18 Die saadopbrengs van elke kultivar by die verskillende lokaliteite, 2015/16

Table 18 The The seed yield of the cultivars at the different localities, 2015/16

Kultivar Cultivar	Koel/Cool							Matig/Moderate						Warm			
	Bethlehem	Clarens	Delmas	Kinross	Kokstad	Gem/Mean	Bergville	Cedara	Glen	Greytown	Greytown Kranskop	Kroonstad	Gem/Mean	Atlanta	Brits	Groblersdal	Gem/Mean
LS 6240 R	2257	1677	3937	2020	2270	2432	3595	2437	2297	2037	2962	1344	2445	1634	1419	2405	1819
PAN 1454 R	2394	1503	3979	2064	2146	2417	2956	2541	1808	2224	2700	1031	2210	1652	1935	2484	2023
SSS 4945 (tuc)	2506	1653	3836	2208	1805	2402	2340	2168	2604	1916	2579	953	2093	1170	1450	3858	2159
LS 6146 R	2214	1787	3613	1895	1564	2215	3330	2111	2014	1889	3135	1314	2299	1763	1829	4110	2567
PHB 94 Y 80 R	2822	2408	4598	2396	1658	2776	3799	2653	1930	1915	2801	1107	2367	1598	1460	3461	2173
LS 6248 R	3639	1963	4790	1724	2430	2909	3293	2598	2515	2315	3565	1183	2578	1515	1727	4360	2534
SSS 5449 (tuc)	3470	1409	4165	1993	2375	2682	2681	2255	2523	2320	3087	1067	2322	1305	1715	2653	1891
NS 5009 R	3211	2184	4298	1721	1739	2631	3779	2550	2487	2004	2835	1465	2520	2072	1802	3284	2386
DM 5.1i RR	2251	1821	3805	1361	1759	2199	3190	2184	2368	2104	2950	1012	2301	1357	1820	3684	2287
PHB 95 Y 20 R	2137	1411	3830	1668	2222	2254	2778	2596	2265	2411	2799	1030	2313	1576	1319	3852	2249
DM 5953 RSF	2877	1827	4590	1888	2210	2678	3520	2758	4016	2143	3341	890	2778	1705	2555	4285	2848
SSS 5052 (tuc)	2802	1230	3810	2120	2230	2438	3677	3022	2048	2586	3115	1334	2630	2008	1733	3524	2422
PAN 1521 R	3927	1488	4250	2080	3090	2967	3970	2854	2758	2548	3386	1148	2777	2163	1941	4890	2998
PAN 1500 R	3301	1629	3955	1990	2876	2750	3222	2721	1748	2486	2629	1041	2308	2064	1693	3836	2531
NS 5909 R	3013	1569	4771	2281	2460	2819	2875	3103	2808	3123	2953	1119	2663	2237	1866	4764	2956
LS 6261 R	3433	1760	4198	2170	2471	2806	2561	2678	2443	2257	3859	1228	2504	1234	1818	4146	2399
PHB 96 T 06 R	3105	2065	3869	2475	2679	2839	2909	2832	1844	2918	3560	1075	2523	1921	1475	2934	2110
PAN 1623 R	3605	1446	3645	2037	2722	2691	3590	3359	2885	3118	3829	1221	3000	2265	1658	3413	2445
LS 6161 R	2956	1729	3701	2110	2982	2696	2293	2939	1712	3113	3583	1130	2462	2321	1705	4071	2699
DM 6.2i RR	2543	1469	4369	1926	1956	2453	2350	3050	3955	3246	3087	1389	2846	2183	1886	4581	2883
SSS 6560 (tuc)	3597	1536	3956	2119	2068	2655	2702	2725	2619	2705	3560	1298	2602	2225	2102	3463	2597
LS 6164 R	2672	2023	3883	2101	2700	2676	3091	3029	2307	2651	4108	1273	2743	2060	1628	3422	2370
PAN 1614 R	2931	1722	3217	1883	2107	2372	3425	2773	1987	2710	3470	1092	2576	2194	1727	4042	2655
NS 6448 R	3021	1790	4579	2555	2503	2890	3643	2887	2616	2971	4039	1167	2887	2336	1607	4126	2689
DM 6.8i RR	2529	1407	3420	2230	2446	2407	2771	2977	2694	3186	3545	1053	2704	2114	1752	3696	2521
NS 7211 R	2785	1503	3826	2246	2080	2488	3736	2911	2186	2993	3062	1159	2674	2557	1595	3540	2564
Standaard 1	2442	1927	4210	1811	2272	2532	3586	2301	2483	1897	2777	1011	2342	1675	1685	3399	2253
Standaard 2	3903	1621	3942	2389	2555	2882	3393	3460	3031	2566	3242	1724	2903	2321	1910	4757	2996
Gem/Mean	2941	1698	4037	2052	2299	2606	3181	2731	2463	2513	3234	1173	2549	1901	1743	3751	2465
KV/CV	14.2	20.2	12.4	24.9	14.4		17.1	14.2	19.8	7.7	15.8	20.1		17.4	20.1	18.6	

Tabel 19 Opbrengswaarskynlikheid (%) van kultivars geëvalueer in 2013/14, 2014/15 en 2015/16 vir die koeler droëland produksiegebiede by verskillende opbrengspotensiaal

Table 19 Yield probability (%) of cultivars evaluated in 2013/14, 2014/15 and 2015/16 for the cooler dryland production areas at different yield potentials

Kultivar Cultivar	Opbrengspotensiaal/Yield potential (t/ha)							
	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5
DM 6.2i RR	42	44	46	50	52	56	58	61
LS 6146 R	44	41	39	37	35	33	32	31
LS 6161 R	53	51	48	46	43	41	38	37
LS 6164 R	54	53	50	48	45	44	41	40
LS 6240 R	44	46	47	48	49	51	52	54
LS 6248 R	59	59	60	60	60	60	59	59
LS 6261 R	59	56	52	48	43	40	36	34
PAN 1454 R	59	55	50	45	40	36	32	29
PAN 1500 R	67	66	63	62	59	56	53	51
PAN 1521 R	49	57	64	72	78	83	86	89
PAN 1614 R	32	35	39	43	48	52	57	60
PAN 1623 R	73	73	71	70	67	65	62	59
PHB 94 Y 80 R	43	48	54	60	66	71	75	78
PHB 95 Y 20 R	32	28	24	20	17	15	13	12

Tabel 20 Saadopbrengs (kg/ha^{-1}) van kultivars gedurende die 2014/15 en 2015/16 groeiseisoen ten opsigte van die verskillende lokaliteite wat in die koeler produksiegebiede geleë is

Table 20 Seed yield (kg/ha^{-1}) of cultivars during the 2014/15 and 2015/16 growing season for the various localities situated in the cooler production areas

	2014/15							2015/16					
Kultivar Cultivar	Bethlehem	Clocolan	Delmas	Kinross	Kokstad	Middelburg	Gem/Mean	Bethlehem	Clarens	Delmas	Kinross	kokstad	Gem/Mean
LS 6240 R	2221	1230	4793	2050	2963	3063	2720	2257	1677	3937	2020	2270	2432
LS 6444 R	2427	884	3917	1570	2613	3346	2459	-	-	-	-	-	-
PAN 1454 R	2610	1171	4494	1806	2906	3629	2769	2394	1503	3979	2064	2146	2417
LS 6146 R	1943	1090	3808	2056	2819	3166	2480	2214	1787	3613	1895	1564	2215
PHB 94 Y 80 R	2471	1465	5642	1727	2876	3575	2959	2822	2408	4598	2396	1658	2776
LS 6248 R	2631	1286	3687	1499	2387	3067	2426	3639	1963	4790	1724	2430	2909
NS 5009 R	2482	1311	4361	1597	2984	3234	2662	3211	2184	4298	1721	1739	2631
DM 5.1i RR	2554	1306	3907	878	2755	3225	2437	2251	1821	3805	1361	1759	2199
PHB 95 Y 20 R	2622	1080	3909	1188	2378	2625	2300	2137	1411	3830	1668	2222	2254
PAN 1583 R	2556	1372	4778	1370	2391	2732	2533	-	-	-	-	-	-
PAN 1664 R	2814	1158	4052	1475	1892	2855	2374	-	-	-	-	-	-
DM 5953 RSF	3892	1199	5090	1977	3483	3618	3210	2877	1827	4590	1888	2210	2678
LS 6453 R	2604	1524	2554	1578	1994	2871	2188	-	-	-	-	-	-
PAN 1521 R	3033	1112	4039	1768	2115	2806	2479	3927	1488	4250	2080	3090	2967
PAN 1500 R	2694	1008	4214	1442	2457	2654	2411	3301	1629	3955	1990	2876	2750
NS 5909 R	3230	1263	4019	748	2367	2497	2354	3013	1569	4771	2281	2460	2819
PHB 96 T 06 R	2583	1284	3695	887	2603	2922	2329	3105	2065	3869	2475	2679	2839
LS 6466 R	2397	1188	3731	645	2503	2586	2175	-	-	-	-	-	-
PAN 1666 R	2432	1226	4335	1275	2382	2249	2316	-	-	-	-	-	-
PAN 1623 R	2556	1394	3636	1583	2918	2726	2469	3605	1446	3645	2037	2722	2691
LS 6261 R	2301	1240	3704	715	1853	2633	2074	3433	1760	4198	2170	2471	2806
DM 6.2i RR	2628	1751	3857	1275	2685	2728	2487	2543	1469	4369	1926	1956	2453
LS 6164 R	2612	1206	3482	1042	1777	2566	2114	2672	2023	3883	2101	2700	2676
LS 6161 R	2296	1327	3433	988	1652	2897	2099	2956	1729	3701	2110	2982	2696
PAN 1614 R	2787	1124	4160	1069	2639	2184	2327	2931	1722	3217	1883	2107	2372
NS 6448 R	3029	1596	4399	819	2657	2505	2501	3021	1790	4579	2555	2503	2890
DM 6.8i RR	3105	1525	4013	970	2873	2170	2443	2529	1407	3420	2230	2446	2407
NS 7211 R	2860	1559	3911	946	2590	2703	2428	2785	1503	3826	2246	2080	2488
PAN 1729 R	2406	1147	3543	959	1843	2650	2091	-	-	-	-	-	-
SSS 4945 (tuc)	-	-	-	-	-	-	-	2506	1653	3836	2208	1805	2402
SSS 5449 (tuc)	-	-	-	-	-	-	-	3470	1409	4165	1993	2375	2682
SSS 5052 (tuc)	-	-	-	-	-	-	-	2802	1230	3810	2120	2230	2438
SSS 6560 (tuc)	-	-	-	-	-	-	-	3597	1536	3956	2119	2068	2655
Gem/Mean	2647	1277	4040	1307	2495	2844	2435	2923	1693	4034	2048	2290	2598

Tabel 21 Opbrengswaarskynlikheid (%) van kultivars geëvalueer in 2013/14, 2014/15 en 2015/16 vir die matige produksiegebiede by verskillende opbrengspotensiaal
Table 21 Yield probability (%) of cultivars evaluated in 2013/14, 2014/15 and 2015/16 for the moderate production areas at different yield potentials

Kultivar Cultivar	Opbrengspotensiaal/Yield potential (t/ha)							
	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5
DM 6.2i RR	74	71	66	62	57	52	47	43
LS 6146 R	35	31	26	23	20	18	16	15
LS 6161 R	75	73	70	66	62	58	54	50
LS 6164 R	67	65	62	58	55	51	47	44
LS 6240 R	29	29	29	30	31	32	33	35
LS 6248 R	50	57	64	70	76	80	84	87
LS 6261 R	39	48	56	65	73	79	84	88
PAN 1454 R	18	18	18	19	20	21	23	24
PAN 1500 R	47	44	42	40	37	36	34	33
PAN 1521 R	63	69	73	78	81	84	86	88
PAN 1614 R	65	61	57	53	49	44	40	37
PAN 1623 R	89	91	93	94	95	95	95	95
PHB 94 Y 80 R	9	14	20	29	39	50	60	69
PHB 95 Y 20 R	60	52	43	34	26	20	15	11

Tabel 22 Saadopbrengs (kg/ha^{-1}) van kultivars gedurende die 2014/15 en 2015/16 groeiseisoen ten opsigte van die verskillende lokaliteite wat in die matige produksiegebiede geleë is

Table 22 Seed yield (kg/ha^{-1}) of cultivars during the 2014/15 and 2015/16 growing season for the various localities situated in the moderate production areas

	2014/15										2015/16						
Kultivar Cultivar	Cedara	Dundee	Glen	Greytown Kranskop	Kroonstad	Migdol	Potchefstroom Bespr	Potchefstroom PD1 Drg	Potchefstroom PD2 Drg	Gem/Mean	Bergville	Cedara	Glen	Greytown	Greytown Kranskop	Kroonstad	Gem/Mean
LS 6240 R	2896	1755	3792	2121	1760	1010	1625	1037	1382	1931	3595	1344	2297	2037	2962	1344	2087
LS 6444 R	2615	1318	3140	2116	1644	1394	1776	860	912	1753	-	-	-	-	-	-	-
PAN 1454 R	3546	1647	3545	1328	1981	1302	2250	972	1364	1993	2956	1550	1808	2224	2700	1031	1918
LS 6146 R	3405	1661	3239	2228	1740	1125	1819	792	1901	1990	3330	1204	2014	1889	3135	1314	1891
PHB 94 Y 80 R	3740	1320	3296	1211	1725	1358	2141	961	1079	1870	3799	1643	1930	1915	2801	1107	2052
LS 6248 R	3922	1896	3421	2770	2254	1267	2637	1262	2029	2384	3293	2357	2515	2315	3565	1183	2285
NS 5009 R	3666	2046	4012	1322	2027	1313	1979	991	1640	2111	3779	1516	2487	2004	2835	1465	2093
DM 5.1i RR	2332	1352	3237	1148	1852	1311	2336	924	1291	1754	3190	1220	2368	2104	2950	1012	1993
PHB 95 Y 20 R	2875	1380	2590	2104	1703	1551	1802	1387	2090	1942	2778	2596	2265	2411	2799	1030	1953
PAN 1583 R	3033	1605	3622	2435	2190	1169	2633	1437	2607	2303	-	-	-	-	-	-	-
PAN 1664 R	3086	1590	3624	2549	2118	1138	3735	1223	2401	2385	-	-	-	-	-	-	-
DM 5953 RSF	3961	1677	4944	1613	2099	1703	2895	1197	1628	2413	3520	1994	4016	2143	3341	890	2283
LS 6453 R	3685	1434	2845	2239	2303	1421	2030	1019	1567	2060							
PAN 1521 R	4421	1726	3528	2621	2222	1380	2202	1418	2370	2432	3970	2854	2758	2548	3386	1148	2446
PAN 1500 R	3502	1432	3319	2096	1906	1457	2771	1454	2340	2253	3222	2721	1748	2486	2629	1041	2002
NS 5909 R	3007	1359	3492	1840	1948	1344	3622	1876	2575	2340	2875	3103	2808	3123	2953	1119	2349
PHB 96 T 06 R	2815	1293	2903	2160	1964	1347	2321	1671	2686	2129	2909	2832	1844	2918	3560	1075	2216
LS 6466 R	4145	1229	3197	2440	2486	1411	2081	1422	2280	2299	-	-	-	-	-	-	-
PAN 1666 R	3192	1101	3001	2112	2123	1059	2347	1121	1883	1993	-	-	-	-	-	-	-
PAN 1623 R	3698	1730	3591	2732	2487	1840	2727	1553	2430	2532	3590	3359	2885	3118	3829	1221	2633
LS 6261 R	3588	1747	3287	2661	2926	1440	2399	1184	1716	2328	2561	2658	2443	2257	3859	1228	2189
DM 6.2i RR	3629	1922	3386	2280	2475	1638	2513	1304	2089	2360	2350	3050	3955	3246	3087	1389	2576
LS 6164 R	3831	1659	2497	2385	1901	1246	2787	1572	2448	2259	3091	3029	2307	2651	4108	1273	2309
LS 6161 R	4195	1370	3273	2632	2391	1567	2464	1902	2383	2464	2293	2939	1712	3113	3583	1130	2199
PAN 1614 R	3299	1512	2789	2110	2368	1276	2118	1606	2188	2141	3425	2773	1987	2710	3470	1092	2156
NS 6448 R	2994	1473	2871	2379	2023	1532	2842	1383	2910	2268	3643	2483	2616	2971	4039	1167	2382
DM 6.8i RR	4141	984	3411	2501	2838	1457	3146	2129	1912	2502	2771	2977	2694	3186	3545	1053	2315
NS 7211 R	3433	1247	3274	2216	2426	1184	2718	1943	2115	2284	3736	2911	2186	2993	3062	1159	2268
PAN 1729 R	3708	1609	2506	2120	1724	1606	3142	1976	2230	2291	-	-	-	-	-	-	-
SSS 4945 (tuc)	-	-	-	-	-	-	-	-	-	-	2340	1188	2604	1916	2579	953	1899
SSS 5449 (tuc)	-	-	-	-	-	-	-	-	-	-	2681	1681	2523	2320	3087	1067	2081
SSS 5052 (tuc)	-	-	-	-	-	-	-	-	-	-	3677	3022	2048	2586	3115	1334	2349
SSS 6560 (tuc)	-	-	-	-	-	-	-	-	-	-	2702	2689	2619	2705	3560	1298	2323
Gem/Mean	3461	1520	3298	2154	2124	1374	2478	1365	2015	2199	3157	2373	2440	2534	3251	1159	2202

Tabel 23 Opbrengswaarskynlikheid (%) van kultivars geëvalueer in 2013/14, 2014/15 en 2015/16 vir die warm produksiegebiede by verskillende opbrengspotensiaal
Table 23 Yield probability (%) of cultivars evaluated in 2012/13, 2013/14 and 2014/15 for the warm production areas at different yield potentials

Kultivar Cultivar	Yield potential (t/ha)							
	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5
DM 6.2i RR	63	66	69	73	75	77	77	77
LS 6146 R	35	39	45	51	58	64	69	73
LS 6161 R	87	84	79	72	63	53	43	35
LS 6164 R	79	73	64	53	41	31	22	17
LS 6240 R	45	40	34	30	25	22	19	18
LS 6248 R	28	32	37	42	49	56	62	66
LS 6261 R	13	18	26	37	50	63	73	81
PAN 1454 R	55	51	46	40	35	31	28	25
PAN 1500 R	46	41	34	29	23	20	17	16
PAN 1521 R	66	74	80	86	90	92	93	94
PAN 1614 R	65	64	61	59	56	53	49	47
PAN 1623 R	77	76	75	73	70	66	62	58
PHB 94 Y 80 R	38	39	40	41	43	45	47	49
PHB 95 Y 20 R	5	6	7	9	13	19	26	34

Tabel 24 Saadopbrengs (kg/ha^{-1}) van kultivars gedurende die 2014/15 en 2015/16 groeiseisoen ten opsigte van die verskillende lokaliteite wat in die warm produksiegebiede geleë is
Table 24 Seed yield (kg/ha^{-1}) of cultivars during the 2014/15 and 2015/16 growing season for the various localities situated in the warm production areas

	2014/15				2015/16			
Kultivar Cultivar	Atlanta	Brits	Groblersdal	Gem/Mean	Atlanta	Brits	Groblersdal	Gem/Mean
LS 6240 R	4331	3200	1983	3171	1634	1419	2405	1819
LS 6444 R	4165	2651	2074	2963	-	-	-	-
PAN 1454 R	4399	3732	2202	3445	1652	1935	2484	2023
LS 6146 R	4928	2650	2157	3245	1763	1829	4110	2567
PHB 94 Y 80 R	4401	3940	2245	3528	1598	1460	3461	2173
LS 6248 R	4640	2228	2218	3029	1515	1727	4360	2534
NS 5009 R	4622	2738	1794	3052	2072	1802	3284	2386
DM 5.1i RR	4802	3199	2940	3647	1357	1820	3684	2287
PHB 95 Y 20 R	4237	2600	1852	2897	1576	1319	3852	2249
PAN 1583 R	4299	2979	1854	3044	-	-	-	-
PAN 1664 R	3988	3048	1866	2967	-	-	-	-
DM 5953 RSF	4361	3151	2607	3373	1705	2555	4285	2848
LS 6453 R	4318	2788	1913	3006				
PAN 1521 R	4632	4303	2437	3791	2163	1941	4890	2998
PAN 1500 R	4195	2699	1881	2925	2064	1693	3836	2531
NS 5909 R	4738	2698	2274	3236	2237	1866	4764	2956
PHB 96 T 06 R	4220	2300	1660	2727	1921	1475	2934	2110
LS 6466 R	3871	3112	2211	3064	-	-	-	-
PAN 1666 R	4426	2899	1627	2984	-	-	-	-
PAN 1623 R	4701	3215	2309	3409	2265	1658	3413	2445
LS 6261 R	4635	2806	1694	3045	1234	1818	4146	2399
DM 6.2i RR	4548	3012	2501	3354	2183	1886	4581	2883
LS 6164 R	4091	2618	2230	2980	2060	1628	3422	2370
LS 6161 R	3960	3397	2208	3188	2321	1705	4071	2699
PAN 1614 R	4170	2798	1716	2895	2194	1727	4042	2655
NS 6448 R	-	3110	2662	2886	2336	1607	4126	2689
DM 6.8i RR	4302	3315	2317	3311	2114	1752	3696	2521
NS 7211 R	4226	3534	2517	3425	2557	1595	3540	2564
PAN 1729 R	3509	3129	2039	2892	-	-	-	-
SSS 4945 (tuc)	-	-	-	-	1170	1450	3858	2159
SSS 5449 (tuc)	-	-	-	-	1305	1715	2653	1891
SSS 5052 (tuc)	-	-	-	-	2008	1733	3524	2422
SSS 6560 (tuc)	-	-	-	-	2225	2102	3463	2597
Gem/Mean	4347	3029	2138	3154	1893	1739	3726	2453

Tabel 25 Saamgevatte inligting van al die lokaliteite in die koel produksiegebiede, 2015/16

Table 25 Summerised information for all the localities in the cool production areas, 2015/16

Kultivar/Cultivar	Dae tot blom/ Days to flowe-ring	Fisiologies ryp/ Physologi cal mature	Oes datum/ Harvest date	Planthoog te/ Plant height	Peulhoog te/ Pod height	Omval / Lod-ging	Groen stam/ Green stem	Oopspring/ Shattering	Planttelling/ Number of plants	Persentasie ongewenste sade/Percen tage undesirable seed	Massa 100 sade/ Mass 100 seeds	Olie persen-tasie/Oil percen tage	Ru-proteïen-persenta sie/ Crude protein percen tage	Opbrengs/ Yield
LS 6240 R	60	124	146	62	7	1,00	1,40	1,00	172	0,32	18,35	13.60	34.99	2432
PAN 1454 R	64	125	145	77	8	1,00	1,60	1,00	182	0,13	16,18	13.42	35.09	2417
SSS 4945 (tuc)	63	122	143	57	5	1,00	1,20	3,50	221	0,23	15,03	13.02	35.99	2402
LS 6146 R	67	124	146	71	7	1,00	1,07	1,00	197	0,20	14,55	11.01	36.13	2215
PHB 94 Y 80 R	64	125	148	63	5	1,00	1,33	1,00	221	0,23	15,87	13.77	34.98	2776
LS 6248 R	69	137	153	75	7	1,00	2,00	1,50	208	0,46	14,12	12.32	34.52	2909
SSS 5449 (tuc)	75	137	153	70	7	1,00	1,47	1,00	199	0,30	13,55	11.94	35.62	2682
NS 5009 R	68	125	148	65	5	1,00	1,27	1,50	212	0,12	15,86	13.07	34.87	2631
DM 5.1i RR	69	125	144	59	3	1,00	1,20	1,00	170	0,11	15,77	12.39	35.96	2199
PHB 95 Y 20 R	72	142	166	66	7	1,13	1,80	1,00	182	0,34	14,93	14.47	33.10	2254
DM 5953 RSF	70	129	149	70	7	1,00	1,13	1,00	234	0,34	14,68	12.28	35.11	2678
SSS 5052 (tuc)	74	144	165	76	8	1,13	1,27	1,00	166	0,50	14,01	12.08	35.12	2438
PAN 1521 R	73	141	160	81	8	1,00	1,60	1,00	237	0,26	15,80	11.74	34.45	2967
PAN 1500 R	75	142	168	75	8	1,00	2,13	1,50	199	0,38	15,57	13.88	34.10	2750
NS 5909 R	79	142	170	78	7	1,07	2,20	1,50	213	0,32	15,27	11.94	34.74	2819
LS 6261 R	73	144	163	72	9	1,00	2,40	1,00	197	0,53	15,39	13.16	34.20	2806
PHB 96 T 06 R	76	145	166	93	9	1,20	1,40	1,00	216	0,42	14,89	11.99	34.91	2839
PAN 1623 R	75	143	165	80	8	1,00	1,67	1,00	178	0,25	14,55	13.26	34.79	2691
LS 6161 R	71	145	166	85	10	1,00	1,93	1,50	215	0,44	14,04	12.60	34.30	2696
DM 6.2i RR	73	146	170	83	8	1,20	2,27	1,00	144	0,21	16,94	13.23	33.15	2453
SSS 6560 (tuc)	73	143	162	81	9	1,00	2,20	1,00	187	0,28	14,46	12.70	34.32	2655
LS 6164 R	72	145	168	89	10	1,00	1,87	1,50	209	0,36	14,29	11.02	34.61	2676
PAN 1614 R	75	144	170	91	9	1,00	1,40	1,00	192	0,24	14,91	12.98	34.72	2372
NS 6448 R	78	144	170	85	9	1,00	1,60	2,00	206	0,43	15,03	12.73	35.08	2890
DM 6.8i RR	73	148	173	94	9	1,33	2,40	1,00	142	0,43	16,53	12.65	33.28	2407
NS 7211 R	74	144	166	65	7	1,00	2,00	2,00	176	0,28	15,53	13.50	33.37	2488
Standaard 1	66	125	145	62	6	1,00	1,60	1,00	183	0,33	18,05	13.94	35.22	2532
Standaard 2	72	141	159	81	8	1,13	1,80	1,00	188	0,19	15,87	12.36	34.29	2882
Gem/Mean	71	137	159	75	7	1	2	1	194	0,31	15	12.75	34.68	2606

Tabel 26 Saamgevatte inligting van al die lokaliteite in die matige produksiegebiede, 2015/16

Table 26 Summerised information for all the localities in the moderate production areas, 2015/16

Kultivar/Cultivar	Dae tot blom/ Days to flowe-ring	Fisiologies ryp/ Physologi cal mature	Oes datum/ Harvest date	Planthoog te/ Plant height	Peulhoog te/ Pod height	Omval / Lod-ging	Groen stam/ Green stem	Oopspring/ Shattering	Planttelling/ Number of plants	Persentasie ongewenste sade/Percen tage undesirable seed	Massa 100 sade/ Mass 100 seeds	Olie persen-tasie/Oil percen tage	Ru-proteïen-persenta sie/ Crude protein percen tage	Opbrengs/ Yield
LS 6240 R	47	110	128	58	7	1,00	1,33	1,00	223	0,86	19,00	14.41	35.41	2263
PAN 1454 R	46	112	129	68	8	1,00	1,93	2,00	222	0,96	17,20	14.73	35.31	2045
SSS 4945 (tuc)	43	112	127	58	6	1,20	1,93	3,00	243	0,88	16,82	14.37	35.65	1930
LS 6146 R	43	111	128	69	8	1,20	1,40	1,00	242	1,12	15,71	13.56	35.77	2147
PHB 94 Y 80 R	49	113	129	59	8	1,00	2,33	2,50	279	0,59	16,94	14.74	34.70	2199
LS 6248 R	62	117	133	73	11	1,00	1,60	2,00	266	0,93	14,79	13.81	35.53	2538
SSS 5449 (tuc)	62	116	129	65	10	1,00	1,33	1,83	239	0,69	13,84	13.38	36.15	2226
NS 5009 R	44	114	128	57	7	1,20	2,60	1,50	245	0,77	17,24	13.54	34.88	2348
DM 5.1i RR	43	111	129	63	7	1,20	2,27	2,50	226	0,88	16,60	13.05	35.76	2140
PHB 95 Y 20 R	64	119	139	70	11	1,40	2,07	2,50	195	0,94	15,79	15.00	34.87	2313
DM 5953 RSF	47	112	128	67	8	1,00	2,07	3,00	272	0,77	15,64	13.23	35.29	2651
SSS 5052 (tuc)	63	122	143	70	11	1,00	1,40	1,00	193	0,73	14,91	12.96	35.84	2630
PAN 1521 R	62	119	137	74	13	1,00	1,53	1,00	272	1,03	16,79	13.97	34.79	2777
PAN 1500 R	61	123	138	71	13	1,00	2,20	1,00	241	1,02	16,36	15.31	34.65	2308
NS 5909 R	64	125	143	77	14	1,20	2,20	2,00	255	0,85	16,76	13.50	35.84	2663
LS 6261 R	60	123	140	59	10	1,00	2,67	2,00	253	1,21	16,15	15.27	34.49	2501
PHB 96 T 06 R	66	126	143	84	13	1,07	1,33	1,00	260	1,03	16,04	13.98	35.38	2523
PAN 1623 R	61	125	141	80	12	1,20	1,60	1,00	253	0,78	15,52	14.65	35.56	3000
LS 6161 R	63	126	141	74	14	1,00	2,27	1,00	243	0,88	15,56	14.98	34.99	2462
DM 6.2i RR	60	125	143	75	10	1,40	1,53	1,00	179	1,12	18,97	13.85	34.79	2846
SSS 6560 (tuc)	64	126	141	73	11	1,00	1,67	1,00	210	0,99	15,81	14.49	34.85	2596
LS 6164 R	61	127	145	82	14	1,53	1,40	1,00	250	1,15	15,81	13.70	35.27	2743
PAN 1614 R	64	125	140	82	14	1,00	1,93	1,00	254	0,84	16,21	13.46	35.57	2576
NS 6448 R	65	127	142	73	13	1,00	1,67	1,50	245	1,24	17,20	14.04	35.86	2820
DM 6.8i RR	61	129	146	84	13	1,00	2,03	1,00	134	1,41	17,58	13.20	34.84	2704
NS 7211 R	65	128	146	68	12	1,00	2,20	1,00	221	1,40	17,37	14.25	34.89	2674
Standaard 1	45	111	130	60	8	1,00	1,60	1,00	253	0,96	18,95	14.74	35.25	2175
Standaard 2	64	122	137	78	12	1,00	1,40	1,00	226	0,65	16,68	13.64	34.97	2903
Gem	57	120	136	70	11	1,09	1,84	1,51	236	0,95	16,51	14.07	35.26	2489

Tabel 27 Saamgevatte inligting van al die lokaliteite in die warmer produksiegebiede, 2015/16

Table 27 Summerised information for all the localities in the warmer production areas, 2015/16

Kultivar/Cultivar	Dae tot blom/ Days to flowe-ring	Fisiologies ryp/ Physologi cal mature	Oes datum/ Harvest date	Planthoog te/ Plant height	Peulhoog te/ Pod height	Omval / Lod-ging	Groen stam/ Green stem	Oopspring/ Shattering	Planttelling/ Number of plants	Persentasie ongewenste sade/Percen tage undesirable seed	Massa 100 sade/ Mass 100 seeds	Olie persen-tasie/Oil percen tage	Ru-proteïen-persenta sie/ Crude protein percen tage	Opbrengs/ Yield
LS 6240 R	49	117	128	52	3	1,00	2,33	2,00	227	0,38	17,81	15.09	37.06	1819
PAN 1454 R	42	115	140	68	4	1,00	2,67	3,00	249	1,34	15,22	14.79	36.62	2023
SSS 4945 (tuc)	42	117	135	59	4	1,00	2,33	5,00	223	0,25	15,46	13.51	38.44	2159
LS 6146 R	43	117	133	69	6	1,00	3,50	2,00	257	0,53	13,83	11.84	38.84	2567
PHB 94 Y 80 R	46	117	134	59	4	1,00	3,00	5,00	284	0,07	16,01	14.45	36.71	2173
LS 6248 R	46	130	137	79	8	1,00	2,33	5,00	229	0,31	14,80	13.84	37.77	2534
SSS 5449 (tuc)	53	117	129	63	5	1,00	2,17	5,00	244	0,48	12,98	13.05	38.53	1891
NS 5009 R	42	115	135	62	5	1,00	3,00	3,00	240	0,66	15,65	13.67	36.47	2386
DM 5.1i RR	42	117	137	62	5	1,00	3,00	5,00	247	0,23	14,63	13.09	38.44	2287
PHB 95 Y 20 R	51	126	142	40	7	1,00	2,17	3,00	188	0,14	14,97	15.29	37.59	2249
DM 5953 RSF	47	117	132	74	5	1,00	2,00	3,00	238	0,23	14,08	13.91	35.86	2848
SSS 5052 (tuc)	49	126	139	68	6	1,00	2,50	1,00	257	0,43	15,50	13.00	37.87	2422
PAN 1521 R	48	122	134	87	9	1,17	2,00	4,00	291	0,44	15,51	13.41	37.33	2998
PAN 1500 R	49	123	145	64	7	1,00	2,33	2,00	234	0,47	15,43	15.37	35.97	2531
NS 5909 R	51	121	143	73	11	1,00	2,50	3,00	256	0,68	15,64	13.54	37.92	2956
LS 6261 R	53	126	139	59	7	1,00	2,83	3,00	276	0,43	15,72	14.53	36.02	2399
PHB 96 T 06 R	53	120	142	81	6	1,00	2,50	3,00	277	0,81	15,15	13.58	37.48	2110
PAN 1623 R	47	126	145	72	9	1,00	2,33	3,00	213	0,41	15,10	14.59	37.80	2445
LS 6161 R	50	130	145	85	13	1,00	2,33	3,00	244	0,57	14,05	15.37	36.09	2699
DM 6.2i RR	50	119	138	85	9	1,00	2,17	1,00	228	0,39	16,71	13.35	38.08	2883
SSS 6560 (tuc)	47	130	146	76	8	1,00	2,17	2,00	207	0,60	14,64	13.94	35.85	2597
LS 6164 R	50	126	138	79	7	1,00	2,00	2,00	266	0,65	14,60	13.41	37.45	2370
PAN 1614 R	55	123	136	73	7	1,00	2,17	1,00	210	0,50	15,88	11.69	39.07	2655
NS 6448 R	53	126	144	62	9	1,00	2,33	5,00	261	0,64	15,52	13.13	37.43	2689
DM 6.8i RR	51	126	147	84	8	1,00	2,50	1,00	212	0,77	16,94	14.11	36.61	2521
NS 7211 R	43	130	152	46	5	1,00	2,17	2,00	268	0,84	17,49	14.71	36.50	2564
Standaard 1	42	113	129	58	5	1,00	2,00	5,00	236	0,25	16,92	13.71	36.81	2253
Standaard 2	51	123	135	93	10	1,17	2,00	2,00	220	0,15	15,89	12.19	37.46	2996
Gem	48	122	138	69	7	1	2	3	242	0,48	15	13.79	37.29	2465