

SOYBEAN CULTIVAR RECOMMENDATIONS SOJABOON KULTIVARAANBEVELINGS

2024 / 2025



AS de Beer, L Bronkhorst & N Cochrane

LNR - Graangewasse, Potchefstroom

ARC - Grain Crops, Potchefstroom

Hoewel sojabone 'n gewas is wat bykans wêreldwyd verbou word, het individuele kultivars 'n beperkte gebiedsaanpassing. Gevolglik sal die kultivar wat die beste aangepas is vir 'n gegewe lokaliteit, dié een wees wat oor 'n aantal jare die hoogste opbrengs en saadkwaliteit lewer. Onder vergelykbare omgewingstoestande en produksiepraktyke kan 'n seleksie uit kultivars gemaak word wat 'n hoë opbrengs en 'n bogemiddelde opbrengswaarskynlikheid het. Die Nasionale Sojaboonkultivarproewe van die LNR-Graangewasse en verskeie medewerkers lewer in die opsig waardevolle inligting ten opsigte van verskillende produksie areas in Suid-Afrika.

BELANGRIKE INLIGTING VIR KULTIVARKEUSE

Die belangrikste inligting wat ten opsigte van kultivarkeuse by sojabone in ag geneem moet word, is **lengte van groeiseisoen**. Anders as die meeste

Although soybeans as a crop are grown worldwide, individual cultivars demonstrate a limited adaptation to specific geographical areas. The best adapted cultivar is therefore the one that will, in the long term, give the best yield and quality for a specific locality within a specific geographical area. A selection can be made of cultivars with high yield and above average yield probability under comparable environmental conditions as well as production practises. The National Soybean Cultivar Trials conducted by the ARC-Grain Crops and several collaborators render a valuable service in identifying such cultivars for different production areas in South Africa.

IMPORTANT INFORMATION FOR CULTIVAR CHOICE

The length of the growing season is the most important characteristic to take into consideration in terms of cultivar choice for soybean. Unlike the other

algemeen verboude gewasse, is sojabone gevoelig vir dagliglengte en sal 'n gegewe kultivar al hoe later ryp word hoe verder suid dit in Suider-Afrika geplant word. Vir dieselfde rede sal plantdatum ook die lengte van die groeiseisoen beïnvloed en sal 'n gegewe kultivar heelwat gouer by 'n later plantdatum blom. Die heersende temperatuur (veral nagtemperatuur) het ook 'n invloed en sojabone groei heelwat stadiger op die Hoëveld in vergelyking met die warmer Laeveld. Tabel 1 illustreer die invloed wat die lengte van groeiseisoene op die verskillende kultivars het asook vir 'n spesifieke kultivar in verskillende produksiegebiede. Dit is belangrik om te onthou dat vroeë en later plantdatums binne dieselfde gebied ook die groeiseisoenlengte van 'n kultivar beïnvloed.

Vir produsente met ondervinding van sojaboonproduksie kan die gevoeligheid vir dagliglengte en die genetiese variasie vir relatiewe groeiseisoenlengte, met vrug gebruik word vir byvoorbeeld hooiproduksie (gebruik van langgroeiseisoen kultivars), stroop-skedulering (plant kultivars met verskillende rypworddatums) en vir droogte-ontwyking of noodaanplantings (kultivars met 'n relatief kort groeiseisoen). Vir produsente wat nie ondervinding het van sojaboonproduksie nie, kan dié eienskap egter by wyse van verkeerde kultivarkeuse tot gevolg hê dat die sojabone: a) nie wil ryp word nie in die geval van waar 'n kultivar met 'n te lang groeiseisoen in die gebied aangeplant is, b) reeds oesgereed is, terwyl reën en hoë temperature stroop bemoeilik en kwaliteit benadeel waar 'n kultivar met 'n te kort groeiseisoen vir 'n gebied gekies is; en c) onstroopbaar is as gevolg van 'n te lae peulhoogte.

Prosedure vir kultivarkeuse op grond van groeiseisoenlengte: Die lokaliteite waar sojaboonkultivarproewe uitgevoer is, is gegroepeer om warm, matig en koel gebiede aan te dui (Tabel 2). Wanneer daar 'n kultivarkeuse gemaak word, is dit belangrik om die gebied wat dieselfde klimaatstoestand het te identifiseer en dan die tabelle te gebruik wat dieselfde klimaatstreek verteenwoordig.

most commonly cultivated crops, soybeans are sensitive to day length and a given cultivar will ripen later and result in a longer growing season the further south it is planted in Southern Africa. Planting dates will therefore also influence the length of the growing season and a given cultivar will flower much earlier should it be planted at a later planting date. Prevailing temperature also has an effect, with soybean growing much slower on the Highveld compared to the warmer Lowveld. Table 1 illustrates the substantial variation for length of growing season among cultivars as well as for the different production areas.

Producers well experienced in soybean cultivation can utilize the photoperiod sensitivity of soybean, along with the genetic variation for relative length of the growing season with great success, for example, for hay production, (a long growing season cultivar can be used), for scheduling of harvesting (plant cultivars with different ripening dates) and for drought avoidance or emergency planting (use relatively short growing season cultivars). For producers with little or no experience in soybean cultivation, this characteristic could prove to be hazardous when the wrong cultivar choice is made and optimal yield is not realised because a) the cultivar does not ripen where a too long grower has been planted for the area, b) is ready for harvesting while rain and high temperatures hamper harvesting and adversely affect quality where a too short grower has been planted for the area, and c) the cultivar is unable to be harvested because of a too low pod height.

Procedure for Cultivar choice using length of growing season: Localities where soybean trials were conducted during the past season were divided into warm-, moderate- and cool production areas (Table 2). When cultivar selections are conducted it is important to establish which locality has similar climatic conditions and to use these Tables representing the same region.

Risk can be minimised if Tables 1 and 3 are utilised. It

dig. Risiko kan geminimaliseer word wanneer Tabel 1 en Tabel 3 gebruik word. As 'n algemene reël word aanvaar dat kultivars met 'n langer groeiseisoen die beste sal vaar in gebiede met 'n warmer klimaat, mediumgroeiseisoenkultivars in gebiede met 'n gematigde klimaat en kultivars met 'n korter groeiseisoen in gebiede met 'n koeler klimaat. Dit is egter belangrik om te onthou dat daar ook uitsonderings op die reël is en daarom word aanbeveel dat sowel opbrengs en aanpassingsvermoë van kultivars, soos aangedui in Tabelle 4, 5, 6, 7, 8 en 9 saam met groeiseisoenlengte gebruik word om 'n meer akkurate kultivarkeuse vir 'n spesifieke gebied te maak.

Plantdatum beïnvloed sojabone se aanpassing en gevolglik die kultivarkeuse. Die optimale plantdatum is vanaf middel Oktober en November. In warmer gebiede kan produsente egter tot Desember nog plant, maar dan word nouer rywydte, hoër plantpopulasie en 'n kultivar wat vinniger groei, aanbeveel. Waar grond- en lugtemperatuur vroeg in die seisoen aanvaarbare vlakke bereik, word 'n Oktober plantdatum - veral op die hoërliggende gebiede - aanbeveel. Dit is belangrik om te onthou dat 'n vroeër of 'n later plantdatum in al die produksiegebiede kultivarkeuse kan beïnvloed.

Peul- en planthoogte beïnvloed die stroopbaarheid en die staanvermoë van sojabone en is faktore wat in ag geneem moet word by kultivarkeuse. Oor die algemeen is daar 'n verband tussen peul- en planthoogte en relatiewe lengte van die groeiseisoen. Kultivars met 'n relatief kort groeiseisoen het gewoonlik 'n laer peul- en planthoogte as langgroeiseisoenkultivars onder vergelykbare toestande. Beide eienskappe word egter ook deur produksiepraktyke beïnvloed. 'n Nouer tussenry- en binneryspasiëring sal peulhoogte betekenisvol verhoog. In die Nasionale Kultivarproewe word gestandaardiseerde toestande vir peulhoogte geëvalueer en kan kultivars met aanvaarbare peulhoogtes gekies word. Peulhoogte word aangedui in Tabel 3.

Staanvermoë kan beïnvloed word deur die aantal

is generally accepted that cultivars with a longer growing season will perform better in the warmer growing areas, cultivars with a medium growing season in the moderate growing areas and cultivars with a shorter growing season in the cooler production areas. There are however exceptions to the rule, and it is therefore recommended to also use yield performance and cultivar adaptation presented in Tables 4, 5, 6, 7, 8 and 9 combination with length of growing season during cultivar selection for a specific area.

Planting date influences the adaptation of soybean cultivars and therefore also cultivar choice. The optimum planting date is from middle October and November. In warmer areas though, soybean can be planted until December. With later planting dates, narrow rows, higher plant populations and shorter growing season cultivars are recommended. A planting date during October, especially in areas with a higher altitude, will be recommended where soil and air temperatures reach acceptable levels early in the growing season. Planting at an earlier or later planting date will affect cultivar choice.

Pod- and plant height have an impact on the ability to harvest the crop and are characteristics that should be considered during cultivar selection. A relationship exists between pod- and plant height and relative length of the growing season. Cultivars with a shorter growing season tend to have lower plant- and pod heights compared to longer growing season cultivars under similar growing conditions. Both characteristics are also influenced by production practices. More narrow inter- and intra-row spacing will increase pod height significantly. Pod clearance for the cultivars evaluated is reported in Table 3.

Standability is influenced by the number of overcast days experienced during the growing season. Plant height tends to increase when overcast weather occurs and could result in a higher lodging percentage of plants.

Growth habit distinguishes between determinate and indeterminate genotypes. Cultivars with a

bewolkte dae wat tydens die seisoen voorkom. Dit kan tot gevolg hê dat kultivars wat normaalweg goed staan, hoër groei - wat die risiko van omval verhoog.

Groeiwyse onderskei tussen bepaalde en onbepaalde groeiers. Kultivars met 'n bepaalde groeiwyse word verkieslik onder besproeiing geplant, terwyl kultivars met 'n onbepaalde groeiwyse (wat nie lengtegroei tydens blom staak nie) onder droëland-toestande geplant word. Die groeiwyse van die kultivars kan in Tabel 3 gesien word.

Rywydte kan ook kultivarkeuse beïnvloed, aangesien 'n betekenisvolle interaksie tussen die twee bestaan. Kultivars wat geneig is tot sytakvorming en wat 'n digte blaredak het, is beter aangepas in wye rye, terwyl kultivars met 'n oop blaredak en min sytakke weer beter aangepas is by relatief nouer rywydtes.

Weerstand teen oopspring van peule kan 'n belangrike rol tydens ongunstige toestande gedurende die oes van sojabone speel. Volgens inligting uit die Nasionale Kultivarproewe is dit duidelik dat kultivars met 'n relatief kort groeiseisoen die grootste risiko vir oopspring het, terwyl kultivars met 'n relatief lang groeiseisoen die minste daardeur geraak word. 'n Aanduiding ten opsigte van genetiese weerstand teen oopspring tussen kultivars van dieselfde groeiseisoenlengte, word waargeneem. Klimaatstoestande het egter 'n beduidende invloed op oopspring. Kultivars word geëvalueer op 'n skaal van 1 (goed) tot 5 (swak) wat oopspring betref en die resultate word in Tabel 3 aangebied.

Gevoeligheid vir onkruidodder kan kultivarkeuse in sommige gevalle beïnvloed. Geen sojaboonkultivar is bestand teen atrasientipe onkruidodders nie en die volle wagperiode moet nagekom word voordat die plant van sojabone oorweeg word. Sojabone is ook sensitief vir onkruidodders in die Triketone-groep en wagperiodes moet streng nagevolg word. In alle gevalle moet seker gemaak

determinate growth habit are preferably planted under irrigation, while indeterminate cultivars (that do not stop vertical growth during flowering) are preferred under dry land conditions. Growth habit for registered cultivars is indicated in Table 3.

Row width will also influence cultivar selection, since a significant relation exists between cultivars and row width. Cultivars with more side branches and leaves are better adapted to wider rows, while cultivars with less side branches and leaves are better adapted to more narrow rows.

Resistance against seed shattering can play an important role during unfavourable harvesting conditions. Information obtained during the National Soybean Cultivar Trials indicates that cultivars with a relative short growing period tend to shatter more than cultivars with a longer growing period.

Rating of cultivars in terms of their susceptibility to shattering is done on a scale from 1 (good) to 5 (poor) and are presented in Table 3.

Sensitivity to herbicides can, in some cases, influence the choice of a cultivar. No soybean is resistant to atrazine type herbicides and the full waiting period must be maintained before the planting of soybean can be considered. Soybean is also sensitive to herbicides in the Triketone group and waiting periods should be strictly adhered to. Ensure, in any case, that the herbicide can be used with the selected cultivar as indicated on the herbicide label.

Seed size, hilum colour and GMO status are characteristics that can possibly earn a premium price. Seed size is genetically regulated but is greatly influenced by the environmental conditions. Favourable conditions during the seed filling period will positively influence seed size.

Grain yield indicates the genetic adaptation and suitability of a cultivar to be planted in a specific area. During the 2023/2024 season 35 cultivars

word dat aanwysings op die onkruidoderetiket voorsiening maak vir die kultivar wat aangeplant gaan word.

Saadgrootte, hilumkleur en GMO-status is eienskappe waarop 'n premie in prys moontlik betaal kan word. Saadgrootte is geneties, maar word sterk beïnvloed deur omgewingstoestande. Gunstige toestande tydens die saadvulperiode sal saadgrootte positief beïnvloed.

Graanopbrenge gee 'n aanduiding van 'n kultivar se genetiese aanpassing en geskiktheid vir 'n bepaalde gebied. Vir die 2023/2024 seisoen is 35 kultivars in die proewe ingesluit. Data van 30 proewe was aanvaarbaar vir statistiese analises. Tabelle 5, 7 en 9 bevat inligting aangaande die opbrenge van die kultivars vir die 2022/2023 en 2023/2024 produksieseisoen by die onderskeie lokaliteite. Gebruik die opbrenge data saam met die opbrenge waarskynlikheidstabelle om 'n kultivarkeuse te maak.

'n Waardevolle hulpmiddel by **kultivarbeplanning** is die opbrenge waarskynlikheid waardes. Die procedure wat gevolg word vir die maak van kultivaraanbevelings is kortliks as volg:

>>Eerstens moet vasgestel word vir watter opbrengepotensiaal aanbevelings gemaak word. Die produsent moet homself vergewis van die potensiaal wat ter sprake is.

>>Die tweede stap is om die opbrenge waarskynlikheidstabel by die vasgestelde potensiaal te raadpleeg. Selekteer by die gekose potensiaal kultivars met bogemiddelde opbrenge waarskynlikheid en stabiliteit. Die kultivars met die bogemiddelde waardes behoort die beste kans op 'n stabiele, suksesvolle opbrenge verseker.

Kultivar stabiliteit

Die stabiliteit van 'n kultivar word aangedui deur twee waardes. Hoe nader die R² waarde aan 1 is hoe kleiner die F_{prob} waarde is (verkieslik <0.1) hoe meer stabiel is die kultivar.

were included in the National Soybean Cultivar Trials. Data of 30 localities were acceptable for statistical analyses. Yield of the cultivars at the different localities for the 2022/2023 and 2023/2024 growing season is presented in Tables 5, 7 and 9.

It is recommended to use the yield results with the yield probability values for a more accurate cultivar choice.

Cultivar planning - A valuable aid in cultivar planning is to also consider the yield probability values. The procedure to be followed in the making of cultivar recommendations is briefly as follows: Determine for which yield potential recommendations must be made. This must be done by the producer (farmer). The next step is to consult the yield probability table at the determined yield potential. From the yield probability table, cultivars with above average probability values as well as yield stability should be selected. This will provide the producer with the best change for a stable, successful yield.

Cultivar stability

The stability of a cultivar is determined by the closer the R² value is to 1 and the smaller the F_{prob} value (preferably <0.1) the more stable the cultivar will be.

Yield probability

The yield probability of a cultivar is the potential to achieve 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.

Yield probability values of the 15 cultivars for the cool production area as well as for the moderate and warm areas are presented in Tables 4, 6 and 8. These tables contain information regarding cultivars in-

Opbrengswaarskynlikheid

'n Kultivar se opbrengswaarskynlikheid is die kans om 'n bogemiddelde opbrengs by 'n bepaalde opbrengspotensiaal te behaal. Indien die opbrengswaarskynlikheid van 'n kultivar by 'n bepaalde opbrengspotensiaal byvoorbeeld 60% is, dui dit op 'n 60% kans om 'n bogemiddelde opbrengs te behaal en 'n 40% kans om ondergemiddeld te presteer.

Die opbrengswaarskynlikheid van die 15 kultivars vir die koel verbouingsgebied asook vir die matige en warm gebiede word in Tabelle 4, 6 en 8 aangebied. Die tabelle bevat inligting oor kultivars wat vir drie jaar in dié proewe ingesluit is. Dit is belangrik om die verdeling van lokaliteite in Tabel 2 gebruik om te bepaal in watter gebied die plaas geleë is. Vergelyk dan die kultivars wat in die opbrengswaarskynlikheidstabel gekies is met mekaar by die realistiese opbrengsmikpunt vir die plaas.

Weens die jaarlikse toevoeging en onttrekking van kultivars, is 'n meerjarige opbrengswaarskynlikheid slegs op 'n beperkte aantal kultivars moontlik.

Tabelle 4, 6 en 8 kan gebruik word om 'n kernseleksie van kultivars te maak. Hierdie kern kan aangevul word met kultivars uit Tabelle 5, 7 en 9. Dit is altyd raadsaam om meer as een kultivar te plant en om nuwe kultivars slegs op 'n beperkte skaal in te sluit.

cluded in the trials for three years. It is also important to use the information provided in Table 2 to determine whether the area to be planted corresponds with the warm, moderate, or cool localities. Use the selected yield probability table (warm, moderate, or cool) to select cultivars for the yield potential of the specific farm.

Since new cultivars are introduced and some removed annually, a multi-season yield probability is only possible for a limited number of cultivars.

Tables 4, 6 and 8 can be used to make a core selection of cultivars. This selection can be expanded with cultivars from Tables 5, 7 and 9. It is advisable to grow more than one cultivar and to include new cultivars on a limited scale only.

Variëteitslys verslag Junie 2024/Variety list report June 2024

Konvensioneel/Conventional:

Amstel No. 1 (305)	Kiaat (489)	NSO-15 (1637)
ARC-Soy 01	Knap (150)	* PAN 1800 (1412)
ARC-Soy 02	LAKE 251	* PAN 1867 (1412)
ARC-Ed-Soy 02	LAKE 252	* S 722/6/1E (1137)
* Dundee (254-3)	* LS 555 (484)	SC H01
* Egret (254-3)	* LS 678 (484)	* SC Sorcerer (1526)
* Heron (254-3)	Mukwa (489)	SC Stanza (1526)
* Ibis 2000 (254-3)	* NED 11-91 (65)	* Stork (254-3)
* Jimmy (254-3)	* Nqutu (254-3)	Wenner (369)

Vegetable soybean:

VegsoyBIBI105 (1574)	VegSoyYeCo069 (1574)	VegSoyYGPa077 (1574)
VegSoyBrBr082 (1574)	VegSoyYeCo070 (1574)	VegSoyYGPa083 (1574)

GMO:

4721STS	* 95Y80 (411)	JAR3259	P51T42 R	* RA4918 R (1670)
4927IPRO	* AGC 4134A4R (1076)	JAR4181	P52T42 R	* RA560 (1670)
---CAP 2249IPRO	* AGC 5028A4R (1076)	* JC 3240 R (1076)	P53T10 R	* RA563 (1670)
5051BF01-08	* AGC 5028B4R (1076)	* JC 3340 R (1076)	P54T22 R	* RA565 (1670)
5055001-08	* AGC 5028C4R (1076)	* JC 4138 R (1076)	* P56T88 R (411)	* RA568 (1670)
5068BF08-08	* AGC 58007 R (1076)	* JC 4236 R (1076)	P57T19 R (411)	RA626 (1670)
53154RSF IPRO	* AGC 64107 R (1076)	* JC 43A34 R (1076)	P59T03 R	* RA660 (1670)
* 5302RSF (1708)	Bioceres 5.91	* JC 43B34 R (1076)	* P 59T33 R (1412)	RA655R
---DM 5302RSF	Bioceres 6.41 (1573)	* JDR 2453 (411)	* P61T38 R (1412)	# RAX2309R (1670)
5351RSF (1708)	BW1738R	* JDR 2466 (411)	P62T16 R	# RAX3077 (1670)
---DM 5351RSF	CS 1959R	* JDR 2807 (411)	* P64T39 R (1412)	* RJS 45002 (411)
55157RSF IPRO	CT233R	* JHB 2507 (411)	* P 71T74 R (1412)	* RJS 46003 (411)
* 5609RSF (1708)	CU2512R	JRR4144	* PAN 1454 R (1412)	* RJS 49006 (411)
---DM 5609RSF	CVF1309	* JSS 2459 (411)	PAN 1479 R (411)	* RJS 49012 (411)
5714IPRO	CVG820	* JSS 2517 (411)	* PAN 1500 R (1412)	* RJS 50001 (411)
---CAP 2258IPRO	CVG822	LG60259R	PAN 1502 R	* RJS 53001 (411)
57152RSF IPRO	CX126R	LG60260IPR	PAN 1507 R	* RJS 57002 (411)
57159RSF IPRO	CZ15B401IPRO	LG60261IPR	PAN 1515 R	* RJS 59001 (411)
59160RSF IPRO	DM52R19	LG60353R	* PAN 1521 R (1412)	* RM 5500 (1573)
* 5901RSF (1708)	DM59R03	LGX60159	* PAN 1532 R (1412)	--- Y 550
---DM 5901RSF	DM60R05	LDC 5.3 (1778)	* PAN 1555 R (1412)	SRM 5200 (1573)
* 5953 RSF (1708)	DM60R06	LDC 5.9 (1778)	* PAN 1575 R (1412)	--- Y540
61163RSF IPRO	DM68R09	LDC 6.0 (1778)	PAN 1586 R	* SSS 4945 (tuc) (24)
* 6.15 F (1573)	* Don Mario 5.1i (1708)	* LS 6146 R (484)	PAN 1588 R	SSS 500
--- Y 615F	* Don Mario 6.8i (1708)	* LS 6161 R (484)	* PAN 1614 R (1412)	* SSS 5052 (tuc) (24)
* 6205 B (1573)	DON MARIO 46i20 IPRO	* LS 6164 R (484)	* PAN 1623 R (1412)	* SSS 5449 (tuc) (24)
---Y627F	DON MARIO 55R20	* LS 6240 R (484)	# PAN 1644 R (1412)	* SSS 6560 (tuc) (24)
6211IPRO	Don Mario 6.8 IRR	* LS 6248 R (484)	* PAN 1653 R (1412)	SSS 7446
64161RSF IPRO	EX62258R	* LS 6851 R (484)	* PAN 1663 R (411)	# SSS 7460 (24)
64163RSF IPRO	EX62260R	* LS 6860 R (484)	* PAN 1664 R (1412)	# SSS 7665 (tuc) (24)
6402RSF (1708)	* FN 5.25 (1573)	* LS 6868 (484)	* PAN 1666 R (1412)	SSS 9446
---DM 6402RSF	--- Y 525F	M6410IPRO	PAN 1692 R	SSS 9458
* 6505 B (1573)	* FN 5.75 (1573)	---US6410IPRO	* PAN 1729 R (1412)	SSS 9655
---Y657F	--- Y575F	NEO610 IPRO	* PHB 94Y80 R (411)	XB53S19R
66168RSF IPRO	FUNDACEP 65 RR (572)	NS 5258 R (1421)	* PHB 95B53 R (411)	XB57M16
* 6663RSF (1708)	* JAR 2488 (411)	NS 5909 RG (1421)	* PHB 95Y01 R (411)	Y 605 (1573)
---DM 6663RSF	JAR3108	NS 6448 R (1421)	* PHB 95Y20 R (411)	Y651 IPRO
* 6968RSF (1708)	# JAR 3110 (411)	O580 IPRO	* PHB 95Y40 R (411)	
---DM 6968RSF	JAR3222	P47T89R	* PHB 96T06 R (411)	
* 95Y61 (411)	JAR3244	* P48T48 R (411)	* RA437 (1670)	

Planttelersregte aangevra/Plant Breeders Rights applied for * Planttelersregte toegeken/ Plant Breeders Rights granted
--- Sinoniem/Synonym

Adres lys / Address list:

24 Sensako	484 Link Seed	1526 Seed Co SA (Pty) Ltd
65 Adams & Adams	489 New Crop	1573 Southern Hemisphere Seeds
80 Monsanto	572 Capstone Seeds	1574 Newlands Mashu
150 Buhрман, G	1076 Agriocare	1637 One Direction Solutions
254-3 ARC GC	1137 Seed-Co (Pty) Ltd.	1670 Van Staden Derick
305 Vreken, H	1412 Pannar Seed	1708 GDM Seeds SA (Pty) Ltd
369 Borman, G.J.J.	1421 Klein Karoo Seed Marketing Ltd	1778 Louis Dreyfus Commodities SA
411 Corteva Agriscience RSA	1514 Bayer Crop Science	

Tabel 1. Gemiddelde aantal dae tot 50% blom en oesrypheid van kultivars gedurende die 2023/24 groeiseisoen vir warm, matig en koue produksiegebiede.

Table 1. Average number of days to 50 % flowering and harvesting of cultivars during the 2023/24 growing season for warm, moderate and cool production areas.

Kultivar/ Cultivar	Dae tot 50% blom/Days to 50% flowering			Dae tot oes/Days to harvest		
	Warm/Warm ¹	Matig/Moderate ²	Koel/Cool ³	Warm/Warm ⁴	Matig/Moderate ⁵	Koel/Cool ⁶
RA4918RR	39	50	61	127	136	151
NS 5258 R	39	50	63	127	129	152
DM 5351 RSF	40	51	62	130	134	153
RA5022BR	42	50	63	127	134	153
PAN 1515R	43	53	68	128	133	153
DM 53154 RSF IPRO	41	51	62	127	134	154
P52T52R	51	59	74	134	144	170
LG60353R	45	54	68	130	136	165
Y540	47	58	71	134	141	166
RA 565 R	49	61	75	134	143	166
LAKE 253 RR	50	66	81	146	149	172
LS6851R	49	60	74	146	146	173
US56-26R	53	59	72	141	145	166
PAN 1521R	51	63	76	141	144	170
PAN 1555R	53	64	82	145	149	176
RA5821R	51	62	75	130	141	172
LAKE 250 RR	52	65	78	146	154	178
PAN 1588R	52	65	81	138	148	172
RA660 R	49	61	74	137	145	166
DM 59R03 RSF	49	59	73	142	145	175
DM 59160 RSF IPRO	50	65	75	145	148	176
LG60260IPR	55	66	81	145	149	176
LG60259R	51	62	79	142	148	172
LG60261IPR	53	66	82	145	150	179
P62T16R	53	64	80	146	154	179
US63-22 IPRO	52	66	77	148	157	183
RA6422BR	57	67	82	147	158	178
P64T39 R	52	67	83	147	153	178
Y657	53	65	78	148	151	172
Y651IPRO	57	66	85	144	153	181
DM 68R09 RSF	58	66	82	146	154	179
DM 61163 RSF IPRO	58	68	84	147	156	182
PAN 1644R	57	64	78	147	151	173
US68-12 IPRO	62	73	91	155	161	185
P71T74 R	60	66	84	156	160	182

* Kultivars nie op die variteitslys nie, kontak direk met saadmaatskappy/Cultivars not on the variety list, contact the relevant seed companies.

¹ - Gemiddeld van 5 lokaliteite / average of 5 localities

² - Gemiddeld van 6 lokaliteite / average of 6 localities

³ - Gemiddeld van 9 lokaliteite / average of 9 localities

⁴ - Gemiddeld van 4 lokaliteite / average of 4 localities

⁵ - Gemiddeld van 7 lokaliteite / average of 7 localities

⁶ - Gemiddeld van 6 lokaliteite / average of 6 localities

Dae tot blom - Gemiddeld 50% van die plante het een blom/Days to flowering – Average of 50% of plants with one flower

Dae tot oes – Gemiddeld van alle peule is volwasse, bros en droog/Days to harvest – Average of pods is mature, brittle and dry

Tabel 2. Groepering van lokaliteite volgens warm, matige en koue produksiegebiede gedurende die 2023/24 groeiseisoen.

Table 2. Grouping of localities according to warm, moderate and cool production areas during the 2023/24 growing season.

Warm/Warm	Matig/Moderate	Koel/Cool
Brits Agri Seeds (B/I) NW Hoopstad (D) FS Lichtenburg Agricol (D) NW Schweizer-Reneke PD1 (D) NW Schweizer-Reneke PD2 (D) NW Warrenton Limagrain (B/I)	Barberspan (D) NW Cedara Dept (D) KZN Greytown (D) KZN Greytown Kranskop Lake Agri (D) KZN Heilbron Agri Seeds (D) Kroonstad (D) FS Kroonstad Agricol (D) FS Leeudoringstad (D) NW Potchefstroom Limagrain (B/I) NW Umtata (D) EC Winterton (D) KZN	Alice Fort Hare Univ. Stellenbosh (D) Bapsfontein PD1 (B/I) MP Bapsfontein PD2 (B/I) MP Belfast (D) MP Bethlehem PD1 (B/I) FS Bethlehem PD2 (B/I) FS Clarens (D) FS Delmas 1 (D) MP Kinross (D) MP Kokstad (D) KZN Marquard Unitedseeds (D) Standerton (D) MP Zanyokwe Univ. Stellenbosh (B/I)

B – Aanvullende besproeiing / I – Supplementary irrigation

D – Droëland / Dry land

Sleutel/Key:

NW – Noordwes/North West
 L – Limpopo
 KZN – Kwa Zulu Natal
 EC – Eastern Cape

FS – Vrystaat/Free state
 MP – Mpumalanga
 G – Gauteng

Tabel 3. Algemene inligting ten opsigte van geregistreerde sojaboontkultivars wat tydens die 2023/24 groeiseisoen geëvalueer is.
Table 3. General information on registered soybean cultivars that were evaluated during the 2023/24 growing season.

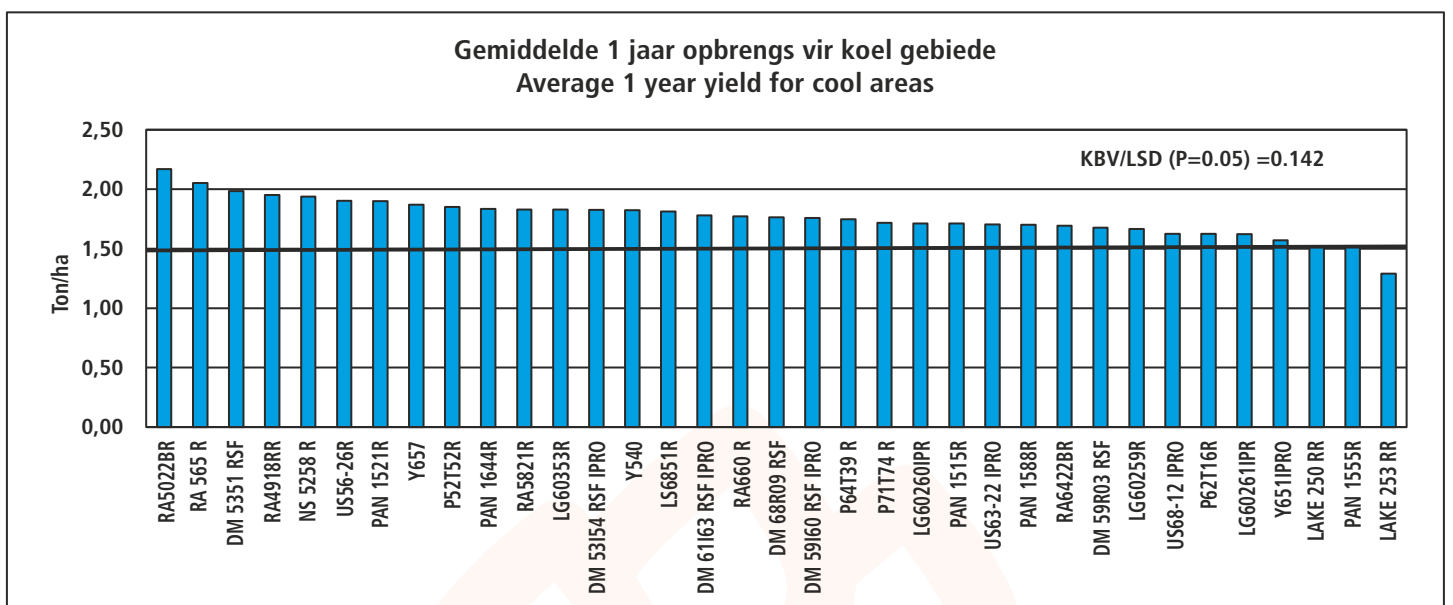
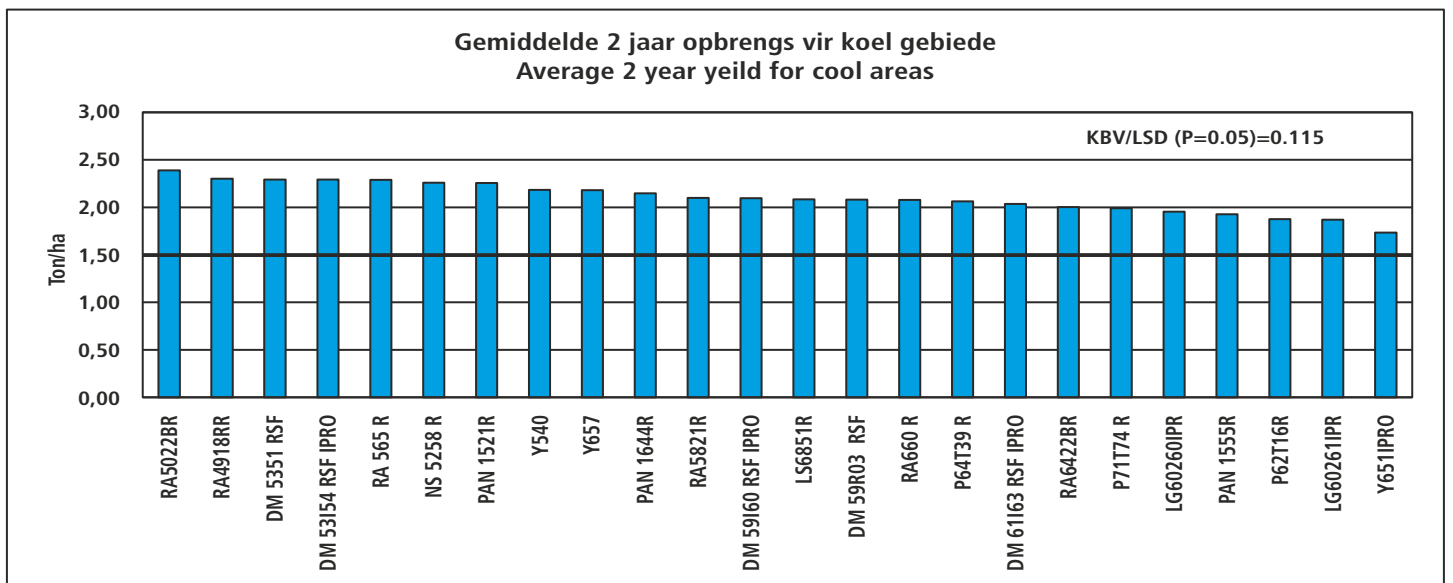
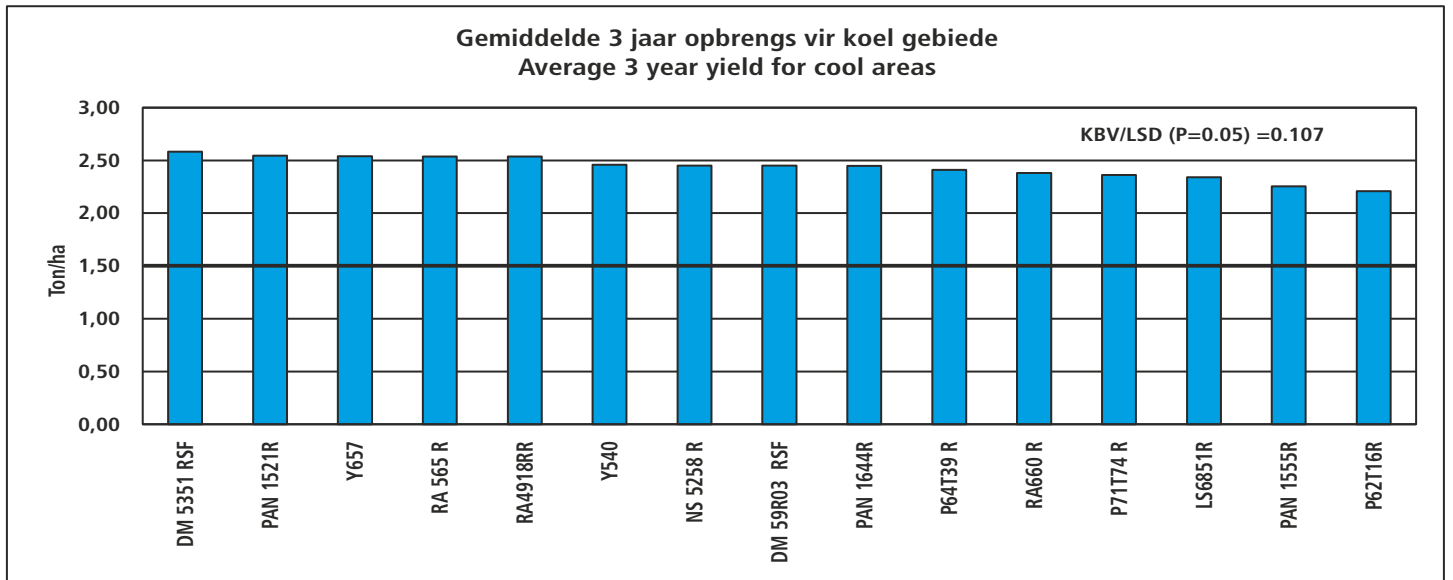
Kultivar/ Cultivar	Volwassenheids- groeiering/ Maturity Grouping	Groei- wyse/ Growth habit ¹	Hilum kleur/ Hilum colour ²	Peulhoogte/Pod height ³		Opspring/Shattering ⁴			Verskaffer/ Supplier	
				Koel/Cool	Matig/ Moderate	Warm	Koel/Cool	Matig/ Moderate		Warm
RA4918RR	4.9	I	BL	8	8	9	1.08	1.00	1.00	Agri Seeds & Technology
NS 5258 R	4.9	I	BL	6	7	9	1.04	1.05	1.00	Limagrain
DM 5351 RSF	5.0	I	BL	7	11	11	1.17	1.10	1.00	GDM Seeds/Agricol
RA5022BR	5.0	I	LB	7	7	8	1.17	1.05	1.00	Agri Seeds & Technology
PAN 1515R	5.0	I	B	8	9	9	1.00	1.00	1.00	Pannar
DM 53154 RSF IPRO	5.1	I	BL	8	8	9	1.13	1.00	1.00	GDM Seeds/Agricol
P52T52R	5.2	I	B	11	10	11	1.00	1.00	1.00	Pioneer
LG60353R	5.3	I	DB	9	9	9	1.08	1.00	1.00	Limagrain
Y540	5.4	I	B	9	10	8	1.04	1.00	1.00	Southern Hemisphere
RA 565 R	5.5	I	B	11	10	11	1.00	1.00	1.00	Agri Seeds & Technology
LAKE 253 RR	5.5	I	B	7	8	4	1.00	1.00	1.00	Lake Agrigulture
LS6851R	5.6	D	B	10	9	7	1.00	1.00	1.00	Limagrain
US56-26R	5.6	I	B	10	12	18	1.00	1.00	1.00	Unitedseeds
PAN 1521R	5.7	I	IB	12	10	14	1.00	1.00	1.00	Pannar
PAN 1555R	5.7	I	B	14	13	18	1.00	1.00	1.00	Pannar
RA5821R	5.8	I	IB	10	9	10	1.00	1.00	1.00	Agri Seeds & Technology
LAKE 250 RR	5.8	I	B	9	9	6	1.05	1.00	1.00	Lake Agrigulture
PAN 1588R	5.9	I	IB	11	12	13	1.00	1.00	1.00	Pannar
RA660 R	6.0	I	B	9	8	11	1.00	1.00	1.00	Agri Seeds & Technology
DM 59R03 RSF	6.0	I	LB	10	10	13	1.00	1.00	1.00	GDM Seeds/Agricol
DM 59160 RSF IPRO	6.0	I	IB	11	12	19	1.00	1.00	1.00	GDM Seeds/Agricol
LG60260IPR	6.0	I	LB	13	10	18	1.00	1.00	1.00	Limagrain
LG60259R	6.0	I	LB	11	14	14	1.00	1.00	1.00	Limagrain
LG60261IPR	6.1	I	LB	14	13	18	1.00	1.00	1.00	Limagrain
P62T16R	6.2	I	B	12	10	17	1.00	1.00	1.00	Pioneer
US63-22 IPRO	6.3	I	IB	14	14	19	1.00	1.14	1.00	Unitedseeds
RA6422BR	6.4	I	IB	12	12	18	1.00	1.00	1.00	Agri Seed & Technology
P64T39 R	6.4	I	KL	12	13	16	1.00	1.00	1.00	Pioneer
Y657	6.5	I	B	10	11	18	1.00	1.00	1.00	Southern Hemisphere
Y651IPRO	6.5	I	IB	16	15	23	1.00	1.00	1.00	Southern Hemisphere
DM 68R09 RSF	6.6	I	B	11	10	14	1.00	1.00	1.00	Southern Hemisphere
DM 61163 RSF IPRO	6.6	I	LB	14	14	21	1.00	1.00	1.00	GDM Seeds/Agricol
PAN 1644R	6.7	I	IB	11	10	19	1.00	1.00	1.00	GDM Seeds/Agricol
US68-12 IPRO	6.8	I	B	14	14	23	1.00	1.00	1.00	Pannar
P71T74 R	7.1	I	KL	12	12	24	1.00	1.00	1.00	Unitedseeds
										Pioneer

¹ D - Bepaald/Determinate; I - Onbepaald/Indeterminate; SD - Semi-bepaald/Semi Determinate

² BL- Swart/Black; IB - Onvolledig swart/Imperfect black; B - Bruin/Brown; LB - Ligbruin/Buf; G - Grys/Grey; KL - Kleurloos/Buf

³ Peulhoogte in cm/Pod height in cm

⁴ Geneigtheid tot oopspring geëvalueer op 'n skaal van 1-5, waar 1 = min en 5 = baie/Tende to shatter evaluated on a scale from 1-5, where 1 = few and 5 = numerous



Tabel 4. Opbreningswaarskynlikheid (%) van kultivars geëvalueer in 2021/22, 2022/23 en 2023/24 vir die koeler droëland produksiegebiede by verskillende opbrengspotensiaal

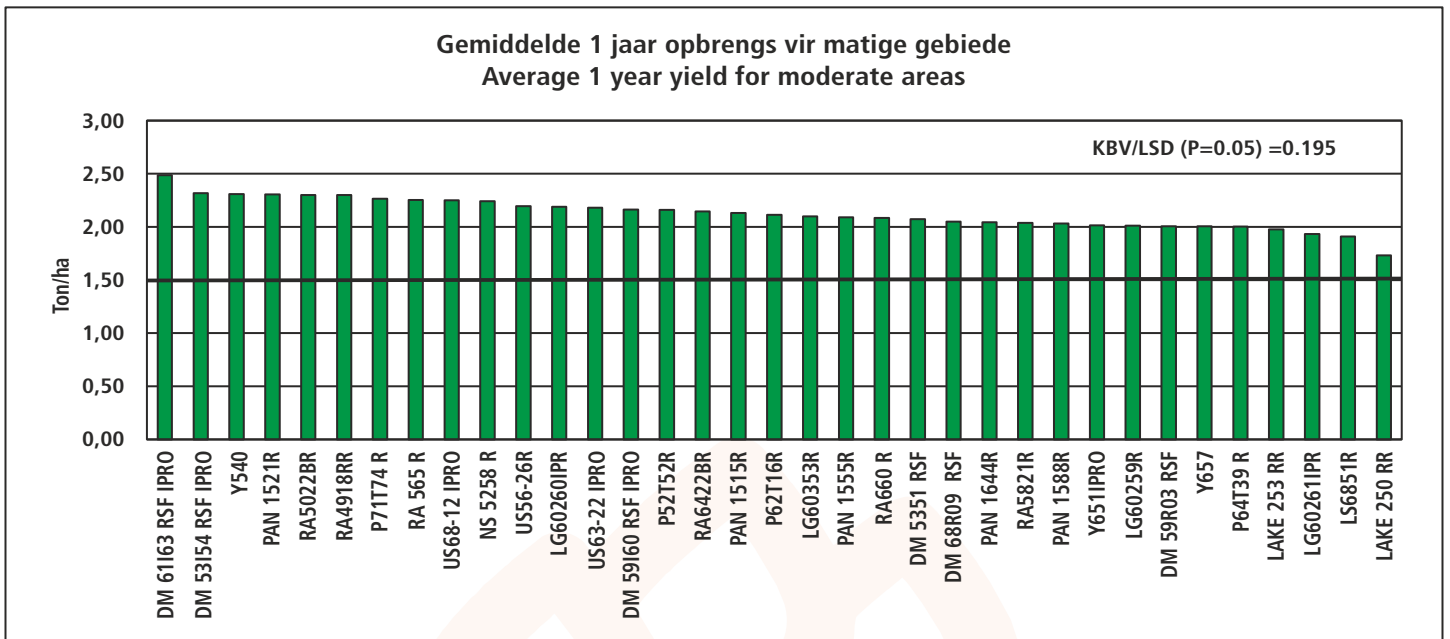
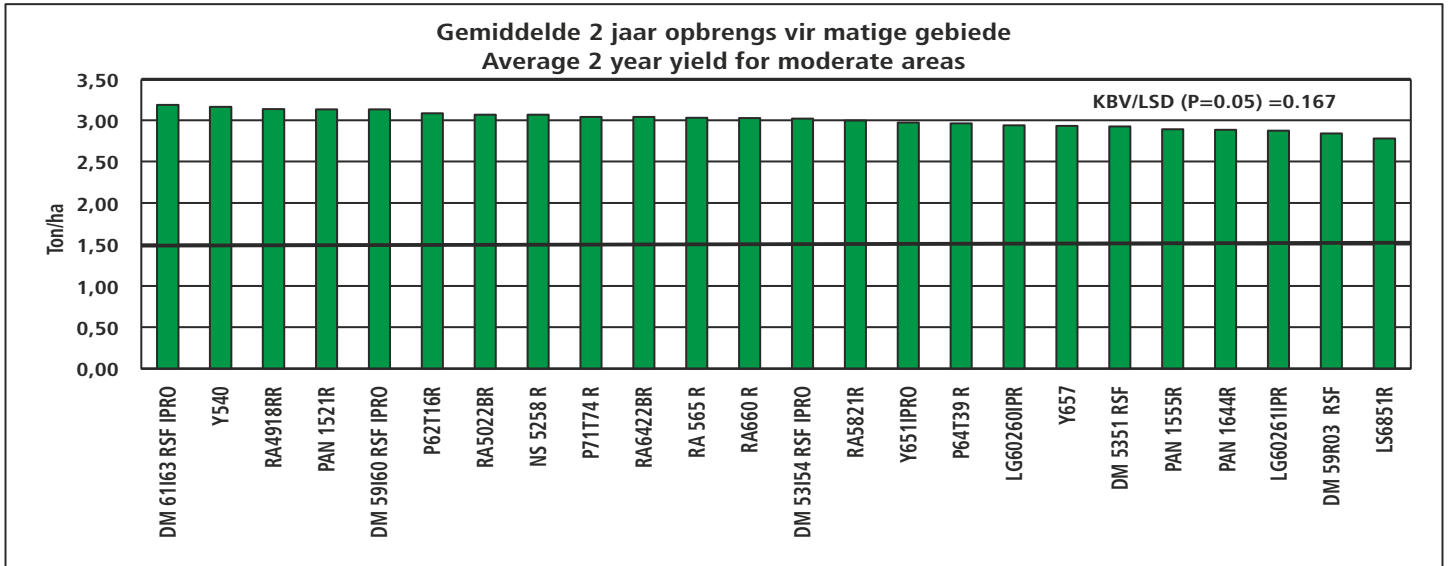
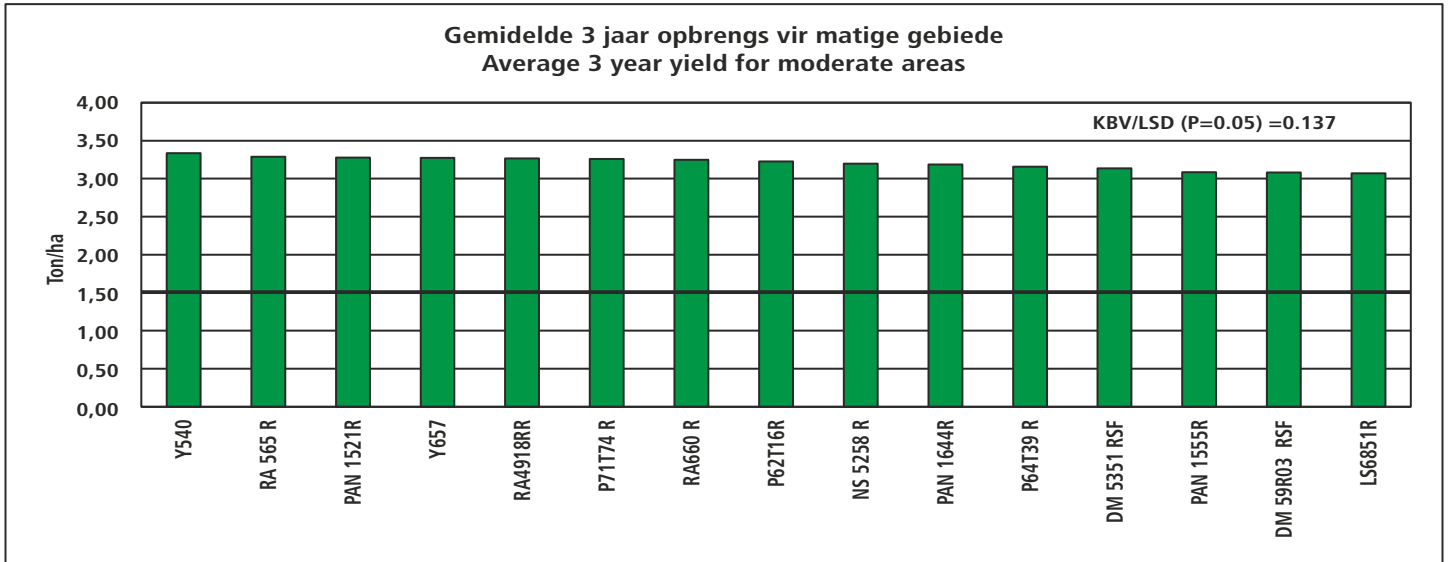
Table 4. Yield probability (%) of cultivars in the 2021/22, 2022/23 and 2023/24 for the cooler dryland production areas at different yield potentials

Kultivar Cultivar	Opbrengswaarskynlikheid/Yield potential (t/ha)							Regressie lyn/regression line	
	1.5	2.0	2.5	3.0	3.5	4.0	4.5	Fprob	R2
RA4918RR	61	59	56	55	52	51	48	<0.001	0.85
NS 5258 R	62	57	51	46	41	36	31	<0.001	0.78
DM 5351 RSF	62	60	57	54	52	49	47	<0.001	0.78
Y540	53	51	49	48	46	45	43	<0.001	0.73
RA 565 R	51	53	53	55	55	56	58	0.0008	0.66
LS6851R	51	49	45	41	38	35	32	0.0006	0.67
PAN 1521R	56	56	55	55	55	54	53	<0.001	0.97
PAN 1555R	35	36	37	39	41	42	43	<0.001	0.91
RA660 R	43	45	46	49	50	51	53	<0.001	0.95
DM 59R03 RSF	49	51	54	56	58	60	62	<0.001	0.93
P62T16R	39	37	35	32	31	29	28	<0.001	0.74
P64T39 R	46	48	50	53	55	57	59	<0.001	0.91
Y657	46	51	55	60	64	68	72	<0.001	0.93
PAN 1644R	45	48	51	53	56	59	61	<0.001	0.93
P71T74 R	43	47	51	55	59	63	67	<0.001	0.93

Tabel 5. Graanopbrengs (kg/ha⁻¹) van kultivars gedurende die 2022/23 en 2023/24 groeiseisoene ten opsigte van die verskillende lokaliteite wat in die koeler droëland produksiegebiede geleë is

Table 5. Grain yield (kg/ha⁻¹) of cultivars during the 2022/23 and 2023/24 growing season for the various localities situated in the cooler dryland production areas

Kultivar Cultivar	2022/23											2023/24														
	Bapsfontein PD1	Bapsfontein PD2	Belfast	Bethlehem PD1	Bethlehem PD2	Clarens	Delmas 1	Delmas 2	Kinross	Kokstad	Standerton	Gem/Mean	Alice	Bapsfontein PD1	Bapsfontein PD2	Belfast	Bethlehem PD1	Bethlehem PD2	Clarens	Delmas	Kinross	Kokstad	Marquard	Standerton	Zanyokwe	Gem/Mean
RA4918RR	1.73	1.74	3.50	2.82	2.67	1.44	3.05	2.94	2.56	3.04	4.36	2.71	0.80	2.86	2.61	2.99	1.99	1.02	1.76	3.49	1.71	1.48	2.87	0.98	0.81	1.95
NS 5258 R	1.56	1.77	4.06	2.07	2.43	1.73	3.08	3.15	3.18	2.60	3.39	2.64	0.92	2.54	2.28	3.41	1.96	0.95	2.21	3.66	1.41	1.62	2.37	0.78	1.11	1.94
DM 5351 RSF	1.95	1.69	3.25	2.16	2.24	1.87	2.73	2.97	3.28	2.86	4.23	2.66	0.74	2.38	2.57	2.76	2.02	0.84	2.41	4.03	1.54	1.91	2.50	1.12	0.97	1.98
RA5022BR	1.26	0.63	2.88	3.40	2.60	2.84	2.41	3.34	3.02	3.47	3.30	2.65	0.83	2.76	3.50	2.25	1.05	2.86	4.11	1.76	1.86	2.85	0.68	1.15	2.17	
PAN 1515R	-	-	-	-	-	-	-	-	-	-	-	-	0.68	2.89	1.81	2.37	1.97	1.00	2.09	2.81	1.47	1.30	2.28	0.73	0.84	1.71
DM 53154 RSF IPRO	2.37	1.72	3.69	2.35	2.65	2.15	3.28	2.51	2.69	3.37	4.49	2.84	0.73	2.04	2.62	2.16	1.93	1.12	2.66	3.57	1.23	1.59	2.30	1.06	0.73	1.83
P52T52R	-	-	-	-	-	-	-	-	-	-	-	-	1.03	2.71	2.88	2.94	1.30	0.91	1.37	3.14	1.19	1.92	2.91	0.89	0.88	1.85
LG60353R	-	-	-	-	-	-	-	-	-	-	-	-	0.67	2.42	2.72	3.13	1.07	1.11	1.46	3.97	1.37	1.52	2.51	0.92	0.92	1.83
Y540	1.91	1.73	3.18	3.80	2.27	1.93	2.47	3.13	2.41	2.91	2.99	2.61	0.83	2.82	2.71	3.01	1.26	0.85	1.35	3.44	1.44	1.94	2.55	0.72	0.77	1.82
RA 565 R	1.85	1.58	2.80	3.80	2.21	1.93	2.18	3.37	2.14	2.56	3.82	2.57	0.72	3.68	3.01	3.56	1.19	0.68	1.85	3.56	1.01	2.38	3.32	0.65	1.05	2.05
LAKE 253 RR	-	-	-	-	-	-	-	-	-	-	-	-	0.92	1.55	1.66	1.39	1.50	1.13	1.12	2.48	0.67	1.22	1.76	0.65	0.70	1.29
LS6851R	2.21	1.57	2.30	3.59	2.12	1.95	1.79	3.58	1.69	2.63	3.03	2.41	0.74	2.38	3.07	2.35	1.23	1.05	1.34	3.17	1.48	2.47	2.73	0.67	0.90	1.81
US56-26R	-	-	-	-	-	-	-	-	-	-	-	-	0.63	2.80	3.58	3.07	1.39	1.19	1.42	3.47	1.05	1.42	2.57	1.04	1.11	1.90
PAN 1521R	1.83	1.69	3.07	3.37	2.55	3.13	2.01	3.31	2.16	2.60	3.73	2.68	0.56	2.56	2.99	2.86	1.71	1.60	1.29	3.51	1.21	1.68	2.78	0.91	1.05	1.90
PAN 1555R	2.06	1.90	2.87	2.97	1.98	2.20	1.30	3.34	1.32	2.26	4.41	2.42	1.04	2.28	2.43	2.43	0.72	0.91	1.11	2.83	0.58	1.30	3.37	0.69	0.98	1.51
RA5821R	1.73	1.42	1.92	3.13	2.49	2.69	1.92	3.06	1.76	2.67	3.80	2.42	0.88	3.02	3.16	3.55	1.14	0.91	1.14	3.34	1.08	1.34	2.25	0.85	1.11	1.83
LAKE 250 RR	-	-	-	-	-	-	-	-	-	-	-	-	0.60	1.14	2.82	1.27	1.98	0.84	1.65	2.42	0.95	2.19	2.08	0.71	1.05	1.52
PAN 1588R	-	-	-	-	-	-	-	-	-	-	-	-	0.77	2.65	2.59	2.94	0.93	0.92	1.56	3.06	0.61	2.01	2.29	0.84	0.95	1.70
RA660 R	1.40	1.73	2.92	3.47	2.05	1.93	1.44	3.41	1.68	3.09	3.68	2.44	0.77	2.67	2.93	2.75	0.90	1.00	1.28	3.37	0.65	2.47	2.32	0.92	1.02	1.77
DM 59R03 RSF	2.19	1.49	2.31	2.94	2.50	2.73	2.01	3.56	1.72	2.70	4.02	2.56	1.03	2.43	3.23	2.12	1.01	0.73	0.83	3.29	0.70	1.97	2.46	1.03	0.97	1.68
DM 59160 RSF IPRO	1.99	1.79	2.52	3.09	2.09	1.34	1.69	3.66	1.99	2.81	4.49	2.50	0.70	2.42	3.17	3.13	0.83	1.43	1.06	3.56	0.70	0.99	2.65	1.13	1.10	1.76
LG60260IPR	1.68	1.44	2.50	3.05	2.02	1.96	1.67	2.98	2.00	2.36	3.00	2.24	0.53	2.66	3.03	2.84	0.85	1.01	1.07	3.45	0.84	1.63	2.80	0.70	0.87	1.71
LG60259R	-	-	-	-	-	-	-	-	-	-	-	-	0.72	2.75	2.67	2.35	1.27	1.02	1.14	3.06	0.80	1.53	2.43	0.98	0.94	1.67
LG60261IPR	1.93	1.46	1.14	2.90	1.94	2.15	1.39	3.07	1.58	2.31	3.92	2.16	0.66	2.47	3.04	2.57	1.75	0.61	0.87	2.73	0.51	1.72	2.21	0.94	1.02	1.62
P62T16R	1.71	1.68	1.69	2.93	2.33	1.99	1.85	3.29	1.40	2.06	3.03	2.17	0.84	2.71	2.29	2.47	0.93	1.04	0.94	2.50	0.41	2.51	2.54	0.87	1.06	1.62
US63-22 IPRO	-	-	-	-	-	-	-	-	-	-	-	-	0.66	2.56	3.07	3.31	0.89	1.39	0.58	3.01	0.63	1.56	2.26	1.02	1.20	1.70
RA6422BR	2.09	1.53	2.43	3.22	2.47	1.66	1.38	3.20	1.93	2.69	3.43	2.37	0.81	2.39	3.11	2.36	1.02	1.02	1.29	3.01	0.74	2.15	2.05	1.09	0.98	1.69
P64T39 R	1.89	1.88	2.30	3.40	1.95	2.73	1.37	3.86	1.40	2.43	3.60	2.44	0.58	2.78	3.19	2.88	1.01	0.91	1.21	3.18	1.07	2.04	2.42	1.13	0.66	1.75
Y657	2.17	1.88	2.37	3.26	2.36	2.01	1.46	3.29	1.51	3.23	4.48	2.55	0.92	2.92	3.08	2.87	1.05	1.17	1.19	3.37	1.08	2.24	2.53	0.96	0.94	1.87
Y651IPRO	1.77	1.54	1.80	2.75	1.39	1.75	1.60	3.01	1.32	2.21	2.07	1.93	0.64	2.41	2.73	2.36	0.88	1.15	0.73	2.77	0.67	1.62	2.74	0.82	0.90	1.57
DM 68R09 RSF	-	-	-	-	-	-	-	-	-	-	-	-	0.88	2.61	2.86	2.22	1.03	1.28	1.29	3.39	0.51	2.07	2.65	0.95	1.18	1.76
DM 61163 RSF IPRO	1.81	1.59	2.43	2.56	2.08	2.50	1.72	3.70	1.84	1.85	3.61	2.33	1.11	2.76	2.91	2.25	0.81	0.86	1.17	2.83	0.63	2.59	2.86	1.25	1.11	1.78
PAN 1644R	1.69	1.89	2.45	3.51	2.40	2.42	1.94	3.02	1.68	2.76	3.89	2.52	0.95	3.31	3.22	3.12	0.66	1.21	1.10	2.99	0.51	2.32	2.53	0.99	0.92	1.83
US68-12 IPRO	-	-	-	-	-	-	-	-	-	-	-	-	0.90	2.17	3.20	2.79	0.63	1.58	0.35	2.84	0.25	1.89	2.30	0.95	1.27	1.63
P71T74 R	2.08	1.20	2.02	2.93	2.17	2.02	1.60	3.45	1.54	2.79	3.64	2.31	0.93	2.65	2.94	2.56	0.84	0.96	0.87	3.23	0.59	2.19	2.55	0.99	1.02	1.72
PAN 1502 R	2.40	1.64	2.63	3.09	1.81	2.42	1.82	2.74	1.59	2.40	3.34	2.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAN 1507 R	2.03	1.93	2.10	3.04	2.01	1.58	1.80	3.16	1.92	2.09	2.51	2.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RA5722BR	0.90	1.14	3.13	3.42	2.24	1.96	2.39	3.35	2.20	2.03	3.48	2.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P57T19 R	2.02	1.68	2.59	3.00	2.57	3.02	2.09	3.34	1.79	2.77	4.42	2.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NS 5909 R	1.97	1.93	1.96	3.03	1.95	1.72	1.62	3.91	1.45	1.84	3.07	2.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LS 6860 R	1.71	1.43	1.81	2.50	1.92	1.72	1.09	2.74	1.00	1.91	3.61	1.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RA6521BR	0.92	0.77	1.69	2.61	2.03	1.28	1.07	3.14	1.40	1.72	4.03	1.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM 6.8i RR	1.58	1.34	2.34	3.40	2.25	2.12	1.41	3.64	1.34	2.46	3.95	2.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gem/Mean	1.82	1.58	2.52	3.05	2.21	2.09	1.89	3.26	1.89	2.55	3.65	2.41	0.79	2.58	2.82	2.70	1.25	1.04	1.36	3.22	0.93	1.85	2.50	0.90	0.98	1.76

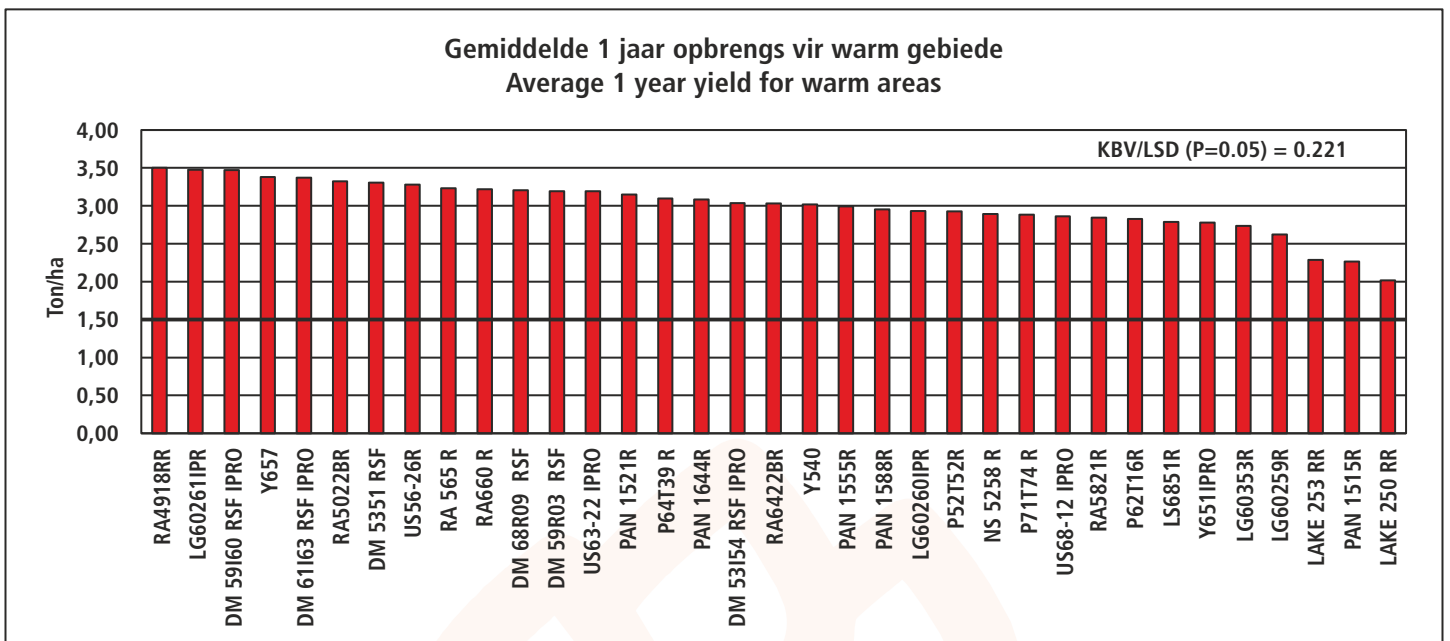
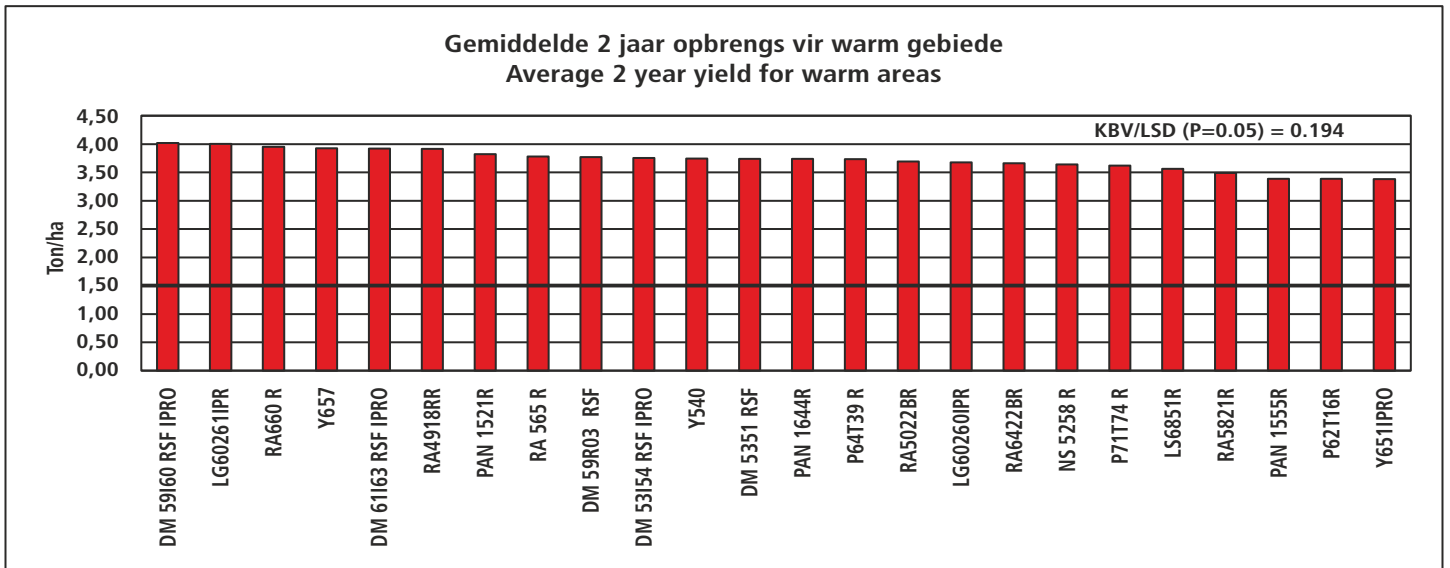
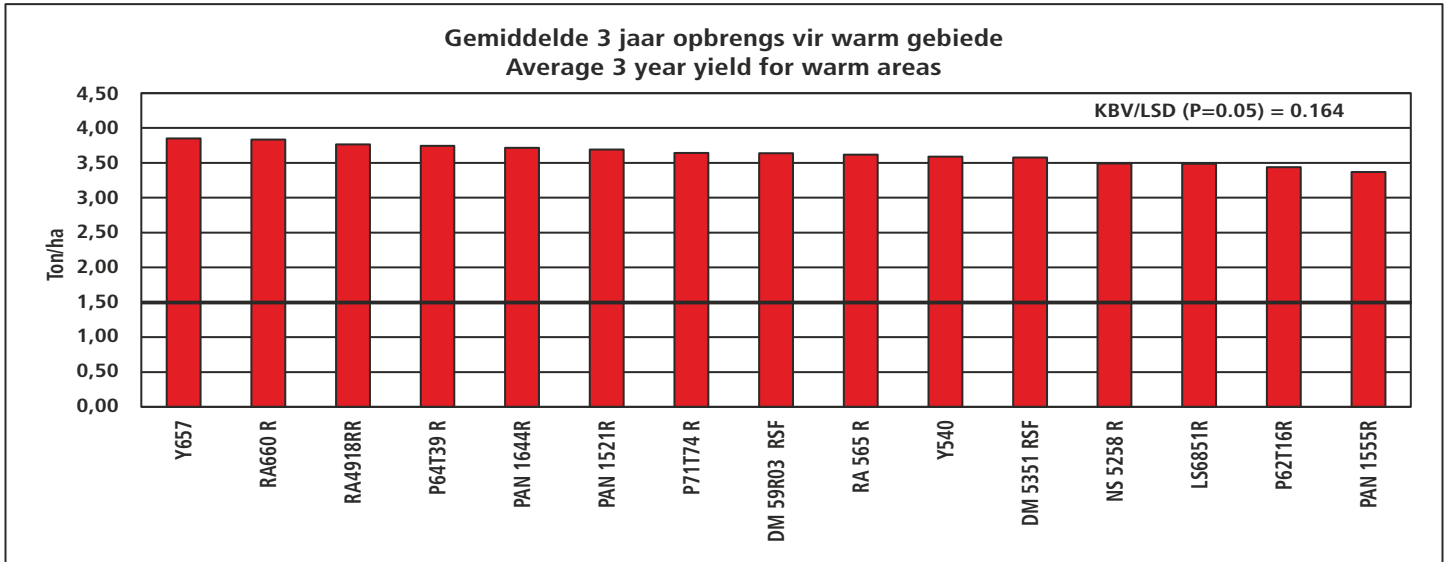


Tabel 6. Opbrenghwaarskynlikheid (%) van kultivars geëvalueer in 2021/22, 2022/23 en 2023/24 vir die matige droëland produksiegebiede by verskillende opbrengspotensiaal
Table 6. Yield probability (%) of cultivars evaluated in 2021/22, 2022/23 and 2023/24 for the moderate dryland production areas at different yield potentials

Kultivar	Opbrengswaarskynlikheid/Yield potential (t/ha)							Regressie lyn/Regression line	
	1.5	2.0	2.5	3.0	3.5	4.0	4.5	Fprob	R2
RA4918R	53	53	53	53	53	53	53	<0.001	0.94
NS5258R	46	48	50	52	54	55	57	<0.001	0.91
DM5351RSF	36	40	43	47	51	54	58	<0.001	0.88
Y540	52	54	56	58	59	61	63	<0.001	0.91
RA565R	60	60	59	58	58	57	56	<0.001	0.96
LS6851R	42	41	40	39	39	38	37	<0.001	0.95
PAN1521R	61	59	57	55	52	50	48	<0.001	0.88
PAN1555R	50	48	45	43	41	38	36	<0.001	0.96
RA660R	47	49	51	53	55	57	59	<0.001	0.94
DM59R03RSF	51	48	45	42	39	36	33	<0.001	0.94
P62T16R	52	51	51	49	49	48	47	<0.001	0.88
P64T39R	48	48	47	47	46	46	45	<0.001	0.87
Y657	54	53	53	52	51	50	49	<0.001	0.87
PAN1644R	51	50	50	49	49	49	49	<0.001	0.92
P71T74R	51	52	53	54	56	57	59	<0.001	0.88

Tabel 7. Graanopbrengs (T ha⁻¹) van kultivars gedurende die 2022/23 en 2023/24 groeiseisoen ten opsigte van die verskillende lokaliteite wat in die matige droëland produksiegebiede geleë is
Table 7. Grain yield (T ha⁻¹) of cultivars during the 2022/23 and 2023/24 growing season for the various localities situated in the moderate dryland production areas

Kultivar Cultivar	2022/23											2023/24											
	Barberspan	Greytown	Kroonstad	Kroonstad (Agricol)	Leeudoringstad	Potchefstroom (Limagrain)	Potchefstroom (Pannar)	Rietvlei	Umtata	Winterton	Gem/Mean	Barberspan	Cedara	Greytown Kranskop	Greytown Pannar	Heilbron	Kroonstad	Kroonstad (Agricol)	Leeudoringstad	Potchefstroom (Limagrain)	Umtata	Winterton	Gem/Mean
RA4918RR	2.78	4.94	3.51	3.07	4.09	4.36	4.13	4.37	4.07	5.50	4.08	0.95	3.53	3.77	2.50	0.79	1.42	1.48	1.89	3.26	1.80	3.90	2.30
NS 5258 R	3.03	4.99	3.58	2.70	3.64	4.25	4.17	3.34	4.11	6.17	4.00	0.86	3.39	3.62	2.87	0.84	1.37	1.84	1.15	3.57	1.42	3.73	2.24
DM 5351 RSF	2.64	5.01	3.65	2.03	2.98	4.08	4.32	3.11	4.87	6.16	3.89	0.69	3.40	3.71	2.50	0.77	1.15	1.18	1.71	3.11	1.03	3.55	2.07
RA5022BR	2.36	4.55	4.46	3.25	3.64	4.52	3.64	4.51	3.66	4.78	3.94	0.89	2.89	3.36	2.52	1.49	2.21	1.64	1.70	3.55	1.71	3.36	2.30
PAN 1515R	-	-	-	-	-	-	-	-	-	-	-	0.55	2.93	3.72	2.11	0.98	1.59	1.23	1.40	3.45	1.48	3.97	2.13
DM 53154 RSF IPRO	3.21	5.02	3.87	2.16	2.96	4.48	3.97	2.45	4.32	5.72	3.82	1.12	3.03	2.94	2.33	1.28	1.13	1.45	1.92	4.39	1.90	3.99	2.32
P52T52R	-	-	-	-	-	-	-	-	-	-	-	0.88	3.83	2.92	1.86	1.01	1.32	2.18	1.59	3.75	1.57	2.87	2.16
LG60353R	-	-	-	-	-	-	-	-	-	-	-	0.73	3.22	3.44	2.34	1.01	1.50	1.14	1.70	3.10	1.44	3.46	2.10
Y540	3.16	5.80	3.91	3.16	3.42	3.92	4.56	3.60	3.93	5.82	4.13	0.80	3.50	3.82	2.61	0.85	1.11	1.32	1.65	4.98	1.48	3.29	2.31
RA 565 R	2.55	5.32	3.77	3.26	3.33	3.78	3.96	3.92	3.94	5.28	3.91	0.85	3.63	3.44	2.65	0.76	1.46	1.44	2.13	3.36	1.77	3.28	2.25
LAKE 253 RR	-	-	-	-	-	-	-	-	-	-	-	1.20	3.48	2.82	2.02	1.15	0.73	1.08	2.47	2.54	1.69	2.56	1.98
LS6851R	2.38	4.14	3.52	3.49	3.35	3.80	3.82	4.29	3.61	5.20	3.76	0.70	3.28	2.69	2.26	0.93	1.16	0.82	1.58	3.07	1.59	2.92	1.91
US56-26R	-	-	-	-	-	-	-	-	-	-	-	0.93	3.05	3.25	2.44	1.13	1.24	1.17	2.52	3.07	1.86	3.49	2.19
PAN 1521R	2.47	4.87	4.34	4.07	4.33	3.94	3.97	3.95	4.08	4.64	4.07	0.86	2.88	3.11	2.61	0.93	0.94	2.31	1.98	3.86	1.69	4.20	2.31
PAN 1555R	2.42	4.93	3.37	3.70	3.34	3.66	3.51	3.76	3.76	5.50	3.80	0.98	3.35	3.02	1.84	0.86	1.26	1.92	2.07	3.44	1.50	2.75	2.09
RA5821R	2.23	5.28	4.66	3.00	4.31	4.00	4.40	3.71	4.10	5.06	4.07	0.61	3.29	3.07	2.56	0.79	0.94	1.59	1.48	3.29	1.77	3.04	2.04
LAKE 250 RR	-	-	-	-	-	-	-	-	-	-	-	1.20	3.01	2.81	1.80	0.81	0.94	1.12	1.47	1.53	1.53	2.83	1.73
PAN 1588R	-	-	-	-	-	-	-	-	-	-	-	0.79	2.97	2.36	2.07	0.94	1.30	1.63	2.09	3.62	1.67	2.89	2.03
RA660 R	2.77	5.63	3.80	3.96	3.82	3.70	4.46	3.48	3.45	5.81	4.09	0.71	3.24	3.09	2.59	0.95	1.21	1.16	2.26	3.59	1.85	2.29	2.08
DM 59R03 RSF	2.29	4.89	3.86	3.09	3.39	4.12	4.00	3.50	4.00	4.68	3.78	0.71	3.51	3.04	2.22	0.80	1.25	1.77	1.98	2.30	1.80	2.69	2.01
DM 59160 RSF IPRO	3.05	4.61	3.94	3.91	4.19	3.50	4.44	4.80	3.60	6.14	4.22	1.15	3.29	2.35	2.73	1.01	1.38	1.75	2.79	2.50	1.46	3.39	2.16
LG60260IPR	2.24	4.57	3.84	3.39	3.74	3.89	3.62	4.15	3.92	4.50	3.79	1.01	3.23	3.14	2.00	1.01	1.51	1.55	1.58	4.54	1.82	2.69	2.19
LG60259R	-	-	-	-	-	-	-	-	-	-	-	0.92	3.31	2.68	2.07	0.76	1.12	1.48	1.84	3.19	1.68	3.06	2.01
LG60261IPR	2.36	5.04	3.67	4.11	2.99	3.21	4.12	3.94	4.45	5.43	3.93	1.02	3.19	2.39	2.12	1.00	0.99	1.46	1.97	2.26	1.95	2.91	1.93
P62T16R	3.43	5.42	3.60	2.49	4.57	3.54	4.00	4.80	4.28	5.64	4.18	1.16	3.31	3.04	2.33	1.08	1.44	1.60	2.58	1.91	1.73	3.06	2.11
US63-22 IPRO	-	-	-	-	-	-	-	-	-	-	-	1.10	3.09	1.88	2.25	1.05	0.71	1.40	1.99	6.62	1.84	2.05	2.18
RA6422BR	3.15	4.81	3.89	3.94	4.30	4.16	4.04	3.57	3.47	5.15	4.05	1.02	3.51	2.99	2.56	1.21	1.11	1.83	2.58	1.56	1.80	3.41	2.14
P64T39 R	2.04	4.91	4.21	4.13	3.97	3.47	4.41	3.68	4.18	5.43	4.04	0.75	3.03	3.42	2.69	0.92	1.19	1.59	1.82	2.17	1.72	2.76	2.00
Y657	3.24	5.40	4.04	3.06	3.26	3.56	4.51	3.85	3.73	5.09	3.97	1.07	3.38	2.92	2.35	1.11	1.47	1.44	1.78	2.01	1.68	2.85	2.00
Y651IPRO	2.94	4.87	3.52	4.24	3.50	3.81	3.74	4.87	3.45	5.56	4.05	1.11	3.31	3.24	2.03	1.14	1.26	1.21	2.08	2.89	1.33	2.56	2.01
DM 68R09 RSF	-	-	-	-	-	-	-	-	-	-	-	1.20	3.34	2.59	2.24	1.13	1.43	1.59	2.55	2.36	1.58	2.54	2.05
DM 61163 RSF IPRO	4.00	4.23	4.10	3.12	4.39	3.80	3.50	4.66	3.04	4.98	3.98	1.13	3.30	3.26	2.59	1.41	1.77	1.99	2.35	4.85	1.97	2.74	2.49
PAN 1644R	2.03	5.40	3.99	3.04	3.53	3.49	4.24	3.80	3.48	5.30	3.83	0.83	3.69	3.09	2.43	0.96	1.11	1.55	2.01	2.03	1.68	3.11	2.04
US68-12 IPRO	-	-	-	-	-	-	-	-	-	-	-	1.18	3.47	3.79	1.96	1.55	1.54	1.88	1.59	4.76	1.71	1.32	2.25
P71T74 R	2.32	5.56	3.46	3.79	3.83	3.43	4.13	3.15	4.05	5.50	3.92	0.91	3.17	3.47	2.16	0.89	1.13	1.56	1.77	5.39	1.35	3.10	2.26
PAN 1502 R	2.27	4.59	3.39	3.26	3.11	3.43	3.75	3.99	4.60	4.99	3.74	-	-	-	-	-	-	-	-	-	-	-	-
PAN 1507 R	2.54	4.81	3.36	3.60	3.25	3.58	4.15	4.79	3.03	5.38	3.85	-	-	-	-	-	-	-	-	-	-	-	-
RA5722BR	2.51	4.33	3.83	3.05	4.81	3.77	3.76	4.20	2.79	5.28	3.83	-	-	-	-	-	-	-	-	-	-	-	-
P57T19 R	3.02	4.76	3.92	3.24	4.15	2.80	3.25	4.30	4.18	4.81	3.84	-	-	-	-	-	-	-	-	-	-	-	-
NS 5909 R	2.29	4.12	3.93	3.98	3.74	3.83	3.30	4.04	3.51	5.56	3.83	-	-	-	-	-	-	-	-	-	-	-	-
LS 6860 R	2.20	4.09	3.77	3.45	3.68	2.77	3.48	4.42	3.83	4.42	3.61	-	-	-	-	-	-	-	-	-	-	-	-
RA6521BR	3.21	3.98	3.18	2.99	4.16	4.38	3.63	3.50	3.66	5.27	3.80	-	-	-	-	-	-	-	-	-	-	-	-
DM 6.8i RR	2.95	5.28	3.83	4.19	3.89	3.04	3.91	4.01	3.34	4.88	3.93	-	-	-	-	-	-	-	-	-	-	-	-
Gem/Mean	2.69	4.88	3.80	3.37	3.74	3.75	3.97	3.95	3.83	5.30	3.93	0.93	3.29	3.09	2.32	1.01	1.27	1.52	1.94	3.31	1.65	3.05	2.13



Tabel 8. Opbrenswaarskynlikheid (%) van kultivars geëvalueer in 2021/22, 2022/23 en 2023/24 vir die warm droëland produksiegebiede by verskillende opbrengspotensiaal

Table 8. Yield probability (%) of cultivars evaluated in 2021/22, 2022/23 and 2023/24 for the warm dryland production areas at different yield potentials

Kultivar Cultivar	Opbrengswaarskynlikheid/Yield potential (t/ha)								Regressielyn/Regression line	
	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	Fprob	R2
RA4918RR	65	63	61	59	56	54	51	49	<0.001	0.83
NS5258R	47	46	44	43	42	41	40	39	<0.001	0.74
DM5351RSF	62	58	54	49	45	41	37	33	<0.001	0.79
Y540	42	43	45	47	48	50	51	53	<0.001	0.94
RA565R	41	43	46	48	51	53	55	58	<0.001	0.92
LS6851R	40	41	42	44	45	46	47	49	<0.001	0.81
PAN1521R	56	56	55	54	53	52	51	51	<0.001	0.88
PAN1555R	51	47	43	38	34	31	27	24	<0.001	0.79
RA660R	68	66	64	61	59	57	55	52	<0.001	0.86
DM59R03RSF	49	49	50	51	51	52	52	53	<0.001	0.89
P62T16R	40	40	40	41	41	41	41	42	<0.001	0.85
P64T39R	54	55	57	58	60	61	62	63	<0.001	0.96
Y657	52	56	59	63	66	69	72	74	<0.001	0.90
PAN1644R	39	44	49	54	59	63	68	72	<0.001	0.93
P71T74R	46	48	50	52	54	55	57	59	<0.001	0.91

Tabel 9. Graanopbrengs (kg/ha⁻¹) van kultivars gedurende die 2022/23 en 2023/24 groeiseisoen ten opsigte van die verskillende lokaliteite wat in die warm droëland produksiegebiede geleë is

Table 9. Grain yield (kg/ha⁻¹) of cultivars during the 2022/23 and 2023/24 growing season for the various localities situated in the warm dryland production areas

Kultivar Cultivar	2022/23							2023/24						
	Groblerdsdal (Agri-Seeds)	Groblerdsdal ARC	Hoopstad	Schweizer- Reneke PD1	Schweizer- Reneke PD2	Thabazimbi	Gem/Mean	Brits	Hoopstad	Lichtenburg	Schweizer- Reneke PD1	Schweizer- Reneke PD2	Warrenton	Gem/Mean
RA4918RR	3.22	4.00	6.11	4.16	3.94	4.50	4.16	4.37	4.18	1.49	3.85	2.65	4.48	3.50
NS 5258 R	2.68	5.25	6.05	3.74	3.80	4.77	4.17	4.27	3.48	0.95	3.14	1.86	3.66	2.89
DM 5351 RSF	3.72	4.75	4.65	3.97	4.69	3.22	3.89	4.14	5.01	1.41	2.82	2.61	3.86	3.31
RA5022BR	3.31	4.44	5.67	3.81	4.17	2.97	3.86	4.43	5.09	1.33	2.45	2.53	4.09	3.32
PAN 1515R	-	-	-	-	-	-	-	3.86	1.63	1.25	2.07	1.58	3.22	2.27
DM 53154 RSF IPRO	3.73	3.97	6.58	4.92	3.89	3.73	4.18	3.65	2.98	1.59	2.72	2.94	4.32	3.03
P52T52R	-	-	-	-	-	-	-	3.77	3.50	1.13	2.31	2.00	4.87	2.93
LG60353R	-	-	-	-	-	-	-	3.78	3.15	1.21	1.94	1.78	4.56	2.74
Y540	3.38	4.00	5.74	4.78	4.70	4.20	4.07	3.97	3.63	1.09	2.85	1.65	4.92	3.02
RA 565 R	3.57	4.78	5.55	4.04	4.81	3.20	4.00	4.22	5.04	1.53	2.60	1.19	4.81	3.23
LAKE 253 RR	-	-	-	-	-	-	-	2.34	2.89	0.77	1.73	1.29	4.69	2.29
LS6851R	3.96	2.99	6.46	4.35	4.22	4.00	4.11	2.94	3.73	1.13	2.18	1.32	5.44	2.79
US56-26R	-	-	-	-	-	-	-	4.64	3.99	1.21	3.01	1.72	5.12	3.28
PAN 1521R	3.72	3.90	6.37	4.59	4.49	3.89	4.30	4.26	3.11	1.45	2.82	2.14	5.11	3.15
PAN 1555R	3.43	3.50	4.18	3.95	4.69	2.92	3.60	2.96	5.22	1.20	2.35	1.62	4.61	2.99
RA5821R	3.37	3.30	5.85	4.92	3.88	3.47	3.91	3.76	3.23	1.09	2.81	1.65	4.53	2.85
LAKE 250 RR	-	-	-	-	-	-	-	1.57	2.72	1.06	1.64	1.11	3.99	2.02
PAN 1588R	-	-	-	-	-	-	-	4.12	3.30	1.47	2.93	1.36	4.54	2.95
RA660 R	4.31	4.63	6.09	4.90	4.05	4.13	4.27	4.67	3.41	1.32	3.69	1.69	4.54	3.22
DM 59R03 RSF	3.24	4.34	5.86	4.55	5.12	2.94	4.09	3.89	3.64	1.24	3.72	1.13	5.55	3.19
DM 59160 RSF IPRO	4.25	4.29	5.80	5.08	4.17	3.83	4.30	4.09	4.39	1.59	4.34	1.18	5.24	3.47
LG60260IPR	3.73	3.92	6.02	4.77	3.99	4.11	4.15	3.49	3.96	1.41	2.31	1.63	4.78	2.93
LG60259R	-	-	-	-	-	-	-	3.51	2.66	1.33	2.08	1.39	4.76	2.62
LG60261IPR	4.09	4.02	5.26	5.14	4.99	3.66	4.31	4.26	5.14	1.49	3.12	2.15	4.70	3.48
P62T16R	3.31	4.35	5.31	4.46	4.43	1.81	3.71	2.72	4.34	1.08	2.52	1.47	4.84	2.83
US63-22 IPRO	-	-	-	-	-	-	-	3.78	4.88	1.31	2.77	1.25	5.18	3.19
RA6422BR	3.90	3.83	4.52	4.96	4.83	3.74	4.09	3.50	3.05	1.49	3.04	1.80	5.30	3.03
P64T39 R	3.45	3.84	5.56	5.07	4.75	3.53	4.10	3.65	3.99	1.30	3.37	1.28	4.99	3.10
Y657	3.33	4.19	5.52	5.51	5.04	3.24	4.26	3.67	5.00	1.47	3.51	1.44	5.19	3.38
Y651IPRO	3.28	3.38	4.46	4.78	4.94	3.03	3.76	2.25	3.61	1.10	3.65	1.55	4.51	2.78
DM 68R09 RSF	-	-	-	-	-	-	-	3.66	4.26	1.50	4.08	0.89	4.86	3.21
DM 61163 RSF IPRO	3.71	4.05	5.85	5.03	4.39	3.79	4.22	3.95	4.36	1.96	4.12	1.00	4.86	3.37
PAN 1644R	3.32	4.60	5.64	5.26	4.60	2.91	4.16	3.45	4.25	1.25	3.46	0.66	5.45	3.08
US68-12 IPRO	-	-	-	-	-	-	-	3.03	3.82	1.62	3.66	0.68	4.35	2.86
P71T74 R	3.31	4.75	5.60	5.00	4.17	3.27	4.06	2.81	4.08	1.41	3.46	0.72	4.82	2.88
PAN 1502 R	3.35	3.89	5.96	4.37	4.48	3.41	4.09	-	-	-	-	-	-	-
PAN 1507 R	3.75	3.88	4.43	4.42	4.08	3.53	3.88	-	-	-	-	-	-	-
RA5722BR	3.84	3.90	6.28	4.51	3.78	3.68	3.99	-	-	-	-	-	-	-
P57T19 R	2.99	3.80	4.41	3.61	4.22	2.57	3.51	-	-	-	-	-	-	-
NS 5909 R	3.65	3.72	5.83	4.90	4.42	4.10	4.20	-	-	-	-	-	-	-
LS 6860 R	3.56	2.94	4.69	4.27	4.29	2.32	3.57	-	-	-	-	-	-	-
RA6521BR	3.70	2.62	4.91	4.49	3.73	3.73	3.75	-	-	-	-	-	-	-
DM 6.8i RR	2.80	4.40	4.98	4.65	3.45	3.55	3.83	-	-	-	-	-	-	-
Gem/Mean	3.53	4.01	5.51	4.59	4.35	3.49	4.02	3.64	3.85	1.32	2.95	1.57	4.71	3.01

VERDERE INLIGTING



Volledige inligting oor die Nasionale Sojaboon Kultivarproewe en 'n nuttige bron van inligting oor sojaboonproduksie naamlik "Sojaboon produksiehandleiding" is beskikbaar by:

LNR-Graangewasse
Privaatsak X1251, Chris Hani Straat 114, Potchefstroom 2520
Tel.: 018 299 6100 | Faks: 018 294 7146

*** Kultivars wat in die verslag opgeneem is, is die enigste kultivars wat deur die LNR getoets en aanbeveel word.**

ERKENNING

Die uitvoer van die proewe is moontlik gemaak deur die finansiële ondersteuning van die Landbounavorsingsraad, Olie-Proteïensade Ontwikkelingstrust, verskeie Saadmaatskappye en 'n groot aantal medewerkers wat behulpsaam was met die uitvoer van die proewe. Ons bedank graag Me. Heila Vermeulen vir tegniese ondersteuning, Me. Nicolene Cochrane vir die ontleding van data en UPL vir die borg van die entstof.

FURTHER INFORMATION



Detailed information regarding the National Soybean Cultivar Trials and an information guide regarding Soybean production can be obtained from:

ARC-Grain Crops
Private Bag X1251, Chris Hani Street 114, Potchefstroom 2520
Tel.: 018 299 6100 | Fax: 018 294 7146

*** Cultivars that are discussed in this report are the only cultivars evaluated and recommended by the ARC.**

ACKNOWLEDGEMENT

Execution of these trials were made possible through the financial support of the Agricultural Research Council, Oil and Protein Seed Development Trust, Seed Companies, and a large number of collaborators who conducted trials. We would like to thank Mrs. Heila Vermeulen technical assistance, Mrs Nicolene Cochrane for data analyses and UPL for sponsoring the inoculant.

