

PULA IMVULA

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INCWADI YEGRAIN SA YABALIMI ABASAKHULAYO



Isithombe: Martin Budgen

I-GIBBERELLA STALK ROT yisifo esinobungozi obukhulu

-STALK ROT IDALA UKULAHLEKWA YISIVUNO NGENXA YOKUNGAHLUMI KWAZIHLAMVU PHECELEZI I-GRAIN FILLING, UKUVUTHWA NGAPHAMBI KWESIKHATHI NE-SINAFUNAFU (KUNCIPHISA UKUKHIQIZA NOKUVINWA KWAMADLEBE). UKWENGEZA, KULOKHO, I-MYCOTOXINS EKHIQIZWA YILA MA-FUNGI INGENZA UKUTHI AMATHISHU EMIHLANGA ANOMTHELELA INGAKULUNGELI UKUDLIWA YIMFUYO (IZILWANE). INKINGA EYEJWAYELEKILE EZINDAWENI EZIKHIQIZA UMMBILA EMHLABENI JIKELELE.

I-Gibberella stalk rot idala ama-fungus pathogens aphakathi kwe-Fusarium graminearum species isilimo esiyikhaya le-FGSC okubandakanya ummbila, i-oat, i-barley, i-rye, amabele nokolo.

UKUBALULEKA KWEZOMNOTHO

Nakuba kunzima ukuqagula inani lesivuno esilahlekile, i-FGSC stalk rot singadala ukulahleka okukhulu komnotho. Lokhu kudalwa ukufa kwesthalo singakavuthwa, ukuphazamiseka kokuhamba kwamanzi namanyuthriyanti ngenxa yokumila kwe-fungal ku-xylem naku-

phoem tissues ohlangeni ngesikhathi sokukhandeka kwezihlamu phecelezi grain fill/nesinafunafu sezitshalo ngenxa yobuthakathaka beziq ngesikhathi esihle sezimo zenhlalo yendawo.

Ama-kernels emadlebeni anomthelela aba mancane uma kuqhathaniswa nawesitshalo sokusahlamvu esinempiro futhi ngokuvamile siba nedlebe elilengayo (ingagcwaiselwa ngokusebenzia i-thousand kernel weight njengepharamitha). Ukunafuzela kwezitshalo ezinomthelela kuphazamisa ukusebenza kwemishini. Kubese kudingeka ukuba izitshalo zicoshwe phansi futhi zivunwe ngezandla, lokho ke kwnweba isikhathi sokuvuna, umsebenzi kanye nezindleko zama-input.

IZIMPAPU

- Izimpapu ze-Gibberella stalk rot ziyafana nezinye zokubola kohlanga phecelezi stalk rots kodwa zingahlukaniswa ngombabdala wazo uphinki/ubala obomvu okuphuphile wethishu yesitshalo esinomthelela (**Isithombe 1**).
- Ukubuna nempilo yeitshalo ezinomthelela, amahlamvu aluhlaza ngokukhanyayo aguquka abe luhlaza okuphuphile futhi maqede aguquke abe nsundu.

I-Gibberella stalk rot...



Umbala wesiqu obomvana owenziwa yi-FGSC okudalwa yi-Gibberella stalk rot.

- Ingaphansi lohlanga liba nombala ofana nothi phecelezi *straw-coloured*, kanti ingaphakathi lomongo uyahlukana, kusale kuphe-la isithungo semithambo ibambe kancane.
- Ukuhlukana kwethishu yesiqu kudala ukudodobala kwesiqu (**Isithombe 2**) nokubola kwe-crown (**Isithombe 3**) futhi i-root system iholela ekudodobalenzi kwezimpande (**Isithombe 4**).
- Imizimba emincane, eyindingilizi ethela ezithelo ezimnyama (perithecia) ingakhiqizeka ngokungaqondile kahle ezhinlangeni, ngokuvamile kuba semalungeni ohlanga.

Umithelela yohlanga ingenzenza esigabenzi sokuhula kwesitshalo, kodwa emva kwalokho izimpawu zivela masinyane ngokuvamile emva kwepholineshini kanye nasekuqaleni kokuhlu kokusahlamu *grain fill* futhi kukhule lapho kuqala khona ihlamu noma kuzungeze izimpande. I-fungus futhi ingasulela isitshalo ezimpandeni bese uyaqhube ka nokuhula kuya endaweni ephansi lesiqwini.

UKULAWULA

Ukushintshaniswa kwezilimo

Isizinda sohlelo lokushintshaniswa kwesilimo sommbila nesitshalo esithela imidumba noma ubhekilanga kuvumela izinhlanga zommbila ukuba zivithike futhi zingabi yikhaya lokusingatha i-fungus ukuze iphile khona, ngalokho kunciphisa i-inoculum. Kodwa, umsebenzi osanda kushicilewa ukhombisa ukuthi uhla olungaba yikhaya lapho i-FGSC ingasulela noma iphile inkulu kakhulu kinalokho ongakucabanga.

Ukuvinjelwa

Ama-hybrids avimbela ezinye izifo zezinhlanga phecelezi *stalk rots* (fanaa ne-Diplodia) nawo ingakhombisa ukuba nenkani kwi-Gibberella stalk rot. Kodwa, lokhu kuvinjelwa kungadalwa abazalanisi abagxila kakhulu emandleni ohlanga lwesthalo kanye nezingabunalo kodwa kungaqondi ngqo esifeni. Empeleni, izinhlanga eziqinile zingayandisa i-stalk rot pathogens ngoba lezi zinhlanga ziyaphuka zigobe kancane kancane nenqubo yokubola ngokwemvelo iyabambezeleka.

Nakuba kukuningi osekwenziwe ukukhetha ama-hybrids avimbela ukubola kohlanga phecelezi *stalk rot*, into ebalulekile esemqondweni kuseyikho ukukhiqiza isivuno esikhulu. Ama-Genotypes akhiqiza isivuno esikhulu avamise ukuba namaqabunga amakhulu, azenza osinki abakhulu nabadimanda kakhulu ikhabhohayidrethi ezitshalweni. Idimandi enkulu idalwa ukuthi amaqaabunga amakhulu idala ukunciphisa kwamazinga ekhabhohayidrethi phansi esiqwini, ibeka isitshalo engcupheni ye-stalk rot. Ibhaliensi phakathi kokuzalisana ukuvimbela i-stalk rot nokuzalisela isivuno esikhulu, ngakho ke kubucayi.

Amanyuthriyanti nokuncishiswa kwengcindezi.

Izimo ezijwayelekile zengcindezi zifaka phakathi inayithrojini eningi nephotheziyamu ephansi kanye nomswakama omningi wenhlabathi noma ukuma kwamanzi maphakathi nangasekupheleni kwesizini kulandela ukuhlasela kwesimo sesomiso, ngasekuqaleni kwesizini ngesikhathi sokumila izihlamvu (*grain fill*). Isehlakalo esikhulu sesifo samaqabunga sidala ukunciphisa kwendawo ye-photosynthetic esitshalweni, kuphinde kungeze ingcindezi eningi nokuba sengcupheni ye-stalk rot. Umonakalo emzimbeni kudala izilonda (izinambuzane noma isichocho) lokho kuvumela i-pathogen ukuba ingene esitshalweni sommbila futhi kungabeka isitshalo engcupheni yokuhlaselwa yi-stalk rot.

Izindlela zemvelo ezinciphisa ingcindezi yesitshalo ziphinde inciphise izehlakalo zokuhlasela kwe-stalk rot. Ukvuselela ezolimo lokuvuselela (*i-conservation tillage*) izindlela ezonga umswakama wenhlabathi neenza ngcono amazing amanyuthriyanti enhlabathi zinganciphisa ingcindezi yesitshalo kodwa, ngakolunye uhlangothi zingakhulisa amazinga e-inoculum. Lokhu kwenzeka phakathi kokongiwa kukawoyela nomswakama futhi kukhulisa amazinga ezifo kudingeka kubhodlozwe ngamandla okusungula uphenyo.

Ukulawula amakhemikhali

Awekho ama-fungicides arejistelwe ukulawula i-Gibberella stalk rot ngempela. Kodwa, ukufaka kwama-fungicide ukulawula isifo samaqabunga kunganciphisa ingcindezi esitshalweni, lokho kunciphisa ubucayi be-stalk rot futhi nsinafunafu.

Ukulawulwa kwebhayoloji

Kukhona imikhiqizo eminingi emakethwayo njengamanje eNingizimu Afrika okuthiwa anciphisa i-Gibberella stalk rot, okukhanda ithando kuma-agronomists nabakhiqizi. Kodwa, ukusebenza kwale mikhiqizo kuzoqinisekiswa ezifundweni ezizimele nokusazikhungo ukuqinisekisa noma kuwachithe amakleymi okuthi iyasebenza. Ama-ejenti ezebhayoloji ngakho ke kufanele avivinywe ngaphansi kwesimo sasensimini namasu aqonde ngqo ezifo afana ne-qPCR ukukhulisa inani lama-fungus athagethiwe kwi-stalk.

Nakuba imikhiqizo eminingi yempilo ikhombisa amaphrophrathi aphikisanayo namanye ama-fungal pathogen athile e-laboratory, kudingeka kuqinisekiswe inhlalo yendawo lapho amafektha enhlabathi ayahlukana futhi angaakutha uhla olubanzi Iwama-microbes enhlabathi angaba nomthelela kulokhu kusebenza. Kuphakanyiswa ukuthi abakhizi bacele idatha yensimu ukuze ba-



Ixitshalo ezikhombisa uhlanga olunesinafunafu ngenxa ye-Gibberella stalk rot endaweni yase-Winterton.

Scanhe QR ikhodi yokufunda
i-athikile ephelele.



Umqhele obomvu yizimpawu ze-Gibberella crown rot.



*Nazi izimpawu ze-Gibberella root rots zikhombisa umbala obomvana
ezimpandeni zommbila uyabonakala.*

qinisekisa ukuthi iyasebenza ngaphambi kokuba bayisebenzise le mikhiqizo.

ISIPHETHO

Isiphetho, *i-stalk rot* sisadinga uphenyo oluningi oluqondene nokwenza inhlanganisela yamasistimu okulawula izifo. Uphenyo futhi luyadingeka ku-*Fusarium* spp. Ye-*FGSC* olubandakanya kwi-*Gibberella stalk rots* kanye ne-*epidemiology* yala ma-species ngaphambi kokuba kwensiwe inhlanganisela yamasistimu asekelwe yidatha yesayensi eqonde ngqo. ■

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IZWI
LIKA...
*Lethimba
locwaningo*



ABALIMI BOKUSAHLAMVU NABE-OILSEED ENINGIZIMU AFRIKA BALWISANA NEZI-NSELELO EZI-AFEKTHA UKUSEBENZA KWABO, OKUBANDAKANYA UKWEHLA NOKWENYUKA KWAMANANI ENTENG EZIMAKETHE, UKWENYUKA KWEZINDEKO ZOKUKHI-QIZA, UKUGUQUQUKA KWEKLAYIMETHI, KANYE NOKUBALULEKA KOLIMO OLUNGAQHUTSHWA.

Izinhlangano ezifana ne-*Grain SA* zibambe elikhulu iqhaza ekusekeleni abalimi ukuze bathole umkhqizo onenzuso no-qhubekayo. Iminyango eyehlukahlukene yakwa-*Grain SA*, okubandakanya i-applied economics nePhahama Grain Phakama (PGP) yokuthuthukiswa kwabalimi, kanye nomnyango wezocwaningo, uphonsa esivivaneni kulo mzamo.

Umnyango wezophenyo ubheke intuthuko ye-cutting-edge ocwaningweni lokusahlamu. Leli thimba lixhumana nemikhakha yonke lwenza ucwaningo oluqanjwe busha nolusetshenziswe emikhakheni noma oluhlangene njenge nempilo yesitshalo ukubekezelwa kwestishalo nobungcono besilimo, ukuhlolwa kwethrayeli ye-cultivar kanye nokuthuthukiswa kabantu abangabasebenzi, ukuxazulula izidingo ezibalulekile zoku-vikeleka kokudla izweni.

Nakhu okusha ngemisebenzi yocwaningo Iwe-*Plant Health Consortium*:

- I-*Grain SA*, ngokuhlanyela noMnyango wezeSayensi nokuQamba, uBuchwepheshe ne-Ejensi yokuQamba ne-Maize Trust, sebesungule i-Diagnostic Clinic e-Forestry and Agricultural Biotechnology Institute (FABI). Le klinikhi iseva izinhloso ezi-ntathu: ukuhlonza izinambuzane ingaphaphalazi nezifo, nokuni-keza imboni umqondo ngokusabalala kwezinambuzane nezifo, nokuni-keza ucwaningo umhlahlandlela ngezinto ezimqoka zocwaningo ukuqinisekisa ukuthi ucwaningo lulawula isimo singakenzeki futhi luqondene. Ithimba lezophenyo kwa*Grain SA* lungasiza ukwenza uxhumano ne-Diagnostic Clinic.
- Ithimba libambisene nabacwaningi bokhula ngokusheshisa izinselelo ze-zokhula olungazweli kuma-herbicide. I-athikile enemininingwane ngokhula izoshicilelwya ephephabukwini i-SA Graan/Grain.
- Iphrojekthi ehlanganisayo isendleleni ezohlaziya ukusebenza kwamakhemikhali anamandla ukulawula i-Sclerotinia e-afektha imboni ye-oilseed.
- Imiphakathi elimayo evela ezifundeni ezahlukene zezwe ibika izehlakalo eziningi ze-cut worms ezinomthelela emkhqiqi-zweni wommbila. Ithimba lezophenyo okwamanje liroxisana nochwepheshe base-North-West University ukusombulula lezi zinselelo.

– Ithimba lophenyo lakwa-*Grain SA* liholwa ngu-Dr Godfrey Kgatle (i-research coordinator) no-Dr Miekie Human (wehho-visi locwaningo nenqubomgom). ■

Lungisa NGAPHAMBI kokuvuna

UHLA LOKUHLOLA UKULUNGISIWE KWI-COMBINE NGAPHAMBI KOKUVUNA A LUNGASIZA KAKHULU EKULUNGISELELENI ISIZINI YOKUVUNA EZAYO. UHLA LOKUHLOLA KUFANELE LUBANDAKANYE NOMA YINI ENGANAKWANGA NOMA ENGAHOLWANGA KUSUKELA EKUVUNENI OKWEDLULE – UBUCHWEPHESHE, UKETSHEZI, AMA-FLITERS NOKUNYE OKUNINGI.

Kunoma ubani ongumnikazi *we-combine*, ukukhiqiza kubaluleke kakhulu. Gxila kula ma cebo asizayo okukhiqiza alandelayo futhi uqinisekise ukuthi *i-combine* yakho ikulungele ukungena emasimini kule sizini yokuvuna.

HLOLA IKHONO LOKUSEBENZA

Uma ukuvuna kuhamba kahle, yonke into ibukeka ihamba kanhle kakhulu, kodwa ngabe uyaphumelela ukuthola isivuno esiphezulu uma izikhali zakho zokusebenza zingasethiwe futhi zakhaliqhrethwa ngokufanele ukuze zisebenzi ngokuseqophelweni eliphezulu? Okusahlamvu okuwela phansi enhlabathini kulahleka unomphela.

Izinyathelo ezintathu ezilandelayo zokuqinisekisa ukuthi konke okusahlamvu kuyangena ethangeni:

- 1.** Thenga ama-paddle tines, ikakhulukazi uma uvuna ubhontshisi isoya nokolo: Ngokwemiklamo yawo ehlukile phecelezi 'five-finger', anti-debris build-up futhi kulula ukuyifaka snap-on features, i-paddle tines ingasiza ukuqoqa izilimo ezimfushane noma ezigqagqene ngendlela engaphaphalazi. Lokhu kusho imihlomulo emikhulu futhi kwenza ngcono ukufideka kwezilimo ezifana nobhontshisi isoya nokolo.
- 2.** Bheka i-feeder latch yakho: Ngaphambi kokuba uvune, hlola i-feeder latch yakho futhi uqinisekise ukuthi ine-preload kwenye yama-notches uma kuxhunywa ikhanda. Lokhu kuyasiza ekuqiniseni iklempu phakthi kwekhanda ne-feeder, ukuze kungabikho izikhaa lapho kuzoputshuka khona izilimo ezikhaleni.
- 3.** Hlanza uxhumaniso lwe-feeder house yakho: Ukuhlanza nokuhlola i-feeder house yakho noxhumano lwe-feeder house nokulungisa iketango le-feeder ukuze liqine ngokufanele kuzokusiza ukuba usebenze kangcono kakhulu ensimini. Gcina i-feeder ise-benza ngesimo esiphezulu amabeleni nakubhotshisi isoya bese yehla kukolo.

HLOLA FUTHI UVIKELE UKUZI UKHULISE ISIKHATHI ESIKHULU

Into eyodwa embi nakakhulu kunokungasebenzi kahle kwe-sub-optimal ukungasebenzi kahle kwempahla yokusebenza ukwephuka kwempahla yokusebenza. Mhlampe wenze konke okusemandleni akho ukuvuna ngesikhathi esifanele nangaphansi kwezimo ezifanele zensimu, kodwa uma impahla yakho yokusebenza iphuka, onke amalungiselelo akho nezinhlelo zakho kungamoseka.

Vikela impahla yakho yokusebenza

Cabanga nganawa amathiphu okuvikela impahla yakho yokusebenza ngaphambi kokuba uphume uyovuna kule sizini:

- **Hlola ama-concaves omshini:** Ukuhlolola ama-concaves omshini

kungaba ukuvikela ukuba kungabhuleki ngokufanele. Awazi ukuthi kufanele ugale kuphi? Buza kumdayisi wakho mayelana nokuhlosisa kahle impahla yakho yokusebenza.

• **Kufanele wazi uma sekufanele ushintshe ama-rasp bars:** Ukushintsha ama-rasp bars ngesikhathi esifanele ngenye yezindlela ezsizayo zokuvimbela umonakalo wokusahlamvu. Izimpawu ezifana nokusongeka, ukwephuka ukuqhephuka izimfa noma eminye imonakalo ingachaza ukuthi sekufanele kushintshwe. Nansi indlela engcono yokukubona: Uma inombolo esekhanda lebhawodi ingasabonakali, lokhu kusho ukuthi seyisikhathi sokushintsha i-rasp bar yakho ufake entsha.

- **Ama-Stalk stampers:** ama-Stalk stampers aklanyelwe ukuvikela amathayi emonakalweni obizayo ongadalwa yizinsalela, kuyakusiza ekugwemeni ukulahlekelwa yisikhathi nokwenza ngcono wonke umsebenzi wokuvuna nokulawula izinsalela.
- **Shintsha uketshezi nama-filters:** Kungenzeka engakhangi/engemahle, kodwa uketshezi nama-filters ngamanye ama-fektha abalulekile uma kuza ekulungiseni okuvikelayo nasekuvikeleni impahla yokusebenza. Qinisekisa ukuthi uthenga uketshezinama-filters awungqo.
- **Sebenzisa i-grease gun futhi ugilise zonke izingono phecelezi nipples zikagilisi.** Uma ingono ulimele, yishintshe masinyane.
- **Shintsha ama-fanbelts angafinyeleki** uma ubona ukuthi kungenzeka adabuke ngesizini yokuvuna.
- **Ihlanza futhi uyihole** ngokufanele i-combine harvester.

Ungabukhohlwa ubuchwepheshe

- Ubuchwepheshe bubalulekile ekuze utholeni umkhiqizo ophezulu ngesikhathi sesizini yokuvuna. Kubalulekile ukuqinisekisa ukuthi amasistimu akho akulungele ukuhambisana ne-software updates yakamuva. Ungacabanga ngokuthenga ubuchwephesha bakamuva bokuvuna ukuze usebenze ngokuseqophelweni eliphezulu.
- Ama-fine-tuning automated settings engasiza ukukhuphula inani lekhwalithi yokusahlamvu okuvunayo. Isibonelo, i-AFS Harvest Command™ yenza ukuvuna kube lula ngokunciphisa imisebenzi eminingi okudingeka ukuthi abakhiqizi bayiqaphe isuke kwiyishumi nambili iye kwemithathu.

Xhumana nomdayisi wakho

Uyazi kahle impahla yakho yokusebenza, kodwa umdayisi wakho angakusiza akubhekeli ongakuboni ukuze ugwerme izinkinga ezingabonakali. Uma ufuna ukuqinisekisa ukuthi uylungele ngokuphelele isizini yokuvuna kulo nyaka, hambisa uhla lwakho kumdayisi wakho wasendaweni ayokubhekela okwesibili.

ASISHONE PHANSI SILUNGISE

Ama-header ommbila, kabhekilanga noma kabhontshisi isoya konke kungezinye zezingxenyenye ezibalulekile zokuvuna isilimo ngokufanelekile. Uma kunokuguga nokudabuka, kuzoba nomthelela ekusebenzeni kwe-combine harvester futhi amanye ama-kernel azogcina ephansi enhlabathini.

I-cutter bar

Qinisekisa ukuthi ama-knives, ama-gaurds, ama-skid plates kanye



1

I-cutter bar.

2

Imiyelelo ecacile ibekwa kwi-header.

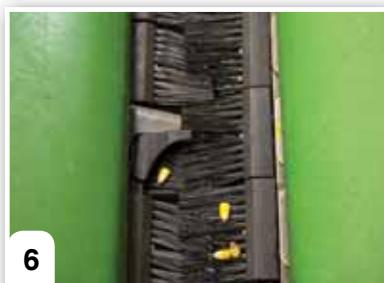
3

I-slip clutch ikwi-header endala.

4

I-header kabhekilanga.

5

Ama-deck plates, iketango lokubutha kanye ne-snapper rollers se-header yommbila.

6

Iketango elisha lokubutha phecelezi i-new-generation replacement chain.

7

Ama-snapper rollers kwi-header yommbila.

nama-kliphu acindezelayo kusesimeni esihle sokusebenza kwe-*cutter bar*. Khumbula, uma ushintsha ama-knives, ama-guard nawo kufanele ashintshwe. Qinisekisa ukuthi *I-cutter bar* (**Isithombe 1**) ehlala isendaweni yawo nokuthi enganyakaza ngokukhululeka. Kubalulekile futhi ukubheka amaphathi anyakazayo e-header.

Imiyayelo

- Kubalulekile ukufunda *I-header manual* (**Isithombe 2**) nokulingisa njengoba kudingekile.
- Hlola o-oyela ko-gearbox, kanye nokuqina kwama-fanbelts nama-ketango okushayela.
- U-oyela futhi ugilise *I-power shafts*.
- Shintsha u-oyela ko-gearbox njengoba kudingeka. Ugilisi engaba uketshezi olushibhile lokugcoba, kodwa kungakongela imali eningi.

Amaklashi (clutches)

Uma unohlobo oludala *I-we-header* (**Isithombe 3**), ukuhlola amaklashi ahlukene kanye nokuqinisekisa ukuthi asethwe ngokulandela amamanwali kungakongela imali eningi.

Ukunakekelwa kwama-header

I-header kabhekilanga (Isithombe 4)

- Qinisekisa ukuthi ama-catch boards asendaweni yawo nokuthi asethwe ngokobubanzi bolayini.
- Qinisekisa ukuthi amabhodi aboshwe aqina futhi asethelwe ukukhongozela amakhanda kabhekilanga.
- *I-cutter bar* kufanele isebeenze ngokufanele.

I-feed auger fingers, ama-bushings, ama-plastic guides, ama-pins nama-sleeves akufanele aguge, ngoba lokho kungaba nomthelela emesebenzini *we-header*. Uma lezi zingxenye sezigugile, imatheriyali ngeke ikwazi ukuhamba kahle ngokufanele ukusuka kwi-header iye kwi-combine machine.

I-header yommbila (Isithombe 5)

Kwi-header yommbila izindawo ezibaluleke okufanele uzibheke yilezi:

1. *Ama-deck plates* kufanele asethelwe ukukhongozela izikhwebu nama-kernels ukuze zingaweli phansi. Uma *ama-deck plates* elungisiwe, qinisekisa ukuthi anganyakaza ngokukhululeka. Bheka ukuguga nokudabuka lapho exhumana khona uma kulungiswa *ama-deck plates*.
2. *Iketango lokubutha* yiketango elihambisa imetheriyali *ku-header feed auger*. Bheka ukuqina kweketango kanye nokudleka nokudabuka etekangeni *ne-sprockets*. Qinisekisa ukuthi zipilingi ezigcina kubophekile ziyakwazi ukunyakaza futhi azithombile. Qinisekisa ukuthi *u-gearbox* wokushayela ugcwaliswe *u-oyela* nogilisi.

Uma kupoqa lishintshe yiketango lokubutha, cabanga ngalelo elisuka ku-360 Yield Centre (**Isithombe 6**). Yiketango lokubutha elinama-bhulashi uzoqale abambe ubugdulgudlu amakhanda kwi-khava pleti, futhi okwesibili ikhongozela *ama-kernel* akhululiwe beso ewafaka kwi-auger. Lokhu kuzosiza kakhulu ekulahlekelweni *ama-kernel*.

3. *Ama-snapper rollers* (**Isithombe 7**) asebenza ukudonsa isitshalo siye kwi-header. Qinisekisa ukuthi *i-snapper rollers* asethwe ngokwenkambiso yomkhiqizi. Qinisekisa ukuthi isivinini sala *ma-rollers* sihambisana nesivinini sokuvuna.

Ngokwesimo sesindo esikhulu sommbila, *i-360 Yield Centre* zimaketha umkhqiqizo obizwa *i-chain roll*. Le *snapper roller* idabula imetheriyali yesitshalo ukuze imetheriyali ibole masinyane. ■



**U-PIETMAN BOTHA,
UMELULEKI OZIMELE
KWEZOLIMO**

UKUTHOLA ONGAKUKHETHA: *ukukhetha i-put noma i-call*

-ATHIKILE EDLULE YAYIGXILE EMLANDWENI WOKUVIKELWA KWAMANANI ENTENGO PHECELEZI *HEDGING*. LE ATHIKILE IZOGXILA NGOKUJULILE KU-*PUT NE-CALL OPTIONS*. AYICHAZI UMEHLUKO OPHAKATHI KWAZO KUPHELA KODWA IPHINDE INIKE ISIBONELO ESIPHATHEKAYO UKUZE KUQONDISEKE KANGCONO.

Ngaphambi kokujula kabanzi kuma-options, kubalulekile ukuqonda incazelo yamathemu amanangi:

- **Ama-asethi aphansi:** Lena yimikhiqizo efana nommbila, ubhontshisi isoya nokolo.
- **Amaphrimyamu:** Izindleko ezikhokhwa umlimi ethenga isivumelwano.
- **Inani elinqunyiwe:** Inali lentengo equnga ngaphambili lapho kungasetshenziswa khona isivumelwano.
- **Ukunquma ngokulinganiswa:** Io umnyango lapho umnyakazo wokwehla nokwenyuka kwamanani ugcina ngokuthi inzuko ilingane na-phrimyamu abhadelwe, kanjalo ukujuba ngokulingana.

I-PUT OPTIONS

I-put options yisivumelwano esinikeza umthengi ilungelo, ngaphandle kokubophezeleka, sokudayisa ama-asethi aphansi athile (efana nommbila) ngentengo enqunywe ngaphambili esikhathini esithile esinqunyiwe.

Le sivumelwano sivikela abalimi ekwehleni kwamanani entengo, ngisho noma becabanga ukuthi kungenzeka amanani enyuke. Ama amanani entengo ehla ngempela, *i-put option* ayivikeli kuphela umlimi ekutheni engalahlekewa kodwa iphinde abone ukwenyuka *kwe-value*. Ngokuphenduka, uma amanani entengo sikhathini esithile esinqunyiwe.

bekulindelwe, umlimi uyakugodla ukubamba iqhaza emakethe esigabeni senani le ntengo eliphakanyisiwe.

I-CALL OPTIONS

I-call option yisivumelwano esinikeza umthengi ilungelo, ngaphandle kokubophezeleka, ukuthenga i-asethi ethile (efana nommbila) nge-tengo enqunywe phambilini ngesikhathi esithile esinqunyiwe.

Lokhu kusiza abagai ekubavikeleni ekwenyukeni kwamanani entengo okunzeka, ngisho noma belindele ukuba amanani entengo ehle. Uma kwenzeka amanani entengo enyuka ngempela, *i-call option* ayivikeli kuphela umgaya emanani aphezulu entengo kodwa kuphende kube nokwenyuka *kwe-value*. Ngokuphenduka, uma amanani entengo ehla njengoba bekulindeleleka, umgaya usenalo ithuba lokubamba iqhaza emakethe emanani asemazingeni aphansi.

ISIBONELO ESIPHATHEKAYO.

Cabanga ngesimo sesizini yokukhiqiza elandelayo ka-2023/2024: Umli-mi waseMpumalanga ulima amahektha angama-50 ommbila ophuzi futhi uzimisele ukuthela *ama-input* esizini yokutshala ngoSeptemba 2023. Uqagula ukuthi izindleko zakhe zama *input* zizoba yinani lika-R21 000/ha. Nge-avareji yesivuno seminyaka eyishumi yommbila ophuzi simi ku-6 t/ha, sesivumelwano samanje samanani entengo sika-Julai 2024 u-R4 500/t. Intengo yokuthenga *i-put option* ka-R300/t.

Okunikeziwe:

- Isilimo: Ummbila
- Ama-hektha: 50
- Inani lentengo yama-*input*: U-R21 000/ha
- I-avareji yesivuno: 6 t/ha
- Isivumelwane samanje ngoJulai ka-2024: u-R4 500/t

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PICTURED:
Farmers: Jed van Niekerk with two of the Brookside Farm beneficiaries – Zuko and his mother Cecelia Qokela
Farm: Brookside Farming, Harry Gwala Agri
Area: Kokstad, KwaZulu-Natal
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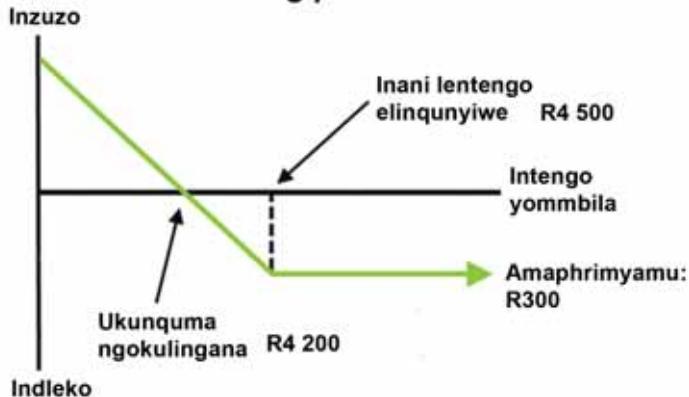
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1

Isibonele sesimo esiphathekayo sesizini yokukhiqiza ka-2023/2024.

I-long put



- Inani le ntengo ye-put option: u-R300/t
- Ngezindleko ezibekiwe ze-input zika-R21000/ha namanani entengo ka-R4 500/t, umlimi kufanele athengise cishe u-5 t/ha izindleko ukulinganisa namanani entengo yama-input. Ngakho ke, umlimi uzokhetha ukuthenga i-put option yenani le ntengo ka-R4 500/t, ehambisana nenani le ntengo ka-R300/t.

Izinihlelo zesimo

1. Uma amanani entengo engaguquki ku-R300/t.

Inane lentengo etholakele = R4200 (R4 500 - R300)

Umlimi izovala iphozishini yakhe futhi athole u-R4200, kubalwe kanje: Ususa iphrimyamu ka-(R300) kwi-option yenani elinqunyiwe u-(R4500), bese edayisa ummbila wakhe emaketho ngo-u-R4500/t.

2. Uma inani liwela ku-R4000: Inani elitholakele u-R4000

Inani elitholakele = R4 200 (R4 500-R300).

Umlimi uzokhetha ukusebenzisa i-option yakhe yokudayisa ngo-R4 500/t. Ngakho ke, uzothola u-R4200/t, ibalwa ngokususa iphrimyamu (ka-R300) kwintengo enquunyiwe ka-(R4500) ngokusebenzisa i-option yakhe nokudayisa ummbila wakhe.

3. Uma intengo ikhuphuka iya ku-R5 000: Intengo etholakele = R4 700 (R5 000-R300)

Umlimi angakhetha ukungayisebenzisa i-option yakhe. Esikhundleni salokho, uzodayisa ummbila wakhe emaketho evulekile ngentengo yasemakethe ka-(R5000). Kodwa, kusafanele akhokhe iphrimyamu yakhe ka-(R300) eyisibopho.

ISIPHETHO

Ukuqondisisa ama-options ngendlela ethile kungaba yinselelo, kodwa kunikeza umhlomulo obalulekile kubalimi ngezikathathi ezingaqondakali, ukusiza ekunciphiseni ubongozi uma kusetshe-nziswe ngendlela efanele. Ngaleso sikhathathi ama-option aphethe ubuhle nobubi, ukuwasebenzisa ngeqhinga elizwakalayo kunciphisa amathuba okuthi ungalahlekelwa kakhulu. ■

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PHAHAMA GRAIN PHAKAMA

**Farmer
Development
Programme**

Umbiko

Nisebenzile, balimi!

UKUSIZA fekwenzeni uguquko nentuthuko eqhubekayo ngempumelelo emkhakheni wezolimo, kunezinhlobo ezahlukene zamaqembu abalimi ku-PGP Iphrogremu eThuthukisa abaLimi.

Ngезини ка-2023/2024, i-Standard Bank (ngokubambisana ne-Kgodiso Development and Pepsico) ne-South African Cultivar and Technology Agency (SACTA) phrokethi basiza abalimi asebethuthuke kakhulu ukwenzeni ngo-no izindlela zabo zokulima namakhono. Abanye abaxhasi okubalwa kubo i-Maize Trust ne-Oil and Protein Seeds Development Trust (OPDT). Kubalule-kile ukukhuthaza abalimi ukuba baqhubeke njalo nokulandelela amaphrosesi ngesikhathi kuvakashelwa emapulazini.



Umeluleki u-Martin Botha uvakashele u-Badge Skosana eMpumalanga. U-Badge uyingxene yeprojekthi i-StandardBank/ KDF. U-Martin Badge ubheka i-stalkborer ezilimeni zommbilaaphinde aqinisekise ukuthi ayikho i-bollworms eyedluelela esilimeni sikabhontshisi isova.



UJohannes Setshego wesifunda i-Virginia ungumhlanganyeli kuperproektshi ye-Standard Bank/KDF. Ngenkathi evakashelwe ngu-Johan Kriel, oyimenneneyokuthuthukiswa kwesifunda, ubhekilanga wawumila kahle, namasimu ehlanzekile futhi enganalo ukhula. Isilimyo sommbila sasikhombisa isivuna esihle, kodwa zadingqeka ngempela izimvula ezizolandela.



Umeluleki u-Timon Filter wavakashela umlimi u-Matthews Mlotshwa (oyingxene ye-SACTA phrojekthi) ekugaleni kukaFebhuwari. Ngesikhathi sokuvakasha, wachaza ngokukhalibhretha nokuxuba kanye noku-futha ngamankhomukiheli. U-Timon waphinde wachaza ngokuhomukaluleka kokuba i-administrasion yakhe ibe sesimeni esifanele.



U-Chris de Jager wavakashela u-Reginald Masondo, ongaphansi kwehhovisi lase-Dundee, ngoJanuwari. U-Reginald uyingxeny ye-SACTA phrokethi. Wayematasu ehlukanisa futhi etshala ummbila emva kokuqala emva kwesikhathi ngenxa yezimvula. Ngesikhathi sokuvakasha kuka-Chris, kwakusekhona izingxenyе zomhlaba owawusemanzi kakhulu okwakungasabeni kuwo.

Ukuqequesha namathrayeli KWENZA NGCONO ULWAZI

ISIBALO sabalimi abayi-17 sasiphothula ngempumelelo isifundo sokukhiqiza amantongomane phecelezi i-'Introduction to groundnut production' esasixhaswe yi-OPDT, sethulwa yi-Osizweni KwaZulu-Natal umeluleki nomqequeshi, u-Paul Wiggill. Abalimi bathole ukuthi lesi sifundo sinolwazi olunothile futhi bayabonga ngolwazi olu-sha abangakwazi ukulusebenzisa.



Ngesikhathi kwe-nziwa umbukiso ophathekayo ngo-kukhalibrehtha kwe-boom-sprayer, abalimi abamagange bathola ithuba lokusebenzisa ithiyori yowlwazi abayifundile

Njengamanje ayisihlanu amathrayali omsebenzi wom-bukiso okhulayo—amane asendaweni yehhovisi lesifunda eMbombela eyodwa isesifundeni sase-Dundee, axhaswe vi-*OPDT*.



*Iploti lethrayeli elise-
Luphi (lalixhaswe
yi-OPDT) latshalwa
kusetshenziswa
indlela yokutshala
yemvelo phecelezi
conventional tillage.
Emva kokutshala
kwafuthwa nge-pre-
emergence herbicide
Baseline ehlanga-
niswe ne-Lamba
ukuze kulawululwe
ama-cutworms*

Ngesikhathi uJerry Mthombothi, imenenja yentuthuko esifindeni sehhovisi eliseMbombela, wavakashela iploti lethrayeli kaDlamini, waqaphela ukhula ensimini – ngakho ke iqembu lanikezwu u-4 litha we-*Roundup herbicide* ukulawula lokhu. Ubude bommbila babufinyelela edolweni, futhi ba-lulekwa ukuba bafake umanyolo i-nayithrojini (N).



*Leli qembu labali-
mi liyaziqhenya
ngeploti lethrayeli
yommbila abalitsha-
lile KaDlamini.*