

# PULA IMVULA

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INCWADI YEGRAIN SA YABALIMI ABASAKHULAYO



*Umcintwano wezithombe kwa-Grain SA 2021 – U-Gerda Kock*

## Ukujikelezisa izilimo ukhiye ekukhiqizeni ubhekilanga

**U**BHEKILANGA YISILIMO, ESIFANAYO NEZINYE IZILIMO, SENZA KAHLE NGAPHANSI KWEZIMO ZESOMISO. MHLAMBE YINGAKHO UDUMEILE EZINDAWENI ZE-MARGINAL CROPPING ENINGIZIMU AFRIKA. LE SILIMO SIYAKWAZI UKUBEKEZELELA ISOMISO NEZINDELEKO ZAMA-INPUT ZIPHANSI.

Ngenxa yesikhathi esifushane sokusebenza ukulima ubhekilanga, unesikhathi sokutshala esiyizinyanga ezintathu, futhi uhambisana kakhulu nesistimu yokujikelezisa izilimo. Empeleni kufanele utshalwe kwisistimu yokujikelezisa izilimo – ikakhulukazi ezindaweni ezikwazi ukukhiqiza ehlöbo elomile.

Ubhekilanga u-(*Helianthus annuus L.*) isilimo se-oilseed yonyaka lokho kulinywa emhlabeni wonke endaweni yokukhiqiza cishe elinganiselwa ku-26 million hektha, umphumela wakho ± 47,4 million methriki tons wembewu ngonyaka – isheya lika-8% wemakethe ye-oilseed emhlabeni. Uwoyela kabhekilanga ungomunye wowoyela

omningi wamaveji emhlabeni, ngokuvamile usetshenziswa kakhulu ezimbonini zokudla ngokukhiqiza imikhinqizo eyahlukene engenisa inzuso ngenxa yekhwalithi yawo ephezulu, iqukethe amaphrotheni amanangi nokudliwa.

Indawo eyi-avareji engaphansi kokulinywa kukabhekilanga eNingizimu Afrikakusukela ngo-2009 (kuze kube u-2021) iyi-552 000 amahethka, ngokukhiqizwa ok-avareji kuka-715 000 amathani kuso sonke le si khathi. Indawo ekhiqiza ubhekilanga eNingizimu isagxile ezifundeni zaseFreystata naseNyakatho neNtshonalanga, isiyonke ibalelwu ku-80% wendawo etshaliwe ezweni (ngokwe-avareji) ngaphezu kweminyaka eyishumi.

Amandla kabhekilanga okukhiqiza isivuno esingaguquki ngaphansi kokuguquguquka kwesimo sezulu, okuhambisana nesimo sawo sonke sokubekazelela isomiso, kwenza lesi silimo sithandeke ekukhethweni abalimi ezifundeni ezikhiqiza emhlabeni owomile. Ubhekilanga futhi engakhiqiza isilimo ku-marginal soils futhi nangomanyolo omncane kakhulu noma ngaphandle kokungezwu kukamanyolo.

# Ukujikelezisa izilimo ukhiye...

## IZIDINGO ZENHLABATHI

Ubhekilanga uzinza kahle ezinhlobeni eziningi zezigaba zenhlabathi futhi ungakhiqizwa ngempumelelo lapho inhlabathi equukethe ibumba ihlukana phakathi kuka-10% no-55%. Le silimo ngempela singesinye ezilimeni ezimbalwa ezingakhiqizwa ngempumelelo enhlabathini enebumba eliningi. Kodwa, eNingizimu Afrika ubhekilanga ulinywa kakhulu enhlabathini equukethe ibumba elingaphansi kuka-20%.

Lezi zimpawu ezilandelayo zenhlabathi zingakuphazamisa ukukhiqizwa kukabhekilanga uma ungalawuliwe:

- **I-Windblown sand:** Ubhekilanga kulula ukuba ulinyazwe umoya uma usasesigabeni sezithombo. Amazinga aphezulu okushisa kwenhlabathi enganciphisa ukumila.
- **I-Crusts:** Inhlabathi ethanda ukuba uqweqwe ungakunciphisa ngamandla ukumila.
- **I-Waterlogged soil:** Ngamaviki amane okuqala emva kokutshala ubhekilanga uyazwela enhlabathini ogcwele amanzi.
- **Inhlabathi ene-esidi:** Ubuthi be-Aluminiyamu nemanganizi kufaniswa nenhlabathi ene-esidi. Ubhekilanga ungezinye zezilimo ezikwaziyo ukubekezelela ubuthi bemanganizi, kodwa uwela kakhulu ku-aluminiyamu eningi. Inhlabathi ene- *pH of <4,5 (KCl)* kufanele igwenywe, ngoba loyo umbundu okukhula kuwo masinyane i-aluminiyamu encibilikile.

## IZIDINGO ZEKLAYIMETHI

Ubhekilanga uyasimama ezinhlobeni eziningi zamazinga okushisa amanangi futhi ngokuvamile ukhiqizwa ezifundeni eziku-semi-arid emhlabeni jikelele. Ukujiya kukawoyela nekhwalithi kawoyela kumomthelela wamazinga okushisa. Amazinga okushisa aphakathi nendawo ngesikhathi se-seed-filling uwana nokuqukatha uwoyela omningi noyikhwalithi.

### Amazinga okushisa aqhumisayo

uqhuma kusukela ku-10°C kuya ku-31°C, kanti isikhathi sokumila ngokusezingeni eliphezulu elingalinganiselwa ku-26°C. Ngaphansi kwezimo zaseNingizimu Afrika, izinga lokushisa kwenhlabathi ngokuvamile akuqondene nokuqhumisa kuphela. Kodwa, izinga eliphezulu lokushisa kwenhlabathi kunga-afektha amandla ezithombo, ikakhulukazi ku-sandy ne-sandy-loam soils.

### Izinga lokushisa lokukhulisa

Amazinga okushisa ayifektha ebaluleke kakhulu ukunquma ireythi yokukhula kukabhekilanga. Njengoba kuya ngokushisa, izinga lokukhula liyakhula. Ubhekilanga uyakwazi ukumelana namazinga okushisa aphezulu kakhulu. Ngesikhathi esigaba sezithombo, iya-melana nesithwathwa esiphakathi nendawo futhi zingaphila ku-2°C. Emva kwesigaba sehlamu lesithupha (V6), liyazwela kakhulu esithwathweni. Esigabeni se-seed-filling, kungaphinda futhi usimame ngaphansi kwamazinga okushisa ka-2°C.

### Izidingo zamanzi

Uma kuqhathaniswa nezinye izilimo phecelezi i-agronomic crops, ubhekilanga uyakwazi ukubekezelela isomiso. Ukusebenza nesistimu yezipande ezipalile kuyasiza ekubekezeleni. Uma kuqhathaniswa nezinye izilimo, ezifana nommbila, ubhekilanga unendlela eyehlukile yokuthi iqala ukukhiqiza ezingeni eliphansikakhulu. Lokhu kuhu ukuthi ngokwethiyorri ukukhiqiza kokusahlamu kuqala ekusebenziseni u-80 mm wamanzi.

Isivuno sikabhekilanga siba phansi uvunwa yisimo futhi usebenzia amanzi kakhulu. Ukuqala ngesivuno esiphansi yisimo sika-

bhekilanga esivelele kakhulu esenza ukuba ubhekilanga ukhiqizelwe ukungenisa inzuzo ezimeni zenhlalo ezomile nasenhlabathini esemazingeni aphansi okukhiqiza.

## IMIKHUBA YOKUMENENJA

### Ukulungiswa kwenhlabathi

Ubhekilanga wenzakahle enhlabathini elungisiwe. Le silimo sizwela kakhulu esimeni esingasivuni futhi nasesikhathini esifushane emuva kokuqhuma, kanye nasekuncintisaneni nokhula. Umbhede wembewu ecoysisakele nokulawula ukhula ngempumelelo ngakho kubaluleke kakhulu ukuqinisekisa ukuma kahle.

### Izinsuku zokutshala

Iukutshala kungaqaalwa kusukela ngasekuqaleni kukaNovemba kuze kube sekupheleni kukaDisemba engxenyeni engasempumalanga futhi kuze cube maphakathi noJanuwari ngasengxenyeni engasentshonalanga ye-Highveld. Izinsuku okungatshala ngazo zinganquanya ukuna kwemvula.

Kudingeka kubhekwe amafektha amanangi umakunqunywa ukutshala noma cha, nakhu:

- Amathuba omonakalo ongadalwa yisithwathwa.
- Isomiso ngesikhathi se-grain filling.
- Umonakalo odalwa izinyoni.
- Amazinga okushisa kakhulu kwenhlabathi ngesikhathi sokuqhuma. Umlimi ohlela ukutshala ubhekilanga njengesilimo esikhulu kufanele acabange ngokutshala ngoNovemba futhi hhayi ngemuva ngokuphela kukaDisembe ukuze afinyelele esivunweni esihlosiwe. Ubhekilanga uzotshalwa ngesekupheleni kjesizini, ikakhulukazi ngoJanuwari, uzothola isivuno esiphansi.

### Inani lezitshalo

Izitshala ezbekwe zahlukanisa ngezikhala ezilinganayo ngenani elilinganayo ngokwesivuno esiphezulu. Amandla esivuno aquma inani lesivuno sesitshalo. Isimo samandla aphakeme adinga isimo senani lezitshalo. Kunobufakazi obuphathekayo benani lezitshalo eziyi-30 000 kuya ku- 45 000 ihektha ziphuma phambili.

### Ukushona phansi kutshala nobuchwephesh

Imbewu kabhekilanga ayishoniswa phansi kakhulu uma utshala. Enhlabathini equukethe ibumba eliningi, imbewu itshalwa idephe ebangeni elingama-25 mm neSandy soils ushoniswa phansi ebanengeni elingu-25 mm kuya ku-60 mm.

### Ukukhetha i-Cultivar

Ukukhetha i-cultivar yisibonakalo esibalulekile sephrozi yokukhiqiza, njengoba isivuno sama-cultivar amabili sikhula uhlangothi nohlangothi ngokuvamile kuhlukana ngo-0,5 thani ha<sup>-1</sup>. Ukukhetha i-cultivar ngendlela ezwakalayo indlela elula neshibhile yokukhulisa umkhiqizo kabhekilanga. Isivuno sembewu yisilinganiso esibalulekile uma uhlola ama-cultivar.

La mafektha alandelayo kufanele acatshangwe uma kukhethwa ama-cultivar afanele:

- Amandla esivuno esiphezulu, ikakhulukazi ngokwemigomo yesisindo sika-oyili.
- U-Oyili omningi oqukethwe.
- Usuma okuhle (izimpande ezikhule kahle nezinhlanga eziqinile).
- Ixitshalo ezinobude obulinganayo.
- Ukumelana nezifo.
- Ubude besizini yokulima.



### Ukufaka umanyolo

Ngokwejwayelekile ubhekilanga uyezwana nenayithrojini (N) nefosferasi (P) ukufaka umanyolo lapho la ma elementi entuleka enhlabathini. Kubalulekile ukuthi noma iyiphi iphogremu kamanyolo isekelwe ukuhlaziywa kwenhlabathi. Lokhu ngeke kuholele kuphela kumareyhi okufaka umanyolo ngokuqondile kodwa futhi kunganciphisa izindleko ezidingekile.

Nakuba ubhekilanga ethatha iphotheziyamu (K) eningi, ukufakwa kukamanyolo ne-K ngokuvamile akudingekile. Ukuba phuzi kodebe olungaphansi Iwehlamvu Iwesitshalo ngokuvamile kakhombisa ukuntuleka kwe-K, lokhu kuqhubele ekufeni kodebe Iwehlamvu, kanti isiqu sehlamvu sisele siluhlaza. La mahlamvu ekugcineni azowela phansi.

Ukufakwa kukamanyolo – kuya ngesivuno osilindele kanye nezinsalela zenhlabathi N – kuyashiyana ngokuphatheka kusukela kune ku-N-emhlabeni onothile kuya ku-140 kg N ha<sup>-1</sup>. I-N eyeqile, noma ukufaka umanyolo ngokweqile, kungadala ukusebenza kwanzi ngokweqile, isifo se-fungal, ukubeka nokwehla kukawoyela oqukethwe okusahlamvu.

Ukuntuleka kwe-micro element efana ne-ayoni, imanganizi, ikhophpha, i-zinc ne-chlorine kufanele iqale ngokuhlonzwa ngokuhlaziywa kwenhlabathi ngaphambi kokuba kufakwe umanyolo wokulungisa. Uma ufaka umanyolo lapho ungantulekile khona, isivuno ngeke ikhule. Empeleni ubungozi bukhona bokuthi i-micro – element kungaze kufinyelele ezingeni lobuthi. Uchwepheshes ozimele kufanele abuzwe ukuze asize ngokuhlonza nangokulungisa ukwentuleka.

### Ukulawula ukhula

Ubhekilanga uyazwela kakhulu ekuncintisaneni nokhula, ikakhulukazi ngesikhathi usasesigabeni sobuncane. Uma ukhula lungalawuleki kahle emavikini okuqala ayisithupha kuya kwayisishiyagalombili emva kokuqhuma, kuye ku-50% wesivuno esinamandla ungalahlekla.

### Ukulawula izifo

Ukusabalala kwezifo zikabhekilanga ziyahlukana unyaka nonyaka, kuya ngezimo zezulu. Ezinye izifo zihlasela ngamandla eminyakeni enesomiso, kanti ezinye zivelva ngenxa yokubanda nezimo ezinemvula.

Njengoba izifo eziningi zingahlasela ubhekilanga, sisodwa vo! esibaluleke kakhulo kwezomnotho yi-Sclerotinia head rot. Indlela esebezayo neyongayo yokulawula izifo ukutshala ama-cultivar abekezelayo nokulandela izindlela zezolimo ezizwakalayo ezifana nokujikelezisa izilimo, ukutshala imbewu eyelashiwe nesanithaza ngokususa izitshalo ezinesifo ensimini. ■



## IZWI LIKA...

Du Toit van der Westhuizen

**S**IGUBHE IMPUMELELO YABALIMI BETHU NGO-OKTHOBA KANYE NOSUKU LOMGUBHO E-BOTHAVILLE. KHUMBULA AKUFANELE UNCINTISANE NABANYE ABALIMI, NJENGOBA NGOKUVAMILE LOKHO KUNGAHOLELA EKUDUMALENI UMA UNGAYITHOLI IMIPHUMELA EFANAYO. OKUNGENANI ZILNGANISE NGawe UQOBO. BHEKA UMLANDO WAKHO – LAPHO WAQALA KHONA NALAPHO UKHONA MANJE. BHEKA UKUTHI KAKADE UKE WAKHULA.

Ungangabazi ukucela iseluleko uma kukhona ongakuqondisi noma kunento ongakwazi ukuyenza. Xhumana nochwepheshe ukuze bakubhekise inkinga futhi bakusize ukuze wenze kangcono. Yiba ne-qiniso kuwe futhi ufunde izifundweni zesikhathi esedlule – uma ulazi iphutha olenzile ngesizini edlule, ngakho uyazi ukuthi akufanele ukuphinde. Isibonelo, uma uqale emva kwsikhathi ukulungisa inhlabathi yakho, qinisekisa kuthi akuphindi kwenzeke.

Mayelana nohlangothi oluphathekayo lokulima isilimo, oganganda bakho kufanele ngabe sebesevisive kalokhu. Konke okufanele kukhandwe nakho kume ngomumo. Bheka impahla evuzisa udizili, njengoba udizili uyabiza futhi iconsi elimosakele lisho ukinciphelwa yimali ephaketheni lakho.

Imhlabathi wakho nawo kufanele ukuba ulungisiwe. Izimvula ezhnle ngesizini edlule zenza umhlaba waba nomswakama omuhle. Lawula ukhula Iwasebusika nolwasehlobo, ukuze lungasebenzisi umswakama wenhlabathi. Kufanele wongelwe isikhathi lapho izitshalo zithola ingcindezi yomswakama.

Ama-inputs abiza kakhulu kulonyaka kunesikhathi esedlule, ngakho ke nciphisa ukulahlekelwa ngokumosa. Cabanga ngokwamarandi namasente njalo ngokuinisekisa ukuthi uyazi ukuthi ama-input abiza malini. Uma ingxene yokukodwa kokuhlanu yesaka likamanyolo imoshakele, kusho ukuthi cishe 'ulahle' u-R200. Uma imbewu yebiwe ngenxa yokuthi kade ingakhiyelwe ngendlela efanele, lapho kusuke kulahleke imali ephaketheni lakho.

Qinisekisa ukuthi onke ama-planter nezfutho akhalibrehthwe ngendlela efanele. Uma i-planter engakhalibrehthiwe isebezisa u-180 kg kamanyolo esikhundleni sika-130 kg, kusho ukuthi ngeke ube no manyolo owanele wesilimo sakho.

Kwangathi le sizini ingaba yinhle njengaleya edlule. ■



U-DR SAFIAH MA'ALI, UMPHENYI OMKHULU:  
KWA-ARC-GRAIN CROPS,  
E-POTCHEFSTROOM

# Funisia ulwazi ngaphambi kokuba uthenge ugandaganda

SIMO SEMALI YOKULIMA NGOKWAMAGANDAGANDA NEMISHINI SIPHEZULU KAKHULU. UGANDAGANDA OMUSHA KALULA NJE UNGABIZA U-R1 000 000 – FUTHI LOKHU AKUBANDAKANYI INTENGO YAMA-*IMPLEMENT*, NAKHO KONKE OKUSAFANELE KUTHENGWE EMUVA KWAKO. NGAKHO KE, KUBALULEKILE UKUQINISEKISA UKUTHI UGANDAGANDA OWUTHENGAYO UZOKWAZI UKU-HLANGABEZANA NEZIDINGO ZAKHO.

Uma ugandaganda umkhulu kakhulu noma omncane kakhulu ezidengweni zomsebenzi wepulazi, lokho kuzokubiza imali eningi. Uku-thola nokuthenga ugandaganda ofanele noma ogandaganda bepulazi lakho umsebenzi onzima, kodwa kungenzeka. Buza lemibuzo elandelayo: Bangaki futhi yibaphi ogandaganda okufanele ngibathenge?

## UBUBANZI BENSIMU

Kuwona wonke umsebenzi wokulima kanye nanoma imuphi usayizi kagandaganda, kakhulu ububanzi bensimu esohlwini. Ububanzi bensimu ukuthi mangakhi amahektha kagandaganda abangasebenza umsebenzi wamahora ayi-10 ngosuku.

Ngokwenza izibalo ezimbalwa, unganquma ngobbanzi bensimu kagandaganda. Ububanzi bensimu i-ha/10-amahora ngosuku = isivinini ngokwama-km/h x ngobbanzi ngamamitha x ukusebenza kwensimu. Ukusebenza kwensimu ifektha ivumela isikhathi osichithile enhlonhlweni phecelezi i-headlands, ukufaka udizili kugandaganda, i-filling seed nemigqomo kamanyolo ku-planter phakathi kwabanye, futhi ngakho ke kulinganiswa njengedesimali. Ngokuphathekayo, uma ukusebenza kwensimu yilokhu ukuchaza ukuthi ugandaganda uzosebenza amahora ayi-10 ngosuku ungami futhi ujike.

Abalimi bayazi ukuthi lokhu akuvamile. Ophenyweni oluningi olwenziwe Iwamasimu, kwanqunywa ukuthi ugandaganda udonse ama-*implement* lapho singekhokhona isidingo sokugibea noma ukwehlisa umanyolo noma imbewu, ukujika enhlonhlweni nokwetha ugandaganda kuzothatha u-17% wesikhathi sokusebenza. Lokhu kusho ukuthi kuzokwensiwa umsebenzi ongama-83% kuphela.

Ngokutshala, ukugcwala imbewu nomanyolo kungathatha cishe u-40% wesikhathi. Ngokufuthwa kwestimo, kungasetshenziswa isikhathi esingu-60% esikhona kuphela ukufutha futhi sonke lesi esinye isikhathi esokugcwala isifutho. Kule zinombolo zokusebenza kusobala ukuthi abalimi kufanele baqinisekise ukuthi yonke into yenzwiwe ukukhulisa ukusebenza kwezinti ezenziwayo.

Ngalolu Iwazi, umbuso wokuthi iyiphi inhlanganisela yogandaganda abangathengwa ungaphendulwa. **KuThebula 1 nakuThebula 2** ukuse-

benza kwensimu eyi-avareji yemisebenzi eyahlukene inikeziwe. Ngokuphathekayo, le zinombolo angahlukana kuma-values, kuya ngokuthi umsebenzi usetshenzwa kangakanani, kodwa kungumkhuba omuhle. umphako nawo wensiwe kumathebula yenhlabathi eyahlukene.

Ethebulini lobubanzi bensimu, ikholomu i-'kW edingekayo' inikeza uphawu Iwamandla ngqo adingekayo ukwenza umsebenzi ensimini ebanzi ethile. Kufanele kuhunjulwe ukuthi injini ehazayo phecelezi *aspirated* ngokwemvelo esebeza ngaphansi kwezimo zaseNkangala phecelezi *Highveld* ingadiliva kuphela cishe u-80% ngokwesilinganiso samandla njengokwesilinganiso sezinga lokuphakama ngaphezu kolwandle phecelezi sea level. *I-turbo-charged engine* kucatshangwa ukuthi ayilahlekewa ngamandla uma ukuphakama kuya phezulu.

Ngakho ke, uma ithebula likhombisa ukuthi kudingeka ugandaganda oyi-40 kW, ugandaganda onesikhangisi samandla ereythi ka-40/0,8 = 50 kW okufanele usetshenziswe. Uma ugandaganda ufakwe *i-turbocharger*, u-40 kW kagandaganda oyi-turbo-charged ungalunga.

Usayizi kagandaganda onconyiwe kufanele ubekiwe kwezinye izindawo ethebulini lobubanzi bensimu. Lokhu okwemisebenzi ethile lapho usayizi wobukhulu bukagandaganda (kodwa hhayi amandla kagandaganda) kusho ububanzi bensimu yokwenza umsebenzi.

- Empumalanga nasezingxenyeni ezisempumalanga ezindaweni ezithola imvula ehlobo umthetho uthi umlimi uzodinga phakathi kuka-0,75 kW/ha no-1 kW/ha wokusahlamvu okukhiqiziwe.
- Ezifundeni ezisentshonalanga endaweni ethola imvula ehlobo ezweni abalimi bahambisana nokuphakathi kuka-0,5 kW/ha no-0,75 kW/ha okusahlamvu okukhiqiziwe. Lokhu kwenzeka kakulu ngenxa yesikhathi esibekiwe sokwenza ulimo oluyisisekelo nokuthi futhi isilimo sitshalwe ngesikhathi.

## Isibonelo

Abalimi bengasebeniza osonkontileka ukwenza eminye kule misebenzi, kodwa kungcono ukuthi wonke umlimi kufanele abhukule ezozitshalela yena aphinde azifutheli ngesikhathi sokutshala izilimo, ngokuvamile kuba yizinsuku ezingama-20 zokusebenza. Uma umlimi etshala u-100 hektha nokutshala kufanele kwenziwe ngezinsuku ezingama-20 zokusebenza, lokhu kuzochaza ukuthi okungenani kufanele kutshalte u-5 ha/ngosuku. Utshala u-5 ha/ngosuku, umbhede wembewu owu-5 ha, kufanele utshalte kanti kufanele kufuthwe u-5 ha.

Ogandaganda ababili abayi-50 kW, abafana ne-Ford 6600 noma i-Massey Ferguson 188, kufanele benele ukwenza wonke umsebenzi ngesikhathi. Ugandaganda owodwa ungalungisa umbhede wembewu bese kuthi omunye utshale aphinde ufuthi. Kubaliwe ukuthi ugandaganda i-50 kW ingalungisa u-20 ha wombhede wembewu, utshale u-18 ha no-26 ha futhi ungaftutha okungenani u-26 ha ngamahora ayi-10 ngosuku. Ngakho ke, lokhu kungasebenza uma ugandaganda uqala ngokulungisa

umbhede wensimu bese lona omunye uqale ukutshala. Ugandaganda osetshenziselwe ukutshala ungaphinde usetshenziselwe ukufutha izilimo ezitshaliwe ngokuhamba kosuku. Ngosuku olulandelayo, ugandaganda owasetshenziswa embhedeni wembewu ungaftutha ngenkathi kuqhubeke ukutshala.

Uma bobabili ogandaganda bengalima amasimu futhi ugandaganda owodwa engasebenzi phakathi kuka-5 ha/ngosuku no-7 ha/ngosuku, lokho ku-

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Ithebula lobubanzi bensimu ye-boom sprayer.

I-Implement	kW iyadingeka	Isivinini (km/h)	ha/10-amaho- ra ngosuku	Usayizi kaga- ndaganda (kW)
I-boom sprayer (N = 60%)				
u-6 m boom	20	6	22	40
u-8 m boom	25	6	29	50
u-12 m boom	25	6	43	50

I-Implement	I-kW edingekayo			Isivinini (km/h)	ha/10-amahora ngosuku	Usayizi kagndaganda (kW)
	Isihlabathi	Inhlabathi eqinile	Inhlabathi eyimvundumvundu phecelezi-Loose soil			
<b>Ukulinywa kwamasimu (75 mm ukudepha ku-N = 83%) ne-light disc harrow (65 mm ukudepha ku-N = 83%)</b>						
I-Width 1,6 m		24	28	8	10	30 - 35
3 m		36	43	8	20	45 - 54
3 m		45	54	9,2	23	56 - 68
3,7 m		48	57	9	28	60 - 71
4,5 m		55	64	10	38	68 - 80
6 m		70	80	10	50	88 - 100

<b>I-Chisel plough (200 mm ukudepha, 300 mm, izikhala no- N = 83%)</b>						
I-Width 2,2 m	38	48	60	5,5	10	48 - 75
3 m	47	60	74	5,5	14	59 - 92
3,4 m	60	71	108	7,0	20	75 - 135
4 m	70	82	125	7,0	23	88 - 156
4,5 m	88	105	170	7,6	29	108 - 188

<b>I-Planter yommbila- (umanyolo ogcwele no-N = 60%)</b>						
2 x 0,91 = 1,82 m (onamathiselwe)	21	20	19	8	9	35
4 x 0,91 = 3,64 m (onamathiselwe)	33	40	29	8	18	40
4 x 0,91 = 3,64 m (odonswayo)	50	46	44	12	26	55
6 x 0,91 = 5,46 m (odonswayo)	74	68	65	12	39	75

<b>I-Mouldboard plough (250 mm ukudepha no-N = 83%)</b>						
2 x 406 = 0,81 m		34		5	3,37	35 - 40
3 x 406 = 1,22 m		40		5	5,0	50
4 x 406 = 1,63 m		48		5	7,0	60
5 x 406 = 2,03 m		60		5,5	9,0	90
5 x 406 = 2,03 m		72		7	12,0	125

ngasho ukuthi amasimu angalinywa ezinsukwini ezingama-20.

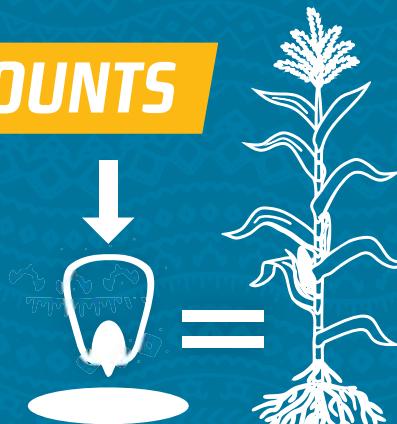
Ngokusebenzisa izibalo zobu-banzu bamasimu ezikumathebula, abalimi benganquma ukuthi yiziphi izinhlobo zogandaganda abangazithenga. Lezi zibalo zingasetshenziswa futhi ukuhlolola ukuthi ngabe abasebenzi basemapulazini bawenza kahle umsebenzi wabo.



PIETMAN BOTHA,  
UMELULEKI OZIMELE KWEZOLIMO

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# Isibikezelo seklayimethi

## yesizini yasehlobo ka-2022/2023



Isithombe: Dijan de Waal

LONKE IZWE LATHOLA IZIMVULA EZI-AVAREJI NEZINGAPHEZU KWE-AVAREJI KUSUKELA CISHE NGO-2020. IZIMO ZEZHUKHULA NOKUGCWALA KWAMANZI ENHLABATHINI KWEZINYE IZINDAWO, KWADALA UMONAKALO EZILIMENI NENGQALASIZINDA. IZIMO ZEMVULA ENINGI KUSUKELA NGO-2020 ZIPHICANA NESOMISO ESIKHULU EZINGXENYENI EZINKULU ZEZWE KUSUKELA NGO-2014 KUYA KU-2019.

Kungani iklayimethi iguquguquka kakhulu kangaka? Yenza ukulima kugekha kakhulu edala lokhu kugquguquka okubizwa nge-ENSO i-(El Niño Southern Oscillation), nezingxenye ezimbili ezihihanganyo ezinkulu ze-El Niño ne-La Niña. El Niño yisivuvu sokushisa esingajwayelekile esimaphakathi oLwandle Iphasifikhi phecelezi -Pacific Ocean ne-La Niña ukuphola kwale ndawo.

Yindawo ebanzi kakhulu olwandle futhi uma kunesivuvu esikhulu noma isivuvu esiphansi, kungawaguquula amasistimu eklayimethi kuyoyonke le ndawo. Nakuba lokhu kwenzeka ebangeni elingamakhilomitha ayizinkulungwane ukusuka eNingizimu Afrika, lokho kwenziwa ukushenxa kwamaphethini emvula hhayi eNingizimu Afrika kuphela kodwa emhlabeni wonke jikele.

Umthelela we-El Niño eNingizimu Afrika ngokuvamile yizimo zesomiso kanye nokuba khona kwe-La Niña, izimo ezinemvula kakhulu. IZIMO ze-La Niña zaqala ukwenzeka entwasahlolo ka-2020, kudaleke izimo ezivimelana nokuna kwemvula eziqala ngasempumalanga namaphakathi nezingxenye zezwe kodwa kancane kancane kusabala-lela ngasezingxenyen ezingasentshonalanga.

Nakuba i-La Niña iyathandeka ngenxa yemvula endaweni ethola imvula ehlobo yaseNingizimu Afrika, umthelela awufani njalo ezweni ionke – Isibonelelo njengase Mpumalanga neKapa, lapho izimo zemvula ephansi zisadala isimo sesomiso esibucayi esikhathini esingaphe-zulu kweminyaka emibili nezimo ze-La Niña.

### IMVULA

#### Yini esingayilindela kuleli hlobo elizayo?

Izimo ze-La Niña zisekhona, futhi kulindelekile ukuthi sisazohlala okungenani kuze kuge u-2022 noma ekuqaleni kuka-2023. Kuzoba yi-hlandla lesithathu kuphela kusukela ngo-1950 ukuthi kuzoba amahlandla amathathu e-La Niña ngokulandelana, ngenxa yokuthi ama-La Niña ngokuvamile enzeka isizini eyodwa kuphela – kusukela ngoSepthemba kuphela mhlambu ngoMashi/Ephreli.

Ngabe kusho ukuthini lokhu ngokwezimvula ezingxenyen ezalhukene zezwe, ikakhulukazi ezindaweni ezilima okusahlamu ehlobo?

- **EMpumalanga, eGauteng, eMpumalanga neFreystata ezingxenyen ezi-senyakatho ne-KwaZulu-Natal:** Kulindelekile imvula engapezulu kwe-avareji kusukela ngo-Okthoba kuya kujanuvari. Kungenzeka ukuthi imvula enkulu ingadala isimo sokuthi kuge manzi kakhulu futhi inhlabathi ingcwale amanzi kusukela ngoNovemba. Izimo zesomiso zingenzenka ngoFebhuwari 2023, ngesibikezelo se-La Niña ezokhinyabezeka kusukela ngasekuqaleni kuka-2023.
- **Izingxenye ezingaseningizimu neKwaZulu-Natal nasezingxenyen ezingasenyakatho yeMpumalanga neKapa:** Kungenzeka kuge nemvula engapezulu kwe-avareji kuze kuge uDisemba, kodwa imvula e-avareji nengaphansi kwe-avareji ilindelekile engxenyen yesibili yehlobo kusukela ngoJanuvari /Febhuwari 2023.
- **INyakatho neNtshonalanga, eLimpopo kanye nasen kabeni kuye ezingxenye ezingasentshonalanga neFreystata:** Kulindelekile imvula engaphansi kwe-avareji kuze kuge uSepthemba/Okthoba, kodwa imvula eyi-avareji nengaphansi kwe-avareji ilindelekile kusukela kuNovemba kuye kujanuvari. Ngenxa yokuphela amandla kwe-La Niña, aphezelu amathuba okuba kuge nezimo zesomiso kusukela engxenyen yesibili kaFebhuwari ka-2023.
- **ENyakatho neKapa, ezingxenyen ezi-maphakathi zeNtshonalanga neKapa kanye nalezo ezi-maphakathi nenyakatho yeNtshonalanga neKapa:** Izimvula ezi-avareji nezingaphansi kwe-avareji zilindelekile kuze kuyofinyelela ku-Okthoba, kodwa izimo zemvula zingaba ngcono kusukela ngoNovemba/Disemba ngaphambi kokuba kuge nokugasela kwesomiso ngaphambi kwe-sikhathi sokuqala kabusika ngoFebhuwari/Mashi 2023.
- **Izifunda ezithola imvula eBusika:** Makhulu amathuba okuba kutholakale imvula engaphansi kwe-avareji esifundeni esithola imvula ebusika kusukela ngo-Ephreli 2023, uphawu Iwenkomba yokuqala komjikelezo wesomiso esisha.

### UMTHELELA WOKUGUQUQUKA KWESIMO SEZULU

Nakuba sikhona isivuvu, ikhona futhi imithelela yemvula futhi iyo ezokwenza kuge nokuncipha kwamazinga okushisa kwezinye izindawo ngezikhathi ezithile zonyaka.

Amazinga emvula ephezulu endaweni ethola imvula ehlobo ahlelela ezinyangeni zasehlobo (uNovemba kuya ku-Ephreli), esikhundleni semvula yasebusika neyasentwasahlolo (uMeyi kuya ku-Okthoba). Iphesenti lemvula ebusika nasentwasahlolo liyehla esigodini esinjengase-Wesselsbron eFreystata – kusukela cishe ku-25%

kwesamba semvula kusukela ngo-1970 kuya ku-2000, kwaya kognaphansi kuka-10% kusukela ngo-2008. Lesi ngesinye sezizathu ezi-balulekile esenza ukuthi umhlabathi owomile ebusika okhiqiza ukolo eFreystata ungasabi nempumelelo.

Imvula yasehlobo (isamba sikanoNovemba, Disemba noJanuwari) sikhule isuka ku-40% wesamba semvula yonyaka (ngokwamasizini 1 Julayi kuya ku-30 Juni) kusukela cishe ngo-1990 kuye cishe ku-50% wesamba semvula yamanje. Lokhu kusekela kakhulu ukukhiqizwa kwezilimo zasehlobo.

Kunokuhlehla futhi ezinsukwini zokugcina zamalanga esithwatha kwezinye izindawo. Izinsuku zokugcina zenyukile kelemiyakashumi emibili, kanye naphakathi kwezinsk eziyi-10 nezingama-30 emuva kwasikhathi. Lokhu kusho ukuthi i-avareji yezinsuku zokugcina zesithwatha esigodini esifana ne-Douglas eNyakatho neKapa ihle-hle kusukela cishe ngomhla ka-10 Septhemba ngaphambi kuka-2000 kuya kumhla ka-7 Okthoba manje.

Kwandisa ubungozi bomonakalo wesithwatha kukolo wase-busika ikakhulukazi ezindaweni okuniselwa kuzo eziseNtshonalanga neFreystata naseNyakatho neKapa kuya emazingeni adipilela phansi inzuzo. Kukhuthaza abomshwalense wezilimo ukuba bawuyike umshwalense wezilimo zasebusika noma kube abathile abasakhava izindawo ezithile. Lokhu kuphinde kube nobungozi ezilimeni ezitschalwe ngasekuqaleni kwehlobo ezifana nama-pecan nuts namagilebhisi.

## ISAMARI NEZINCOMO

- Kulindeleke imvula eyi-avareji nengaphezu kwe-avareji kusukela ngo-Okthoba/kuya koNovemba kuze kubu uJanuwari/Febhuwari endaweni yonke ethola imvula ehlolo.
- Kulindeleke imvula engaphansi kwe-avareji ebusika buka-2023 esifundeni esithola imvula ebusika, okuwuphawu lokuqala komjikelezo wesomiso.
- Ubungozi besithwathwa esifika kamuva ezingxenyenii ezisenkabenii kuya ezingxenyenii eziseningizimu yezwe kuphezelu kakhulu futhi isithwathwa singaba khona kuze kufinyelele ku-Okthoba.
- Ukuguquka komjikelezo wesimo sezulu esimanzi kuya esikhathini sesomiso mhlambe sizofinyelela endaweni yezimvula zasebusika kodwa mhlambe izoqala kusukela ngo-2023 enkabenii kuye ngantshonalanga yendawo yezimvula zasehlobo. ■



U-JOHAN VAN DEN BERG,  
I-INDEPENDENT AGRICULTURAL  
METEOROLOGIST

QALA NGOKUPHEPHA – INGXENYE 4

# Ukucima umlilo: Zihungiselele



**U**MTHETHO UDINGA UKUBA UMQASHI AHLINZEKE NGEZIKHALI ZOKUCIMA UMLILO NEMITHE-THO YEZOKUPHEPHA UKUZE KUQINISEKISWE UKUPHEPHA KWENDAWO YOKUSEBENZA. NGAKHO KE, UMQASHI KUFANELE BAQINISE-KISWE UKUTHI IZICIMAMILO ZIBEKWE LAPHO KUDINGEKA KHONA. IZICIMAMILO ZINGAVIKELA BONKE ABASEBENZI NEZIMPAHLA ZOKUSEBENZA.

Izinhlobo ezintathu zezicimamlilo (okufana nophawoda, CO<sub>2</sub> nefomu) kuyatholakala emakethe. Ziphinde zihamuke ngosayizi abangefani. Ubungozi nokuhlaziya kuzonquma ukuthi yiluphi uhlobo (nosayizi) kufanele kufakwe emsebenzini wakho. Ukuhlaziya ubungozi kuzonquma ukuthi yiluphi uhlobo (nosayizi) okufanele kufakwe emsebenzini wakho. Futhi kubaluleke kakhulu ukuba namayunithi amanzi ahambayo okucisha umlilo epulazini. La mayunithi kufanele ahlolwe njalo, ngisho noma ngabe imililo ingayona ingozi.

Abasebenzi kufanele bathole ukuqeleshwa okufanele ukuqinisekisa ukuthi bayakwazi ukusingatha isimo esiphuthumayo. Ngesikhathi sokuqequesha, abasebenzi kufanele bakhonjiswe ukukhetha izicishamlilo ezifanele. Izicimamlilo kufanele zibekwe ezindaweni ezisekele imatheriyali okufanele ivikelwe. Ngesikhathi sokuqequesha, abasebenzi kufanele bafunde futhi ukuthi ulawulwa kanjani umlilo wamaqele nokuthi yini okufanele bakuqaphele.

Umqashi kufanele aqinisekise ukuthi zonke izicishamlilo kufanele ziseviswe njalo yi-SAQCC-ne-SABS inkampani egunyaziwe. Usontkontileka kufanele akhiphe isiqinisekiso sokugunyazwa kumqashi. Ubufakazi bokusseva nawo kufanele abekwe kusicimamlilo ukukhombisa ukuthi siyahlangabedana nezidingo zomthetho.

I-aksesi eya kusicimamlilo kufanele ingavimbeki. Izimpawu zokuphepha kufanele ziphostwe lapho kubekwe khona isicimamlilo. Izingubo noma izikhwama akufanele zisemboze isicimamlilo. Zonke izikhali zokucima umlilo kufanele zihlolwe njalo ngenyanga. Lokhu kuhlolwa kufanele kurekhodwe kwi-rejista njengobufakazi ukuthi le sistimu ihloliwe. Zonke izinkinga kufanele zibikelwe imenjenia /isuphavayiza.

Ukuphepha kwabasebenzi kufanele njalo kubu yinto yokuqala. Abasebenzi kufanele baqequeshwu ngesikhathi kucinywa umlilo ebhili-dini noma imoto yesicimamlilo. Izinombolo zezimo eziphuthumayo nazo kufanele zibekwe endaweni yokusebenza. Uma kwenzeka kuba nesimo esiphuthumayo, umsebenzi obekiwe kufanele axhumane nabezimo eziphuthumayo. ■

U-CHARL SAAYMAN, UMELULEKI WEZEMPILO NOKUPHEPHA KWAMEGA HEALTH AND SAFETY

# Vikela *i-Sclerotinia* ekukhiqizweni kwe-oilseed

SIZINI ENTSHA YOKUKHIQIZA ISIFIKILE FUTHI ABALIMI KUFANELE BAKHETHE UKUTHI YIZIPHI IZILIMO ABA-ZOKHIQIZA, KUFANELE ZITSHALWE NINI NOKUTHI ZIKHIQIZWA KANJANI LEZO ZILIMO. KUBALULEKILE UKUQONDISISA UBUNGOZI BEZILIMO ZONKE – NOMA UMMBILA, UBHEKILANGA NOMA UBHONTSHISI ISOYA.

Ngesizini yokukhiqiza ka-2021/2022, *i-Sclerotinia* yabadalela enkulu inkinga abalimi bakabheilanga nobhontshisi isoya. Enyakatho nentshonalanga amasimu kabhekilanga ahlaselwa yimithelela efinyelela ku-80%, okwaba nomkhulu umthelela emalini engenayo kabhekilanga.

Ubungozi obubodwa ubunomthelela kuzo zonke izimo zezulu. Kubalulekile ukuqondisisa ukuna kwemvula kanye nokusabalala kwayo jikelele ngesizini. Ezifundeni ezikhqiayzo zasentshonalanga, kungenzeka kube namathuba esomiso aphezlu maphakathi nehlobo kanti abalimi kufanele bakuqaphele lokho. Kubalulekile ukushejula izilimo zakho nezinsuku zokutshala nezinsuku zokutshala mayelana naleso sikhathi sesomiso samaphakathi nehlobo.

Ukulawula ubungozi obungaba khona besifo, unxantathu wesi-fo kufanele uqondisiswe futhi ulawulwe. Uma isitshalo esiyikhaya sihlaseleka kalula ezifeni ezinjalo, isifo esidalia *i-pathojini* kanye nezidingo ezithile zenhlalo-yendawo zomthelela wephathojini ekhona ngaleso sikhathi nangesigaba esifanele nasesigabenii esifanele, kungaholela ekubhedukeni kwesifo.

Ubhekilanga nobhontshisi isoya, ukwakheka kwezifo ezihambi-sana ne-S. *i-sclerotiorum* incike kunhlalo yendawo esifanele – izimo ezipholile, ezimanzi nezine-denser canopies (isisindo sokutshala nezikhalo kolayini), lapho ukuzungeza komoya kuncane. Lokhu kudala isimo esihle se-microclimate yokwakheka kwezifo. Ubhontshisi isoya nobhekilanga kulula ukungenwa *yi-Sclerotinia* ngesikhathi isiqhakaza izimbali. Ngakho ke uma kukhonai-apothecia evikini eliodwa kuya kwamabili ngaphambi kokuqhakaza kwezimbali, kungenzeka ukuthi kube khona ama-spores kulesi sigaba se-lifecycle yesitshalo.

## I-SCLEROTINIA

*I-Sclerotinia* ingahlasela ngesizini yokukhiqiza ka-2022/2023. Ngabe yini engenziwa umlimi ukukuvikela? Ngeshwa sisengekho isixazululo esilula. Uma *i-Sclerotinia* ihlasela isitshalo, kunzima ukufutha isilimo – ngakho ke umlimikufanele azame ukuvimba *i-Sclerotinia* ezilimeni.

Ukuvikela *i-Sclerotinia* umsebenzi onzima futhi yonke imikhakha yokukhiqizwa kokusahlamu kufanele kubandakanywe ukuvikela izifo. Lokhu kuqala ngokukhetha ama-cultivar, usuku lokutshala, ukufakwa kukamanyolo esilimeni nokubheka *i-apothecia* njalo esilimeni.

Ukukhethwa kwe-cultivar kusetshenziswa ukumenenja isikhathi sosuku lokuqhakaza kwestishalo ngendlela eyimpumelelo. Ngokuse-bezisa iphakheji yokutshala kabi noma ama-hybrids amanangi esikhathi sokutshala, usuku lokuqhakaza izimbali kungamene-njwa kakhulu. Lapho kukhona *i-Sclerotinia*, ngeke uqhakaze wonke ubhekilanga ngesikhathi esifanayo. Lokhu kuzovikela *i-Sclerotinia* ekutheleleni zonke izitshalo.

Kuphakheji efana nalena, sebenzisa iklasi lokukhula nomehluko wokuqhakaza kwezimbali phakathi kwe-hybrids ngokusebenzisa *i-medium* ne-*medium* – *late hybrids* ezoqhakaza ngezikhathi ezalhukene. Nokuphinde usebenzise *i-single-cross* ne-*three-way hybrids*



1. Water-soaked lesions *kubhekilanga*.



2. Cotton-like mycelium *emakhanda kabhekilanga*.

kwipakheji ukuze kumenejwe esigabenii esiphezulu sephesenteji lokutshala okusembalini ngosuku olunqunyiwe. Lokhu kuzokwehlisa ubungozi be-*Sclerotinia*.

Intu yesibili okufanele abalimi bayenze ukukhethwa kukamanyolo. Qinisekisa ukuthi isilimo sifakelwe umanyolo ukuze sizomelana nengcindezi. Kubalulekile ukungafaki inayithrojini (N), phosphorus (P) ne-Photheziyamu (K), kodwa futhi-khalsiyamu (Ca), isalfa (S) nekhopha (Cu) kuphela. La ma-micro-element azosisiza isitshalo ngezikhathi zengcindezi, noma ngabe isomiso noma kunevula eningi kakhulu.

Abalimi kufanele bajikelezise izilimo zabo. Lapho ubhekilanga ohlaselwe yiphesenteji eliphezulu le- *Sclerotinia*, ubhekilanga aku-



fanele uphinde utshalwe kuleyo nsimu okungenani iminyaka emithathu. Ukulinywa kwenhlabathi kuzophinde kusize ekuvikeleni i-Sclerotinia. Ukulinywa kwensimu kuzosiza ekuvikeleni i-Sclerotinia, kodwa uma kwakukhona i-Sclerotinia amathuba okuthola i-Sclerotinia aphezulu kakhulu. Izilimo eziyisembozo zingasiza ukwehlisa ubungozi be-Sclerotinia.

Ukhula luyohlala luyinkinga njalo. Ngakho ke, ukulawulwa kakhulu kokhula kubaluleke kakhulu. Olunye ukhula olufana ne-cosmos kanye nolunye olunamahlamu amakhulu aziwa njengekhaba le-Sclerotinia. Ukhula lufaka ubhekilanga ngaphansi kwengcindezi, okuzoholela ekutheni i-Sclerotinia isesulele isitshalo.

Qinisekisa ukuthi wenza konke okusemandleni ukulawula amazinga engcindezi esilimo.

Ukulawula i-Sclerotinia ngendlela, ukukwazi ukubona i-apothecia isaqala kubalulekila ukusiza umlimi athathe izinyathelo ngaphambi kokuba kubonakale izimpawu. Izimpawu zokuqala zibandakanya umonakalo odalwa yi-water-soaked lesions (**Isithombe 1**). Lokhu kulimala kuyakhula kube yi- mycelium efana nokotini omhlophe emakhanda kabhekilanga (**Isithombe 2**) kanye nemidumba kabhontshisi isoya, kanye neziq (**Isithombe 3**) sakho kokubili ubhekilanga nobhontshisi isoya. Ekugcineni, njengoba isifo siqhubeqa, ukukhula kwe-white mycelium iba yi-melanised hardened sclerotia (**Isithombe 4**). Le-hardened sclerotia inikeza i-manner yephatheojini ukuze uphile phakathi kwamasizini nangaphansi kwezimo ezingavumi.

Uma i-apothecia isibhekiwe, qaphela ukuthi ukukhula kwezifo kuvamile ezimeni zenhlalo ezivumelayo. Ukubheka i-apothecia kuvamise ukuba bucayi ezinqumeni zoku-implimenta ukulawulwa kwezifo. Usizo lokukhetha i-apothecia, thumela isithombe ku-Dr Miekie Human, wophenyo nehhovisi lenqubomgomu kwaGrain SA, e-miekie@grainsa.co.za.

Kukhona inani elincane lama-fungicides arejistiwe kabhontshisi isoya nobhekilanga eNingizimu Afrika. Lokhu kubandakanya i-azoxystrobin, i-benomyl, i-cyprodinil, i-epoxiconazole, i-fludioxonil, i-procymidone ne-pyraclostrobin. I-benomyl okwamanje irejistive njengeyokwelashwa kwembewu kabhekilanga, kanti i-procymidone yisona sodwa isithako esirejistiwe sokulawula i-Sclerotinia stem-rot kubhontshisi isoya. Illebuli erejistelwe ye-rust kabhontshisi isoya, ngezithako ezisebenzayo ze-pyraclostrobin ne-poxiconazole, kusho ukuthi i-fungicide ingayinciphisa i-Sclerotinia stem rot (AVCASA, 2019).

Isinqumo sokufutha noma awufuthi ukuncika ekulinganiseni ubungozi obukhona, okuqala ngokuthi uqaphele ukuba khona kwe-apothecia. Ungacabangeli ukuthi i-Sclerotinia ilula ukuyilawula. Isiluleko esingcono ukuyivikela kanye nokusebenzisa imikhuba yokulima emihle.

Uma ufuna imininingwane, xhumana no-Corné van der Westhuizen we-Pannar Seed ku-082 570 8240 noma u-Dr Miekie Human ku- [miekie@grainsa.co.za](mailto:miekie@grainsa.co.za), noma uvakashele i-website yakwa-South African Sclerotinia Research Network (SASRN) at [www.sclerotinia.co.za](http://www.sclerotinia.co.za). ■



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4

**I-Sclerotinia stem rot.**  
Isithombe: U-Dr Lisa Rothmann



**U-PIETMAN BOTHA,  
IKHONSALTHENTI EZIMELE YEZOLIMO,  
NO-CORNÉ VAN DER WESTHUIZEN,  
I-AGRONOMIST E-PANNAR SEED**

# Ithimba elibeka abalimi bokusahlamu phambili

INGXENYE 2

-GRAIN SA YINHLANGANO EZIMELE NE-COMMODITY YOKUZITHANDELA. ISEBENZA NGOKUHLANGANYELA NGOKWENTANDO YENHLALAKAHLE YOMNOTHO WABAKHQIZI BOKUSAHLAMVU BASENINGIZIMU AFRIKA. ABAHOLI BE-GRAIN SA ABAMELE ABAKHQIZI BOKUSAHLAMVU KUDINGEKA BAKUTHANDE UKUKHULUMELA ABALIMI ABANGABAKHQIZI BOKUSAHLAMVU EZINDABENI EZIBALLEKILE. HLANGANA NETHIMBA :



## U-Ramoso Pholo

(Isifunda 28)

Lo mlimi onolwazi olunzulu we-New Era Commercial ulima ummbila, ubhekilanga nobhontshisi esigodini saseMooifontein eduze kwase-Lichtenburg eNyakatho neNtshonalanga. U-Ramoso ngomunye

wabalimi asebenesikhathi eside kwa-Grain SA. Ungumlimi ono-gqozi, uzimisele ukukhulisa ibhizini lakhe lokulima ngaphandle kwezinselelo eziningi ezifana nesomiso esiqothulayo esake sabekana neNyakatho neNtshonalanga eminyakeni eminingi. Uyilungu le-prestigious 500 Ton Club nabahlanganyela ku-*Grain SA's Advanced Farmer Programme*. URamoso ukhethelwe ukusenza ku-Steering Committee ebheka izindaba ezibalulekile emisebenzini yansukuzonke yenhlangano.



## UMusa Thomas Sibiya

(Isifunda 29)

UMusa ulima e-Gert Sibande District Municipality eMpumalanga, eduze kwa-madolobha ase-Amersfoort, Volksrust nase-Wakkerstroom. Futhi ungumlimi we-New Era Commercial, ulima okusahlamu futhi unebhizinisi lokulima elihlanganise imfuyo elikhulayo. Ubelokhu eyilungu eliqavile kwaGrain SA iminyaka eminingi futhi ubelokhu ebandakanya ka kumalungu e-study group akwa-Pixley Ka Seme Study Group eduze kwase-Daggaskraal. Uphinde abeyilungu le - 250 Ton Club futhi uke wabamba iqhaza ku-Advanced Farmer Programme. Yilo lolu lwazi nenqubekela phambili emholele kulesi sikhundla sokuhola.



## U-Alfreda Mars

(Isifunda 30)

U-Alfreda umlimi wokusahlamu no-mfuyi wezinkomo ulima eduze kwase-Moorreesburg esifundeni i-Swartland saseNtshonalanga neKapa. Wakhulisua ugqozi lwakhe lokulima eseyintombazanyana encane esebeanza noyise owayenomhlaba e-Ceres naseKaroo. Ngaphandle komsebenzi wakhe wokulima, usebenza njengomeluleki wabalimi abasafufusa phecelezi emerging farmers ezigodini zaseSwartland nase-Winelands. Ngo-2017 u-Alfreda wabhalisa kwa-Syngenta Grain SA Leadership Academy eyoqeleshwa amakhono akhe obuholi. Wakhethwa njengelungu lesigungu lesifunda 30 ngo-2019 futhi ungumholi we-Bredasdorp Park inkampani engenzi inzuko phecelezi non-profit company (NPC).



## UMaseli Lethuka

(Isifunda 31)

Lo mlimi omdala onolwazi ibelima ukolo, ummbila, ubhontshisi nobhontshisi isoya eminyakeni eminingi, kanye nokuhlanganisa nemfuyo. Amakhaya akhe asezifundeni zase-Qwaqua eKestell eMpumalanga yeFreystata. Iminyaka eminingi yolwazi yenze uMaseli wabonakala eseyilungu le-*Grain SA le-Ton Club* kanye nomhlomuli we-*Advanced Farmer Programme*. Akaqalali ukumela amalungu abaxhumanise nomkhakha wezolimo. Ngo-2006 waphothula 'i-Phrogremu yokuThuthukisa ubuHoli kweZolimo' Kwa-Agri SA phecelezi i-'Agriculture Leadership Development Programme'. Wadlula wayosebenza emakomitini amaningi nasemabhodini esebeenzela umphakathi olimayo.



## U-Patrick Stuurman

(Isifunda 33)

U-Patrick ulima eduze kwaseMataatile eSigodini i-Alfred Nzo futhi uyilungu elikhuthile le-Ongeuelsnek Study Group. Uwuhlobo olubarulekile lomholi othanda ukuhlala enolwazi, uhlezi efunda futhi inhliziyo yakhe inamathele embonini nasezindabeni zentuthuko. Kulo nyaka, uPatrick waphothula isifundo sokuqeasha i-'farming for profits' ngokuhlanganyela nabalimi abanangi abasebasha abakhaliphile esifundeni sakhe. Umqequeshi, u-Eric Wiggill, walithokozela kakhlulu leli qembu labafundi futhi wathi bangabalimi abakhaliphile. Kule sizini, uPatrick wahlanganyela kwaGrain SA/AB InBev phrokethi futhi watshala u-50 ha wommbila. Wahlomula ekululekweni ngayedwa akuthola kuLuke Collier no-Eric Wiggill isizini yonke. ■



**U-JENNY MATHEWS,  
UNGOTI WEZOKUPATHA  
NENTUTHUKO NOKUFUNDISA**

# Tseba disenyi tsa hao: I-A-African maize stalk borer

ZINAMBUZANE ZE-LEPIDOPTERAN EZIFANA NE-STEM BORERS IDALA UMONAKALO OMKHULU EMASIMINI OMMBILA, OKWENZA KULAHLEKE ISIVUNO ESIKHULU. KUBALULEKILE UKUTHI ABALIMI BAZEHLUKANISE LEZI ZINAMBUZANE ZISAQALA NGAMATHULUZI AFANELE.

I-Moth flights iqala ngo-Ockthoba futhi kwenzeke eNingizimu Afrika yonke, ngaphandle kwasogwini nasezindaweni eziseHlanzeni phecelezi e-Lowveld. Kwenzeke ama-moth flights amathathu ngonyaka, nalena enkulu emaphakathi. Ngaphansi kwezimo ezithandekayo, i-lifecycle ingaphothulwa emavikini ayisikhombisa kuya kwayisishiyagalombili.

Ama-month esifazane azalela amaquoqo amaquadza angolayini (ayishumi kuya kwangamashumi ayisishiyagalombili) phakathi kwesiqu ne-leaf sheath, okuthatha izinsuku eziyisikhombisa kuya kweziyisishiyagalolunye ukuze achamsele. Amaquoqo amaquadza amhlophe uma eqale ukuzalelwu kodwa aba mnyama njengoba eba madala. I-first larval instars migrate kuya ehlamvini elincane lensongezi phecelezi whorls kuya ekondleni, izimpawu zokukhiqiza izimbotshana ezincane noma ama-'windowpanes', noma ihlamvu elinamapheshi akhanyayo. Izibungu ezsencane zinsundu okumnyama ngokombala nokuthi zikhanye njengoba zikhula, ngezimpawu zamachashaza amnyama emzimbeni.

Nakuba isibungu esidala singangena kakhulu eziqwini, zithanda isigaba sesiyephana. Ukudla kwestibungu kuthatha amaviki amane kuya kwayisithupa ngaphambi koku-pupatha, emva kokuthi ama-moth amadala ngokushesha siyaphuma futhi kuhindeke lowo mjikelezo futhi.

## UMONAKALO

Lokhu kuthathwa njenge-stem borer pest sommbila esinamandla. Uma kukubeka ebungozini obengeziwe kubantu nasezilwaneni njengoba umonakalo wesilimo udaleka ngenxa yokudliwa yizibungu kuvamise ukukhulisa amathuba okutheleleka ngezifo eziphakeme ezifana ne-Fusarium rot.

Ukudliwa yizibungu kwezindawo ezsakhula zeztshalo kuholela ekufeni kwamahlamu amaphakathi kwensongezi, okomayo futhi kudale ukubuna izimpawu ze -'dead hearts'. Ngenxa yokuthanelwa yizibungu ezindala, stems ngokuvamile kunqidwa amandla njengoba ayigobongo futhi kugcwaliswa ngama-frass, ukwenza aphuke uma konomoya. Isibungu naso singazibhola izikhwebu zommbila futhi zidle imbewu, zishiye ama-frass abonakalayo.



I-Busseola larvae idala izimbobo ensongezini.



I-Dead heart.



Isibungu esidla umyephana phecelezi i-tassels nezikhwedu zommbila.



Imibala eyahlukene yesibungu i-Busseola, kusukela kwesi-kanyayo kuye kwesimnyama.



Ukuvela kwezimbobo ohlangeni lommbila.

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IsiZulu, IsiNqisi, IsiTswana, IsiSuthu, nesiXhosa.

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# Iphrogrammu eguqula izimpilo



Farmer  
Development  
Programme

Umbiko

## Zibandakanye futhi ukhule

**ITHIMBA** elithuthukisa abalimi likholelwia ekusebenzini ndawonye ngokuhlanganyela nabalimi kanye nababambe iqhaza elibalulekile embonini ukuze bakhe amanethiwekhi mayelana nokuthuthukisa abalimi. NgoJulayi 2022, amalungu ethimba aqala ukusebenzisa ukuxhumana okulandelayo nokuthuthukisa abalimi:

- Ukuvakashela **amapulazi izikhathi eziyi-95** ukuyoluleka abalimi ngayedwana nokunikeza umhlahlandlela nokwenza uhlelo lokuvuna nokumakethwa kwezilimo ezilinywe kule sizini eyedlule kanye nokwenza amalungiselelo esizini etsha, njengoba sekuyisikhathi sokuthatha amasampuli nokuthenga ama *i-input* amasha isizini ngesizini.
- Imihlangano eyisamba sika-58 semihlangano yama-**study group** okuthuthukisa abalimi.
- NgoJuni noJulayi izifundo kube nesamba **sezifundo zokuqequesha zibe yi-13**, yethanyelwa abalimi abayi-250 nabasebenzi basemapulazini. Le sifundo saqhubeka iminyaka eyisihlanu, ukunikela ulwazi olwadlulise nokuthuthukiswa kwamakhono ngokwetiyor kanye namaseshini apha-thekayo.
- **I-Six farmers' day events** ezifundeni ezahlukene ngoJuni noJulayi 2022, ovethanyelwa abalimi abayi-317.

Amathuba akhona. Kukuwena ukuba uzibandakanye, funa ulwazi futhi uhlo-me. Gxila ekutholeni impumelelo oyihlosile, noma ukuthola isivuno esiphe-zulu ihektha, wakhe umkhakha wemfuyo, ukuthenga ugandaganda omusha, ukufunda kabanzi ngokumaketha okusahlamu nokufuna izifundo ezitsha noma ukufuna amakhono amasha – uthi uyakholwa ukuthi angizophumelela.

Zibekile amagoli ayiqiniso uzibekile nezhkhathi ezingaphunyelelwa. Uma uhlela kahle umqondo wakho kulokho ofuna ukuphumelela kukho futhi isikhathi usinikele ekutheni kutholakale leli goli, kulula ukukufinyelela futhi ku-lula ukuphumelela futhi kulula nokusebenza kanzima. Ukukhula okungapheli kanye nokufuna isibonakalo solwazi kuyo yonke impilo yomlimi, kungakha-thalekile ukuthi mudekangananani noma musha kangakanani kulo mdlalo.



Nge-farmers' day kaJuni eyahlelwa yihhovisi laseMthatha eKambi. Yathanyelwa abantu abangama-50 eSiyazondla Study Group.



Kwamiswa ithente eliphuzi okuggqamile le-farmers' day eSahlakwane. Wahlelwa yihhovisi laseMbombela.



KwaDukuza endaweni yaseBergville, imenena yentuthuko ehhovisi lesifunda eDundee, U-Graeme Engelbrecht, waxoxa nabalimi.

## Ukuqequesha OKUGQAMILE

**I-GRAIN** SA inochungechunge olubanzi Iwezifundo zokuqequesha futhi kukhona into efanele bonke abalimi abasathuthuka kanye nabasebenzi babo basemapulazini. Ukuqequesha kuyasiza ekuthuthukiseni ukulima okuqinile.

Ithimba elisensimini futhi likulungele ukweluleka nokuhlomisa amalungu abalimi – phumela obala nethimba lizokuhlangabeza futhi likwelekele! Khuluma nemenenja yakho yentuthuko esifundeni mayelana nohlobo loqequesho othanda ukulubona esifundeni sakho; futhi wenze umphakathi wakho ube nogqozi nokufundiseka.



U-Fanie Pienaar wethula ukunakekela ipulazi lakho ne-sifundo sokusekela ngokushi-sela e-NAMPO Park eduze kweBothaville, eyathanyelwa abafundi abangama-20.



Abalimi bahlangana e-Ficksburg eFrey stata esifundweni - 'Farming for profits'.



ISiyachathula Study Group yafunda kakhulu nge-planter ne-boom-sprayer khalibreshini esifundweni sabo sokoqequesha.



Uma uthamela isifundo, uthola ukuqequesha manuwali ukuze ukwazi ukuphindwa ukuvakashele lokho okufundile.