

PULA IMVULA

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INCWADI YEGRAIN SA YABALIMI ABASAKHULAYO



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Amalebuli amakhemikhali aqukethe izidingo ezintsha

ABALIMI NABASEBENZI BASEMAPULAZINI KUFANELE BAQAPHELE UKUTHI AMALEBULI OKUVIKELA UMKHIQIZO WABO AYAGUQUKA FUTHI AZOQHUBEKE NOKWENZE NJALO ISIKHASHANA. ISIZATHU SALOKHU UKUTHI I-GLOBALLY HARMONISED SYSTEM YOKUHLELA NOKULEBULA AMAKHEMIKHALI I-(GHS), OKU-AFEKTHA AMAKHEMIKHALI EJENTI EZIMBONINI EZAHLUKENE.

Isidindo se-GHS savuka ngenxa yohwebo lwamakhemikhali emhlabeni, ngokuvamila kweqa imngcele ezindaweni ezinezilimi ezahlukene nokwehlukana kwezigaba zelithiresi – ngokusungula izinselelo uma kuxhunyanwa ngokuphephile kanye ngokusebenzisa ngokuzibophezelu kwemiyalelo wemkhiqizo.

ENingizimu Afrika, i-GHS yaba yisidindo esisemthethweni kusukela ngoSepthemba 2022 futhi kubhalwe eMthethweni ya-Makhemikhali ejenti ayiNgozi (No. R280 ka-29 Mashi 2021) phecelezi *Regulations for Hazardous Chemical Agents (No. R280 ka- 29 Mashi*

2021)

Kusukela lapho, amalebuli nedatha shidi yoku yokuvikela izilimo kufanele ulandele indlela yezinga lokuxhumana ngobungozi bomkhqiqizo wamakhemikhali. Ningakohlwa ukuthi kukhona isikhathi sokushintsha samakhemikhali lawo abesevele ethengiwe emazweni noma akhiqizwe ngaphambi kwalolu suku.

Kule athikhili kuzogxilwa emkhqizweni esetshenziswe uku-vikela isilimo embonini. Kubaluleke kakhlulu kubalimi nakubasebenzi basemapulazini ukuqondisisa *i-layout* entsha, ngoba ubungozi ubuhlanganiswe nekhemikhali ethile, uhlobo lwayo kanye nobucayi bayo kukhulunywe ngabo ngama-elementi amaningi, afana nezitatinimende zobungozi, ama-*pictograms* nezimpawu zamagama kukho kokubili kulebuli naseshidini ledatha ephephile yomkhqiqizo.

INDLELA YOHELO LOBUNGOZI

Ngokwe-GHS, uhlobo lobungozi kuhlonziwe ngokobungozi beklasi, njengamanje u-29. Isamba salawa ayi-17 amaklasi abonakala ukuthi ayingozi, okufana noketshezi lokugwalisa phecelezi *oxidizing* amaklasi ayishumi awobungozi bempilo, obufana nokusha nokusha

Amalebuli amakhemikhali...

kwesikhumba/ukuqubuka, amanye amabili angamaklasi obungozi benhlaho yendawo, abizwa ngamaklasi enhlaho yendawo yobungozi, abizwa nganobungozi esimeni senhlalo yamanzi noma ebungozini be-ozioni leya phecelezi *i-ozone layer*. Lama klasi aweqembu lobungozi noma uhlolo, ehlonzwe yi-pictogram engasetshenziswa yizinto ezahlukene ezinobungozi.

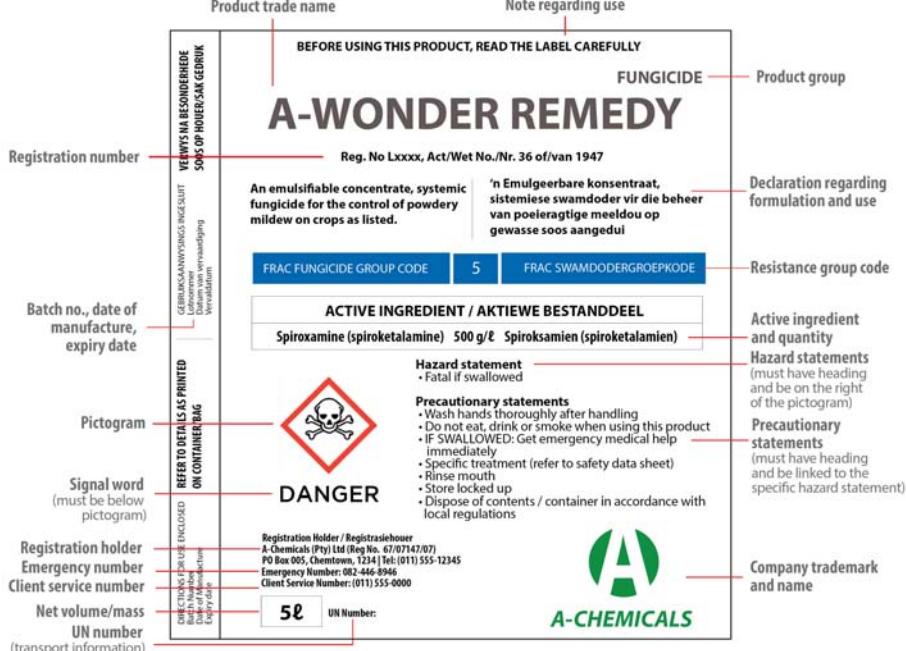
Kula maklasi, ubucayi bobungozi ibebe buhlukanisa ngokwemikhakha ebekwe ngokwezinombolo – isibonelo, umkhakha 1 izoba ngebecayi kakhulu. Eminye yalemikhakha iyaqhubeaka ihlukane ibe yi-mikhakha, ebekwa njengencwadi, i.e., B, C nokunye.

Eyodwa yezinguquko ezinkulu kulebuli ukuthi akusophinde kuge khona ibhande lombala elichaza ubuthi bomkhiqizo. Lokhu kungaletha ukukhathazeka kwabanye, kodwa umuntu kufanele aphele ukuthi

nge-GHS ukuhlaziya kwemikhqizo eyingozi ukunqunyelwe ukusebenzisa ecijile neysisimbelambela sobuthi, kanti imibala yamabhande ukuhuluma kuphela nge-acute toxicity – okusho ukuthi ukuhlelwa okusha kuxhumene kakhulu.

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Izidingo ze-GHS leboli.



GHS HAZARD GROUPS AND PICTOGRAMS					GHS STATEMENT EXAMPLES					
	Explosive		Chemicals under pressure		Exclamation mark	Acute Toxicity Category 1 (oral exposure) Hazard statement • H300 – fatal if swallowed Precautionary statements • Prevention P264: Wash hands thoroughly after handling P270: Do not eat, drink or smoke when using this product • Response P301+P316: IF SWALLOWED: Get emergency medical help immediately P330: Rinse mouth P405: Store locked up • Disposal P501: Dispose of contents / container in accordance with local regulations				
	Flammable		Corrosive		Health (chronic toxicity)					
	Oxidising		Acute toxicity		Environment					
SIGNAL WORDS: WARNING DANGER <p>The chemical identity of all ingredients contributing to the final GHS classification of the remedy needs to be disclosed on the product label</p> <p>info@croplife.co.za • www.croplife.co.za</p>										

Eyodwa yezinguquko ezinkulu kulebuli ukuthi akusophinde kuge khona ibhande lombala elichaza ubuthi bomkhiqizo.

I-GHS nayo isebezisa izitatinende eziyingozi, *i-pictograms* nezimpawu zamagama ukuxhumana kobungozi bamakhemikhali, kanye nezitatinende ezixwayisayo zokunciphisa noma yimaphi amandla obungozi. Izitatinende zobungozi yimishwana echaza ubungozi njengokunuma kwezihlelo zobungozi. Aqala ngohlamu 'H', kulandelwe yizinombolo ezintathu.

Izingozi eziphathekayo, izitatinende zizoqala nge-H2 (kulandele ngezinombolo ezimbili ezengeziwe), ubungozi bempilo buqala ngo-H3 kanye nenhlalo yendawo yobungozi nge-H4, isibonelo, H300: Iyabulala uma uyigwinyile. Le zitatiminende zobungozi zibonakala kulebuli naseshidini le datha yokuphepha – kodwa, ikhodi (i.e., Hxxx) kudingeka ibonakale eshidini yedatha yokuphepha kodwa hhayi kulebuli.

Izitatinende sokuqaphela sisethenziswa ukuchaza ukuthi lumphathwa kanjani loluketshezi, kanye nokuthi yikuphi ukuqaphela okufanele kwensiwe ukuqaphela kuthathwe ukujinisekisa noma yibuphi ubungozi obuhambelana nazo nokupathwa komkhiqizo kunciphe. Izitatinende zokwexwayisa zilandalu uhlavu 'P' nezinombolo ezintathu nazo ezhlelewe ngokwezinhlobo zazo, kuyafana nezitatinende zobungozi.

Isibonelo, izitatinende jikelele zizoqala ngo-P1 kulandele izinombolo ezimbili, izitatinende zokuvikela ne-P2, izitatinende zempendulo P3, izitatinende zokulondoloza ngo-P4 kanye nezitatinende zokulahlwa ngo-P5, e.g., P264: Gezisa izandla emuva kokuwuphatha.

Le zitatiminende zibonakala kumalebuli emikhqizo nasemashidini amashidi edatha okuphepha, futhi zixhunyaniswa nobungozi obuthile futhi kuxhumene nobungozi obuthile kanye ne-pictogram. Njengesitatinende sobungozi, amakhodi (i.e., Pxxx) adingeka kuphela kudatha yeshidi lokuphepha futhi hhayi kulebuli yangempela. Istatimende sobungozi nezitatinende sesexwayiso kufanele sibe nezihloko sokuthi ngabe ayiziphi izitatinende, futhi kufanele zibekwe ngakwesokudla se-pictogram ehambisana nabo.

Njengoba kushiwo, *i-pictograms* isetsheenziswa ukukhombisa izinhlobo zobungozi

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obuyisishiyagalolunye ezahlukene, okuchazwe ngaphansi ekhoneni esinxeleni ku-**Figa 1**.

Igama eliwuphawu kufanele livele elebulini, kulawo mabili kuphela:

- **Ingozi**, iveza ubungozi obubucayi kakhulu, noma
- **Isexwayiso**, sikhombisa ubungozi obuphansi.

Lilodwa kuphela igama eliwuphawu okufanele livele kulebuli.

ISAMARI

Lawa ngama elementi ambalwa e-GHS, kanangi ahambisana nelebuli yomkhiqizo, ngoba i-GHS yonke engaphezulu kweskophu sale athikhile, kodwa kabalulekile ukuthi abalimi nabasebenzi basem-pulazini bawejwayele lama-elementi abalulekile.

Inhoso ye-GHS ukuxhumana nobungozi bemvelo bekhemikhali. Ngenxa yobungozi, kukhona ubungozi obuthile ububandakanyekayo ngokusebenza nomkhiqizo, kodwa lokhu kuyancipha uma imiyalezo yelebuli iyalandelwa. Ngenxa yokuthi umkhiqizo unobungozi, akusho ukuthi ngeke kusetshenziswe ngokuphephpa.

Isibonelo imoto, nayo unobungozi uma ucabanga inani lezingozi emgwageni, kodwa izimoto azinqtshelwa unophela ngenxa yalakho. Esikhundleni salokho, ubungozi buyancishiswa ngokugqoka ibhande, ulandele isivinini esinqunyelwe futhi ulandele eminye imithetho yezokuphephpa.

Leyo ndlela efanayo isetshenziswa uma kusetshenziswa amakhemikhali ayingozi, yingakho kabalulekile ukuqondisisa ilebuli yomkhiqizo. Futhi ukhumbule ukuthi, noma yikuphi uku-aplaywa komkhiqizo wokuvikela isilimo nganoma iyiphi indlela ngaphandle kokulandela umiyalelo ekulebuli kuwukwephula umthetho – ngakho ke yenza into efanele futhi uqinisekise ukuthi wena, futhi nabo bonke abantu osebenza nabo, bazi kahle kamhlophe ngokusetshenziswa kwemikhiqizo ngokuphophile nangokuzibophezelia. ■

U-ELRIZA THERON,
UMKHULUMELI NEMENE-
NJA YEZOKUXHUMANA,
KWA-CROPLIFE SA



IZWI LIKA...
ikaPhumzile
Ngcobo

N

JENGOBA ABALIMI ELINDELE ISIZINI EZAYO YOKUTSHALA, AKUKHO ABANGAKWENZA NGAPHANDLE KOKUBHEKA EMUVA KWE-YEDLULE NESIFUNDO ABASITHOLE KUYO.

Okubaluleke kakhulu kabalimi ukuthola i-avareji enhle yesivuno. Kodwa, ukugudlukela okuya ekusebenziseni izindlela ezicacile ze-zolimo yifektha ebaluleke kakhulu.

Umlando osanda kwedlula ubonisile ukuthi imboni yezolimo i-afekthwe kakhulu ngama-fektha angeziwe, okufaka phakathi iklayimethi, ukusaplaywa kwama-*input* nokumaketha. Amandla okuhambisana nezimo zeklayimethi ziba nomthelela emkhiqizweni kanye nokuqhubeleka phambili kwesistimu yomkhiqizo wezolimo.

Izinhlobo ezahlukene zama-fektha a-afektha ukukhiqiza kwabali-mi (iklayimethi, ukusaplaywa kwama-*input* nezimaketh) kudinga ukuthi abalimi ukuba baqonde kakhulu mayelana nezindlela zabo zokukhiqiza. Ngesikhathi kulangabezwana nokukhiqiza, isimo senhlalo yendawo kanye nohlobo lokukhiqiza kudinga ukunakeke-lwa kakhulu.

Ukuhlolwa kwenhabathi ngelinye lamathuluzi ayisisekelo nabalele kakhulu okuphathwa komsebenzi wokukhiqizwa kwe-silimo – ukuvumela ukulungiswa kokungalingani nokufakwa kwamaphrogremu kamanyolo onconyiwe ukuze uthole isivuno esihle. Ukukhethwa kwezinhlobo zezinhlamvu kufanele kubhekwe isimo seklayimethe esifundeni.

Njengokusho kwesisho, ungalokothi ufake onke amaqanda akho kubhasikidi owodwa! Ukwelukahlukana kwamabhizinisi ku-wukhiye lapho kungaphathwa khona ukugcwalisela nokukhusela amabhizinisi kungalawulwa ukuze kusebenze ngezinga eliphezulu kulethe umvuso omkhulu wabalimi nempilo yabo. Ukukhiqizwa kwestilimo sokusahlamvu, uma kufanele, kusekelwe ngokukhiqiza kwemfuyo nevayisi vesa. Lokhu ukwakha ubudlelwano be-symbiotic phakathi kwamabhizinisi kanye nokumelana nokuqhubeleka phambili kwabali-mi nemisebenzi yokulima.

Ukulawula izilimo isizini yonke yokulima uma kuqhathaniswa nokhula, ukulawulwa kwezinambuzane nezifo kwamanye amafektha anqunyelwe impumelelo yesivuno.

– **UPhumzile Ngcobo ungumsizi wemenenja yesifunda eh-hovisi lase-Dundee.** ■

Oshicilelwani IweSingisi Iwe-Pula yale nya-nnga, skena nansi i- QR khodi.



Amathiphu ayi-phambili okunakekela i-planter

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MIPHUMELA YOKUSEBENZA KWE-SUBOPTIMAL PLANTER NGOKWEJWAYELEKILE KOKUJULA KWEMBEWU, IMBEWU EKUSAFESI YENHLABATHI, INDAWO EVULEKILE EKHIPHA IMBEWU PHECELEZI SEED SLOT. INHLABATHI ECINENE NGAPHEZU KWEMBEWU, I-HAIR PINNING KANYE NOKUCINANA NEZINDONGA EZISEZINHLANGOTHINI PHECELEZIAMA-S/DEWALL. EZINYE IZINKINGA OKUFAKA PHAKATHI IZINKINGA UKWEQA, AMADABULI NOKUPHINDWE KATHATHU-FUTHI EKUPHELENI KWALOKHU, ISIVUNO SIZOKWEHLA NEMALI ENGENAYO IZONCIPHA.

Ngeke usinde uma ungayinakekeli kahle i-planter yakho enhlabathi ni ethilwe ngokwemvelo, kodwa hhayi ezimeni eziqinile ze-no-thili. I-No-thili nama-planter emvelo kungenzeka utshale ezimvithini ezingi zesilimo, vula i-'V' slot, faka imbewu ngayinye ezigaben ezingamabanga alinganayo kanjalo nasekjuleni okuya okulinganayo, vala i-slot sembewu ngakho ke imbewu ukuze ithintane kahle nenhlabathi, ingadali ukuqina kwenhlabathi ezinhlangothini ukuthi kungabikhona inhlabathi eningi phezu kwembewu. Konke lokhu kufanele kwensiwe ngesikhathi kuhamba u-6 km/h kuya ku-10 km/h, utshala imbewu engama-20 ngomzuzwana.

Ukugwema izinkinga zokutshala, okokuqala hlola ithulusi lako ukuthi lisebenza kahle, futhi kubheke njalo ukusebenza kwe-planter ensimini futhi ushintshe namasethingi ngesikhathi sokutshala.

La maphuzu ayi-14 adinga ukuhlaziya:

1 Amamitha

Amayunithi amamitha embewu angasebenzi adala ukweqa, kibili nakathathu, ngokulahlekelwa imbewu. Ukwenza isiqiniseko sokusebenza ngokusezingeni eliphezulu, hlukanisa amayuthi amamitha, susa ukungcola futhi uhlante ihudi ngamanzi anensipho. Shintsha amakhava eplastiki agazukile. Shintsha ama-fingers ephukile eku-finger-pickup meter. Risetha ukuqina kuma-finger futhi uwaqinise ngokufanele. Hlola i-backplate kanye namabhulashi embewu ukuthi awadlekile futhi ashintshwe uma kudingekile. Phinda uhlole ibhande ku-finger-pickup meters. Kufanele lithambe lihambisane nesimo, lingabi nokuqhekeka futhi kufanele lihlanzeke. Imitha ungayilubriketha ngegrafathi.

Kuhle ukuthatha iyunithi yemitha ye-finger-pickup uyihambise kumdayisi ukuze ikhalibhrethwe. Uma une-vakhuyum noma i-air meter, bheka ukuthi ngabe le vakhuyum noma i-air pressure iahale, hlola ukuvuza nokudleka lapho kushayisana khona amabhulashi phecelezi knock-off nokulungisa/ukushintsha okudingekayo.

2 Iyunithi ye-planter

I-depth placement eqondile ingangeniswa ebucayini uma i-planter ixega noma ingaqinanga. Ngeke ukwazi ukuphakamisa iyunithi ye-planter kalula noma uyihambise ngamacala. Bheka ngale kweyunithi ye-planter nasohlangothini. Ngabe onke ayalingana ubude? Uma i-yunithi ngayinye iphakeme noma iphansi uma iqhathaniswa noku-

nye, kudinga ukunakwa. Inkinga ejwayelekile ukuthi amanye amabhawodi ayaxeka noma kube ukuthi kudingeka kupushwe. Kudingeka futhi ushntshe amabhawodi noma ama-seed hoppers ephukile.

3 I-Seed-opener disks

I-Seed-opener disks kudingeka ibe nedayametha encane (bheka imanuwali yokusebenza), futhi ngeke ibeke imbewu ekujulemi okufanele ukuya phansi. Ama-sistimu ama-brend amanangi ama-planter embewu yama-disc amabili ashayisanayo isetshenziswa ukuvula umsele enhlabathini, lapho uzofaka khona imbewu. Ubudlelwano phakathi kwalama-disc amabili kubaluleke kakhulu ukuqinisekisa ukuthi uthola iyunifomu ehlanzekile eyisimo somsele owu'V'-lapho uzofaka khona imbewu.

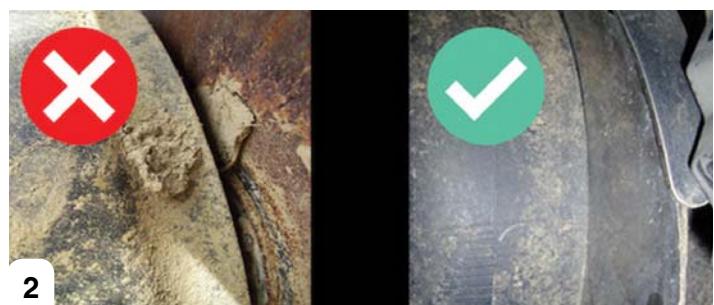
Uma izikhala ze-seed-disc zingalungile nokungcola iyakwazi ukuyakaza phakathi kwama-seed disc, kudala izinkinga ezifana ne:

- Kwakkhiwe u- 'W' esikhundleni sika- 'V', okusho ukuthi imbewu iwela enhlabathini engalingani ubude futhi nangenxa yokuthi



Qinisekisa ukuthi i-opener discs ingadleki kakhulu.

Umthombo: <https://www striptillfarmer com/articles/4186-how-to-check-your-disc-openers>



Igebe phakathi kokudepha kwasondo legeji kanye ne-seed disc kungadala izinkinga.

Umthombo: <https://www striptillfarmer com/articles/4186-how-to-check-your-disc-openers>

akwakhwiwe phakathi nendawo yemisele eyiyunifomu, kuphinda kwenze ukuba kuvaleke nomsele futhi kuqinisekise ukuthintana nembewu nenhlabathi kube nzima, okudala izinkinga ngesikhathi sokumila.

- Ngokuba namagebe phakathi *kwama-seed disc*, uphinde uvumele ukungcola okomile ukuthi kuwele emseleni futhi kuxhumane nembewu.
- Lokhu kungcola okuhamba phakathi *kwe-seed disc* kungaba futhi yimbangela yokujema uma izinga lomswakama likhuphuka kancane. Faka amakhadi ebhizini amabili phakathi kokuvuleka futhi uwanyakazise asondelane kakhulu ukuhlola lokhu (**Isithombe 1**). Uma *ama-opener disks* esedleke kakhulu, uzothola isimo sika-W *se-slot slot* esikhundleni sika- 'V' ofunekayo. Faka ikhadi elilodwa phezulu lapho kuhiangana khona ama-*disc* amabili nelinye phansi, ngo-kwanele ukuba indawo ethintanayo iwabambe amakhadi. Kala ibanga phakathi kwamakhadi amabili. Inhloso ukuthola ukuthintana ukungu-6 cm phakathi kwamakhadi. Uma igebe phakathi kwamakhadi lilincane kakhulu, khipha ama-*shims*. Uma emakhulu kakhulu ngeza ama-*shims* ukuqinisekisa ukuthi uthola ukuthintana okuwu-6 cm.

4 Amashubhu embewu

Umpetho wamashubhu embewu engadleka aze agoqane angene ngaphakathi, ibambe imbewu. Kuhlezi kunehhuka eliphakathi nendawo ukuya phezulu elingephuka kalula. Onogada bamashubhu embewu kudingeka abe nobubanzi obuncane futhi aboshwe ngokufanele, noma kungahle kudale umonakalo emashubhini embewu. Amasensa embewu ehlanzekile uma efakiwe kwi-*planter*.

5 Okokuqinisa imbewu

Lokhu kusiza ukucindezela imbewu phansi emseleni, kugaranta ukunda kakhulu ekushoneni kwembewu. Ukuqina kungalungiswa ngebhawodi. Uma abaqinisi bembewu sebedleke kakhulu, adinga ukushintshwa.

6 Ukushona phansi kwamasondo

Lesi kuvame ukuba yisihloko okuphikiswana kakhulu ngaso mayelana nokuthi uhlolo luni lokujula kwegeji yesondo – eduzane *seed disc* noma kude kakhulu nalo. Okujwayeleke kakhulu ukujula kwesondo legeji lokho kwenza ukuxhumana kokukhanya *ne-seed disc*. Uma kuhkona igebe phakathi kwegeji lesondo, kuvumela ukungcola okomile kuyongena phakathi *ne-disc* negeji yesonda, okudala *i-rooster tail* umthelela wokugcola okomile erimini noma udebe lwegeji yesondo. Lokhu kungcola kuse kuphumela phezulu egejini lesondo nomhlaba emseleni uthintana nomsele, okudala izinkinga zokuqhuma. Bona **Isithombe 2**.

Njengoba i-*planter* idleka, ngisho nakwi-*planter* entsha, isikhala phakathi kwegeji yesondo *ne-seed disc* yembewu kungaguquka.

- Kwi-*planter* entsha, igeji lesondo umkhono *i-arm mouldings/fabrication* kungaphuma kancane.
- Amarabha amathayi angaguga.
- Ama-arm amageji amasondo angagoba.
- Ama-bearing/shaft kungadleka kabi.

Ukuqinisekisa ngezikhala ezifanele zegeji lesondo, hlola ukuthi ama-*arms* akagobi, igeji yamathayi aseguje ukwedlula izimpawu zokudleka nama-*bearings* asasesimeni esihle. Phakamisa i-*planter*, beka amabhlokhi ngaphansi kwegeji yamasondo bese uyiphindisela emuva egejini yamasondo. Bese usebenzisa i-uhlolo lwe-*planter* adjustment uku-*adjuster* igeji yamasondo iye lapho igeji yesondo

ithintana khona kancane ne-*disc* yembewu enhlabathini ehambisana nobude kodwa isakwazi ukujikeleza.

7 Ama-*coulters*

Hlola idayametha yama-*coulters* futhi uyishintshe uma kunesidingo. Ungalungisa ukujula kwamasetthingi ama-*coulters* asasetshenziswa.

8 Ukuhlanza kolayini

Hlola okudlekile. Lungisa ukushintsha okudlekile noma ushntshe usekuguge kakhulu.

9 Amasondo okuvala

Amasondo okuvala kudingeka abe nespringi esibambilie futhi esidinga ukuhlolwa ukuthi asilimele noma asidekile. Ama-*bearing* ngeke axege noma aqine kakhulu. Iphansi lamarabha noma *i-cast-iron* emasondweni okuvala kudingeka kube u-37 mm kuye ku-50 mm ukuqhelelana. I-arm yesondo lokuvala ngeke ibe nokudlala kakhulu. Ngakho ke uma kunjalo *i-bushings* noma *i-arm* yonke kungadingeka ukuba ishintshwe.

10 I-*Alignment ye-coulters, i-opener disks* namasondo okuvala

Thatha intambo uyidonse ukusuka ku-*coulter* engaphambile iqonde iyofika esondweni lokuvala. Isondo lokuqondisa, *i-seed opener* ne-*coulter* kufanele konke kube kulayini. Amasondo okuvala akufanele agijime phezu komsele wembewu.

11 Amabhokisi ezibulala zinambuzane

Amabhokisi ezibulala zinambuzane akufanele abe nezimbobo noma agazuke. Amashubhu kufanele afuthwe umoya kanye ne-*slot* ngaphansi kwemitheni.

12 Iyuniti kamanyolo

Ama-*opener disks* kamanyolo kufanele abe nedayametha encane (bheka imanuwali). Ama-*bearings* akufanele axege noma aqine ngo-kweqile. Henga ibhakede ngaphansi kweshubhu kweyuniti bese wenza uhlolo lokugijima. Qhathanisa isisindo sikamanyolo nesisindo esilindelekile futhi ukhalibhrethe kabusha *i-planter* ukuqinisekisa ukuthi kufakwa umanyolo ofanele.

13 Amaketango anama-*sprockets*

Hlola onke amaketango nama-*sprockets*. Uma esedlekile noma amaketango eqinile, kudingeka lishintshwe. Amaketango kudingeka aqine ngokufanele futhi alubhrikethwe ngendlela.

14 Umoya wethayi

Futha amathayi ngomoya ofanele – khumbula ukuthi leli sondo liham-bisa yonke into kwi-*planter*.

Uma ufuna iminininingwane, thintana nomdayisi wakho wendawo akusize akusetheli i-*planter* yakho. ■



U-PIETMAN BOTHA,
UMELULEKI OZIMELE
KWEZOLIMO

UKULAWULWA KWENAYITHROJINI KU BHONTSHISI ISOYA KUBALULEKILE

ENINGIZIMU AFRIKA INDAWO YOKULIMA UBHONTSHISI ISOYA SEYANDE KAKHULU, KUNEZINDAWO EZINTSHA EZIWUTSHALILE EZWENI LONKE. IZIMO OTSHALWA KUZO ZIYAHLUKA KUSUKA EMPUMALANGA KUYE ENTSHONALANGA YEZWE. ABALIMI KUFANELE BACABANGE NGESIMO NGASINYE ESINGABA NOMTHELELA EKWELASHWENI NGE NITROGEN-FIXING BACTERIA.

Bonke abalimi kufanele banqume ukuthi umuphi umkhiqizo ukuyisebeniza esilimeni sakhe sikabhontshisi isoya nangendlela yokulawula ukwelashwa kwaso. Kule athikhile, isisekelo semihlahlandlela yokuthi ungasithatha kanjalo le sinqumo kuchaziwe.

ISAYENSI YOKUPHILAYO KWE- NITROGEN FIXATION

I-Nitrogen-fixing bacteria iwela ngaphansi kwenqubo yokurejistwa kwe-presticide kumNyango wezoLimo eNingizimu Afrika futhi yonke imikhiqizo kufanele irejistwe ngaphansi komthetho ukuze idayiswe.

Zonke izinhlobo zikabhontshisi isoya zincike ku-*Bradyrhizobium japonicum* yesayensi yokuphilayo kwe-initrogen fixation. I-Agricultural Research Council i-(ARC) ka-B.ohlukile I-japonicum WB74 eminyakeni eminingi edlule, kodwa kunezingqinamba ezahlukene emhlabenzi ezingakwazi ukulungisa imithamo ephakeme yenayithrojini. Zonke izingqinamba zarejistwa eNingizimu Afrika ziyaebenza, kodwa bazoba nama-aplikheshini emihlahlandlela ukuze asebenze ngempela. Khuluma nabadayisi bakho ukuthola indlela enhle.

Imikhiqizo multi-strain ungezwakala kahle endlebeni, kwangathi uzothola okusebenza ngophindwe kabi noma kathathu, kodwa emkhiquzweni wokwezesayensi yokuphilayo phecelezi biological products izithako ezinamandla zibucayi kakhulu ekusebenzeni komkhiqizo. Uma uketshezi selujiyile, kudingeka unciphise izinombolo zokukodwa kuka-B. *I-japonicum* strain izokwengeza esinye i-strain ngokwakhiwa.

Manje mabili noma ngaphezulu ama-strain ka-B. *I-japonicum* emkhiqizweni, lapho owodwa uzoba mningi kakhulu ukuba yenze umsebenzi oqondiwe – kulesi simo, i-nitrogen fixation kubhontshisi isoya. Ngakho ke, empeleni manje kukhona umthamo onciphile we-strain esengamele se-bhaktheriya, esenza umsebenzi.

Ikhwakithi yomkhiqizo yingxene yebaluleke kakhulu ka-B. *I-japonicum* futhi izoba nomthelela emandleni ukuze isebenze ensimini. Ngenxa yokuhula kancane kwalama – microorganisms, umkhiqizo wokugcina kufanele kunganukubezeki futhi kufanele iqukathe inani eliphezulu le-microorganism.

Uma kubhekwa emuva, eminyakeni eyishumi eyadlule iningi lemikhiqizo emakethe yayikhiqizelwa ukuthi ingahlala kusukela enyageni eyodwa kuya kweziyisithupha eshalufini, ukwelapha nokutshala umkhiqizo amahora angama-24. Kodwa ngobuchwepheshe, imikhiqizo ingakhiqizelwa ukuthi ingahlala izinyanga eziyi-18 kuye ezinsukwini ezinama-60 phakathi kokulapha nokutshala. Lokhu kukhombisa ukuthi umkhiqizo manje usuzinze kakhulu nekhwalithi ephezulu, nobuxhakaxhaka ubengeziwe ukuvikela ibhaktheriya embewini.

I-PLACEMENT YAMANOJULI

Ukubekwa kwamamojuli nakho kubaluleke kakhulu, njengekwantithi yesitshalo esinenayithrojini ingayikhiqiza iphindwe kayishumi ezipandeni eziyisisekelo kunaleso structure sezimpande.

Qaphela ungabheki isibalo samanojuli kuphela, kodwa okunganani indleleni yami ngazo ku-root zone. Lokhu kubaluleke kakhulu, njengoba inani elifanayo lenayithrojini lingafikswa yimojuli eyodwa ewusayizi ofanayo esisindweni esomile empandeni eyisisekelo esingaba amanojuli ayishumi ezipandeni eziphezulu.

IZIMO ZOKUTSHALA

Izimo zokutshala zibaluleke kakhulu, njengoba ibhaktheriya idinga nembewu idinga umswakama ukuze imile futhi ikhule. Lokhu ngokuvamile kulula ukukusho kunokukwenza ngesizini yokulima eNingizimu Afrika. Abalimi bahlezi befuqa imincele uma belima noma kungensiwa ukoma komhlabathi noma ukushisa kakhulu komhlabathi uphezulu u-5 cm wenhlabathi ku-40°C kuya ku- 50°C. Uma kutshalwe ubhontshisi isoya, izimo ezinhle zokutshala zibalulekile ukuze kube nenojuleshini ekahle nokuqhuma kwesitshalo.

Uma welapha imikhiqizo yesayensi yokuphilayo embewini yakho noma ngokwe-infurrow aplikheshini, kudingeka ukhumbule amazanga okushisa nelanga. Store B. *I-japonicum* ngokuphezulu kuka-25°C amazinga okushisa onke nokungabi selangeni ngqo.

Lo msebenzi kufanele ulawulwe ngokukhulu ukucophelela. Isibonelo, uma unyanga imbewu, thatha imbewu ozoyisebenzia ektashaleni ekuseni kuphela. Kunconya ukuthi ungamanie uthathe imbewu esanda kwelashwa njalo eshedini yakho, lapho kufanele ibekwe khona ngokucophelela nangozibophezela. Ukulawulwa kkwelashwa nembewu elashiwe epulazini ubaluleke ukuze uthole imiphumela emihle.

Ukulashwa kwemizimba yembewu kubalulekile ukuqala kahle. Qinisekisa ukuthi yonke imbewu ilashwa ngenani elilinganayo le B. *I-japonicum*. Umshini wokwelapha nawo kufanele uhlanzeke futhi ungabi nawo amakhemikhali okungaba nomthelela ekwelashweni kwe-bhaktheriya.

Ukukhalibrethwa kwansukuzonke komshini wokwelapha imbewu kubaluleke kakhulu, ikakhulukazi uma eshntsha esuka kolunye uhlobo eya kolunye ngenxa yosayizi abahlukene bembewu. Uma lokhu kungensiwe, ungabona imiphumela eyiqiniso emkhiqizweni. Qinisekisa ukuthi ulandela imithetho ngendlela yokwelapha.

I-MOLYBDENUM NE-COBALT

Umsebenzi we-molybdenum (Mo) ne-cobalt (Co) kubalulekile ekusebenzeni kwe-nitrogenase enzyme, okusebenza njengekhathalisti kuye ku-nitrogen fixation kabhontshisi isoya kanye nezitshalo ezithele imidumba. Ngaphandle kwe-Mo ne-Co, inqubo ye-nitrogen fixation izoba yincane.

Abalimi abasemthethweni bembewu bayofaka ama-aplikheshini amathathu kuya kwamane e-Mo kumijkelezo wokukhiqiza wembewu ukwandisa i-molybdenum embewini. I-molybdenum ne-cobalt

inga-aplaywa njengento yokwelapha imbewu noma i-aplikheshini *ye-foliar* ngesizini yokulima, njengoba izovisiza imisebenzi *ye-nitrogenase*.

Kukhona izexwayiso, njengoba imikhiqizo yombili *i-Mo ne-Co* osawoti ezokomisa ibhaktheriya embewini uma ukulapha kanye *rhizobium*. Qinisekisa ukuthi uma ufaka *i-Mo ne-Co* yokulapha imbewu, ukutshala kwensiwa ngamahora amane kuya kwayisithupha emva kokwelapha imbewu. Qinisekisa ukuthi unekhwalithi ephetzulu *rhizobium inoculant* nobuchwepheshi be-*osmoprotection* ukwanda isekisa ukuphila kwebhaktheriya, njengoba lokhu kuzabaluleka kunojulashi ni yakho.

Njengoba inani elifanayo lenayithrojini
lingafikswa yimojuli eyodwa ewusayizi
ofanayo esisindweni esomile empanden
eyisisekelo esingaba amanojuli ayishumi
ezimpanden eziphezulu.

OMANYOLO

Omanyolo babalulekile esivunweni sikabhontshisi isoya, kodwa ukulawulwa kohlobo nokufakwa kubaluleke kakhulu.

- Inayithrojini eningi kakhulu kuyinkinga, njengoba cishe u-10 kg/ha mningi ngokweqile yokutshalaeni. Konke okungaphezelu kwalokhu kuzocindezela ukukhandeka kwezigaxana futhi kubambele inqubo.
- Okwesibili ukufakelwa kudingeka kube ngaphansi kuka-50 mm ngaphansi nama-50 mm kumacala omabili embewu ukuqinisekisa ukuthi umswakama nosawoti ngeke ushe.

Sebenzisa ifosferasi (*P*), iphotheziyamu (*K*), isalfa (*S*), ikhalisiyamu (*Ca*), imagneziyamu (*Mg*) nama-*micro-elements* ukwanda isivuno sikabhontshisi isoya. Kodwa, kudingeka kube njalo ikakhulukazi okudalelwie isilimo sikabhontshisi isoya.

IZIGAXANA

Njengoba abalimi nama-agronomists ensimini, u-R1 kuzoba yisigaba lapho kufanele uhlele inqubo yezigaxana futhi avivinye uma lokhu kwenzeke ngempumelelo. Uma kungenjalo, udinge ukwenza nokufaka imithamo emikhulu kamanyolo wenayithrojini *ka-100 kg kuya ku-200 kg*. khulumia nama-agronomist endawo emininingwane eyifayinelu yale-aplikheshini.

NGABE I-INFURROW NOMA UKWELASHWA KWEMBEWU NGENDLELA ESEBENZA KAKHULU?

Ngokuhla ziya amatrayeli amanangi ngokwezibalo nangokomnotho kumatrayeli asezinhlangothini, izindlela zonke *ze-rhizobium* aplikheshini kuyasebenza futhi empeleni kuncike kakhlulu ekulawuleni komlimi umsebenzi wokulima.

Uma uzizwa ukhululekile ngezindlela zombili, khetha engcono ukweddlula zonke yesimo sakho. Imiphumela yokwelapha nge-*infurrow* kancane kodwa kwangabaluleka kakhlulu izigaxana ezingapezulu futhi kungabukeka kusebenza kakhlulu kwezinye izimo. Kodwa uma sekuvuniwe ngokuvamile awuyiboni i-avareji yesivuno esikhulu ngenxa *ye-placement* namandla okuqedza izigaxana ohlakeni lwezempande eziphezulu. Abalimi abanangi belapha imbewu futhi ba-aplaysi umkhiqizo *we-infurrow* ukuvala onke amaphutha okwelapha, okusebenza kahle kakhlulu ukujinisekisa imiphumela emihle.

Njengoba ukutshala kakhlulu ku-*sandy soil* ezifundeni ezisenthonalanga, ingcindezi *ye-nematode* nokulawula kubalulekile



Inayithrojini eningi kakhulu izovimbela inojuleshini.

emkhiqizweni omuhle. Futhi lokhu kuba nomthelela *kwi-rhizobium nodulation*, *i-nitrogen fixation* namandla okuba nesikhala hlakeni lwezempande. Kucela unxumane nomdayisi wamakhemikhalingokungakhethwa kukho okurejistiwe. Ama *i-noculents* kabontshisi isoya abaluleke kakhlulu emsebenzini wakho wokulima, anikeza inani elikhulu lenayithrojini yesilimo sakho sikabhontshisi isoya.

Umthelela ungaba phakathi kuka-200 kg kuya *ku-1 500 kg* isivuno ihektha ngalinye. Kuya ngenhlabathi, isifunda nesivuno sesilimo ositshalile, ingalinganiswa no-40% wesivuno sesilimo. Ngakho ke kubalulekile ukuthola ukulashwa ngokufanele ngonyango lwembewu noma *i-infurrow* aplikheshini. ■

U-JONATHAN ETHERINGTON, UMQONDISI WE-MBFI (PTY) LTD

Lawula ukhula okuze kwande ISIVUNO SIKABHEKILANGA

UKULAWULWA KOKHULA KUBHEKILANGA KUFANELE KWENZIWE NGEMPUMELELO NANGESIKHATHI ESI-FANELE NGOBA UBHEKILANGA OSEMNCANE UZWELA KAKHULU EKUNCINTISANENI NOKHULA. UKUGCINA AMASIMU KABHEKILANGA EHLANZE-KILE, KUFANELE KWENZIWE IPHROGREMU EHLANGANISIWE YOKULAWULA UKHULA KUFANELE IQALISWE. LOKHU KUSHOLONKE UHLELO OLUYINGXUBE LOKULAWULA, UKUSEBENZA KWEZINHLAKA ZE-AGRONOMIC, IMISHINI NAMAKHEMIKHALLI KUFAKIWE EKULAWULWENI KOKHULA.

Abalimi kufanele bagxile ekulawulweni kokhula, ikakhulukazi kusukela ekughumeni kuze kufinyele esigabeni sika-V8 (kulinganisewa emavikini ayisithupha emva kokutshala). Kule zigaba ezilandelayo zesitshalo, umthelela wokhula awuyona inkinga enkulu ngenxa yokuthi amahlamvu kanye ne-canopy yamahlamvu umthelela kufanele ube nesimo sokucindezelu ukhula ngokwemvelo.

Kodwa, akufani nezilimo ezifana namabele nobhontshisi isoya, kobalwa okungakhethwa kukho okungalawulwa yi-post-emergence broadleaf weeds kubhekilanga. Ukulawulwa kokhula, ikakhulukazi lolo olunamahlamvu abanzi ku-non-Clearfield sunflower, kuhlezi kunzima futhi kudinga ukuhelwelwa ngendlela ngaphambi kokuba isilimo sitshalwe.

Ohlelweni lokulawula ukhula lukabhekilanga, abalimi kufanele baqale ngokukhetha insimu lapho sekungatshalwa khona ubhekilanga. Qala ngokuqalisu isistimu yokushintshanisa izilimo, lapho izilimo zitshalwe onyakeni ongaphambi kokuba kutshalwe ubhekilanga.

Qinisekisa ukuthi lo mmbila ulawulwa ngendlela yokuthi ukhula lwamahlamvu abanzi lulawulwa ngokufanele nokuthi ukujikeleza isilimo nobhekilanga ungakhohlwa ukukhetha ama-herbicides. Uma ukushintshiswa kwezilimo kungenziwe, qala ngokukhetha insimu lapho ukhula lwamahlamvu abanzi lungayona inkinga futhi atshawiwe nobhekilanga.

UKULAWULWA KWAMAHLAMVU ABANZI NOTSHANI

Ngaphambi kokutshala, zitholele uhlelo lokulawula amahlamvu abanzi notshani lapho i-pre ne-post emergence herbicides esetshenziswa ukulawula ukhula. Uma ingcindezi yokhula iyinkulu kakhulu, ukusetshtenziswa kwama-implimenti kuyadingeka. Ukusingqika kwembewu kabhekilanga ngaphambi kokuba iq huma kusiza kakhulu ukulawula ukhula kolayini.

Uma i-non-Clearfield sunflower noma i-Clearfield sunflower itshaliwe, i-cultivator yokhula esebezena ngokungashonile phakathi kolayini kungasetshenziswa ukulawula ukhula ngaphambi kokusebenzia i-Clearfield herbicide.

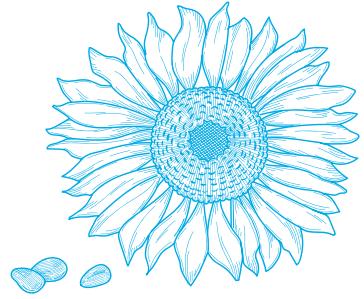
Ukulawulwa kokhula kubhekilanga kufanele kwensiwe ngaphambi kokuba umile. Lokhu kungenziwa ngaphambi kokutshala noma ngokufutha ubhekilanga ngaphambi kokuba uqhume. Ukuze uthole

iseluleko esihle funda amalebuli ama-herbicide ahlukena futhi ubale umehluko we-aplikhesi reythi.

i-Clearfield® and Clearfield® Plus cultivars kuni keza umlimi azokukhettha ukulawula ukhula olunamahlamvu abanzi i-post-emergence kubhekilanga. Amalebuli omkhiqizo kufanele afundwe noma afundisiswe ukuqondisisa ukuthi kunini nokuthi afakwa kanjani ama-herbicide ukulawula ukhula. ngaphambi kokuba kutshalwe isilimo esilandelayo.

Amanye ama-pre-plant nama-pre-emergence herbicides alawula kakhulu ukhula lotshani, kodwa amanye ama-herbicides nawo angalawula ukhula oluthile olunamahlamvu abanzi – nakuba lokhu kushintsha ngokwama-species okhula. Lezi zinhlobo zama-herbicides kudinga ukuthi zisetshenziswa enhlabathini) (njenge pre-plant





1

Ama-Herbicides arejistelwe ukulawula ukhula kubhekilanga nesikhathi esifanele sokuwufaka.

Izithako ezisebenzayo	I-HRAC group	Ukufakwa ngaphambi noma emva kokumila kokhula	Isikhathi sokulinda (Isilimo esincikile)	Ama-herbicides okhula arejistiwe ¹		
				Utshani Broadleaf	Amahlamvu Insikane	Abanzi
I-Clethodim	A/1	I-Post-emergence	7 - 30 izinsuku	X	-	-
I-Cycloxydim	A/1	I-Post-emergence	3 izinyanga	X	-	-
I-Haloxyfop-R-methyl ester	A/1	I-Post-emergence	3 izinyanga	X	-	-
I-Propaquizafop	A/1	I-Post-emergence	10 - 40 izinsuku	X	-	-
I-Quizalofop-P-tefury	A/1	I-Post-emergence	1 - 6 amaviki	X	-	-
I-Imazamox/imazapyr ²	B/2	I-Post-emergence	4 - 20 izinyanga	X	X	-
I-Flurochloridone	F1/12	I-Pre-emergence	6 - 18 izinyanga	X	X	-
I-Pendimethalin	K1/3	I-Pre-emergence	12 izinyanga	X	X	-
I-Triflularin	K1/3	I-Pre-plant	12 - 18 izinyanga	X	X	-
I-Alachlor	K3/15	I-Pre-emergence	Awekho	X	X	X
I-Metolachlor + Benoxacor (safener)	K3/15	I-Pre-emergence				
I-S-Metolachlor + Benoxacor (safener)	K3/15	I-Pre-emergence	Awekho	X	X	X
I-EPTC + Dichlormid (safener)	K3/15	I-Pre-emergence	Awekho	X	X	-
I-Metolachlor + Dichlormid (safener)	K3/15	I-Pre-emergence	Awekho	X	X	-
I-Metolachlor	K3/15	I-Pre-emergence	Awekho	X	X	X
I-Metolachlor + (safener)	K3/15	I-Pre-emergence	Awekho	X	X	X
I-Flufenacet	K3/15	I-Pre-plant	4 - 6 izinyanga	X	X	-
I-dDimethenamid-P	K3/15	I-Pre-emergence	Awekho	X	X	X
I-S-Metolachlor	K3/15	I-Pre-emergence	Awekho	X	X	X
I-EPTC	K3/15	I-Pre-plant	Awekho	X	X	X
I-EPTC + safener	K3/15	I-Pre-plant	Awekho	X	X	X

¹Ama-species okhula alawulwa yimikhiqizo izohlukana ngemikhiqizo. Amalebuli emikhiqizo kufanele afundwe futhi afundisiswe.

²Ingasetshenswa ne-Clearfield® noma Clearfield® Plus sunflower – funda iminininingwane kumalebuli.

herbicides) noma kuphakathi kuka-10 mm no-15 mm wemvula kufanele ine phakathi kwezinsuku eziyisikhombisa wokufakwa ukuze ama-herbicides agezeke angene enhlabathini. Khumbula ukufaka lezi zidingo ekukhetheni kwakho ama-herbicides.

Ukwehlukana, ama-post-emergence herbicides afakwa ngemuva kokuba selumiilile. Izithako ezirejistiwe zokulawula ukhula olunamahlamvu abanzi okwamanje zimbalwa Imazamox/imazapyr. Kodwa, lezi zinhlobo zama-herbicides zingafakwa kuphela ezinhlotsheni ze-Clearfield® and Clearfield® Plus sunflower. Ungakuzami lokhu kwamanye ama-cultivar njengoba kuzobulala ubhekilanga, njengoba sebeke ba-kubona abanye abalimi.

Ukuvikela ukuba nenkani kwama-herbicide inani lokuvuka epulazi-ni lakho, ama-herbicides anezinhlobo eziningi zokusebenza (noma i-HRAC groups) kufanele kube yiqiniso kumasistimu okukhiqiza. Uku-qaliswa kwesistimu yokujikeleziswa kwesilimo lapho ubhekilanga ejikeleziswe ngezibonelo nakho kuzosiza ukugwema ukungasebenzi kwama-herbicide.

Izithako ezisebenzayo ezirejistiwe njengamanje ukulawula ukhula kubhekilanga, kanye nohlobo lokhula (ihlamvu, utshani noma insikane) leyo ingalawulwa, kukhonjiswe ku-Thebula 1. Kodwa, kubalulekile ukupaphela noma yisiphi isikhathi sokulinda okungaxhumana nomkhiqizo ngoba lokhu kunga-afektha isistimu yokujikelezisa izilimo. ■

U-PIETMAN BOTHA, UMELULEKI WEZOLIMO OZIMELE NO-MARYKE CRAVEN, UMPHENYI OMKHULU, KWA-ARC SMALL GRAIN



Kungani UMGCINI-MABHUKU ewusizo

UMSEBENZI WASEPULAZINI UNGATHATHA AMAHORA. UKUQASHA UMGCINI-MABHUKU KUKUNIKEZA ISIKHATHI ESININGI SOKUGXILÀ EBHZINISINI LAKHO. UMA UNGENASO ISIKHATHI AKUFANELE UKHATHAZEKE NGO-KUHLELA AMABHUKU AKHO, UNGACHITHA ISIKHATHI ESININGI NAMANDLA ESIZINDENI SEMISEBENZI EBALULE-KILE YEBHZINISI LAKHO.

Njengomlimi, usomabhizinisi noma umnikazi webhizinisi omncane, ukukhathazeka kwakho okukhulu uma kwenziwa isinqumo sokuqasha umgcini-mabhuku noma umcwaningi mabhuku mhlawumbe yizindleko. Uzama ukonga imali futhi ungacabanga ukuthi ngeke ukwazi ukupasha umcwaningi-mabhuku. Zibuze lokhu: Nginingabenza ubungozi bokwenza iphutha? Sibaluleke kangakanani isikhathi sami? Ngabe isikhathi sokuba umnikazi webhizinisi engisichitha ngizama ukulungisa ama-return e-VAT, futhi kungaqinisekiswa ukuthi ashaya emhlolweni?

Amathuba okuqasha umgcini-mabhuku angawuhlomulisa emsebenzini wakho wokulima, njengoba zinesipiliyonu zokuphatha inqubo yebhzinisi ezifana nokulandela onke ama-transactions kanye nokugcinwa kwamarekhodi. Lokhu kuvikela amaphutha angenza amaphenathi okufayela amadokhumenti ngesikhathi esizayo.

Umgcini-mabhuku engakunikeza umqondo ongaphandle mayelana nokuthi ungakulawula kanjani ukuphatha kwebhajethi yakho nebhizinisi lakho uliphathe ngempumelelo. Angakufundisa izindlela zokunciphisa izindleko, akunikeze umqondo ophusile ekusebenziseni imali nokunye okuningi.

Nawa amafektha okucabanga ngesikhathi ukhetha umgcini-mabhuku:

- Umgcini-mabhuku kufanele akwazi ukukhombisa amarekhodi empumelelo, ikakhulukazi phakathi kwamaklayenti embonini yakho. Buza mayelana nokufunda kakhulu ngesithunzi somgcini-mabhuku kanye nokwethulwa kwezinsiza.



- Umgcini-mabhuku othembekile kufanele aqinisekise, nakuba izidingo zokuphatha komthetho wabagcini-mabhuku bengenaso isandla esiqine njengesabacwaningi-mabhuku. Ubocela ireferensi kumgcinimabhuku wakho abantu abangafakaza ngekhwaklithi yomsebenzi wakhe.
- Kubaluleke kakhulu ukuhlangana njalo wena wena mathupha nomgcini-mabhuku wakho, ngakho ungfuna umgcini-mabhuku endaweni yakini.
- Thola ukuthi izinhlaka zokukhokhela umuntu zimi kanjani. Kudinge ka umtshele ukuthi yiziphi izinsiza ozozidunga. Qhathanisa amanani phakathi kwabagcini-mabhuku.

Umgcini-mabhuku kufanele alazi lonke ibhizinisi lakho – okufaka phakathi indlela osebenza ngayo, obani othumela kubo ibhili nokuthi yiziphi izindleko zakho ezinkulu. Bazokhombisa ukuba nogqozi ukupinisekisa ukuthi ibhizinisi lakho liyathobela futhi nolwazi lutholakala ngesikhathi esifanelo. Uma amasistimu okugcinwa kwamabhuku ekhona futhi ekusebenzela kahle, ibhizinisi lakho lizobukeka liphrofeshinali kakhulu, lokho kukusho ukuthi imali uyisebenzise ngendlela. ■



U-JENNY MATHEWS,
UNGOTI WEZOKUPHATHA
NENTUTHUKO NOKUFUNDISA

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Isimo saphesheya kwezi- lwandle sinomthelela kwintengo yezilimo

NJALO NGONYAKA UMA IMELIKA (USA) IQALA ISIZINI YAYO YOKUTSHALA, IMAKETHE YOMHLABA YONA UQONDA EMAKETHE YESIMO SEZULU. LOKHU KUSHO UKUTHI OKWENZEKA EZILIMENI ZASE-USA KUNOMTHELELA OMKHULU EKUNYAKAZENI KWEMAKETHE.

Kule sizini yamanje, izimo zesilimo sikabhontshisi isoya kubonakalo isimo esehlayo kusukela ekuqaleni konyaka futhi isimo sakhona sehla kakhulu phakathi kukaJuni noJulayi, ngesikhathi isimo sifinyelela phansi ku-50% isimo esihle kakhulu. Okwamanje isilimo siku-54 ngokwesimo sobuhle kuye kwesihle kakhulu, uma kuqhathaniswa no-59% wesizini edlule. Lokhu kudala ukwenyuka kwentengo emakethe yamazwe.

Lesi simo sibizwa ngokuthi *yi-crop –scare rally*. Ngesikhathi isimo sezulu siba ngcono, le-rally isiphelile nentengo futhi nengcindezi yehla. Ngomhla ka 30 Juni, UmNyango wezoLimo waseMelika (USDA) yakhipha umbiko othi indawo etshale ubhontshisi isoya yande ngo-5% ngaphezulu kunalokho obekulindelekile ekuqaleni kanti indawo okutshalwe kuyo ummbila yona yehla ngo-5%. Ngakho ke, kwenza ngcono isimo sezulu nangaphezulu kwehekthare kufaka ummbila ngaphansi kwengcindezi, kodwa lo mbiko wakwazi ukwehlisa ukunyakaza kwentengo kabhontshisi isoya.

Amanani entengo athola ukwesekwa ngemuva kokuba i-Russia kwashiwo ngomhla ka 17 Julai lokho ngeke kwedlulele esivumalwaneni se-*Black Sea* phakathi kwama-Russia ne-Ukraine. Le sivumelwano shiso ama-cargo vessel/s angahamba esifundeni se-*Black Sea* ngokukhululeka, ngaphandle kokwesatshiswa kombutho nhlangothi zonke.

I-Russia izwe alisifuni leso sivumelwano futhi ngalokho ke yakhetha ukungaseluli. Lokhu kwaholela ekusekelweni kwentengo, njengoba imakethe yayinganaso isiqiniseko sokuthi lesi sinqumo sizoba nomthelela esimeni semakethe nokuba khona kokusahlamvu ne-oilseed.

Lolu hlobo lokudayisa lingathathwa njengolwesihawu noma uhwebo oluthinta umuzwa. Uma ubheka isithombe esikhulu, lolu daba lubukeka luthe ukwehluka. Uku-lindeleka kwesilimo esikhulu kule sizini kungaholela ekutheni isitokwe sokuvala sibe phezulu ekugcineni kwesizini ezayo. Ngakho ke, okulindelekile ukuthi intengo okusahlamvu angaba ngaphansi kwengcindezi emva kvesikhathi eside uma kubhekwa amafetha ayisisekelo. ■



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IPULA IMVULA IYATHOLAKALA FUTHI
NANGALEZI ZILIMI EZLANDELAYO:
IsiZulu, IsiNgi, IsiTswana, IsiSuthu, nesiXhosa.

Articles written by independent writers are the views of the writers and not that of Grain SA.

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Iphrogrammu eguqula izimpilo



Abalimi babonga kakhulu

ELINYE lamaqhinga athela izithelo asetshenziswa yiPhrogrammu eThuthukisa abalimi kwaGrain SA ukuqequesha nokuthuthukiswa kwamakhono. Le zi-fundo ziqukethi ithiyori namaphrakthikhali seshini futhi afundiswa ngolimi abaluqondisisayo abafundayo.

Le micimbi ibe nomthelela omkhulu emisebenzini yokuthuthuka abalimi eminyakeni eminingi. Amarekhodi anamuhla akhombisa ukuthi izifundo ese-zethuliwe zilinganiselwa ku-3000. Kunedimandi enkulu kubalimi yokufuna izifundo eziningi, ezikhava izihloko eziningi, ziyaqhube ka ngaphandle kwenkinya. I-Grain SA ibonga kakhulu ngokubambisana okwenze kwakhishwa iphogrammu yokuqequesha ewusizo njalo ngonyaka.

Siyabonga kakhulu ngoxhaso Iwe-Maize Trust ne-Oil ne-Protein Development Trust (OPDT), amathuba oqequesho olulandelayo enziwa ngoJuni:

- Kwethulwa izifundo ezimbili i-'Introduction to maize production' zethulelwa abalimi eMpumalanga neKapa.
- I-'Introduction to soybean production' yathulelwa ezifunda zase-Dundee nase-Louwsburg.
- Abalimi basezindaweni zase-Louwsburg naseDundee bethamela isifundo se-'Introduction to sunflower production'.
- Isifundo samakhoni phecelezi *practical skills nge-planter, ne-boom-sprayer calibration* sethulelwa endaweni yaseDundee.



Ngesikhathi sesifundo i-'Introduction to sunflower production', umqequeshi u-Timon Filter ukhombisa i-Study Group sase-Middelburg ukhombisa indlela yokuthathwa kwamasampuli enhlabathi. Baphinda bafunda kabanzi nge-planter calibration.

Abalimi BABONGA KAKHULU

ABANYE ababalimi abethamela izifundo ngoJuni, bayabonga kakhulu emva kwezfundo zokubaqequesha.

- 'Ngiyajabula ukuthi ukuqequesha kwaphumelela, futhi kwaba mnandi ukuba nale sifundo phecelezi *i-lecturer* ukufunda kabanzi ngokulima. Ngifuna ukuphindela futhi ngiyofunda izinto ezinkulu. Ingxene yephrakthikhali yaba yinhle kakhulu. Yonke into yayimi ngononina.'
- U-Samuel Ramothibe
- I-'Thiyori yayiyinhle kakhulu – yayicacile futhi saqondissa yonke into. Safaka namaqiniso ethu noma saqondissa ngokulima. Saphinda safunda nakubalimi abanolwazi. Safunda ukutshala, ukuthi kutshalwa nini kanye nesikhathi sokuvuna ubhekilanga. Safunda nokuthila inhlabathi kanye nama-implimenti ahlukena. Safunda ukulawula ukhula nezinambuzane kanye nokukhalibhretha *ama-sprayers* ethu. Ngafunda ukufaka umanyolo ensimini yami.' Saphinde safunda kabanzi ngogandaganda.
- UDokotela Tshoba
- Unolvazi oluningi futhi uwusizo olukhulu. Yethulwa kahle umqequeshi, owayechaza yonke into ngokucacile. Uno-lwazi olujulile. Kwensiwa izibonelo ezazisinika ukuqonda kabanzi. Siyabonga kakhulu! Ulwazi olubanzi lomqequeshi lwalisiza kakhulu iqembu. Umbukiso omuhle' Izimpilo zethu zingcono kakhulu kunesikhathi esedlule!
- U-Petrus Mtsweni



U-Timon naye wenza isiqiniseko sokuthi abalimi base- Pixley Study Group, abethamela isifundo i- 'Introduction to soybean', bafunda kakhulu ngesilimo sikabhontshisi isoya kanye ne-knapsack calibration. Iseshini yethiyori nayo ibanike ulwazi olujulile – konke lokhu bakuthole ngoxhaso Iwe-OPDT.