

PULA IMVULA

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IMAGAZINI YAKWAGRIN SA YOPHUHLISO LWABAVELISI



Ifoto yeGrain SA yokhutshiswano lwama-2021 – Gerda Kock

Ujikeleziso Iwezityalo Iusentloko ekulinyweni koojongilanga

UJONGILANGA SISITYALO ESIQHUBA KAKUHLE KWIMEKO ZEMBALELA XA KUTHELEKISWA NE-ZINYE IZITYALO. MHLAWUMBI KUNGENXA YOKO ETHANDWA KWIINDAWO ZASEMZANTSİ AFRIKA EKUNGALINYWA KAKHULU KUZO. ESI SITYALO SIAYINYAMEZELA IMBALELA KWYE SONA SINEENDLEKO EZIPHANTSİ ZEEMVELISO ZAMALUNGISELELO.

Ngenxa yokuba ujongilanga ekhula ngamandla kwithuba elifutshane, unethuba lokutyalwa leenyanga ezintathu, kanti uyifanele kakhulu inkqubo yojikeleziso Iwezityalo. Enyanisweni, ufanele ukutyalwa kuphela kwink-qubo yojikeleziso Iwezityalo – ngakumbi kwiindawo zembalela ezilima ehlotyeni.

Ujongilanga (*Helianthus annuus L.*) sisityalo sembewu yeoyile esifumaneka qho ngonyaka kwaye silinya ehlabathini jikelele kwindawo ezimlimayo malunga neehktare ezizigidi ezingama²⁶, ukuze oko kuhokelele kwiitonni zemetriki ezizigidi ezingama^{± 47,4} zembewu ngonyaka – isabelo sesi^{8%} sentengiso yembewu yeoyile ehlabathini. Ioyile kajongilanga yenye yeeoyile zemifuno ezibalulekileyo ehlabathini, ikholisa ukuse-tyenziswa kushishino lokutya ngokwenza iimveliso ngeemveliso zorhwebo ezinxulumene nayo ngenxa yomgangatho wayo ophezelu, wesiqualatho seprotheyini esiphezelu nokusebenziseka kwayo njengokutya.

Umyinge womhlaba ophantsi kokulinywa kukajongilanga eMzantsi Afrika ukususela ngo²⁰⁰⁹ (kwade kwango²⁰²¹) ziihektare ezingama^{552 000}, apho kweli thuba umyinge wemveliso elinywayo uziiton ezingama^{715 000}. Umhlaba ekulinywa kuwo ujongilanga eMzantsi Afrika

Ujikeleziso Iwezityalo Iusentloko...

usacukene kwiphondo laseFree State nelaseMntla Ntshona, wona omabini enza ama80% endawo yesizwe elinyiweyo (ngokomyinge) kwiminyaka elishumi edlulileyo.

Isakhono soojongilanga sokukhupa izivuno ezinika uzinzo naxa iimeko zemozulu zingafanelekanga, sakhono eso sikhatswa ziimpawu zabo ngokubanzi zokumelana nembaleta, yimiba eyenza ukuba esi sityalo sithandwe ngabalimi abakwiqingqi ezilima emhlabeni owomiley. Oojongilanga ngokunjalo banako ukukhupa isivuno emihlabeni enganomekiyo nalapho isichumiso besisincinane khona okanye xa bekungekho sichumiso songezelelwayo.

IIMFUNEKO ZOMHLABA

Singatsho ukuba ujongilanga uyakwazi ukuziqhelanisa noluhlu olubanzi Iweendidi zemihlabo kwaye ulimeka ngempumelelo apha isiquatho sodongwe lomhlabo sahluka kangange10% nama55%. Esi sityalo ngenene sesinye sezityalo ezimbalwa ezinokulinywa ngempumelelo emhlabeni onodongwe oluninzi. Nangona kunjalo, eMzantsi Afrika ujongilanga ulyinya ubukhulu becalo emhlabeni onesiquatho sodongwe esingaphantsi kuma20%.

Impawu ezilandelayo zomhlabo zingakuphazamisa ukulinywa kujongilanga xa zingalawulwa:

- **Isanti ephetshethwa ngumoya:** Ujongilanga angasisisulu sokonakaliswa ngumoya ngethuba lebanga lokuhluma kwezithole. Amaqondo aphezulu emihlabo angakuthintela ukuhluma.
- **Izhkhoko:** Umhlabo onokuba nesikhoko ungakuphazamisa ukuhluma.
- **Umhlabo ogwantye emanzini:** Kwiiveki zokuqala ezine emva kokutyla, ujongilanga angasisisulu sokugwantya kwamanzi.
- **Ubumuncu bomhlabo:** Ityhefu ebangelwa yialuminium nemanganese inxulunyanisa nemihlabo enobumuncu (iasidi). Ujongilanga sesinye sezityalo esiyinyamezel a kakhulu ityhefu yemanganese, kodwa sinobuntuntunu ggitha kvialuminium eggithisileyo. Umhlabo onePH engange<4,5 (KC ℓ) mawungasetyenziswa, kuba eli linqanaba apha ialmium enyitilikisiveyo yanda ngokukhawuleza khona.

IIMFUNEKO ZEMOZULU

Ujongilanga uziqhelanisa noluhlu olubanzi Iwamaqondo obushushu kwaye ulinywa kakhulu kwiqingqi ezbibharhileyo kwihiabathi liphelele. Ukuiya kweoyile nodidi Iweoyile ziimeko eziphenjelewa ngamaqondo obushushu. limeko ezikhokeleka kwisiqulatho esiphezulu seoyile nodidi Iwayo oluphezulu ngethuba lokuhloleka kwembewu ngamaqondo obushushu aphakathi.

Amaqondo obushushu okuntshula

Untshula phakathi kwe10°C nama31°C, ngelixa ubushushu obufanelekileyo bokuntshula bumalunga nama26°C. Phantsi kweemeko zaseMzantsi Afrika, amaqondo obushushu bomhlabo akholisa ukungabi nasithintelo ekuntshulen. Nangona kunjalo, amaqondo aphezulu obushushu angaba nefuthe emandleni okuhluma kwezithole, ngakumbi kwimihlabo eyisanti nakuleyo ixube isanti novunduvunu.

Amaqondo obushushu okukhula

Amaqondo obushushu angowona mbandela ubalulekileyo kuthelekelelo Iwesantya sokuphulla kukajongilanga. Njengoko kusiya ngokufudumala, isantya sokukhula naso siyanda. Ujongilanga uyakwazi ukunyamezel amaqondo obushushu abaxeleyo. Kwibanga lokuhluma kwezithole, uyakwazi noko ukumelana neqabaka futhi asinde nakwiqondo elingange -2°C. Emva kwebanga lamaggabi amathandathu (V6), uba nobuntuntunu obukhulu kwiqabaka. Ngebanga lokuhloleka kwembewu, uphindu akwazi ukumelana namaqondo obushushu aphantsi kangange -2°C.

Iimfuneko zamanzi

Xa kutelekswa nezinye izityalo ezilinywa emhlabeni, ujongilanga uyayinyamezel noko imbalela. Isixokelewano seengcambu esisebenza kakuhle nesidzulela enzulwini ngumbandela onegalelo ekunyamezelni kwakhe. Kanti naxa ethelekswa nezinye izityalo, ezifana nombona, ujongilanga unophawu lohlobo olulodwa lokuba iqondo lakhe lokuqalisa linemveliso ephantsi kakhulu. Oku kuthetha ukuba ngokwezfundo ezimalunga naye ukuphulla kweenkozo kuqalisa xa ukusetyenziswa kwamanzi kumalunga nama80 mm.

Izivuno zikajongilanga zithande ukuba phantsi kwiimeko ahambisana nazo naxa kuphezulu ukusetyenziswa kwamanzi. Iqondo lokuqalisa lezivuno eziphantsi lelona phawu libalaseleyo malunga nojongilanga olwenza kube yinto eyenzekayo ukulima ujongilanga ophucula uqoqosho kwiindawo ezithande ukubalela nasemihlabeni yesakhono esiphantsi.

IMIGAQO YOLAWULO

Ukulungiswa komhlabo

Ukulungiswa komhlabo ngendlela encomekayo kuyamphucula ujongilanga. Esi sityalo sizvela kakhulu iimeko ezingahambelani nasa ngethuba lokuntshula nasemva kwako, kukwanjalo nangokhutshiswano nokhula. Umandlalo olungiswe kakuhle wezithole kanye nokutshatalaliswa kokhula ngendlela encomekayo yimiba ebaluleke ngokubalaseleyo ekuqinisekiseni isiza esilungileyo.

Imihla yokutyla

Ukutalya kunokwenziwa ekuqaleni kukaNovemba kude cube sekupheleni kukaDisemba kwisiqingatha esisempuma kanti kungade cube sesipakathini kuJanyuwari kwisiqingatha esisentshona yeHighveld. Imihla yokutyla enokusetyenziswa ixhomekeka kumba wokuna kwemvula.

Iliqela imibandela ekufuneka iqwalaselwe xa kusensiwa isigqibo sokyutala okanye sokungatyali, eyile:

- Umonakalo onokwenziwa yiqaqab.
- Imbalela ngethuba lokuhloleka kweenkozo.
- Ukonakaliswa ziintaka.
- Amaqondo anokubakho aphezulu obushushu ngethuba lokuhluma. Umlimi onesicwangciso sokutyla ujongilanga njengesityalo esingundoqo makakhethe ukuhlwayera ngoNovemba kodwa makangade aphele uDisemba ukuze kufumanekisivuno ekujoliswe kuso. Xa ujongilanga elinywe selidlulile ixesha lokulima, ngakumbi ngoJanyuwari, isakhono sesivuno sakhe siya kuba phantsi.

Amanani esityalo

Izityalo ezinezithuba ezelungeleleneyo phakathi kwazo namanani afanele-kileyo zinika isiseko sesivuno esihle. Isakhono sesivuno salatha amanani esityalo afanelekileyo. limeko zesakhono esiphezulu zixhomekeke kumanani aphezulu esityalo. Kufunyaniswe ukuba enyanisweni amanani ezityalo angama30 000 ukuya kuma45 000 ngehektare ngawona afaneleke kakhulu.

Ubunzulu bokutyla kanye nobugcisa

Imbewu kajongilanga ayityalwa nzulu kangako. Emhlabeni onesiquatho sodongwe esiphezulu, imbewu ityalwa kubunzulu bama25 mm ukuze emhlabeni enesanti eninzi ubunzulu bube ngama25 mm ukuya kuma60 mm.

Ukukhethwa kwemihlanganisela

Ukukhethwa kwemihlanganisela ngumba obalulekileyo kwinkqubo yokulima, njengoko isivuno semihlanganisela emibini elinywe omnye ecaleni komnye sikholsa ukwahluka kangangeeton ezi0,5 ngehektare⁻¹. Ukuyikhetha kakuhle imihlanganisela yindlela elula nenexabiso ephantsi yokuphucula ukulinywa kukajongilanga kangangoko. Isivuno sembewu ngumlinganiselo obaluleke kakhulu kuvavanyo Iwemihlanganisela.

Kufanele ukuba kupphononongwe imibandela elandelayo xa kukhethwa imihlanganisela elungileyo:

- Isakhono esiphezulu sesivuno, ngakumbi malunga nobunzima beoyile.

- Isiqulatho esiphezulu seoyile.
- Uzinzo oluncomekayo (iingcambu ezipuhle kakuhle nezikhondo ezome-leleyo).
- Ukuphakama kwezityalo okulungeleleneyo.
- Umkelana nezifo.
- Ubude bexesha lokukhula.

Ukufakwa kwezichumiso

Ujongilanga ukholisa ukuphucuka xa kufakwe isichumiso senitrogen (N) nephosphorus (P) apho ezi ziqalelo bezinqongophole khona emhlabeni. Kubalulekile ukuba nayiphi inkqubo yezichumiso iseke kwiintloba zohlalutyo lwemihlaba. Oku akusayi kukhokelela kuphela kumanqanaba achanekileyo ezichumiso kodwa kungaphinda kuthintele iindleko ezingeyomfuneko.

Ngenxa yokuba ukufunxwa kwepotassium (K) ngujongilanga kuphezulu, ukholisa ukungabi yimfuneko ukufaka isichumiso seK. Ukujika kweencam zamaggabi aseantsi zibe mthubi kukholisa ukuba lumphawu lonqongophalo IweK olusuka lukhokelela ekufeni kweencam zamaggabi, ngelixa isiseko samaggabi sona sihlala siluhlaza. Ekugqibeleni la maggabi ayawa.

Ukufakwa kwezichumiso – ngokokuxhomekeka kwizivuno ezilinde-lekileyo nakwintsalela yeN emhlabeni – kuyahluka ngokoqhelaniso ukusuela emhlabeni ongatyebanga ngeN ukuya kulowo oneN engange140 kg ngehektare¹. I-N eqqithisileyo, okanye xa sifake kakhulu isichumiso, oko kungabangela ukusebenziseka kwamanzi okugqithisileyo, izifo zemingundo, ukuxinaniseka kanye nokunciphpa kwiinkulatho seoyile kwiinkozo.

Kufuneka kuqualwe ngokuchonga unqongophalo lweziqalelo zezixa ezi-cinane ezifana neiron, imanganese, icopper, izinc, nechlorine ngokuse-benzisa uhlalutyo lwezityalo phambi kokufaka isichumiso sokulungisa ingxaki. Ukuba kufakwa isichumiso apho kungekho nqongophalo khona, oko akusayi kusandisa isivuno. Enyanisweni, kukho umngcipheko wokuba iziqalelo zezixa ezincinane zingafikelela kumanqanaba okwenza ityhefu. Xa kunjalo, dibana nengcaphephe ezimeleyo ikuncedise ngokufumanisa in-gxaki nangokulungiswa konqongophalo.

Ukutshatyaliswa kokhula

Ujongilanga uluvela kakhulu ukhutshiswano lokhula, ngakumbi xa esekwibanga eliselula. Ukuba ukhula alutshatyaliswa ngendlela encomekayo kwiiveki ezintandathu zokuqala ukuya kwezisibhoso emva kokuhluma, kungalahleka isivuno esinokufikelela kuma50% xa kuthele-kiswa nebesinokufumaneka.

Ukutshatyaliswa kwezifo

Ukusasazeka kwezifo zikajongilanga kwahluka ngonyaka nonyaka, kux-homekeka kwiimeko zemozulu. Ezinye izifo zixhaphaka kwiminyaka yembalela, ngelixa ukuphuhla kwezinye kukhuthazwa yingqele naziimeko vezandyondyo zeemvula.

Nangona zininzi izifo ezinokuchaphazela ujongilanga, esona sinefuthe lenene kuqoqosho siSclerotinia esibolis iintloko. Eyona ndlela incomeka kakhulu nenoqoqosho yokulawula izifo kukulima imihlanganisela yezityalo emelana nezifo nokulandela imigaqo yolimo efanelekileyo efana nojikele-ziso lwezityalo, ukutyalu imbewu enyangiweyo kuphela kanye nococeko ngokususa izityalo ezichatshazelwe zizifo entsimini. ■

**UGQ SAFIAH MA'ALI, UMPHANDI KWIBANGA ELIPHEZULU:
ARC-GRAIN CROPS, POTCHEFSTROOM**



AMAZWI AVELA... kuDu Toit van der Westhuizen

SIBHIYOZELE IMPUMELELO YABALIMI BETHU NGO-OKTHOBHA NXAMNYE NOSUKU LOKUBHIYOZA E-BOTHAVILLE. MAZE UKHUMBULE UKUBA AKUKHO MFUNEKO YOKUKHUPHISANA NABANYE ABALIMI, NJENGOKO OKO KUKHOLISA UKUKHOKELELA KUDANO XA UNGAKWAZANGA KUFUMANA IZIPHUMO EZIFANA NEZABO. OKUPHUCUKILEYO KUKU-ZITHELEKISA NESIQU SAKHO. JONGA APHO UVELA KHONA – APHO UQUALISE KHONA NALAPHO UKHOYO NGOKU. ZIJONGE UKUBA INGABA UKHULILE KUSINI NA.

Ungaze uthandabuze ukucela icebiso xa kukho into ongayiqondiyo okanye ungazi ukuba okuthile kvenziwa njani. Zidibanise nee-ncaphephe ezinokuyiqwalasela kanye nawe ingxaki futhizikuncedise ukze uphucule umsebenzi wakho. Musa ukuzikhohlisa futhi ufanele ube nezinto ozfunde kumava akho exesa elidlulileyo – xa usazi ukuba uphosise phi kwixesha elidlulileyo lokulima, uya kuba sowusazi ukuba akunakuphinda wenze loo mposiso. Umzekelo, ukuba uqalise seli-kushiye kakhulu ixesa ngokulungisa umhlaba, qinisekisa ukuba oko akuphindi kwenzeke kwakhona.

Malunga nemisebenzi eyenziwa ekulimeni izityalo, iitrekta za-kho zifanele ukuba seziyifumene inkonzo yokulungiswa ngoku. Konke ukukhandwa kwazo kufanele ukuba sekugqityiwe. Qwalasela ukuvuza kwedizili koomatshini, njengoko seyiduru nakangaka kuba ithontsi layo ngalinye elimoshekayo lithetha ukunciphpa kwemali engena epokothweni yakho.

Amasimi akho afanele ukuba selelungisiwe ngoku. limvula ebe-zintle kwixesha lokulima elidlulileyo zikhokelela ekufumeni komhlaba okulungileyo. Tshabalalisa ukhula lwasebusika nolwasehlotyeni ukuze lungasebenzisi ukufuma komhlaba. Oko kufuma makugcinelwe izityalo hlez zibe kwithuba lomngcipheko wonqongophalo lokufuma.

limveliso zamalungiselelo zidru nangaphezulu kulo nyaka kunexesa langaphambili, ngoko ke, nciphisa naziphi ilahleko ezenze ka ngenxa yokumosha. Yiba soloko ucinga malunga neerandi kanye neesenti ngokuqinisekisa ukuba zingakanani iindleko zakho zeemveliso zamalungiselelo. Ukuba kumoshwe inxene enye kwe-zintlanu ezilingana nayo zengxowa yesichumiso, 'kulahlwe' malunga namaR200. Ukuba kubiwe imbewu ngenxa yokuba ingatshixelwa kakuhle, oko kuthetha ukuba kulahleke imali ebisepokothweni yakho.

Qiniseka ukuba bonke oomatshini nezitshizi zifakelwe imilinganiselo kakuhle. Ukuba umatshini ongenamilinganiselo usebenzisa isichumiso esingange180 kg endaweni ye130 kg, oko kuthetha ukuba isichumiso asisayi kwanelo sonke isityalo.

Langa eli xesha lokulima lingaba lihle njengelidlulileyo. ■

Zenzele uphando phambi kokuthenga itrektara



IMALI EZIFUNEKA EMSEBENZINI WOKUFAMA MALUNGA NEETREKTARA KUNYE NOOMATSHINI ZIPHEZULU KAKHULU. ITREKTARA ENTHA KULULA UKUBA IBE NEENDLEKO EZISI-R1 000 000 – KANTI OKO AKULIQUI-KI IXABISO LEZIXHOBO ZOKUSEBENZA, EZIFANELE UKUTHENGWA NAZO. NGOKO KE, KUBALULEKILE UKU-QINISEKISA UKUBA ITREKTARA OYITHENGAYO IYA KUZI-HLANGABEZA IZIDINGO ZAKHO.

Ukuba itrektara inkulu kakhulu okanye incinane kakhulu malunga nezidingo zemisebenzi yefama, loo ngxaki iya kukubangela iindleko eziphezulu. Ngumsebenzi onzima ukufumana nokuthengela ifama yakho itrektara okanye itrektara ezilungileyo, kodwa yinto enako ukwenzeka. Zibuze umbuzo olandelayo: Zingaphi futhi izeziphi itrektara endifanele ukuzithenga?

ISAKHONO SEMISEBENZI SENTSIMI

Ngomsebenzi ngamnye wokuhlakula nangobukhulu betrektara nganye, kukho isakhono semisebenzi sentsimi esidwelisiwego. Isakhono semisebenzi sentsimi sithetha ukuba zingaphi iihektare ezinokusetyenzwa yitrektara ngemini yeeyure ezili-10.

Ngezibalo nje ezimbalwa, unako ukuthelekelela isakhono setrektara semisebenzi sentsimi. Isakhono semisebenzi sentsimi ngehetkare ngemini yeeyure ezili10 = sisantya ngokweekhilomitha ngeyure x ububanzi bomsebenzi ngeemitha x isakhono sentsimi. Umandela wesakhono semisebenzi sentsimi uquka ixesha elichithwe ekujikeni iimpondo, ukuphinda kugalelw amafutha okubasela itrektara, ukuhlohlha imiqqomo yembewu neyesichumiso kumatshini wokutyala phakathi kweminye imisebenzi, ngoko ke, lilinganiswa ngokwedesimali. Enyanisweni, ngekuba isakhono sentsimi besithetha ukuba itrektara iya kusebenza ngazo zoli10 iiyure ngemini ngaphandle kokunqumama okanye kokujika.

Abalimi bayazi ukuba oku akufane kwenzeke. Kwiqela leentlobo zofundonzulu olwensiwe ngamasimi, kwafunyaniswa ukuba ngenxa yokuba itrektara ayitsali oomatshini kuphela aphoon bekungekhe kubenesidingo sokulayisha okanye sokuthula isichumiso okanye imbewu, ukujika iimpondo nokuphinda kugalelw amafutha okubasela kwitrektara konke oko kuchitha i17% yexesa lokusebenza. Oku kuthetha ukuba umsebenzi onokwenziwa ngama83% kuphela.

Malunga nokutyala, ukulayisha imbewu nesichumiso kungachitha ixesha elinokude libe ngama40%. Malunga nokutshizwa kwsityalo, ngama60% kuphela exesha akhoyo anokusetyenziselwa ukutshiza kanti elinye ixesha lelokuzalisa isitshizi. Ngokuqwalasela la manani

ezakhono kucacile ukuba abalimi bafanele ukuqinisekisa ukuba konke kuyenziwa ukuze kwandiswe izakhono zemisebenzi.

Xa unolu lwazi, unako ukufumanisa impendulo yombuzo othi zeziphi itrektara onokuzithenga. **K wiTheyibhile yoku-1 neTheyibhile yesi-2** kunikwe umyinge wezakhono zemisebenzi zentsimi zemisebenzi eyahlukileyo. Enyanisweni, la manani angahluka ukususela kumaxabiso enene, ngokuxhomekeka kwindlela encomekayo eqhutywa ngayo imisebenzi, kodwa asisithethe esifaneleke kakhulu. Ngokunjalo kunikwe iinkukacha kwezi theyibhile ngokwemihlabla eyahlukileyo.

Kwitheyibhile yezakhono zemisebenzi zentsimi, uluhlu olubhalwe 'kufuneka kW' lunika isalathiso samandla enene afunekayo ukuze kuqhutywe umsebenzi ngokwesakhono esixeliweyo semisebenzi sentsimi. Makukhunjulwe ukuba injini iyakwazi ukutsala ulwelo ngokwendalo phantsi kweemezo zeHighveld ingaphumeza malunga nama80% yamandla ayo njengoko elinganiswa ngokokuphakama kwamanzi olwandle. Injini etshajwa ngeturbo ibonwa ingenakulahlekewla ngamandla xa kusanda ukuphakama ngaphezu kokwandle.

Ngoko ke, ukuba itheyibhile yoku-1 yalatha ukuba kufuneka ama40 kW, kuya kusetyenziswa itrektara enamandla avakalisiwego ama40/0,8 = 50 kW. Ukuba itrektara ifakelwe itshaja yeturbo, itrektara yama40 kW etshajwa ngeturbo iya kulunga.

Ubukhulu obucetyiswayo betrektara buxeliwe kwiindawo ezithile kwitheyibhile yezakhono zemisebenzi zentsimi. Oku kwenzelwe imisebenzi ethile aphoon ubukhulu benene betrektara (ingengawo amandla etrektara) busalatha isakhono semisebenzi sentsimi malunga nomsebenzi.

- EMpumalanga nakwiziphaluka ezsämpuma ezifumana imvula ehlotyeni umthetho owamkelekleyleo kukuba umlimi ufanele abe ne0,75 kW/ngehektare kune ne1 kW /ngehektare yeenkozo elinyiweyo.
- Kwiinginqi ezséntshona kodwa ezifumana imvula ehlotyeni zeli lizwe abalimi basebenzisa phakathi kwe0,5 kW /ha ne0,75 kW/ha yeenkozo elinyiweyo. Ubukhulu becalo oku kwenzeka ngenxa yexesa elifumanekayo lokwenza ukuhlakula kokuqala ngokubamba ixesha lokutyala isityalo.

Umzekelo

Abalimi bangazisebenzia iikhontraktha kwimisebenzi ethile, kodwa kucetyiswa ukuba umlimi ngamnye azityalele ngokwakhe ngokunjalo nokutshiza kwithuba lokutyala izityalo, elikhola ukuba ziintsku ezingama20 zokusebenza. Ukuba umlimi utyale kwiihektare ezili100 kanti ukutyala kufanele ukwenziwa kwiintsku ezingama20 zokusebenza, oko kungathetha ukuba kufanele kutyalwe iihektare ezi5 ngosuku obona buncinane. Ukuze kutyalwe iihektare ezi5 kufuneka kulungiswe iihektare ezi5 zomandalo wezithole, kutyalwe ke ezo hektare zi5 kuze kutshizwe iihektare ezi5.

Zifanele ukwanela itrektara ezimbini zama50 kW, ezipana neFord 6600 okanye iMassey Ferguson 188, ukuvensa wonke umsebenzi ngexesa elifanelekileyo. Itrektara enye ingalungisa umandalo wezithole ukuze enye isetyenziselwe ukutyala nokutshiza. Kwenziwe isibalo esifumanise ukuba itrektara yama50 kW inako ukulungisa umandalo wezithole weehektare ezingama20, ityale iihektare ezili18 ukuya kwezingama26 ngokunjalo ingatshiza

1

Itheyibhile yezakhono zemisebenzi zentsimi malunga nesitshizi esoluliweyo.

Umatshini	Kufuneka kW	Isantya (km/h)	Ihektare/10-iiyure ngemini	Ubukhulu betrektara (kW)
Isitshizi esoluliweyo (N = 60%)				
6 m isolulo	20	6	22	40
8 m isolulo	25	6	29	50
12 m isolulo	25	6	43	50

Itheibhile yezakhono zemisebenzi zentsimi malunga noomatshini abahlukileyo.

Umatshini	Kufuneka kW			Isantya (km/ngey- ure)	Ihektare/10- iiyure ngemini	Ubukhulu be- trektara (kW)	
	Isanti	Umhlaba olukhuni	Umhlaba okhululeki- leyo				
Ikhuba lensimi (75 mm ubunzulu ngeN = 83%)							
kunye ne-erhe ekrazulayo encinane (65 mm ubunzulu nge N = 83%)							
Ububanzi 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	
Ikhuba elitshwezayo (200 mm ubunzulu, 300 mm, ukwenziwa kwezithuba neN = 83%)							
Ububanzi 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
Umatshini wokutyalu umbona (isichumiso esipheleleyo neN = 60%)							
2 x 0,91 = 1,82 m (ogxunyekiwego)		21	20	19	8	9	35
4 x 0,91 = 3,64 m (ogxunyekiwego)		33	40	29	8	18	40
4 x 0,91 = 3,64 m (ogxunyekiwego)		50	46	44	12	26	55
6 x 0,91 = 5,46 m (ogxunyekiwego)		74	68	65	12	39	75
Ikhuba elicombulula umhlaba (250 mm ubunzulu neN = 83%)							
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

ihekture ezingama 26 ubuncinane ngemini yeeyure ezili 10.

Ngoko ke, oku kungasebenza ngokuthi xa itrektara enye iqalise ngamalungiselelo kamandlalo wezithole ukuze enye iqalise ukutyalala. Itrektara esetyenziselwa ukutyalala ingaphinda isetyenziselwe ukutshiza izityalo ezilinyiweyo xa seyihamble imini. Ngemini elandelayo, itrektara ebisetyenziselwa umandlalo wezithole ungatshiza ngelixa ukutyalala kuqhuba.

Ukuba zombini iitrekta ziakwazi ukulima amasimi apho itrekta inye yenza phakathi kweehektare ezi5 ngosuku ukuya kwezisi7 ngo-suku, oko kungathetha ukuba intsimi ilinywa ngeentsuku ezingama 20.

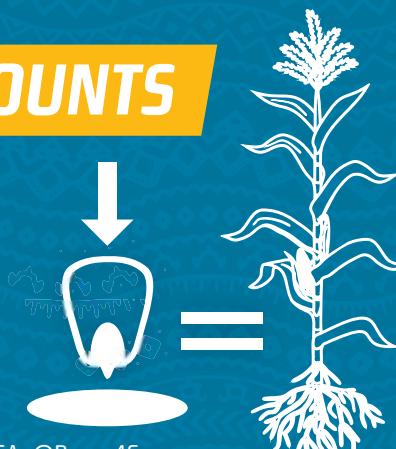
Ngokusebenza amanani eza-khono zemisebenzi zentsimi akwiitheyibhile, abalimi banako ukufumanisa ukuba zeziphi iitrekta abanokuzidibanisa xa bethenga. La manani angaphinda asetyenziselwe ukuqwalasela ukuba ingaba abasebenzi basefama bayawenza na umsebenzi wabo. ■



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UMCEBISIZOZIME-
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Uqikelelo Iwemozulu Iwexesha

Iokulima lasehlotyeni lango2022/2023



UKUSUSELA PHANTSE NGO2020 IINDAWO EZINIZI ZELI LIZWE ZIFUMENE UMYINGE OSISIQHELO UKUYA KUMYINGE OTHE KRATYA WEMVULA. IIMEKO ZEZIKHUKULA OKANYE UKUGWANTYA KWAMANZI ZENZEKE KWIINDAWO EZITHILE, ZABANGELA UMONAKALO KWIZITYALO NAKWIZISEKO ZEZIBONELELO. KWAZONA EZO MEKO ZOMTYADIDI WAMANZI UKUSUSELA NGO2020 ZAHLUKE KAKHULU KWIIMEKO ZEMBALELA EQATSELEYO KWIINDAWO EZINKULU ZELIZWE UKUSUSELA PHANTSE NGO2014 UKUYA KU2019.

Kutheni imozulu isahluka kakhulu kangaka? Oko kuwenza nzima kakhulu umsebenzi wokufama eMzantsi Afrika – iiyantlkwano ezahluka ngamaqondo aphezulu kangako ziba phakathi kwembalela eqatseleyo okanye iimeko ezimanzi ngokuqatseleyo kumaxesha okulima alandeelanayo.

Umandela obaluleke kakhulu obangela ezi yantlkwano ubizwa ngokuthi yiENSO (El Niño Southern Oscillation), oneenxalenyen ezmibini ezingundoqo iEl Niño neLa Niña. I-El Niño ikukufudumala okungahelekanga kombindi woLwandlekazi iPacific kunye neLa Niña epholisa le ndawo.

Le yindawo enkulukakhulu kulwandlekazi ukuze oko kubangele ukuba xa kukho amandla obushushu athe kratya okanye amandla obushushu aphantsi aphi, kutshintsha iinkubo zemozulu ezingqongwe yile ndawo. Nangona oku kusenzeka kumgama wamawaka eekhilomitha ukusuka eMzantsi Afrika, kuchaphazela eli lizwe ngokutshintshatshintsha iziqhelo zokuna kwemvula, oko kungenzeki eMzantsi Afrika kuphela kodwa kulo lonke ihlabathi.

Ifuthe le-El Niño kuMzantsi Afrika likholisa ukuba ziimeko zembalela kanti xa kugquba uLa Niña, kuba manzi. Ifuthe likaLa Niña liqale ukupuhula kwintlakohlaza yango2020, yaze yabangela iimeko zeemvula ezincomekayo eziqalise kwiindawo zelizwe ezsibantsi nezisembindini kodwa zanwenwela kwiindawo ezsentshona.

Nangona iLa Niña izisa iimvula ezincomekayo kwiindawo zaseMzantsi Afrika ezifumana iimvula ehlotyeni, ifuthe alisoloko lifana kulo lonke ilizwe – umzekelo, njengaseMpuma Koloni, aphi zinqongophele khona iimvula

ukuze oko kubangele imbalela eqatseleyo esekhona nasemva kokuqalisa kweLa Niña emva kweminyaka engaphezu kwemibini.

IMVULA

Singalindela ntoni kwihlobo elizayo?

Lisekhona ifuthe leLa Niña, kwaye kulindeleke ukuba liya kubakho kude okungenani kube sekupheleni kuka2022 okanye ekuqalen kuka2023. Kuya kuba sisihlandlo sesithathu kuphela ukususela ngo1950 aphi kuya kubakho khona iziganeko ezithathu ezilandeelanayo zeLa Niña, kuba iziganeko zeLa Niña zikhola ukuba zezexesa lokulima elinye kuphela – ukususela phantse ngoSeptember kude kuye phantse ekupheleni kuka-Matshi/Epreli.

Kuthetha ntoni oku ngokubhekiselele ekuneni kwemvula kwiindawo ezahlukileyo zelizwe, ngakumbi kwiindawo zeenkozo zasehlotyeni?

- **EMpumalanga, eGauteng, eMpuma Free State nakwiindawo ezsibantsi zaKwaZulu-Natal:** Kulindeleke imvula engumyinge osisqhelo ukuya kwengaphezulu komyinge osisqhelo ukususela phantse kuOkthobha ukuya kujanyuwari. Kungenzeka ukuba izandyondyo zeemvula ziphinde zibangele iimeko ezimanzi kakhulu nezokugwantya kwamanzi ukususela phantse ngoNovemba. Iimeko ezithande ukoma zisenokubakho ukususela phantse kuFebruwari ngo-2023, ngoqikelelo IweLa Niña oluya kwetha ukususela ngo2023 esaqala.

- **lindawo ezsibantsi KwaZulu-Natal neendawo ezsibantsi eMpuma Koloni:** Kulindeleke imvula engumyinge osisqhelo ukuya ngaphezu komyinge osisqhelo enokubakho kude cube ngoDisemba, kodwa engumyinge osisqhelo ukuya kwengaphantsi komyinge osisqhelo ilindeleke kwinxenye yesibini yehlobo ukususela phantse ngo-Janyuwari/Februwari ngo2023.

- **EMntla Ntshona, eLimpopo nakwiindawo ezsibantsi ukuya kwezisentshona zaseFree State:** Kulindeleke imvula engaphantsi kumyinge wesiqhelo kude cube nguSeptember/Okthobha, kodwa ukususela ku-Novemba ukuya kujanyuwari kulindeleke imvula engumyinge wesiqhelo ukuya kwengaphezulu komyinge osisqhelo. Ngenxa yokwetha kweLa Niña okulindelekyo, kungenzeka kakhulu ukuba kubekho iimeko zembalela ukususela kwinxalenyen yesibini kuFebruary 2023.

- **UMntla Koloni, iindawo ezikude nolwandle nezisembantsi zase-Mpuma Koloni nezisembantsi ezikude nolwandle zaseNtshona Koloni:** Kulindeleke imvula engaphantsi kumyinge osisqhelo kude cube malunga no-Okthobha, kodwa ifuthe lemvula lingaphucuka ukususela ngoNovemba/Disemba phambi kwexesha lembalela embi enokubakho kwithuba eliphambi kobusika ukususela kuFebruwari/Matshi ngo2023.

- **Ingingqi yemvula yasebusika:** Kungabakho imvula engaphantsi komyinge osisqhelo kwindingqi efumana imvula ebusika ukususela phantse kuEpreli ngo2023, meko leyo eyalatha ukupala komjikelo omtsha wembalela.

ISIPHUMO SOKUTSHINTSHA KWEMOZULU

Nangona kucacile ukufudumala kwehlabathi, likhona nefuthe elichaphazela ukuna kwemvula kangangokuba kude kubangele ukwehla kwamaqondo obushushu kwezinye iindawo kumaxesha athile onyaka.

limvula eztithe kratya kwiindawo ezifumana imvula ehlotyeni zithande ukuna kwiinyanga zasehlotyeni (kuNovemba ukuya kuEpreli), kodwa zinqqabe iimvula zasebusika nezasentlakohlaza (kuMeyi ukuya kuOkthobha). Ipesenti yemvula ena ebusika nasentlakohlaza iye yancipha kwizithili ezifana nesaseWesselsbron eFree State – ukususela phantse kuma25% emvula iyonke ukususela ngo1970 ukuya ku2000, yaze yangaphantsi

kwi10% ukususela ngo2008. Esi sesinye sezizathu ezsientloko sokuba ukulinywa kwengqolowa yasebusika emhlaben iowomileyo eFree State kungasaqhutywa ngamandla.

Imvula yasehlotyeni (iyonke ngoNovemba, ngoDisemba nango-Janyuvari) yande ukususela phantse kuma40% emvula yonyaka iyonke (kwithuba eliqala ngomhla woku1 kuJulayi ukuya kowama30 kuJuni) ukususela phantse ngowe1990 ukuya phantse kuma50% emvula ena ngoku iyonke. Oku kuluncedo kakhlulu ekulinyweni kwezityalo zasehlotyeni.

Kukwakho notshintsho kwimihla yokugqibela yeqabaka kwiindawo ezithile. Imihla yokugqibela yande kwawona mashumi eminyaka asandul' ukudlula amabini, ngeentsuku ezili10 ukuya kwezingama30. Kutshintshe umyinge osisihelo wemihla yokugqibela yeqabaka kwizithili ezifana ne-Douglas eMntla Koloni ukususela phantse ngomhla we10 kuSeptemba phambi kuka2000 ukuya kumhla wesi7 kuOkthobha wangoku.

Oku kwandise umngcipheko womonakalo obangelwa yiqaqabaka kwiqolowa ebusika ngakumbi kwiindawo ezinkcenkceshelayo zaseNtshona Free State naseMntla Koloni ukuya kumanqanaba abeka isakhono senzu zo emngciphekweni. Kwenze ukuba abasebenzisi beeinshorensi bayiyeke i-inshorensi yeqabaka kwizityalo zasebusika okanye basebenzise ukhuselo lwayo kwiindawo ezithile kuphela. Kanti nako oku kukwangumngcipheko onobuzaza xa izityalo zasehlotyeni zikhawuleze zalinywa kwangoko nakwizityalo ezifana namangondomane epecan kunye neediliya.

ISISHWANKATHETO KUNYE NEENGCEBISO

- Kulindeleke imvula engumyinge osisihelo ukuya kwengaphezu

komyinge osisihelo ukususela malunga kuOkthobha/Novemba kude kude kude nguJanyuvari/Februwari kwiindawo ezininzi ezifumana imvula ehlotyeni.

- Imvula engaphantsi kwengumyinge osisihelo ilindeleke ebusika bango2023 kwindingqi efumana imvula ebusika oko kuthetha ukuqalisa komjikelo wembalela.
- Umngcipheko weqabaka efike emva kwexesa kwiindawo ezsembindini ukuya kwezisemzantsi zelizwe uphezelu kakhlulu kanti iqabaka ingaba khona kude kude kude nguOkthobha.
- Inqanaba lotshintsho lomjikelo wangoku wemvula eninzi ukuya kwithuba lembalela mhlawumbi kufikelelwu kulo kummandla ofumana imvula ebusika kodwa kungenzeka ukuba liqalise ukupuhlu ukususela phantse ngo2023 kummandla osebindini ukuya entshona ofumana imfula ehlotyeni. ■



JOHAN VAN DEN BERG,
INGCALI EZIMELEYO YOQIKELELO
LWEMOZULU KULIMO

UKHUSELO

KUQALA – 4

Ukulwa nomlilo: *Zilungiselele*



U WISOMTHETHO LUFUNA UKUBA UMQESHI ABE NOLUNGISELELO LWEZIXHOBO ZOKULWA NOMLILo KUNYE NEMITHETHO YOKHUSELO UKUQINISEKISA UKHUSELO KWINDAWO YOKUPHANGELA. NGOKO KE, UMQESHI MAKAINISEKISE UKUBA IZIXHOBO ZOKUCIMA UMLILO ZIGXUYEKIWE APHO ZIFUNEKA KHONA. EZI ZICIMIMLILO ZINAKO UKUKHUSELA ABASEBENZI KUNYE NEZINYE IZIXHOBO ZOKUSEBENZA.

Ziyafumaneka kwiindawo zeentengiso iintloblo ezaahlukahlukileyo ze-zicimimli (ezifana nomgubo, iCO₂ kune nogwebu). Kanti zikwatengiswa ngobukhulu obushiyashiyayanayo. Uhlalutyo lwemingcipheko luya kwalatha uhlollo (nobukhulu) obufanele ukugxunyekwa kwindawo yakho yomsebenzi. Kukwabaluleke kakhlulu nokuba nezixhobo zokucima umlilo ngamanzi eziqhutywayo efama. Ezi zixhobo zifanele ukuvavya rhoqo, naxa imililo ingenakulindeleka.

Abasebenzi bafanele ukufumana uqequesho oluyimfuneko ukuqinisekisa ukuba bayakwazi ukumelana nemeko yonxunguphalo. Ngethuba loqequesho, abasebenzi mababoniswe indlela yokukhetha isicimimli esifanelekileyo. Izicimimli mazibekwe kwiindawo ezithile ngokokuxhomekeka kwimpahla efanele ukukhuselwa. Ngethuba loqequesho, abasebenzi mabafunde ngokunjalo indlela yokulwa nemililo emikhulu bafundiswe nangezinto abafanele ukuzikhanga.

Umqeshi makaqinisekise ukuba zonke izicimimli zinikwa inkonzo yokuzilungisa rhoqo ngokusebenzisa iqumrhu elinemfanelo njenge-SAQCC- kune neSABS. Ikhontraktha mayinike umqeshi ubungqina besiqinisekiso. Ngokunjalo ubungqina benkonzo yokulungisa isixhobo nabo mabubekwe kuso isicimimli ukubonisa ukuba siyazihlangabeza iimfuneko zasemthethweni.

Ufikelelo kwicicimimli malungabi nazinthitel. Makubekwe imiqondiso yokhuselo aplo isicimimli sigxunyekwe khona. Akukho zimpahla nazingxobo zifanele ukulahlelw phezu kwezicimimli. Zonke izixhobo zokucima umlilo mazihlolwe qho ngenyanga. Olu hlolo malubhalwe phantsi kwirejista njengesiqinisekiso sokuba eso sixokelewano siqwalaselwe. Umphathi/umongameli makaxelewne ngazo naziphi na iingxaki ezivelayo.

Ukhuselo lwabasebenzi malusoloko lubekwe ekuqalen. Abasebenzi basenokuqeqeshwa naxa kucinywa umlilo kwisakhwo okanye kwisithuthi. Kanti neenombolo zemeko yonxunguphalo mazibekwe kwindawo yokuphangela. Kwimeko yonxunguphalo, umsebenzi onyuliweyo makaqhagamshelane nabeenkonzo zemo yonxunguphalo. ■

UCHARL SAAYMAN, UMCEBISO WEMPILO NOKHUSELO
EMEGA HEALTH AND SAFETY

Thintel*iSclerotinia* kwimveliso yembewu yeoyile

SISONDELE KWIXESHA LOKULIMA ELITSHA KWAYE ABALIMI BAFANELE UKUKHETHA IZITYALO ABAZA KUZILIMA, KWAYE BEZA KUZITYALA NINI FUTHI BAZIKHULISE NJANI. KUBALULEKILE UKUYIQONDA IMINGCIPHEKO YESITYALO NGASINYE – NOKUBA NGUMBONA, UJONGI-LANGA OKANYE ZIIMBOTYI ZESOYA.

Kwixesha lokulima lango-2021/2022, isifo sesclerotinia sidale ingxaki enku lu ebebejongene nayo abalimi boojongilanga nabeembotyi zesoya. Emntla ntshona kukho amasimi oojongilanga ebenosulelo olufikelele kuma 80%, nobelunefuthe elikhulu kwingeniso kajongilanga.

Omnye umngcipheko ochaphazela zonke izityalo yimozulu. Kubalulekile ukuqonda okunokwenzeka malunga nemvula ngokunjalo nokufumaneka ngokubanzi kwemvula kwixesha lokulima lilonke. Kwingingqi ezilinywa entshona, kulindeleke ngamandla ukuba kubekho imbaleta phakathi kwixesha lasehlotyeni kwaye abalimi kufuneka ba-kuaphele oku. Kubalulekile ukucwangcisa imihla yakho yezityalo neyokutyalu malunga nala maxesha eembalela ezilindeleke phakathi ehlotyeni.

Ukuze ukwazi ukulawula umngcipheko onokubakho wesifo, ufanele ukumqonda futhi umlawule unxantathu wesifo. Ukuba isityalo esingu-makkeli singaba sisisulu sesifo esithile, kanti kukho intsholongwane ebangela isifo kunge neemfuneko ezithile ezingqonge ubume bosulelo ngenxa yentsholongwane futhi zonke ezi meko zifumaneka ngexesha elifanayo kwibanga elifanelekileyo, oko kungakhokelela kugqbhuko lwasifo.

Koojongilanga nakwiimbotyi zesoya, ukupuhlu kwezifo okuxlumene ne S. sclerotiorum kuxhomekeke ngamandla kubume obungqonge nobuthandwa zezi zifo – iimeko ezipholileyo, nezine-emvula ezaneleyo kunge neyondelelwano (ukuhlwayela izityalo ngokuzisondelenisa kunge nezithuba phakathi kwemiqolo), apho ukujikeleza komoya kucinezeleke khona. Oku kudala imozulu engephi efanelekileyo yokupuhlu. limboti zesoya noojongilanga baba zisisulu zeSclerotinia ngakumbi ngexesha lokudubula kweentyatyambo. Ngoko ke, xa kuvela amalungu asabukomity eziqhamo kwiveki enye ukuya kwezimbini phambi kokudubula kweentyatyambo, kungenzeka ukuba kukho izipora ezibumbeke kweli banga lomjikelo wobomi besityalo.

I-SCLEROTINIA

I-Sclerotinia sisifo esinokwenzeka kwixesha lokulima lango-2022/2023. Umlimi angenza ntoni ukusithintela? Ngelishwa, akukabikho sisombululo silula. Xa isifo seSclerotinia sihlasela isityalo, kunzima kakhulu ukutshiza isityalo – ngoko ke umlimi makazame ukuthintela iSclerotinia kwizityalo.

Uthintelo lweSclerotinia ngumsebenzi onzima kwaye yonke imiba yokulinwa kweenkozo mayibandakanywe kuthintelo lwesti sifo. Oku kufanele ukuqalisa ekukhethweni kwemihlanganisela, umhla wokutyalu, ukufakwa kwsichumiso kwisityalo kunge nokuhlolisa isityalo rhoqo ukukhangela amalungu asabukomity eziqhamo.

Ukukhethwa kwemihlanganisela kusetyenziselwa ukulawula umhla olindelekileyo wethuba lokudubula kweentyatyambo phucukileyo. Ngokusebenzisa ucwangciso lokutyala lwmehlanganisela emibini okanye ngaphezelu kwithuba elithile lokutyala, umhla wokudubula kweentyatyambo ungalawuleka kakuhle. Apho kukho khona iSclero-



Imisikeko egwantye emanzini koojongilanga.



Ingxam yomngundo esabumqaphu kwiintloko zoojongilanga.

tinia, asingabo bonke oojongilanga abanokudubula ngexesha elifanayo. Oku kungathintela isifo seSclerotinia ekusuleleni zonke izityalo.

Kwiscwangciso esinjalo, sebeniza iiyantlukwano zamathuba odidi lokukhula nawokudubula kweentyatyambo phakathi kwemihlanganisela ngokusebenzisa imihlanganisela ephakathi nelandela emva kwexesha eya kudubula ngamaxeshu ahlukahlukileyo. Kwakhona, kufuneka usebenzise imihlanganisela enqamlezana kanye okanye emizila-mithathu kwiscwangciso ukuze uyilawule ngobuchule ipesenti yokutyalu esekudubuleni kweentyatyambo ngosuku oluthile. Oku kuya kuwethisa umngcipheko wobukho beSclerotinia.

Umba wesibini abafanele ukulawula abalimi kukukhetha izichumiso. Qiniseka ukuba isityalo sifumana isichumiso ukuze singadodobali. Kubalulekile ukuba isityalo singafumani kuphela initroge (N) iphosphorus (P) nepotassium (K), kodwa kubekho necalcium (Ca), isulphur (S) necopper (Cu). Ezi ziqaletlo zincinane ziyakwazi ukunceda isityalo xa sikwithuba iododobalo, nokuba yimbalela okanye sisandyondyo semvula.

Abalimi kufuneka bajikelezise izityalo zabo. Apho kubekho khona oojongilanga abakwipesenti ephezelu yeSclerotinia, oojongilanga



mabangaphindi batyalwe kuloo masimi kwakhona kwiminyaka emithathu obona buncinane. Ukuphethulwa komhlaba nako kuya kunceda ngokuthintela iSclerotinia. Ukuhlakulwa kwamasimi kuya kunceda ngokuthintela iSclerotinia, kodwa besesikhona iSclerotinia amathuba ohlaselo IweSclerotinia aphezulu kakhulu. Izityalo zokhuselo nazozinganceda ekuncitshisweni komngcipheko weSclerotinia.

Ukhula luya kusoloko lusiba yingxaki. Ngoko ke, ukulawula ukhula ngeyona ndlela incomekayo kubaluleke kakhulu. Olunye ukhula olufana necosmos nolunye ukhula Iwamaggabi abanzi Iwaziwa njengabamkeli beSclerotinia. Ukhula ludobabalala oojongilanga, ukuze oko kukhokelele ekubeni iSclerotinia sisulele isityalo.

Qiniseka ukuba wenza konke onako ukukwenza ekulawuleni amaqondo ododobalaliso lwestiyalo.

Ukuze silawuleke ngendlela encomekayo iSclerotinia, kubalulekile ukuchongwa kwamalungu asabukomityi eziqhamo kwangoko ukunceda abalimi ngokuthatha amanyathelo phambi kokuqapheleka kwemiqondiso. Imiqondiso ebonakala kuqala iquka imiskeko egwanyta emanzini (**Ifoto 1**). Le misikeko iphuha ibe yingxam yomngundo esabumqaphu kwiintloko zoojongilanga (**Ifoto 2**) kunye nemidumba yoojongilanga, ngokunjalo nakwizikhondo (**Ifoto 3**) yoojongilanga ngokunjalo neembotyi zesoya. Ekuggibeleni, xa isifo siqhubela phambili, kupuhlu ingxam yomngundo emhlophe ejika ibe zizicuku zomngundo eziqinileyo ezimnyama. (**Ifoto 4**). Ezi zicuku ese-zizinile zomngundo ziba likhusi leentsholongwane eziphila phakathi kwamaxhesha okulima futhi naphantsi kweemeko ezingafanelekanga.

Kwakuba kubonakele amalungu asabukomityi eziqhamo, qaphela ukupuhlu kjesifo okunokwenzeka kwiimeko ezifanelekileyo eziwangqongileyo. Ukuqwelasela ukuvela kwamalungu asabukomityi eziqhamo kusoloko kubalulekile ekwenzeni iziqqibo malunga nokupumeza ulawulo Iwezifo. Malunga noncedo ngokuchonga amalungu asabukomityi eziqhamo, thumela ifoto kuGq Miekie Human, igosa lophando nemigaonqubo yaseGrain SA apha, *miekie@grainsa.co.za*.

Zimbalwa iihemikhali zokubulala umngundo ezbihaliswayo malunga neembotyi zesoya noojongilanga eMzantsi Afrika. Zona ziuka iazoxystrobin, ibenomyl, icypredinil, iepoxiconazole, ifludioxonil, iprocymidone nepyraclostrobin. I-benomyl ngoku ibhaliswe njengonyango loojongilanga, kanti iprocymidone sisithako ekuphela kwaso kuphela esibhaliselwe ukutshabalala umngundo weSclerotinia ezi-khondweni zeembotyi zesoya. Ileyibheli ebhalisiwego yerusi kwiimbotyi zesoya, enezithako ezisebenzayo yipyraclostrobin ne-epoxicnazole, yalatha ukuba ikhemikhali yomngundo inganako ukunciphisa ukubola kwasikhondo ngenxa yeSclerotinia (AVCASA, 2019).

Isigqibo sokutshiza okanye sokungatshizi sixomekeke ekuhlalutyweni komngcipheko okhoyo, kwaye kuqaliswa ngokubeka iliso eku-

veleni kwamalungu asabukomityi eziqhamo. Ungazihathi ngokuthi kulula ukulawula isifo seSclerotinia. Elona cebiso libalaseleyo kukusinthintela nokusebenzisa imigaqo yokufama elungleleyo.

Ngeenkukacha ezithe vetshe, nceda uqhagamshelane no-Corné van der Westhuizen wasePannar Seed apha 082 570 8240 okanye iGq Miekie Human apha *miekie@grainsa.co.za*, okanye utelele iwebhusayithi yaseSouth African Sclerotinia Research Network (SASRN) apha www.sclerotinia.co.za. ■



3



4

Ukuboliswa kwsikhondo siscleotinia.

Ifoto: UGq Lisa Rothmann



PIETMAN BOTHA, MOTHUSI YA IKEMETSENG WA TSA TEMO, LE CORNÉ VAN DER WESTHUIZEN, SETSEBI SA TJALO YA DIJALO MANE PANNAR SEED

Iqela elibeka abalimi beenkozo phambili

ICANDELO 2

-GRAIN SA NGUMBUTHO OMALUNGA NEEMVELISO ZORHWEBO OZIMELEYO NOSEBENZA NGOKUZHANDELA. UYIMBUMBA ENOMDLA KWIMPILONTLE YOQQOSHO LWABALIMI BEENKOZO BASEMZANTSİ AFRIKA. IINKOKELI ZASE- GRAIN SA EZIMELE ABALIMI BEENKOZO ZIFANELE UKUKUTHAKAZELELA UKUTHETHA FUTHI ZITHETHE NGOKUPHA- NDLE EGAMENI LABALIMI NGEMIBANDELA EBALULEKILEYO. KHAWUDIBANE NELI QELA: DIBANA NELI QELA



URamoso Pholo

(Ingingqi yama28)

Lo mlimi onamava oRhwebayo we-New Era ulima umbona, oojongilanga kune neembotyi kwisithili saseMooifontein ngaseLichtenburg eMntla Ntshona. URamoso ngomnye wamalungu angabalimi akudala eGrain SA. Ungumlimi onothando olushushu, none-nzondelelo yokukhulisa ishishini lakhe lokufama naxa kukho imingeni emininzi efana neembalela ezitshabalalisayo ebejongene nazo kwiminyaka eliqela eMntla Ntshona. Ulilungu leKlabhu yeeToni ezingama500 yodumo futhi ekwagumthathinxaxheba kwiNkqubo yaseGrain SA yabaLimi abakwiBanga eseliPhambili. URamoso ukhethwe ukuba abe kwiKomiti yabaBhexeshi kulongamelo lwemibandela ebalulekileyo kwimisebenzi yemihla ngemihla eqhutuya ngumbutho.



UMaseli Lethuka

(Ingingqi yama31)

Lo mlimi onamava oselekhlile uqhube ukufama ngengqolowa, umbona, iimbotyi kune neembotyi zesoya kwiminyaka eliqela, kune necala lokufuya impahla. Imihlaba yakhe yokufama ikwingingqi yaseQwaqwa neyaseKestell kwiMpuma Free State. Iminyaka emininzi yamava kaMaseli ikhokelele ekubeni abe lilungu leKlabhu yeeToni ezingama500 yaseGrain SA nendlalifa yeNkqubo yabaLimi abakwiBanga eseliPhambili. Selekuqhelile nokumela abalimi kwimikhankaso ye-zolimo. Ngo2006 uphumelele 'kwiNkqubo yoPhuhliso lobuNkokeli kwezoLimo' yaseAgri SA (Agriculture Leadership Development Programme). Uzibandakanye kwiqela leekomiti neebhodi enika inkonzo kuluntu oluqhuba umsebenzi wokufama.



UMusa Thomas Sibiya

(Ingingqi yama29)

UMusa ufama kuMasipala wesiThili iGert Sibande eMpumalanga, kufuphi needolophu zaseAmersfoort, eVolksrust nase-Wakkerstroom. Ungumlimi oRhwebayo weNew Era, ofama ngeenkozo kwaye uneca- la lokukhulisa imfuyo kwishishini lakhe lokufama. Usoloko elilungu eliququzelayo laseGrain SA kwiminyaka emininzi ngokunjalo usoloko elilungu elikhutheleyo leqela lufundonzulu iPixley Ka Seme kufuphi eDaggaskraal. Ukwalilungu leKlabhu yeeToni ezingama250 kwaye ebenenxaxheba kwiNkqubo yabaLimi abakwiBanga eseliPhambili. Ngala mava nempumelelo amvulele ithuba lokuba kwesti sikhundla sokokelo.



UPatrick Stuurman

(Ingingqi yama33)

UPatrick ufama kufuphi naseMatatiele kwisiThili saseAlfred Nzo kwaye ulilungu eliququzelayo leQela loFundonzulu iOngelusnek. Uphawu olubaruleke kakhulu Iwenkokeli luthakazelelo Iwakhe lokuhlala enolwazi, esoloko efunda futhi ehamba ngokwamaxe- sha ophuhliso lishishino nemibandela enonxuluman. Kulo nyaka, uPatrick uphumelele kwezi zifundo zoqeqesho 'Ukfamela ukufumana inzuzo' ekunye neqela labalimi abatsha kwiningqi yakhe. Umqequeshi, uEric Wiggill, ulincomile eli qela labafundi esithi ngabalimi abazimisele kakhulu. Kweli xesha lokulima, uPatrick uzibandakanye kwiprojekthi yeGrain SA/AB InBev waze walima iihektare ezingama50 zombona. Ufumene uncedo kwiningcebiso azifumene eyedwa kuLuke Collier nakuEric Wiggill kulo lonke ixesa lokulima. ■



UAlfreda Mars

(UAlfreda Mars)

UAlfreda ngumlimi weenkoco nomfuyi wempahla ofama ngaseMoorreesburg kwiningqi yaseSwartland eNtshona Koloni. Waphuhlisa uthando Iwakhe lokufama eseyintombazana eselula esebeza noyise owayenomhlaba eCeres nakwiKaroo. Ngaphandle kwemisebenzi yakhe yokufama, ukwagumcebisi wabalimi abasakhulayo kwiningqi yaseSwartland neyaseWinelands. Ngowama2017 uAlfreda wabhalisa eSyngenta Grain SA Leadership Academy ukuze aphuhlise izakhono zakhe zokukhokela. Ukhethwe njengelungu lesigqeba esilawulayo lengingqi yama30 ngo2019 kanti ukwanguhbhexeshi wequmrhu elingangenisi nzuko leBredasdorp Park (NPC).



JENNY MATHEWS,
INGCALI NOMHLOLHI
WOLAWULO NOPHUHLISO

Zazi izonakalisizityalo zakho: Impehla yesikhondo sombona yaseAfrika

ZONAKALISIZITYALO ZELEPIDOPTERAN EZIFANA NEMPEHLA YESIKHONDO ZIBANGELA UMONAKALO OMKHULU EMASIMINI OMBONA, OKHOKELELA KWIILAHLEKO EZINKULU ZOMBONA. KUNYANZELEKILE UKUBA ABALIMI BAKWAZI UKUCHONGA EZI ZONAKALISIZITYALO UKUZE BAZITSHABALALISE KWANGOKO NGESETI EFANELEKILEYO YEZIXHOBO ZOKUSEBENZA.

Ukubhabha kovivingane kuqalisa kuOkthobha kuze kwenzeke kuMzantsi Afrika uphelele, ngaphandle kweengingqi ezingaselunxwemeni neziphaluka zeLowveld. Ukubhabha kovivingane kwenzeka kwizihlandlo ezithathu ngonyaka, aphi okona kukhulu kwenzeka phakathi. Phantsi kweeme-ko ezivana nako, umjikelo wobomi unokuqoshelisa kwiiveki ezsixhenxe ukuya kwezisibozo.

Uvivingane lwestikhomokazi lubekela izicuku zamaqanda ngokwemiqolo (ishumi ukuya kuma-80 amaqanda) phakathi kwsikhondo namakhasi amaggabi, kwaye luthatha iintsuku ezsixhenxe ukuya kwezilithoba phambi kokuqandusela. Izicuku zamaqanda zimhlophe xa zibekelwa kodwa zjika zifiphale emva kwexesha. Oophunguphungu ekuqaleni bafudukela kwizazinge zamaggabi aselula aphi bazondla khona, bagqobhoze imingxuma emincinane eluphawu lwabo okanye 'izikroba zeefestile', okanye amabala abonisa ngaphaya kwavo emaggabini. Oophunguphungu abaselula bantsundu obunzulu ngebala baze bakhanye xa bekhula, babe namachokoza amnyama amancinane aluphawu labo emzimbeni uphelele.

Nangona oophunguphungu abadala bekwazi ukutyhutyha banzi kwizikhondo, bathanda ibanga lokubumbeka kwamanquma. Ukuzonla koophunguphungu kuthatha ithuba elingangeeveki ezine ukuya kwezintandathu phambi kokujika babe ngoophunguphungu abakhulu, ukuze emva koko uvivingane oselukhulile luvele ngokunjalo umjikelo uphinde uqalise kwakhona.

UMONAKALO

Oku kubonwa njengesona sonakalisizityalo esinobuzaza esiqgobhoza isikhondo sombona. Kukwahokelela kwimicingipheko eyongezelwego ebantwini nakwizilwanyana, njengomonakalo wezityalo ngenxa yokuzonda koophunguphungu okuholisa ukwandisa ubuntununtunu kwiintlobos zosulelo ezilandela ezokuqala ezifana nokubola kweFusarium.

Ukuzonla koophunguphungu kwiindawo ezikhula kuzo izityalo kuhokelela ekufeni kwembindi yamaggabi kwizazinge zawo, nasuka ome ukuze kubekho imiqondiso yokubuna okubizwa ngokuthi 'iintliyo ezifileyo'. Ngenxa yokuhlasewa kwamanquma ngoophunguphungu abakhulu, izikhondo zikholisa ukuba buthathaka njengoko zigrbmeka zize zigcwale umququ, oko kuhokelela ekwaphukeni kwazo phantsi kweemeko zokuvuthuza komoya. Oophunguphungu bangakwazi ngokunjalo ukugqobhoza izikhwebu zombona baze bazondle ngembewu, beshiya iimfumba zomququ obonaka- aphi bonakalise khona.



Oophunguphungu abase-lula beBusseola babangela imingxuma kwisazinge samaggabi.



Intliyo efileyo.



Oophunguphungu abazonla kumanquma na-kwizikhwebu zombona.



Ukwahluka kwembala yoophunguphungu beBusseola, ukususela kwekhanyayo ukuya kwefipheleyo.



Imingxuma evela kwishondo sombona.

PULA IMVULA

Iqela labahleli

GRAIN SA: PRETORIA

PO Box 74087
Lynnwood Ridge
0040

- 086 004 7246
- www.grainsa.co.za

UMHLELI OLAWULAYO

Dr Sandile Ngcamphalala
■ 082 862 1991 ■ lofisi: 012 943 8296
■ sandile@grainsa.co.za

UKUMISELWA KWABAHLELI

Liana Stroebel
■ 084 264 1422 ■ lofisi: 012 943 8285
liana@grainsa.co.za

UMAHLULELANE KUPAPASHO

INFOWORKS MEDIA PUBLISHING
Umhleli ongumncedisi - Louise Kunz
■ louise@infoworks.biz

Inkokeli yeqela lomsebenzi - Johan Smit
■ 082 553 7806 ■ lofisi: 018 468 2716
■ johan@infoworks.biz

Abapapashi - Elizma Myburgh, Jesse Ross



INkqubo yeGrain SA yoPhuhliso IwabaLimi

ABAQUQUELELI BOPHUHLISO

Johan Kriel
Free State (Bloemfontein)
■ 079 497 4294 ■ johank@grainsa.co.za

Jerry Mthombothi
Mpumalanga (Mbombela)
■ 084 604 0549 ■ jerry@grainsa.co.za
■ e-Ofisini: 012 943 8289 ■ Smangaliso Zimbili

Jurie Mentz
Mpumalanga/KwaZulu-Natal (Louwsburg)
■ 082 354 5749 ■ jurie@grainsa.co.za
■ e-Ofisini: 012 943 8218

Graeme Engelbrecht
KwaZulu-Natal (Dundee)
■ 082 650 9315 ■ graeme@grainsa.co.za
■ e-Ofisini: 012 943 8287 ■ Nkosinathi Mazibuko

Liana Stroebel
ENtshona-Koloni (Paarl)
■ 084 264 1422 ■ liana@grainsa.co.za
■ e-Ofisini: 012 943 8285 ■ Hailey Ehrenreich

Du Toit van der Westhuizen
North West (Lichtenburg)
■ 082 877 6749 ■ dutoit@grainsa.co.za
■ e-Ofisini: 012 943 8290 ■ Lebo Mogatlanyane

Luke Collier
EMpuma-Koloni (Kokstad)
■ 083 730 9408 ■ luke@grainsa.co.za
■ e-Ofisini: 012 943 8280 ■ Luthando Diko

UCwayita Mpotyi (Umncedisi waseOfisini: Mthatha)
■ 078 187 2752 ■ umthata@grainsa.co.za
■ e-Ofisini: 012 943 8277

IPULA IMVULA IFUMANEKA
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Inkqubo egugula ubomi babantu



Ingxelo

Zibandakanye ukuze ukhule

IQELA lophuhliso lwabalimi likholelwa ekusebenzeni ngokusondela kubalimi nasekubenitabeni ngabatlali beendima eisentloko zoshishino ukuze kwakhwiethungelwano lonxibelelwano lwenkxaso olungqonge uphuhliso lwabalimi. Ngenyanga kaJulayi ngo2022, amalungu eqela aphumeze iintsebenziswano ezilandelayo zophuhliso lwabalimi:

- **Amathuba otyeleo kwiifama angama95** ewonke ukuze kunikelwe ngeengcebiso nokhokelo lobuso-ngobuso-bomntu futhi kwenziwe ucwangcise-lo malunga nokuvuna kune nokuthengisa izityalo ebezilinywe kwixesha lokulima elidlulileyo, ngokunjalo nocwangciseloo kune nokulungiselela ixesha lokulima elitsha, njengoko ilixesha lokuthathwa kweesampulu zomhlaba nelokuthenga iimveliso zamalungiselelo zexesha lokulima elitsha.
- **Intlanganiso zamaqela ofundonzulu ezingama58** zizonke zokupuhulisababali.
- NgoJuni nangoJulayi **izifundo zoqequesho ezili13** zizonke, ebezizinyaswe ngabalimi nabasebenzi beefama abangama250. Izifundo ziqhube kwiintsuku ezintlanu, aphi bekugqithiselwa kwabanye uphuhliso lwezakhono kumathuba eziqulatho zezifundo nawokuziqhelanisa ngokusebenzisa izandla.
- **Imisebenzi yeentsuku ezintandathu yabalimi** kwiingqgi ezaahlukileyo kwinyanga kaJuni nekaJulayi ngo2022, ebizinyaswe ngabalimi abangama317.

Amathuba wona akhona. Kuxhomekeke kuwe ukuzibandakanya kuwo, ukuzingela ulwazi nokuzixhobisa ngalo. Gqalisela ekufikeni kwimpumelelo ojunge kuyo, nokuba iya kuba nembuyiselo yezivuno ezizezonaa zincomekayo ngehetkare nganye, wakhe necandelo lokugcina imfuyo, ukuthenga itrektara entsha, ukufunda okuthe vetshe ngokuthengiswa kweenkozo okanye ngokuzuza iza-khono ezitsha kwiindibano – futhi ukholwe ukuba ungakuphumeza oko.

Misela imiggaliselo enako ukuzuzeka kune namaxesha anokubambeka. Xa uzkisika ingqondo yakho kweyona nto ufunu ukuyiphumeza uze uzinike ixesha lokufikelela kulo mgqaliselo, kuba lula noko ukuyiphumeza ngokunjalo nokusebenza nzima kuqhutywa lula noko. Ukkhula komntu okunganqumamiyo nokuzuza ulwazi yimiba ebalulekileyo kubomi bomlimi ngamnye, nokuba mdala kangakanani okanye mtsha kangakanani kulo mdlalo.



NgoJuni usuku lwabalimi obelungiselelwe kwiofisi yaseMthatha luqhutywe eKambi. Beluzinyaswe ngamalungu ama-50 eQela IoFundonzulu iSiyazondla.



Bekugxunyekwe itente emthubi ukwenzela usuku lwabalimi Sehla-kwane. Belulungiselelwe kwiofisi yaseMbombela.



KwaDukuza kwisiphaluka saseBergville, umphathi wophuhliso lwengingqi kwiofisi yaseDundee, uGraeme Engelbrecht uthethe nababili.

Uqequesho LUSELUBALA

I-GRAIN SA inoluhlu olubanzi Ivezifundo zoqequesho futhi bonke abalimi abasaphuhlayo kune nabasebenzi beefama zabo basoloko benento efanele bona baxhamla kuyo. Uqequesho luncheda ngokupuhhlisa ezona zakhono zibalaseleyo ukuqinisekisa uzinzo lomsebenzi wokufama.

Eli qela lisentsimini kwaye lilungele ukukhokela nokuhobisa amalungu abalimi – ukuze lifikelele kubo kanti eli qela liyakuthakazelela ukudibana nabo lize libancedise. Thetha nomphathi wakho wophuhliso lwengingqi malunga nokuba loluphi uqequesho onqwenela ukulufumana kwiningqi yakho, ukuze uluntu olufamayo luhuthazeke futhi lufumane ulwazi.



UFanie Pienaar unikele ngezfundo zolondolozo nenkxaso efama malunga nokutshisela isinyithi eNAMPO Park ngaseBothaville, zofundo ezo bezizinyaswe ngabafundi abangama20.



Abalimi bebehlangene eFicksburg eFree State malunga nezifundo ezithi, 'Ukufermela inzuzo'.



Iqela IoFundonzulu iSiyachathula ifunde okuthe vetshe ngo-kufakwa kwemili-nganiselo kumatshini wokutyalu nakwitsitsizi esolulileyo kwizifundo zoqeesho zalo.



Abazimase izifundo baumene incwadana yoqequesho ukuqinisekisa ukuba umlimi uyakwazi ukumana ebuyelela kwizifundo azifundileyo.