

PULA IMVULA

GROWING FOOD • PEOPLE • PROSPERITY



IMAGAZINI YAKWAGRAIN SA YOPHUHLISO LWABAVELISI

IPROJEKTHI YEEMBOTYI EZIMHLOPHE

ixhobisa abalimi abasaphuhlayo

IMBOTYI EZIMHLOPHE ZINGUVIMBA WEZONDLO, OHLOHLWE NGEENTSINGA NEPROTHEYINI. ZINGUMTHOMBO OLUNGILEYO WEZONDLO EZINGABONAKALIYO NGELISO LENDALO EZIFANA NECOPPER, I-IRON, IFOLATE, IMAGNISIUM NEVITAMIN B6. EZIMBOTYI ZINEZIBULALITYHEFU EMZIMBENI FUTHI ZINCEDA NGEZINTO EZININZI EMPILWENI. ABASEBENZISI BAZO BAYATYHILELEKA NGOKUTHE CHATHA NGOKU NGE-MPILO ABAYIFUMANA KUZO, NGOKO KE ELI LIXESHA ELIHLE LOKUBA ABALIMI BAFUNDE INDLELA YOKULIMA NOKUTHENGISA OKU KUTYA KODIDI OLUPHEZULU NGEMPUMELELO.

I-Grain SA inegugu ngokuxhasa isindululo seQela iSchoeman, elincedisa nelicebisa abalimi abasaphuhlayo nabanenxaxheba kwiprojekthi yeembotyi ezimhlophe ezincinane ezaziwa ngokubanzi njengeZamukele, okuthetha ukuthi 'Zamkele' ngesiZulu.

IPROJEKTHI YEZAMUKELE

UKallie Schoeman, igosa eliyintloko yesigqeba esilawula iQela iSchoeman, umlimi oyinkokeli orhwebayo kunye nelungu elinegugu leGrain SA, uthi iprojekthi yeZamukele ijoliswe ekuxhobiseni abalimi abasahlumayo beembotyi ezomileyo ukuze babe ngabalimi abarhwebayo.

Le projekthi eyasekwa ngowama2017, ichonga ize inike inkxaso kubalimi beembotyi ezimhlophe ezincinane ngokubanika ufikelelo kwimeko yeengcebiso, ubuchule bobugcisa, imbewu eqinisekisiweyo, isichumiso nemimandla yentengiso yeli lizwe neyehlabathi. Abalimi banikwa imbewu nesichumiso ekuqaleni kwexesha lokulima baze bazihlawulele ezi mveliso emva kokuvunwa kwesityalo. Abathathinxaxheba beprojekthi ngabalimi abasebenzisa iikhontrakthi ngendlela encomekayo njengoko besazi ukuba nokuba yintoni abayivunayo iya kuthengiswa kwiQela iSchoeman.

UKallie ukholelwa ekubeni baninzi abantu abathanda umhlaba futhi abanothando olushushu lokufama. Kodwa, uthi, xa oko kuko-

Iprojekthi yeembotyi ezimhlophe...

dwa akwanelanga! Kufuneka ufumane umntu onokukukhokela – umntu onamava. Ngale ndlela, umntu ufunda ngamava, uyakuthintela ukwenza iimpazamo ezineendleko eziphezulu ukuze ngolo hlobo ishishini lefama libe nozinzizo ngakumbi.

Ngokwabaphathi baseGrain SA bophuhliso lweengingqi, le nkqubo isebenza kakuhle kwaye inika abalimi bezixa ezincinane abaninzi isiqalo esikhulu. Kwayona iprojekthi yeZamukele yeQela iSchoeman ithumela amagosa aziingcaphephe zesolulo, abatyela abalimi rhoqo ngethuba lexesha lokulima kwaye baxhobe ngokwaneleyo ukuze babacebise.

Iqela laseGrain SA labaphathi nabacebisi liphinda lixhase abalimi abathabatha inxaxheba kule projekthi ngokusebenzisa abaqeqeshi entsimini, abatyela iingingqi ukuze banikele ngezifundo eziyilwe yi-Grain SA, 'Intshayelelo ngokulinywa kweembotyi ezomileyo'. Abalimi abayileyo kwezi zifundo banika ingxelo yokuba bazifumene ziluncedo olukhulu futhi ulwazi olutsha lubanike ukuzithemba ngakumbi.

Inkqubo yeZamukele nayo inabanye abahlulwane bezicwangciso- abancedisa abalimi ngeemveliso zamalungiselelo ezongezelelwayo, ezifana nezi:

- iTriFert, ethengisa izichumiso ekuqaleni komsebenzi ize itsale imali yayo xa abalimi bethengisa izityalo zabo zeembotyi.
- iLaeveld Agrochem ipuhlise inkqubo yesitshizi ukwenzela ukulinywa kweembotyi okokokona kulungileyo, ukuze kuqinisekise ukuba abalimi basebenzisa amathamo achanekileyo.
- iAgri Technovation inikela ngeengcebiso zezondlo zamagqabi, iisampulu zomhlaba kunye neengcebiso ngezichumiso.
- iPannar unikela ngezaphulelo zembewu nangoncedo.

Umlimi ngamnye ufumana amathuba otyelelo amahlanu kubacebisi beprojekthi, abamtyelela ngamaxesha abalulekileyo kumabanga okulima. Ekupheleni kwexesha lokulima, abalimi bathuthela iimbotyi zabo ezimhlophe ezomileyo kwizisele zeembotyi eDelmas. Apha iimbotyi ziyacocwa zize zihlelwe emva koko zithuthelwe kushishino lokuguquququla ukutya.

INTENGO KWIINDAWO ZENTENGISO

Kubaluleke kakhulu ukuba abalimi baziqhelanise neentengo zabathengi malunga nesityalo abanqwenela ukusilima. Akukho sizathu sokulima into xa kungekho ntengo, yaloo mveliso. Kubaluleke ngokulinganayo ukufumanisa ukuba ngubani oya kuthenga imveliso yakho phambi kokuba uqalise ukutya imbewu.

Intengo yeembotyi ezomileyo ezimhlophe ibonakala ngokukhula okumangalisayo eMzantsi Afrika naphesheya. UMzantsi Afrika uthenga iitoni ezingama45 000 zeembotyi ngonyaka, kanti amazwe afana neUnited Kingdom athenga iitoni ezingama359 000 zeembotyi ngonyaka.

IQela iSchoeman lichonge oku njengethuba, ngoko ke, ukucingela ukukhula kwentengo kwangaphambili kukhokelele ekubeni kusekwe iqumrhu elihlambululayo eDelmas, elisebenzisana ngqo neefektri zokunkonkxa. Iqumrhu elihlambululayo linobuchwepheshe obubona buvele mva bokukhetha iinkozo kwaye lingavelisa iitoni ezili18 zeembotyi zodidi ezinkonkxiweyo ngeyure.

Njengoko kusekwe iqumrhu likamatshini wokuhlambulula, injongo kukuqinisekisa intengiso esoloko ikhona yeembotyi ezimhlophe ezomileyo. Oku kubangele ukuba iprojekthi ibe nabalimi abaziikhontraktha kweli lizwe jikelele, apho kukho khona abalimi abarhwebayo nabasaphuhlayo.

Iimbotyi ezimhlophe zisisityalo esilimeka nzima, inkqubo yazo yokuzihlela ingqongqo kwaye imingcipheko mininzi. Nangona kunjalo,

lo, iQela iSchoeman lixhasa abalimi beembotyi ngokubanika ixabiso elisisigxina bengekazityali ukuthintela ugingqigongqo wamaxabiso.

UMBULELO WOKUSEBENZA NZIMA

IQela iSchoeman belinosuku lombhiyozo ngoLwesithathu, umhla wesi7 kuSeptemba wama2022, lokunika imbeko kubalimi abasaphuhlayo abafumene iimpumezo ezikudidi olusemagqabini kwinkqubo yeZamukele kulo nyaka. Naba:

- Ilungu lebhodi yeGrain SA, **uRamoso Pholo** waseLichtenburg eMntla Ntshona, ofumene esona sivuno sigqibeleleyo, esikumyinge wetoni e1,6 ngehektare.
- Omnye umlimi waseLichtenburg eMntla Ntshona, **uAthalia Lolwane** – inkosikazi kaThando Lolwane ongasekhoyo emhlabeni, uMlimi woNyaka odlulileyo ozaPhuhlayo waseGrain SA – ngoku uziqhubela ngokwakhe umsebenzi wokufama kwaye ebenezona nkozi zicocekileyo kungekho nto engafanelanga kuba kuzo.
- **URamodisa Monaisa**, usekelasihlalo wangaphambili weGrain SA okwalilungu lesiGqeba esiLawulayo, waseGelukspan eMntla Ntshona, ubalulwe njengomlimi onemveliso eyiyona iphuculwe kakhulu kwiminyaka emithathu edlulileyo.
- Umlimi **uPetrus Tsotetsi** waseKestell eFree State ubalulwe njengomlimi onawona masimi alungiswa kakuhle, awagcine engenalukhula kulo lonke ixesha lokulima.



UElna noKallie Schoeman, uRhamosa Polo, uAthalia Lolwane, uRamodisa Monaisa, uPetrus Tsotetsi noSuccess Mdluli, umphathi weprojekthi yeZamukele.

Iziphumo ezifana nezi ziyakhuthaza kwaye zibonisa ukuba abalimi benew era banesakhono esingummangaliso – silindele nje ukuvulelwa ngesitshixo kunye nenkuthazo. I-Grain SA ikhuthazwa ngabandlalizindima abafana neQela iSchoeman, elinefuthe elakha ukukhula kweli candelo. ■



**JENNY MATHEWS,
INGCALI NOMHLOHLI
WOLAWULO NOPHULISO**

Lawula abasebenzi ukuze UNCIPHISE IMINGCIPHEKO



EMZANTSI AFRIKA ULAWULO LWABASEBENZI LUMISELWA NGOKUSEBENZISA IQELA LEMITHETHO YABASEBENZI. ISEBENZISEKA NOKUBA LINGAKANANI INANI LABASEBENZI NGOKUNJALO NOKUBA BAQESHWE KWITHUBA ELISISIGXINA OKANYE OKWETHUTYANA.

Lubaluleke kakhulu ulawulo lwabasebenzi ekugcinweni kwesakhono senzuzo kunye nozinzo lweshishini lakho. Ukubambelela kwimithetho yabasebenzi akufuni zingxoxo, njengoko umgangatho osezantsi wokusebenza udalela abasebenzi umngcipheko weshishini.

IZINGQI MALUNGA NEEKHONTRAKTHI ZENGQESHO

Isigingqi sokuqala sesokungabikho kweekhontrakthi zengqesho ezifanelekileyo ezisetyenziswa xa kuqeshwa abasebenzi. Le khontrakthi yengqesho lolona xwebhu lubaluleke kakhulu kubudlelwane bengqesho yiloo nto kunyanzelekile ukuba umntu abe nalo.

Ukuba ikhontrakthi yengqesho isetyenziswa ngendlela encomekayo, iluncedo kakhulu ekwalatheni indlela ekhokelela kubudlelwane obuncomekayo phakathi komqeshi nomqeshwa. Nangona kunjalo, ukusetyenziswa kweekhontrakthi zengqesho ngendlela engafanelekanga kuya kubangela izigingqi kubudlelwane bakho bomqeshi-nomqeshwa. Ngaphandle kweekhontrakthi ezifanelekileyo kuba nzima ukusombulula iingxabano kunye nokulawula iimeko zongqzulwano.

Sebenzisa ikhontrakthi, nokuba uqeshe umntu ngokomgaqo wengqesho yethutyana imini enye kuphela. Oku kungabonakala kungeyomfuneko, kodwa kuya kukunceda xa kunokucela naziphi na iingxabano.

Xa abahloli bemithetho yabasebenzi betyelela ifama yakho, bakholisa ngokuqala bahlole iikhontrakthi zabasebenzi bakho. Ukuba akunazo iikhontrakthi zengqesho okanye ukuba azihambelani neemfuneko zasemthethweni, baya kwenza uhlolo oluthe kratya malunga namanye onke amaxwebhu afunekayo – afana neregista yokuba khona, awenkqubo

yakho yokuhlawula imivuzo, iziliphu zemivuzo kunye neregista yokuya kwikhefu – konke oko kungalandela.

Isigingqi sesibini sesokungahambelani kwazo zonke iimeko zengqesho nemithetho yabasebenzi, leyo eyandlala iimeko zengqesho ezizezona zingephi. Umzekelo, *uMthetho weeMeko ezisisiSeko seNgqesho (Basic Conditions of Employment Act - BCEA)* unika ilungelo leentsuku zokusebenza ezizezona zicininane ezili15 zekhefu ngonyaka, oko kuthetha ukuba umqeshi akavumelekanga ukunika umsebenzi iintsuku ezilishumi kuphela.

Kwakhona qaphela ezinye iingxaki ezinkulu ezilandelayo ezimbini ezinokuphuhla zize ziphazamise ubudlelwane:

- Umqeshi makangaze aguqule okanye atshintshe ikhontrakthi yengqesho ngaphandle kwemvume yomsebenzi. Nayiphi inguquko kwikhontrakthi efuneka ngesizathu esinxulumene neshishini makuvunyelwane ngayo futhi iqinisekiswa ngokuyibhala. Oku kungenziwa mhlawumbi ngokubuyelela kwikhontrakthi eyintsusa okanye ngokufakela isihlomeko kwikhontrakthi.
- Zingabakho iingxaki ukuba iikhontrakthi zengqesho azigcinwa ngokuzihlaziya. Umvuzo ongowona uphantsi obekwe sisizwe utshintshwa ngonyaka ngamnye. Ngoku kuxoxwa ngesindululo sokunyusa umvuzo ongowona uphantsi ngowama2023. Xa kupapashwa umvuzo ongowona uphantsi obuyelelweyo, kuya kufuneka ukuba uhlaziye iikhontrakthi zakho zengqesho.

Ukubuphatha ngobunono ubudlelwane bakho bomqeshi-nomqeshwa kuya kuba nefuthe elikhulu kuzinzo nesakhono senzuzo sefama futhi kuya kuqinisekisa ubume obungqongwe indawo yokusebenza engenazimeko zininzi zongqzulwano nokungaqondani. ■



**MARIUS GREYLING,
UMCEBISI OZIMELEYO
NGOLAWULO KWEZOLIMO**



**WHEN YOU CELEBRATE GREAT
MOMENTS, WE CELEBRATE TOO**

PANNAR
Together we farm
for your future™

CORTEVA
agriscience

™ Trademarks of Corteva Agriscience and its affiliated companies.
© 2023 Corteva. 2023/CORP/E/008DEV/STRIP

Ukuhlola izityalo

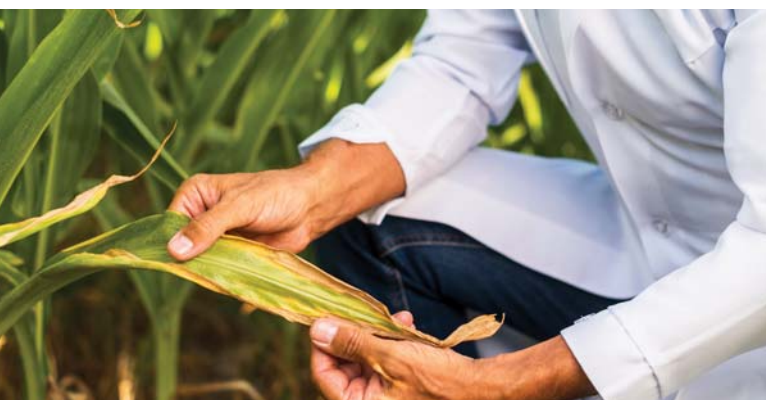
kukhokelela kwisivuno esiphucukileyo

UKUHLOLA YINKQUBO YOKUBEKWA ESWENI KOPHUHLISO LWEZITYALO KWINTSIMI NGANYE YAKHO. OKU KWENZELWA UKUVAVANYA IINKXALABO NGESITYALO KUNYE NEMINGCIPHEKO YOQOQOSHO – UKUSUSELA EKUNTSHULENI NEMIBANDELA YOKUHLUMA UKUYA EKUCHONGENI IZONAKALISIZITYALO EZINOKUBAKHO NGOKUNJALO NEZOYIKISO ZEZIFO. YINDLELA YOKUHLOLA YONKE IMIBA YOKULINYWA KWEZITYALO UKUZE KUZUZEKE ESONA SIVUNO SIHLE.

Enyanisweni, abalimi bafanele ukuhlola amasimi abo ukuze babe ngabokuqala ukuyazi indlela eziqhuba ngayo izityalo zabo, kunokuba bakuyekelele oko kubasebenzi beefama abatyelela amasimi rhoqo. Kule mihla abalimi baphinda bathembele kwiingcaphephe zeenkonzozamagosa esolulo kunye nawamaqumrhu eemveliso zamalungiselelo ukuze bancedise ekuhloleni amasimi nokuchongwa kweengxaki ngokukhawuleza. Asiyonto inokwenzeka ukuhlola intsimi iphelele, ngoko ke khetha iindawo zesampulu ezaneleyo ngendlela engawangciselwanga entsimini, ezo ndawo zinokuqwalaselwa ngalo lonke ixesha lokulima. Xa uhambahamba entsimini, kuphinda kucetyiswe ukuba ube nesicwangciso sokuhlola ngokubanzi futhi uhambe kuyo yonke intsimi mhlawumbi ngomfuziselo 'kaZ' okanye 'kaW'.

Kutheni kuyimfuneko?

- Uhlolo oluntsonkothileyo lweemeko zesityalo sakho kunye namanani ezonakalisizityalo ludingeka ngeveki nganye ngexesha lokukhula.
- Ugqaliselo lwakho kukuba nomfanekiso ochanekileyo wesityalo sakho kwiveki nganye.
- Ukuhlola intsimi ngokuchanekileyo kuya kuqinisekisa ukuba iikhemikhali zisetyenziswa kuphela xa imibandela yoqoqosho neyobume obuyingqongileyo ilungile.
- Qiniseka ukuba iingcaphephe othembele kuzo azinamkhethe. I-Grain SA inikela ngokhokelo olungenamkhethe kwaye ayifumani nzuzo kwiintengiso okanye emsebenzi wayo – into efunwa leli qela inye kuphela, sesona sivuno sihle sinokufunyanwa ngabalimi.



IMBALI EDLULILEYO YENTSIMI

Kufuneka ugcine imbali yeengxelo ngentsimi nganye malunga nokulandelayo: Indawo okuyo umhlaba; igama lentsimi; imbali yezityalo ezilinywe kuwo ngaphambili; iingxaki zokuchuma komhlaba okanye eyonqongophalo lwezondlo; naziphi iingxaki zemihlaba; iingxaki zangaphambili ezimalunga nezinambuzane, iintlobo zokhula lwexesha elidlulileyo kunye namanani, ukhula olumelana neekhemikhali zokhula; iingxaki zezifo zangaphambili; iikhemikhali zokhula zangaphambili kunye namaqela eekhemikhali zokhula asetyenziswayo kunye nezivuno zezityalo.

Imbali yeemeko zangaphambili ibaluleke kakhulu xa kuhlalutywa iingxaki zezityalo.

Malunga nalo nyaka wezityalo, gcina ingxelo malunga neenkucacha ezilandelayo:

- Dwelisa iintlobo zezityalo ezithile.
- Umhla wokutyala nenqanaba lokutyala.
- Isichumiso esisetyenziswayo (oko kuquka iintlobo amanqanaba kunye nendlela yokusifaka).
- Imisebenzi yokuhlakula.

UKUQALISA

Ukuhlola intsimi kuqalisa **phambi kokutyala**. Qwalasela ukufuma komhlaba uze ujonge iimpawu zamanani okhula oluxhaphakileyo ukuze wenze isigqibo sokuba uza kusebenzisa eziphi iikhemikhali zokhula futhi uza kuzitshiza nini ukuze utshabalalise ukhula phambi kokutyala.

Emva kokutyala, hlola ujonge ukuntshula kwezityalo nokuhluma. Ingaba ukuhluma kwezityalo kukhetha iindawo ezithile – zeziphi iimeko ezibangela ukuhluma okukhetha iindawo ezithile? Ingaba kwanele ukufuma komandlalo wembewu ukuze intshule okanye ingaba umhlaba ongaphezulu ulukhuni kwaye wenza iinkoko ngendlela echaphazela ukuhluma kwezityalo?

Ngethuba lokuntshula kwezityalo nelokuhluma, qwalasela izifo zezithole nezinambuzane ezizondla ezingcanjini okanye emagqabini ahlumayo.

Emva kokuhluma okupheleleyo kwezityalo, qhuba imisebenzi yokubala kwiziza zezityalo kwintsimi elilelona lincinane kwiziza zoqwalaselo. Zibuze ukuba ingaba amanani ezityalo ekugqaliselwe kuwo azuziwe na? Ingxaki ibangelwe yintoni? Funda kwizinto oziqwalaseleyo.

UKUHLOLA IZITYALO

Ukuhlola ukhula

Ukuhlola ukhula kufanele ukuqalisa msinya ekuqaleni kokuvela kokhula entsimini futhi kuqhutywe nasemva koko. Ukuhlola amasimi phambi kokutyala kunceda ekubeni umntu abe nesicwangciso sokutshabalalisa ukhula. Ukuhlola ukuhluma kwezityalo, kwalatha amanqanaba ohlaselo lokhula. Xa zanele iinkcukacha zokuhlola, unako ukukhetha ezona khemikhali zibalaseleyo zokubulala ukhula ngendlela encomekayo.



Ukuhlola izifo

Ukuhlola izifo nokonakala okwenziwa zizinambuzane kungenziwa kaninzi ngaxeshanye kwaye kuquka uqwalaselo lobunono lweengcambu, izikhondo, amagqabi nemidumba yembewu/iintloko.

- Iingcambu: Hlola iingcambu kunye nesiseko sezikhondo ukhangele ukubumbeka kwebala elintsundu kunye nempilo ngokubanzi.
- Lisampulu ezithathwe kwizikhondo: Hlola izikhondo uqwalasele iimpawu zeendawo ezinezifo okanye ezinemisikeko. Hlola izikhondo ezicandekileyo uqwalasele ukutshintsha kombala ngenxa yezidalwanana ezibangela izifo.
- Lisampulu ezithathwe emagqabini: Izifo zamagqabi zikhonisa ukubangela umonakalo omkhulu kumabanga ezithole nokudubula kweentyatyambo ekukhuleni kwezityalo.
- Lisampulu ezithathwe entloko/kwimidumba: Njengokuba kuphuhla iintloko okanye imidumba, yihlale ngokuqaphela uqwalasele iimpawu zezidalwana ezibangela izifo okanye imisikeko.

Ukuba akuqinisekanga ngesifo esikwizityalo, zifote uthumele imifanekiso kumcebisi wakho ukuze kufumaneke isigulo ngoxilongo.

Ukuhlola izinambuzane

Ukuhlola izinambuzane kufuneka kuqalise ngexesha lokuhluma kwezityalo. Xa inqanaba lamanani ezinambuzane lisondele kwiinqanaba lomngcipheko nokonakala kubonakele, kufuneka isigqibo esikhawuleziswayo ukuze kubekho ulawulo oluncomekayo.

- Ukonakala kweengcambu: Hlambulula umhlaba kwiingcambu zesityalo uze uqwalasele izinambuzane ezifana nemibungu eluvivane, imibungu esikayo kunye neempethu.
- Ukonakala kwamagqabi: Hlalutya amagqabi ngamanye uqgale imiphuzulu yamagqabi, ukhangele ubukho bezinambuzane uze uhlale nawuphi umonakalo obonakala ngamehlo.
- Umonakalo weentloko zembewu nowemidumba: Hlalutya umphezulu weentloko zembewu nemidumba ukhangele iimpawu zezinambuzane ezizondlayo okanye eziziqobhozayo. Vula imidumba yeembewu ukuze uhlale umphakathi wemidumba futhi uqwalasele imbewu ukuze ubone ukuba ingaba azishwabananga na.

Ukuhlola izityalo kakuhle kuthatha ixesha futhi ngumzamo omkhulu, kodwa kuphucula uqoqosho ngokulima izityalo nokwenza izigqibo ezilungileyo kweli xesha lokulima kunye neenkqubo zophuculo kwixesha elizayo ukuze ixesha elichithwayo nemizamo eyenziwayo iphumelele. Oku kudinga ulwazi ngofundonzulu lwezindalo ngezityalo, ukhula, izinambuzane nezifo. Khumbula, izakhono zokuhlola intsimi yakho ziya kuphucuka njengokuba uza kuphucula namava akho ngakumbi. Funa uncedo xa uchonge imibandela ethile naxa udinga izisombululo. ■



**JENNY MATHEWS,
INGCALI NOMHLOHLI
WOLAWULO NOPHUHLISO**



AMAZWI AVELA... kuAndré Brink

KUNCOMEKA KAKHULU UKUBA NAWUPHI UMLIMI ABALULWE KUSHISHINO, NGOKO KE LUZUKO LWENENE XA UBANI EKHETHWE NJENGOMLIMI WONYAKA WAMA2022 WENKOZO WASEGRAIN SA/SYNGENTA.

Ndinovuyo lokubekwa phambili kushishino lolimo. Baninzi abantu abanditsalele umnxeba bevuyisana nam kanti bakhona nabaqha-gamshelene nam becala amacebiso. Oku kundinike ithuba elihle lokunikela imbuyiselo kushishino. Ngoko ke, ndinqwenela ukwabelana nabafundi bePula Imvula ngamacebiso endinawo – izinto ezibe negalelo kwimpumelelo yam njengomlimi.

- Yenza izicwangciso phambi kwexesha – ukusilela ekwenzeni izicwangciso, kukucwangcisa ukusilela!
- Kwazi okwenzeka ngeemali zomsebenzi wakho wokufama. Iincwadi zakho zifanele ukuba neenkukacha ezichanekileyo ukuze ifama yakho ifake inzuzo.
- Baxabise abantu abayinxalenye yeqela lakho. Babalulekile, ngoko ke baphathe kakuhle. ‘Amajoni asezinyaweni’ anegalelo kwimpumelelo yakho.
- Qwalasela impilo yomhlaba wakho. Ukuba isakhono sokuzikhuselela komhlaba wakho sisempilweni entle, uya kukwazi ukumelana nayiphi imeko phucukileyo – nokuba zizandyondyo zemvula okanye yimvula encinane kakhulu, nkqu nokhukuliseko.
- Sebenzisa inkqubo yojikeleziso lwezityalo. Iluncedo emhlabeni wakho nakwimpumezo yomsebenzi wakho wokufama.
- Nangona engekho banzi amava am malunga nokulungiswa kweekhemikhali, kodwa ndikholelwa ekubeni asiyonto unokuyenza kanye ngonyaka. Kwifama yethu, sikhonisa ukukwenza ukuze siphucule umgangatho womhlaba wokukwazi ukuziqhelanisa.
- Ukuba kukho into ofuna ukuyitshintsha efama, zama ukufumana isisombululo onokwenza ngaso ifuthe elilolona likhulu ngotshintsho olulolona luncinane.
- Izinto zishiye ziphucukile kunokuba ubuzifumene. Qinisekisa ukuba xa sowungasekho kufuphi kuzo, umsebenzi wakho wokufama ukwimeko ephucukileyo kunangoko ubuwuqalisa.

– **UAndré Brink nguMlimi woNyaka wama2002 weeNkozo waseGrain SA/Syngenta.** ■



UKUFAMA NGE- EMBOTYI ZESOYA: Ukulinganisa kukwazi

UKULINYWA KWEEMBOTYI EMZANTSI AFRIKA KWIXESHA LOKULIMA ELIDLULILEYO KUQIKELELWE KWIZIGIDI EZI2,2 ZEETONI. IXABISO LINGABA NGAPHEZULU KWEHBHILIYONI EZINGAMAR20 NGEENDLEKO EZINGAMAR9200 NGETONI KWINQANABA LEFAMA. ISIVUNO ESINGUMYINGE ESIZWENI KWIXESHA LOKULIMA ELIDLULILEYO SIBE SISI 2,37 SEETONI NGEHEKTARE KWIHEKTARE EZINGAMA925 300 EZITYALIWEYO ZIPHELELE. IZIVUNO ZEEMVELISO KWIMIMANDLA EYOMILEYO KUZO ZONKE IINDAWO EZIMALUNGA NESI2,25 SEETONI NGEHEKTARE KUZE KUNKCENKCESHELWE IMIHLABA EMALUNGA NESI3,4 SEETONI NGEHEKTARE. THELEKISA OKU NEZIVUNO EZIFUNYENWE KWISIVUNO SAKHO SEXESHA ELIDLULILEYO.

Iilahleko zeemveliso zembewu ezenzeka kwisigaba sokuzandisa kwesityalo ukuya ekuvuneni ziqikelelwa phakathi kwe5% ne10% ehlabathini liphelele; kwaye zingade zifikelele kwi15% ukuya kuma20% xa kuvunwe emva kwexesha nangenxa yeminye imibandela. Malunga nesizwe, oku kuthatha ilahleko yemali ephakathi kwebhiliyoni e1 yeeRandi nebhiliyoni ezi2 zeeRandi ngexesha ngalinye lokulima. Okuqhelekileyo malunga nezivuno eziboniswe ngasentla kukuba okunokwenzeka ziilahleko zemali zefama ezingaba phakathi kweR1 000 ngehektare ukuya kumaR2 000 ngehektare xa kulinywe emhlabeni owomileyo zize zibe liR1 500 ngehektare ukuya kumaR3 000 ngehektare xa kulinywe ngokuncenkchesha.

Abalimi abalima ihektare ezili100 zeembotyzi zesoya emhlabeni owomileyo bangaphucula ingeniso yabo ngamaR200 000. Iindleko zokulima ngoku ziphezulu, futhi umngcipheko wemali unyuke kangangokuba inzuzo efanelekileyo ayinakuqinisekiswa. Ngokuqinisekileyo kuluncedo ukuqwalasela imveliso yexesha elidlulileyo lokulima kunye nemigaqo yokuvuna ukwenzela ukuhlola ukuba yeyiphi imiba enokuphuculwa kunyaka wokulima wama2022/2023.

UKUNCIPHISA IMVELISO KUNYE NEELAHLEKO ZOKUVUNA I-inshorensi yezityalo

Izityalo zeembotyzi zesoya mazikhuselwe ngeinshorensi, njengoko nkqu nesiphango esingephi sisenokubangela ilahleko eziphezulu zembewu emva kokuvuthwa. Esi sesona sicwangcisocebo sakho esibalaseleyo sokunciphisa ilahleko yengeniso yesityalo. Kubalulekile ukuba ube nobudlelwane obulungileyo nomthengisi wakho weinshorensi ukuze isityalo sakho sikhawulezelwe ngohlolo emva kwesichotho, kufunyaniswe umonakalo ngokwepesenti ukuze kuthintelwe ukubambezela okungeyomfuneko kokuvuna nokubhula.

Ukuvuna ixesha liselihle

Kubalulekile ukukhetha imihlanganisela elungileyo ukuze kulawuleke

iingxaki zexesha elizayo ezinokuvula ngexesha lokuvuna. Ucwangciso lokunciphisa ilahleko luqala ngexesha lokutyala. Iintlobo zeembotyzi zesoya zifumaneka ngokweendidi zokuvuthwa ezahlukileyo, oko kuthetha ukuba xa imihlanganisela yeendidi zokuvuthwa ezahlukileyo ityalwa ngosuku olunye, ixesha lokukhula lomhlanganisela ngamnye liya kwahluka kakhulu. Eminye ivuthwa kwangoko kodwa ikhona ethatha ixesha elide ukuvuthwa. Izityalo zeembotyzi zesoya zidubula iintyatyambo ngokuxhomekeka kubufutshane beemini.

Ukuvuna kwibanga elilungileyo kungashiyashiyana ngeeveki ezintathu nangaphezulu phakathi kwemihlanganisela etyalweyo. Ukuba ipateni yokuna kwemvula ikhawuleze yafika futhi iimeko zokutyala ngo-Okthobha nasekuqaleni kukaNovemba zibe zilungile, tyala iintlobo eziliqela ezahlukileyo. Khetha leyo oyaziyo ukuba iyifanele indawo naleyo ebonakele ngesivuno sayo kwingingqi yakho yokufama, ngokunjalo qwalasela neemeko zomhlaba nezemozulu ezichaphazela ifama yakho. Yiba soloko ubhala ubucukubhede beengxelo ngemihla yokutyala neyokuvuna, kwaneyesivuno sasekugqibeleni somhlanganisela ngamnye otyalwe kwifama yakho. Yenza njalo malunga neli xesha lokulima sikulo ukuba akuzange uzame ukugcina iingxelo ezibalulekileyo ngaphambili.

Enye yeengqalelo ezibaluleke kakhulu kunye nokukhethwa kwemihlanganisela kukwazi isakhono sakho sokuvuna nokubhula. Qiniseka ukuba unomatshini wokuvuna nokubhula olondolozwa kakuhle nonezixhobo ezisebenza ngokuchanekileyo futhi ulungiselelwe iimbotyzi zesoya. Eyona nto ifanelekileyo kukuba ube nomatshini wakho wokuvuna nokubhula. Ukuba akunjalo, sebenzisa ikhontraktha kamatshini wokuvuna nokubhula ethembeke kakhulu. Mazise ngenkqubo yakho yokutyala nangemihla ekonokuvunwa ngayo ngokunjalo nangeendawo ezifanele ukuvunwa nokubhulwa.

Kwiziganeko ezininzi, izivuno zeembotyzi zesoya zicutheke ngenxa yokuvunwa nokubhulwa emva kwexesha. Ezinye iintlobo zingavuneka kakuhle kodwa zicumke lula emva kokuvuthwa kwimidumba. Kanti nomkhwitsho wemvula uyakwazi ukuxobula imidumba ivuleke. Imdumba ingavakala isaphuka emasimini logama umqhubi kamatshini wokuvuna elinde ukuba isiqukatho sokufuma sanele ukuze uku-sebenza kuqaliswe.

UKUQWALASELA ISITYALO SAKHO XA SESIZA KUVUTHWA

Qalisa ukuhlola imidumba yakho yembewu kwisigaba sesihlanu sokuzandisa kwesityalo, ibanga (leR5), apho imidumba ibumbeka khona phantse ngokupheleleyo futhi iluhlaza. Xa ivulekile, uya kubona imbewu encinanana eselula. Okuqhelekileyo kukuba, kungabalwa amaqela embewu amabini ukuya kwemithathu kanti kwiimeko ezifanelekileyo xa kukho umvumvuzelo oluncomekayo, kungafunyanwa imbewu efikelela kumaqela amane ngomdumba ngamnye. Ungakusebenzisa oku njengesiseko sokufumanisa ubungakanani besivuno xa sekusondele ukuvuthwa okanye ngexesha lako. Beka



Ifoto: Martin Budgen

iliso kwimidumba ade umatshini wokuvuna akwazi ukuvuna isityalo kwipesenti eyiyona ifanelekileyo yokufuma. Imeko elungileyo yeyaxa inkoliso yemidumba ivuthiwe, apho uvavanyo lwembewu lumalunga ne13% ukuya kwi15%.

IMIMISELO ESETELWE UMATSHINI KUNYE NOLAWULO

Ukusebenza kwenkqubo yokuvuna nokubhula ngendlela encomekayo kuxhomekeke kwimeko yesityalo ngelo xesha lokungena kukamatshini entsimini. Qwalasela oonobangela okanye izintlu ezilandelayo zeelahleko zemebewu:

- Iilahleko zaphambi kokuvuna iimbotyi ezizihambela zodwa okanye iimbotyi esezingasekho kwisityalo.
- Iimbotyi ezisanamathele kwisityalo ngexesha lokuvuna, nezingakwaziyo ukungena ematshinini wokuvuna.
- Iilahleko yokucumka ngenxa yeembotyi ezizihambela zodwa nemidumba ephumileyo, oko kubangelwa sisantya esikhawuleza kakhulu sokukrazulwa komhlaba.
- Iilahleko yezikhondo ngenxa yeembotyi ezihlala kwimidumba esabambelele kwizityalo kuba intsimbi esikayo imiselwe phezulu kakhulu.
- Iilahleko yezikhondwana ezikwiimbotyi eziwileyo kunye nemidumba eseleyo engasikwanga kwaphela.
- Iilahleko yezikhondwana ezihamba zodwa ebezisezimbotyeni ezisekwimidumba ebambelele kwizikhondwana, ebezisikiwe kodwa azafikelelela kwinkqubo yokubhula ematshinini wokuvuna.
- Iilahleko yeesilinda kwiimbotyi ezidlula kumatshini kodwa zihlale kwimidumba, njengokuba izithuba zeesilinda ezinxulumene neentsimbi zizikhulu kakhulu.
- Okokugqibela iilahleko zeneka eshedini yokubhula iimbotyi ezisuka ziphume nenkunkuma ematshinini.

Kubaluleke ngokugqithisileyo ukulandela imimiselo esetwe kumatshini wokuvuna kunye nesakhono somqhubi sokulungelelanisa zonke iinxalenye kumatshini ukuthintela naziphi iingxaki eziboniswe ngasentla. Kucetyiswa ukuba kungavunwa ebusuku ngaphandle kokuba abantu abaliqela babeka iliso kumaxesha anokubakho okwaphuka ematshinini kunye neziphumo ekuvuneni okuncomekayo. Iilahleko ezinkulu ezingabonakaliyo zingenzeka ngenxa yokungxamela ukuvuna ebusuku.

Yiba soloko ufunda incwadi yoqeqesho ngemimiselo esetwe kumatshini ukuze kuncitshiswe naziphi iilahleko ezenzeka ngenxa yeziphoso zikamatshini. Yiqwalasele qho indlela esemva kukamatshini futhi ungayeki ukubuza kumqhubi kamatshini ukuze ufumanise ukuba usebenza njani.

IINKQUBO ZOKUQWALASELA IILAHLEKO

Ukuze wenze uqwalaselo lokusebenza kukamatshini ngendlela encomekayo, kufanele kujongwe ipateni kamatshini yokusika neyokubhula ngokuhlalutya umcu osikwe kakuhle entsimini kwindawo emele isityalo kwintsimi ethile. Umatshini ubuyiswa umva emva kokusikwa kwindawo yovavanyo. Kulinganiswa isivuno esinokufumaneka kunye nemeko yesityalo phambi kwetafile yokusika, ezantsi kwetafile yokusika nasemva kwezisasazi.

Inani lemidumba elibalwe kwindawo nganye litholekiswa nesityalo esimileyo. Njengesikhokelo, imidumba engama43 ngemitha esisikwere emhlabeni emva kukamatshini wokuvuna lilingana nelahleko emalunga ne120 yeekhilogram ngehektare.

Zenzele imitha esisikwere kwindawo ejikeleze intsimbi uze uyibeke ngeendlela ezahlukahlukileyo ukwenzela ukuba ukubala nokuthelekisa kube lula futhi kukhawuleziseke. Isixhobo semitha esisikwere singasetyenziselwa ukwenza uhlolo lwesivuno sentsimi olukhawuleziswa kwiindawo ezahlukileyo eziliqela. Zingancitshiswa iilahleko zibe malunga ne3% ngokusebenzisa oomatshini bokuvuna banamhla.

ISIPHELO

Yiba soloko ubeke iliso futhi ulinganisa iziphumo zokuvuna nokubhula phambi nasemva kokuba umatshini sowujikeleze yonke intsimi. Khumbula: Ukulinganisa, kukuzixhobisa ngolwazi. ■



**RICHARD MCPHERSON,
UMCEBISI NGOLAWULO LOSHISHINO
LOLIMO NEEPROJEKTHI**

Indlela yokunciphisa UKUVELA KWEAFLATOXIN

AMANDONGOMANE, NJENGAYO YONKE IMIDUMBA, ABALULEKILE EKUZINZISENI INITROGEN EJIKELEZA EMOYENI EMHLABENI, YONA IDINGEKA KAKHULU KWIZITYALO EZINEZONDLO EZINQONGOPHELEYO EZINGEYOMIDUMBA KWIMIHLABA ECEKETHEKILEYO NGEZONDLO. OKU KHOKELELA EKUBENI ABE SISITYALO ESIBALASELAYO KUJIKELEZISO OKANYE EKULINYWENI NESINYE ISITYALO ESINJENGOMBONA KWIMIHLABA ESABUSANTI NENEZONDLO EZETHILEYO.

Amandongomane (*Arachis hypogaea* L.) akukutya okubalulekileyo futhi akwasisityalo sefula kwiinkqubo zokufama emazweni aphuhlileyo nasaphuhlayo. Le mbewu ineyoyile eninzi (phantse ngama50% kwiintlobo ezininzi) kunye neprotheyini (~26%) kanti akwangumthombo obalulekileyo weevithamin neentsinga ezifuneka kwizidlo.

EMzantsi Afrika, amandongomane aveliswa ubukhulu becala, ngabalimi abarhweba kakhulu nangabalimi abalimela ukuziphilisa kwiindawo ezithile zelizwe. Kumandongomane aveliswa ngabalimi abarhweba kakhulu, malunga nama80% asetyenziswa njengokutya, kanti amanye ayacunyuzwa.

Amandongomane asetyenziswa njengebhotolo yamandongomane, ayacunyuzwa ukuze asetyenziswe njengeoyile, okanye atyiwe njengeshwamshwam elinqunqudwayo (ayaqhotswa, agalelwe ityuwa okanye abe ziiswiti). Abalimi abangathathi ntweni, ngakumbi kwiindawo zaseMzantsi Afrika ezisemantla nasempumalanga, amandongomane bawalimela ukuziphilisa. Amandongomane angumthombo obalulekileyo wezondlo kwiziphaluka zasemantla aKwaZulu-Natal naseMpumalanga.

Esi sityalo singaba negalelo kakhulu kwiinkqubo zokulima ezinamandla okuphila nawozinzo kwezinye iindawo zeli lizwe. Kutshanje, abaphandi baseARC-Grain Crops bafumene iingxelo ezivela kwabaququguqula ukutya malunga namanqanaba aphezulu ongcoliseko naweafلاتoxin aphezulu kumandongomane ukuze isiphumo sibe zilahleko zemali ezixhalabisayo kushishino lweli lizwe.

UKUVELA KWEAFLATOXIN

Iimveliso ezininzi zolimo zisisisulu sezifo eziliqela ezibangelwa zintsholongwane zomngundo, iivayirasi kunye nezonakalisizityalo ezizambuzane. Iingundo iyakwazi ukumelana nobume obuyingqongileyo (umhlaba, umoya kunye namanzi) futhi kulula kuzo ukufumana indlela eya kwiimveliso zesityalo, ngakumbi xa iimeko zemozulu ezigqubayo zilulungele usulelo.

Omnje umngundo ungangcolisa izityalo ezithile ngeetyhefu (iitoxin) ezizukhuphayo ezibizwa ngokuba ziimycotoxin (myco = umngundo; toxin = ityhefu). Intsholongwane yomngundo i*Aspergillus flavus* ne*Aspergillus parasiticus* zezona ntsusa zixhaphake kakhulu zongcoliseko nokuveliswa kwemycotoxin (iaflatoxin) kumandongomane ehlabathini (**Ifoto 1**).

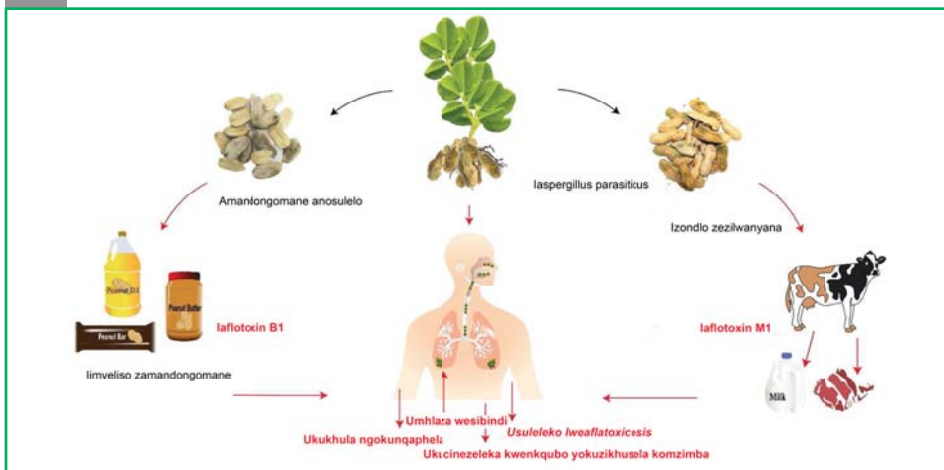
Xa iaflatoxin zityiwe kwizityalo/kwiimveliso, zingaba neziphumo eziliqela ezinobungozi kwimpilo yabantu nakwimfuyo. Naxa kukho inkxasomali engumthombo ogalelwa kwiiipjekthi zophando ukuze kulawulwe esi sifo kunye nokuvela kweeafلاتoxin, kusekho iingxelo ezinikwa ngeziganeko ezininzi zeeafلاتoxin ezibangela isifo ebantwini nasezilwanyaneni ehlabathini.

Emandongomaneni, amanqanaba aphezulu eeafلاتoxin abeka abantu emingciphekweni yempilo kanti aphinda abe sisithintelo ekukhulisweni korhwebo kunye nasekusetyenzisweni kwamandongomane kwiintengiso zeli lizwe nezasehlabathini. Ukutya ukutya okunongcoliseko lweeafلاتoxin kukhokelela ekutyhefekeni yiaflatoxin meko leyo ezibwa ngokuba yiaflatotoxicosis. Ukutya okwenziwa rhoqo kwamathambo aphantsi kwixesha elide (ukuba sesichengeni kwithuba elide) kukhokelela ekonakaleni kwesibindi, ukucinezeleka kwenkqubo yokuzikhusela komzimba, ukungondleki kakuhle nokukhula ngokunqaphela ebantwaneni, kanti ukutya le tyhefu ngesiqophe ngezixa ezikhulu kungakhokelela ekufeni (**Isazobe 1**).

Usulelo lwe*Aspergillus* spp. nongcoliseko lweafلاتoxin lubonakala ngokucacileyo xa buphezulu ubushushu, kuphezulu ukufuma, kunqongophele ukufuma, sisibi isivuno nolawulo lwasemva kokuvuna naxa izibonelelo zokugcina imveliso zinganelanga. (**Ifoto 2**).

Nangona eliqela amanyathelo olawulo lweeafلاتoxin, ngelishwa la manyathelo awasoloko esebenza kakuhle. Amanyathelo olawulo afanele ukuqwalaselwa aquka imisebenzi eliqela kodwa ukumanyanisa le misebenzi ukuze ibe yinkqubo yolawulo lwezifo kuluncedo olufezekileyo ekuncitshisweni kosulelo nasekuveleni kweafلاتoxin.

1 Iintsusa zobukho beafلاتoxin nokugqithela kwayo kwindalo efikelela ekutyeni ize ichaphazele abantu.



Umthombo weenkukacha: Alam et al., 2020

IZICWANGCISOCEBO ZOKUTHOMALALISA IAFLATOXIN PHAMBI KOKUVUNA

Ukusetyenziswa kweentlobo ezomeleleyo: Esona sicwangcisocebo sisebenzayo kulawulo longcoliseko lweafلاتoxin kusebenzisa iintlobo ezomeleleyo. Kwithuba langoku, akukho hlobo lwamandongomane olomelele ngokugqibeleleyo okanye olukwaziyo ukuzikhusela kwiintlobo ze*Aspergillus*, kodwa ziyafumaneka iintlobo ezomeleleyo noko ezinokusetyenziswa. Nangona kunjalo, oku kudinga ukuhlolwa okusoloko kuqhutywa kweentlobo ezintsha zamandongomane ezifika kwimimandla yentengiso. Eminye imihlanganisela ingabonisa usulelo oluncitshisweyo lwe*Aspergillus*, naxa inobuntununtunu xa yandile iaflatoxin.

Ukunkcenchesha ngokubamba ixesha: EMzantsi Afrika amandongomane alinywa emihlabeni eyomileyo, ubukhulu becala. Xa iimeko zezozulu ziphantsi kwamaqondo aphezulu obushushu kwithuba lokukhula kwamandongomane, kungenzeka zande iintlobo zosulelo. Amaqondo aphezulu obushushu kunye nembalela adala iimeko ezilungele usulelo lwe*A. flavus* ne*A. parasiticus* ngokunjalo nokuvela kweaflatoxin. Ngoko ke, kucetyiswa ukunkcenchesha isityalo ngokubamba ixesha ukuze kulawuleke izonakalisizityalo apho kunokwenzeka khona. Ukunkcenchesha akuniki isiqabu kucinezeleko olubangelwa yimbalela kuphela, kodwa kuthoba ubushushu bomhlaba.

Iimveliso ezisentengisweni zolawulo lwezoonakalisi ngokwendalo: Ukufakwa kwamachiza olawulo lwezoonakalisi ngokwendalo kunako ukulutshabalalisa ngendlela encomekayo uhlaselo lwe*A. flavus* nolwe*A. parasiticus* ngokunjalo nokuvela kweaflatoxin. Kuxa kunjalo apho kusetyenziswa khona iintlobo ezingakwazi kuvelisa iaflatoxin njengenkqubo yolawulo ngokwendalo. Nangona ezi ntlobo zivasulela amandongomane, ziyakuthintela ukukhula kwezoonakalisi ezivelisa iaflatoxin emandongomaneni xa zifakwa ngenjongo yothintelo.

Icalcium: Ukufakwa kwecalcium kubonakele kukwazi ukunciphisa amanqanaba ongcoliseko lweaflatoxin emandongomaneni.

Ulawulo lwezinzambuzane: Ngexesha lokukhula kwezityalo, ziliqela iintlobo zezinzambuzane ezinokusasaza iiseli ezandisa inzala ze*A. flavus* neze*A. parasiticus* (izipora) ezivela kwiiphegi nakwiintyatyambo ezinosulelo ukuya kwizityalo ezisempilweni entle. Ngokunjalo, iinkozo zamandongomane ezisulelwe zinzambuzane zizisulu zosulelo lwe*Aspergillus* nongcoliseko lweaflatoxin. Ngoko ke, uhlolo nolawulo lwezinzambuzane ezihlasela amandongomane olwenziwa ngokubamba ixesha sisicwangcisocebo esibalulekileyo solawulo. Izinzambuzane nazo zinako ukusulela iimveliso ezivuniweyo ngethuba lokugcinwa kwazo. Kwesi sigaba, izinzambuzane zinako ukutshatyalaliswa ngokugalela iikhemikhali ezibulala izonakalisizityalo.

Ukuvuna kuselithuba: Ukuvuna ithuba liselihle kunganciphisa inqanaba longcoliseko lweaflatoxin. Imvula ena emva kwexesha kwithuba lokukhula kwezityalo ikhokelela ngokubanzi ekwandeni kokukhula komngundo nongcoliseko lweaflatoxin. Ukuvuna kuselithuba kuya kwahluka ngokweendawo ngeendawo, ngokuthathela ingqalelo iimeko zezozulu ezigquba kuzo. Ukuvuna kuselithuba akunakwenzeka kwiindawo ezithile kwaye mhlawumbi akunakuba sesona sigqibo esinokufaka imali, kuxhomekeka kwiimeko zokulima. Abalimi bafanele ukugqala ifuthe lazo zonke izigqibo malunga nokuvuna ezikhokelela kwixabiso loqoqosho lwezityalo.

Ujikeleziso: Ujikeleziso lwamandongomane nesityalo esingomamkeli sisicwangcisocebo esisebenzayo sokwaphula umjikelo wosulelo ukuze kuncitshiswe ukutofwa nge*Aspergillus* entsimini. Xa ukhetha isityalo esifanelekileyo malunga nojikeleziso, okona kubaluleke kakhulu kukuba eso sityalo masingabi ngumamkeli wezinambuzane okanye izonakalisizityalo ezingumngundo ezisulela zozibini



1

Amandongomane anosulelo lwe*Aspergillus* spp. kwimidumba aphawuleka ngokukhula komngundo omthubi/luhlaza kumandongomane nemidumba.

Ifoto: UGq Ranajit Bandyopadhyay, IITA, Ibadan, Nigeria



2

Amandongomane avunwe eVaalharts abonisa iimpawu zosuleloko lwe*Aspergillus* spp.

Ifoto: Maria van der Merwe, ARC-Grain Crops, Potchefstroom

izityalo. Izityalo ezisabungca njengengqolowa, irayisi ngaphandle kombona owaziwa njengomamkeli zingakufanela kakhulu ukujikeleziswa namandongomane.

Izenzo ezimalunga nenkcubeko: Ukugalelwa komgquba efama kunye nekalika kunciphisa usulelo olubangelwa zizonakalisi kunye nokwanda kweaflatoxin emandongomaneni.

Ukutshatyalaliswa kokhula: Iintlobo zokhula ezithile ngokunjalo nezityalo ezizikhulela zingalinywanga, ezifana neeetyisi zemidumba emide kunye nombona, ziba ngabamkeli abobolekisanayo beentlobo ze*Aspergillus*. Ngoko ke, ulawulo olufanelekileyo lokhula lusiciswa ngcisocebo esilungileyo solawulo lwezifo.

IZICWANGCISOCEBO ZASEMVA KOKUVUNA ZOKUNCIPHISA IAFLATOXIN

Iithuba lasemva kokuvuna kodwa phambi kokuguquguquka ukutya libalulekile malunga namandongomane kunye nokuncitshiswa kokukhula kwezoonakalisi kunye nokuvela kweaflatoxin. Izicwangcisocebo ezilandelayo zolawulo lokugcinwa kokutya zijoliswe ekunciphiseni ukutofela umngundo ngokudala ubume obungqonge izityalo obungalukhuthaziyo usulelo.

Iimeko zokugcinwa kwemveliso: Ngokubanzi, iaflatoxin zininzi ngokuthe chatha kwimbewu yamandongomane. Izonakalisi ezivelisa iaflatoxin zosulela imbewu egciniweyo kuze kuvele iityhefu xa inqanaba lokufuma komdumba kungaphezu kwe8% naxa ubushushu obungqonge indawo bungaphezu kwama25°C. Yomisa imidumbu ukuze isiqulatho sokufuma sibe sisi7% ukuze ulawule ukukhula kwezoonakalisi ezivelisa iaflatoxin. Emva kokuyomisa, imidumba ingagcinwa ngokhuselo ekufumeni obumalunga nama70% naphakathi kwama25°C ukuya kuma27°C obushushu phantse kunyaka omnye. Izinzambuzane nezonakalisizityalo zingawasulela amandongomane ngethuba lolondolozo kwaye zifanele ukulawulwa ngeekhemikhali zokubulala izonakalisizityalo.

Ukubulala iintsholongwane koomatshini: Izonakalisi zingaphila emhlabeni okanye edakeni olukoomatshini bokuvuna. Susa umhlaba koomatshini bokuvuna phambi kokushiya intsimi ukuze unciphise ukusazeka kwezoonakalisi ukusuka entsimini ukuya kwenye intsimi. Ukuvuna nokomisa oomatshini, kuquka imigqomo yolondolozo, kufanele kubulawe iintsholongwane kuyo ngesanithayiza phambi kokusetyenziswa kwixesha ngalinye.

Ukubekelwa kwemipakisho: Ukupakisha impahla nokuyiguquguquka kunefuthe elikhulu ekuveleni kweaflatoxin emandongomaneni. Ukwetha komgangatho nokuvela kweaflatoxin emandongomaneni kungalawulwa ngokusebenzisa ukupakisha okuqinisekisa ukuyivalela ngaphandle yonke ioksijini.

Ukwahlukaniswa kwimidumba esulelekileyo nesempilweni entle: Imidumba yamandongomane okanye iinkozo ezoonakaliswe zizonakalisizityalo ezizinzambuzane okanye ingozi ebangelwa ngooma-

Amaxabiso eembotyti zesoya aseSA abonisa intsingiselo yokunyuka



KWIXESHA LOKULIMA ELIDLULILEYO, SIBONE UKWETHA EKULINYWENI KWEEMBOTYI ZESOYA EHLABATHINI JIKELELE. IMELIKA ESEZANTSI IBE NEXESHA ELILELONA BELINOBUZAZA KUMAXESHA AYO EMBALELA FUTHI YATSALA KWIXESHA ELIDE KAKHULU, YAZE IMELIKA (USA) YALANDELA NAYO – NGEMBALELA EBINGENABUZAZA KAKHULU, KODWA OKO KUNCIPHISE UKUVELISWA KWEEMBOTYI ZESOYA.

Kude kwaba lixesha lokulima lama2018/2019, ukulinywa kweembotyti zesoya kusenzelwa ukuzitya, ubukhulu becala – kwaze oko kwakhokelela ekwandeni kwemveliso egciniweyo kunyaka nonyaka. Ukutyiwa kwazo kuye kwanda minyaka le kwaze ukususela kowama2019/2020 ukuya kowama2021/2022, kwaba phezulu okanye kwade kwangaphezu kokuveliswa kwazo, oko kwakhokelela ekubeni iintengo zihlangabezeke, ngamanye amazwi, imveliso ebigciniwe kwanyanzeleka ukuba isetyenziswe. Kuthe sekuhlangene nembalela ebigquba ngexesha lokulima lwama2021/2022, kwafumaniseka ukuba inqanaba lemveliso egciniweyo seliphantsi ngokugqithisileyo.

IXESHA LOKULIMA ELIZAYO

Ihlabathi belijonge kwiUSA ukuba yandise imveliso egciniweyo ephantsi egqithiselwa kunyaka olandelayo njengesivuno sexesha elidlulileyo, kodwa akubanga njalo.

- EArgentina, ukulinywa kweembotyti zesoya akubukeki kuncomeka njengoko imbalela enabileyo iqhuba ngokucinezela isivuno. Abalimi baseArgentina kwithuba langoku nabo bangabathengisi abangakhululekanga, njengokuba belindele elinye inqanaba lotshintshiselwano elikhethwayo leembotyti zesoya 'idola yeembotyti zesoya'. Abantu abaninzi bacingela ukuba olu tshintshiselwano

lukhethwayo luya kuba yinxalenye yomgaqonkqubo wolimo eArgentina kude kube sekupheleni konyaka wama2023.

- Abalimi baseBrazil nabo mva nje bangabathengisi abangakhululekanga. Oku kubonakala kwinyaniso yokuba ngama41% eembotyti zesoya kwiMotto Grosso ezithengisiweyo kwade kwaphakathi ku-Janyuwari, xa kuthelekiswa ngomyinge wama54%.

Imbalela eArgentina naseMzantsi Brazil, iindleko zokulima eziphezulu kunye nokubuyelelwa kwakutshanje okwethayo kwama2022 kubangele ukuba isityalo saseUSA sichaphazele uxinzelelo lwentengiso. Abalimi baseBrazil balindele intengo enkulu yabaguququleli bokutya beli lizwe.

INTENGISO YELI LIZWE

Igrafu 1 ithelekisa ixabiso leSafex leli lizwe leembotyti zesoya nama-xabiso olingano aseArgentina okuthenga nokuthengisa ngaphandle. Kwixesha elilelona lide kunyaka ophelileyo, amaxabiso eli lizwe eSafex ebefana okanye ebephantsi kancinane kulawo olingano okuthenga ngaphandle eArgentina.

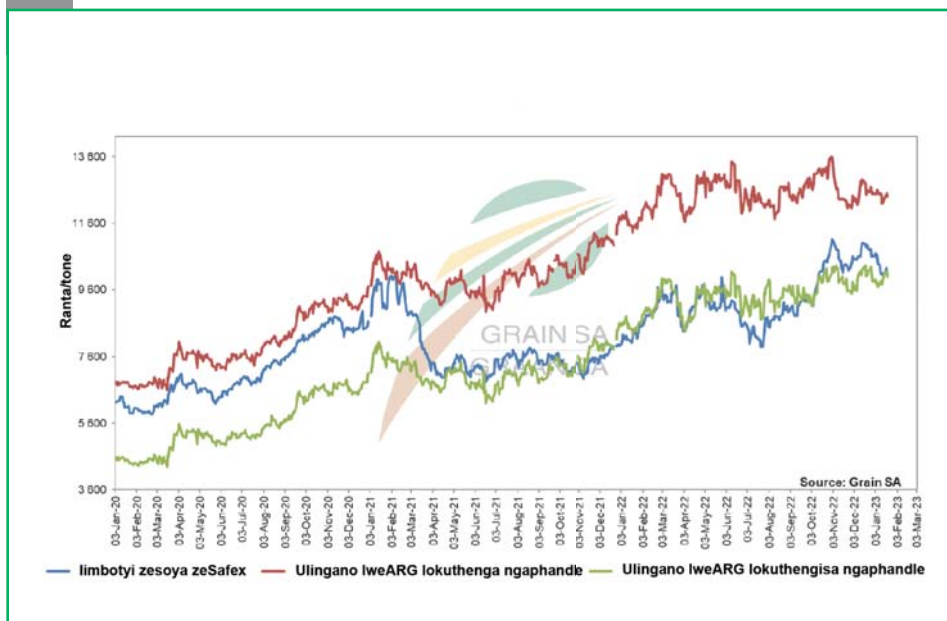
IArgentina ibikwimeko apho abalimi bebengabathengisi abangakhululekanga beembotyti zesoya; kwaye eli lizwe belingakwazi kufumana iimveliso ezingaguquququlwanga ezaneleyo ukuze ziguququgulwe kweli lizwe kwaze kwafuneka ukuba liqalise ngokuthenga iimbotyti zesoya ngaphandle ukuze lihlangabeze iintengo zeli lizwe nezehlabathi. Inkxaso ebiphantsi ikhokelele ekunyukeni kwamaxabiso eembotyti zesoya, kwaza oko kwaluncedo kummandla wethu weli lizwe futhi kukhokelele ekubeni abanye bathengise ngaphandle ukuze banyuse amaxabiso eSafex afane nolingano lokuthengisa kumazwe angaphandle.

Xa kwakusaziswa abantu ngesicwangciso 'sedola yeembotyti zesoya', abalimi bathengise imveliso yabo yaze intengiso yabuyela kwisimo sayo sangaphambili, kwaze oko kwabeka uxinzelelo kumaxabiso. Amaxabiso aseMzantsi Afrika aye ahlala kwintsingiselo yokunyuka logama amaxabiso aseArgentina aye ehla, nakwinxalenye yokugqibela yonyaka ongaphambili kude kube ngoku, iimbotyti zesoya zaseMzantsi Afrika zinexabiso elithande ukuba phezulu kancinane kuneleembotyti zesoya laseArgentine.

Naxa amaxabiso eSafex engaphezulu kunamaxabiso eembotyti zesoya aseArgentina naseBrazil, ukuthengisa emazweni angaphandle akunakuba noncedo kangako njengoko kukho iindawo ezinamaxabiso aphantsi ngakumbi. ■

1

Amaxabiso embewu yeembotyti zesoya aseArgentinna anikelwa eRandfontein.



CHRISTIAAN VERCUEIL, OKUQEQESHO: KUQOQOSHO OLUSEBENZISEKAYO, EGRAIN SA

Kugcine kucecekile futhi kugqoshekile



KUBALULEKE KAKHULU UKUGCINA INDAWO YOMSEBENZI ICOCIKILE UKUZE KUTHINTELEKE UKUBEKA ABASEBENZI ESICHENGENI ESINGEYOMFUNENKO SEENGOZI NJENGESIPHUMO SOBUME SOBUXHIFILILI NOBUXELEGU OBUNGOQONGE INDAWO LEYO.

Bonke abasebenzi beefama banoxanduva lokugcina indawo yabo ilungile. Umqeshi maqinisekise ukuba izibonelelo zokugcina imveliso zikhona futhi ziyafumaneka izixhobo zokusebenza noomatshini. Ukupakiswa kwezinto nokugcinwa kwazo kufanele ukuhlangabeza yonke imimiselo eyimfuneko. Kukwaluxanduva lwakhe wonke ubani osebenzisa izixhobo zokusebenza ukuba azicoce phambi kokuzibuyisela kwindawo eyenzelwe ukuzigcina. Xa ilondolozwe kakuhle indawo yokusebenzela, abasebenzi abasayi kuzingelana nezinto ekudingeka ukuba zisetyenziswe.

Iintambo zombane mazingashiywa emgangathweni njengoko oku kusenokubangela intlekele yempilo. Makucocwe konke ukuvuza kwezinto ezifana namanzi, ipetroli nedizili okanye ioyile kwangoko ukuthintela umgangatho otyibilikisayo kwindawo yomsebenzi.

Iingxowa zezixa ezikhulu, ngokunjalo neengxowa zama50 kg, zifanele ukupakishwa zize zigcinwe ngokoMmiselo woKhuselo wesi8. Oku kuya kuqinisekisa ukuba indawo yokusebenzela ihlala iqoqoshekile kwaphela. Izikhongozelo ezingenanto zeeoyile nezeekhemikhali azifanelanga kutshiswa okanye kungcwatywa, ngoko ke umqeshi ufanele ukuzoba umgaqonkqubo wokuphatha izikhongozelo ezingenanto.

Imigqomo yenkunkuma mayifumaneke ukuze kufakwe iinkunkuma kuyo. Ifanele ukukhululwa futhi icocwe rhoqo ukuze ingabi namtsalane kwizonakalisizityalo nakwizikrekrethi. ■

**UCHARL SAAYMAN, UMCEBISI WEMPILO
NOKHUSELO EMEGA HEALTH AND SAFETY**

Indlela yokunciphisa ukuvela...

tshini xa kusembiwa okanye xa kubhulwa iba sesichengeni sosulelo lomngundo ngakumbi xa iselugcinweni. Yichonge uze uyitshabalalise imidumba nembewu eyonakeleyo, eshwabenyayo, eyonakele imilo, okanye engcolisekileyo.

Ukuvelisa amandongomane angenayo iaflatoxin kuqinisekisa ukhuseleko lokutya. Impilo entle noqoqosho olulungileyo lomlimi nabasebenzi beemveliso zamandongomane lutyalo-mali olubalulekileyo kwicandelo lolimo. Ukusebenzisa imigaqo elungileyo yokuvelisa isityalo kunye neendlela zobuchule zokuphatha ukutya emva kokuvuna kunye neentlobo ezingenazityhefu zingakwazi ukunciphisa uncoliseko lweaflatoxin ngendlela encomekayo ngokunjalo zigcine umgangatho wemveliso. Imizamo enjalo iya kudala ke ngoko amathuba okuba abalimi bafikelele kwintengiso encomekayo nenemimiselo engqongqo yomgangatho ophezulu.

ISALATHISO

Alam T, Anco DJ and Rustgi S, 2020. *Management of Aflatoxins in Groundnut*. Ifumaneka apha <https://igpress.clemson.edu/publication/management-of-aflatoxins-in-peanut> ■

**UGQ BRADLEY FLETT,
ARC-GRAIN CROPS,
POTCHEFSTROOM**



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 ■ Iofisi: 012 943 8296
■ sandile@grainsa.co.za

UKUMISELWA KWABAHLELI

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

UMAHLELELANE KUPAPASHO INFOWORKS MEDIA PUBLISHING

Umhleli ongumcedisi - Louise Kunz
■ louise@infoworks.biz

Inkokeleli yeqela lomsebenzi - Johan Smit

■ 082 553 7806 ■ Iofisi: 018 468 2716
■ johan@infoworks.biz

Abapapashi - Elizma Myburgh, Jesse Ross



INKqubo yeGrain SA yoPhuhliso lwabaLimi

ABAQUQUZELELI BOPHULISO

Jacques Roux
IFree State eseNtshona (Bloemfontein)
■ 082 377 9529 ■ jacques.rouxjr11@gmail.com

Johan Kriel

IFree State eseMpuma (Bloemfontein)
■ 079 497 4294 ■ johank@grainsa.co.za

Jerry Mthomboti

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 & Mthatha)
■ 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

NGEELWIMI EZILANDELAYO:
isiXhosa, isiNgesi, iSeTswana, iSesotho nesi IsiZulu.

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

THIS PUBLICATION IS MADE POSSIBLE
BY THE CONTRIBUTION OF THE MAIZE TRUST

Inkqubo eguqula ubomi babantu



Farmer Development Programme

Ingxelo

Iqela laseGrain SA lisombulule inkathazo-kaJanyuwari

INYANGA KAJANYUWARI – okanye njengokuba iqhele ukubizwa ngokuthi, 'inkathazo-kaJanyuwari' – lixesha lenene lokuba abalimi balinde baze baxhalabe ngokuba imbewu iya kuntshula njani, okanye ingaba afanelekile na amanani ezityalo, ingaba imvula ina rhoqo ngokwaneleyo na, khona ukhula lutshatyalaliswe ngokwaneleyo na nokuba ingaba kukho izonakalisizityalo eziyinkathazo kwizityalo na – phakathi kwezinye izinto.

Abalawuli nabacebisi baseGrain SA bophuhliso lweengingqi baphume baya emasimini – belindile, bexhalabile besombulula iingxaki kunye nabalimi. Amava abo abanzi edibene aluncedo kubalimi abasaphuhlayo. Iqela laseGrain SA nalo linonxulumano nothungelwano olubanzi lweengcaphephe abanokwaziswa ngazo abalimi.

Ngenyanga kaJanyuwari, iqela laseGrain SA libe **namathuba ali119 otyelelo lweefama** ukuya emasimini amalungu abalimi asebekwibanga eliphambili. Imisebenzi yabo ibiquka ukufumanisa iimephu zamasi ngeGPS, ukuqoshelisa iiodolo zeemveliso zamalungiselelo kunye nolungiselelo lweinshorensi yezityalo. Kuqhutywa amathuba angenakubalwa okuhlola amasimi malunga nokuhluma kwezityalo, ukutshatyalaliswa kokhula kunye nokwandlalwa komaleko ongaphezulu.

Injongo engundoqo yala mathuba otyelelo kukuqaphela nayiphi imibandela ekhoyo ithuba liselitsha, ukulumkisa abalimi ngeengxaki nokuxoxa ngamanyathelo anokwenziwa othomalaliso. Apho kukho imfuneko, iGrain SA iyathanda ukuzibandakanya kuthungelwano lwababoneleli beenkonzo kwiingingqi ezahlukahlukileyo, nabo bancedisa abalimi ngokulandela inkqubo yezityalo zabo baze banikele ngamacebiso obungcaphephe, nkqubo leyo ibekwa iliso ukuqinisekisa ukuba kungabikho mkhethe. Enye yeendima eziphambili zeGrain SA kukusebenza njengomlindi egameni labalimi.

Ngethuba lotyelelo lweefama kwiingingqi yeAmersfoort, umlawuli wophuhliso lweengingqi, uJurie Mentz, ucebise umlimi ukuba umbona wakhe ubukeka umhle kodwa umthubi kakhulu ngoko ke udinga umaleko wangaphezulu.



Amanani omlimi uGodfrey Mbhele adinga ukuncitshiswa kancinane.



Umcebisi uChris de Jager utyelele umlimi uTracylee Green Thompson kwiingingqi yaseDundee. Ngelishwa, ukutshizwa kwezityalo okwesibini akusebenzanga kakuhle. Ngoku uxakeke ngokutshiza ngokutsha ngeRoundup nangehemikhali yokhula.

Okufanele ukwenziwa ENTSIMINI

IQELA leGrain SA liqhube iintlanganiso zamaqela ofundonzulu ezingama37. Enyanisweni oko bekusisigalo sokuqwalasela abalimi abalimela ukuziphilisa ukuze bakhunjuzwe ngezinto abafanele ukuzenza, futhi nini nokuba njani. Kuquka amathuba okuhlola amasimi athile kwiiplothi ezincinane zamasi amalungu amaqela ofundonzulu. Abacebisi baya kuzityhila iingxaki baze baxoxe ngonyango apho kunokwenzeka khona, ngakumbi malunga nokutshatyalaliswa kokhula nangokufaka izichumiso.

Amathuba otyelelo kwinyanga kaJanyuwari abonise imbelela yaphakathi kwixesha lokulima kodwa eseyiboniwe ngabalimi abaninzi kwiingingqi yaseMpumalanga. Abanye abalimi baxele ukuba akukho mvula ekhe yana kwiiveki ezine ukuya kwezintlanu. Ubungqina bale meko bubonakele ngefuthe kwizityalo zengingqi.



Umlimi uDavid Thamae ufumene imvula eninzi kwinyanga kaJanyuwari. Amasimi akhe ebemanzu kakhulu kodwa naxa izityalo zakhe zeembotyi zesoya zibukeka zizihle, umlawuli wophuhliso lweengingqi, uJacques Roux, umcebise ukuba matshize isityalo sakhe msinyane kangangoko kunokwenzeka.



Umcebisi uPaul Wiggill utyelele umlimi kwiingingqi yaseDundee ukuze aqwalasele ukutyalwa kweembotyi zesoya. Amanani ebethande ukuba phezu kancinane, ngoko ke athotywe. Uku-tyala kuqhuba kakuhle kwaye iurea iza kufakwa njengomaleko wangaphezulu. ■