

# PULA IMVULA

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UMEYI  
2017

## Amazwibela oMhlangano woNyaka ka-2017 WE-GRAIN SA



**K**ule nyanga iPula iMvula ihlangane nePhini likasihlalo elisha le-Grain SA, u-Derek Mathews ongumlimi wokusanhlamvu oseduze kwase-Sannieshofu. Wazibandakanya nezolimo ezihlelekile kuskela ngo-1984, waqala ngosebenza ebhodini lakwa-NAMPO (*iNational Maize Producers Organisation*) futhi ngesikhathi le zihlangano zokusanhlamvu zihlangana, ubengomunye wabasunguli bamalungu ebhodi le-Grain SA nje ngoba sesiyazi namuhla.

Ukuzibandakanya kuka-Mathews isikhathi eside nezolimo oluhlelekile kumqinisekile ukuthi abalimi kudingeka bazibandakanye kwezolimo oluhlelekile ezifana ne-Grain SA endaweni ezohehela abalimi abangenaso isikhathi esanele sokumonitha endawo nezomnotho, umgomo kanye nezihlaka zokulawula nomthetho othinta inhalo yendawo yebhizinisi labo ngqo.

Ngicele e-Derek ukuba achaze amazwibela oMhlangano we-Grain SA ka-2017. Uthe inkululo ebalulekile eyethulwe uMike Mhlangana, i-DG: ye-DAFF yayifaka ugqozi. Umlayezo wakhe ubugxile enkolweni yakhe yobu-Krestu, ulwazi lwakhe lokulima ngokubambisana okunobungani obujulile phakathi kwabantu ababili, kanye nongqozi lwakhe lwezolimo. U-Mathews uthe bekukhuthaza ukuzwa ukuthi yini umbono kaMike, njengoba ubuholi bakhe phakathi kwe-DAFF okwazisa ngomsebenzi wezepolitiki kanye nomsebenzi womhlahlandlela womnyango nezimo. Kubalulekile ukuba nobuholi ubunokuqondisisa komkhakha futhi uneqiniso ngomgwaqo osezohanjwa.

UMhlangana wayengazisoli ngogqozi lwesisekelo somkhakha wezolimo: **'Ngasohlangothini**



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yabalimi abasakhulayo

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## Amazwibela oMhlangano woNyaka ka-2017 we-Grain SA

***lomgomo kufanele siqondisise ukuthi silungisa umehluko owadaleka phambilini.***

Ukuguqulwa komhlaba kufanele kwenzeka, kodwa kuvinjiwe ngokweswela amasu ezomnotho kulo mkhakha. Amasu aphambilini abemancane kakhulu futhi abiza izimali ezinkulu, ngomthelela omncane. Uphele inhliziyi ngephrojekthi njengama-CASP ne-ILIMA lapho okungenani 9 wamabhiliyoni wasetshenziswa kodwa ngeke uchazwe ukuthi wenzani. Umlengana wayichitha imizamo edlulile ethi kwaba kuncane kakhulu futhi kwangaba namthelela ezimpilweni nasemabhizinisini wabahlomulayo. Uyakuvuma ukuthi lokhu kwenzeka ngoba abantu baqashelwa ezikhundleni ngokuhambisana kwezopolitiki kunamakhono, nokwaholela “emsindweni odumazayo”.

Wenelisekile ukuthi izinhlangano ezifana ne-Grain SA nabalimi uqobo abazokwenza uguquko lusebenze, uma bengahlanganisa futhi babumbe umbono owodwa, amavelu awodwa nezinjongo ezizodwa. Ubumbano phakathi kwabalimi, bonke ababhekana nezinkinga ezifanayo, bazokwenza umehluko uma bekhuluma ngezinsalelo ezibhekene nalo mkhakha. Uphinde waqhubeka wathi yikho kuphela ukuba yinkombandlela nokuba abanini bempumelelo nokwehluleka yilapho uguquko luzoqhubekela phambili ngempumelelo. Ubungozi bokungabikhona kobumbano kudala ithuba lokusola ubandlululo ngokwehluleka kokwabiwa kabusha komhlaba, futhi kuvumela ukuvunguza komqondo engalungile ngabalimi.

Umlengana uphinde waluvuma uxhaso olwenziwe abalimi ezigidini, ezikoleni nasemiphakathini yabo, kodwa wathi lezi zinto zidinga ukuqhakambiswa kakhulu ukukhombisa uhulumeni ukuthi abalimi bayabambisana okwenzeni izinguquko. U-Derek futhi ucabanga ukuthi sinezindaba eziningi esingazixoxa ne-Grain SA’s Farmers Development Programme inganikela kulokhu ngokubonisa umsebenzi omkhulu wentuthoko kanye nombudlelwano obuningi ubuthokomele obakhiwa kuyo yonke le minyaka.

Umlengana uthi ukholelwa ekutheni singakha ubudlelwano obubalulekile ukuqinisa umkhakha wezolimo nosizo ngezinguquko futhi ukhuthaza abalimi nezinhlangano zabo ukuba basebenze ngokuhlanganyela basungule izinhlanga ezivumela ubambiswano. Uthi amaphrogramu e-capitalisation azoncika kubambiswano phakathi kwabalimi abangenisa inzuzo nabalimi abamnyama. Umlengana



### UGOGO JANE UTHI...

**K**wesinye isikhathi siyakhohlwa ukuthi ubulimi baqala kanjani – abantu kudingeka bazondle kanti ukudla kungakhizwa enhlabathini. Kwaba yisidingo sokukhiqiza ukudla esadala isiqalo sokulima. Kulezi zinsuku, abalimi bayasuswa ekulimeni ukudla. Sisanda kuvakashela abanye abalimi abakuphrojekthi ye-Jobs Fund (kwiphrojekthi i-Subsistence kuya ku-Abundance), sakhunjuzwa ngokuthi kubaluleke kangakanani ukuba laba balimi bakhiqize ukudla kwemindeni yabo (umsebenzi wabo oyisisekelo) futhi bese bedayisa okusele.

Ukucabanga ngokulima ukudla, kukusondeza eduze kokucabanga ngokudla nyenyuthrithini. Ngabe yini okudingeka idliwe abantu? Yini ibhalansi dayethi? Eqinisweni lokhu kusisondela ekuxoxeni ngamaqembu okudla (umthombo wekhabhohayidrethi, amaphrotheyini, ama-fats, amaminerali) kanye nezilimo ezahlukene ezingakhizwa ukwanelisa izidingo ezinyuthrithinali. Uma sesiyiqondisisa inyuthrithini yabantu sesingaqala futhi sicabange ngenyuthrithini yezilwane – ukuthi singazondla ngani izinkukhu zethu, izimbuzi, izimvu, izinkomo nezingulube. Bonke badinga idayethi ebhalansile futhi ngokusebenzisa umhlaba wethu, singakukhiqiza lokho abakufunayo.

Sihlela ukufaka phakathi uchungechunge lwama-athikhili inyuthrithini (yabantu neyezilwane) ukuze sibuyele sonke ezisekelweni zokulima – ukuze sizondle thina kanye nezilwane esizifuywa ekhaya esizondlayo.

Sisanda kuvakashela inqwaba yabalimi abancane kule phrogremu – kulo nyaka bonke baphumelele izivuno zokudayisa (kusukela ku-5 t/ha kuya ku-10 t/ha ommbila konke ngaphansi komhlaba owomile). Ngokubona lempumelelo kusenze sabona ukuthi sizifezekisile izinhloso zethu ngalaba balimi – inhloso yokukhiqizela ukudayisa kulowo mhlaba abanawo abalimi. Manje kudingeka sibheke ekusizeni abalimi ukuba nemishini ethuthukile ukuze batshale emihlabeni emikhulu nokuba basize ekuvikeleni ukudla ezweni.

Kule Nyanga yi-NAMPO – ngiyathemba ukuthi iningi lenu lizowuhambela lo mbukiso. Ngicela nize futhi nizosibheka – sizobe khona. 🍌



Umhlangano wonyaka we-Grain SA wabanjelwe e-NAMPO Park ngomhlaka 8 - 9 Mashi 2017.

Ezinye izindaba ezibalulekile okuxoxwe ngazo eMhlanganweni zigxile **kuhhlalo yendawo yezomnotho nasemandleni** ekusasa lomkhqizo wokusanhlamvu. USolwazi u-Ferdi Meyer osemkhakheni we-Bureau for Food and Agricultural Policy (i-BFAP) okugxile ku-benchmarks nakumathrendi okumonitha kanye 'nama-mega-factors' a-afetha imakethe nenhlo yendawo yokumaketha. Ukholwa ukuthi **ukulandelana nocwango olugxilile nentuthuko** kubalulekile, kanye nesimo senhlalo yezepolitiki esizinzile. Ezinye izindaba ezinomthelela kulo mkhakha u: ukwehla kwenani labantu abahlala emakhaya nokukhula kwenani labantu abahlala emadolobheni kudala izimo ezimbili ama-**value chains** amabili ahlukeni. Isidingo sokudala amathuba omsebenzi kulo mkhakha – amathuba amathathu abalulekile okudala umsebenzi asekhonjwe: 350 0000 amandla omsebenzi angatholakala kwinguquko yamaprojekthi omhlaba ongasetshenziswa ngokufanele; imisebenzi eyi-200 000 ingatholakala emkhakheni wempahla enkulu noma ezinguqukweni zamaprojekthi ehlabathi engakhqizi njenganelwayo, izilimo ezisezingeni eliphezulu uma izimakethe zikhona; kanye nemisebenzi eyi-326 000 engasungulwa phakathi komkhakha we-*agro-processing*.

U-Meyer uphinde waqaphela ukuthi **ngokwesikhathi eside amanani kwezolimo aye-hla** kubo bonke abalimi abangenisa inzuzo emhlabeni jikelele. Ukuqathaniswa kwezindleko zokukhiqiza ziqhakambisa iqiniso lokuthi abakhqizi baseNingizimu Afrika babhadala cishe u-*\$10/ton* ngaphezulu yama-*input*, isibonelo: Intengo ephhezulu kamanyolo, okuyinto ubeka abalimi bakuleli emuva uma kuncintiswana nezimakethe zamazwe. **Nakuba sinemakethe ekhululekile, akuhlali kulungile njalo, ngakho ke yilapho kuba khona isidingo sobizo lokungenelela.** Umkhqizo kabhontshisi isoya usube wushintsho lomdlalo nokuba khona kwethuba elihle lomkhqizo kabhontshisi isoya kule minyakeni embalwa ezayo.

UMathews uthi umbono wakhe wethemu yakhe njengephini likasihlalo we-Grain SA ukuthola isizukukwane esisha ezibandakanya kakhulu kwezolimo ezihlelekile ukwakha inhlangano efanele neyesimanje nezokwazi ukuhlenga bonke abalimi bokusanhlamvu, kungakhathalekile ubukhulu nobuncane bayo nangaphandle kwezindaba zomlando. Uyaku-vuma ukuthi uguquko yinto yokuqala njengamanje kodwa ukholelwa ekutheni ngokuhamba kwesikhathi sizodlulela ku-*new era* nayo ezobe isadinga i-Grain SA ukuba igcine umunwe

wayo emithanjeni ube nogada nezokwazisa, ivikele futhi imonithe inhlo yendawo yezolimo ngendlela efiswa yibo Bonke abalimi bokusanhlamvu.

**Ngomfutho wokubamba iqhaza kwinqubo yezinguquko, inhlangano futhi iluvotele ushintsho kumthethosisekelo** ethinta ngo abalimi be-*New era* futhi idale iskophu esikhulu sokuzibandakanya kwamalungu e-Programu yokuThuthukisa abaLimi njengabaholi enhlanganweni nabamele amalungu ebhodini. Umsebenzi we-Grain SA Congress iyohlala njalo kuwukulalela abaholi abafana noMlangana nokufunda kochwepheshe abafana no-Meyer abanomqondo oju-lile, kodwa futhi nokudala iplatformu lapho bonke abalimi abavela emagumbini amane omhlaba bengahlangukhona khona baxoxe nezindaba ezisematheni futhi bagcine sebefinyelele kumbono ofanayo, i-*common values* nasezinhlosweni ezifanayo into ememezela uMlangana. 🍌

**I-athikhili ibhalwe ngu-Jenny Mathews, umbhali wePula Imvula. Uma ufuna iminingwane egcwele, thumela i-imeyili ku-jenjonmat@gmail.com.**

# Ngabe yini asitshela khona amanani ommbila?

**N**gokwesilinganiso sokuqala somkhiziko ka-2017, i-Crop Estimates Committee (i-CEC) ikhombisa ukuthi iNingizimu Afrika unamandla okuvuna isilimo esikhulu kakhulu ngesizini nokukhiqiza ka-2016/2017.

Ngaphambili kwalokho kwasabalala imibiko ethi kungenzeka kube nesivuno esikhulu esizayo kule sizini ezayo lokho kwesekwa yizimvula ezinhle kanye nezimo ezinhle zezilimo kwezinye izindawo ezikhiqizayo kakhulu eNingizimu Afrika. Ngakho ke kwakulindeleke kakhulu ukuba amanani ommbila azobuyela esimeni esejwayelekile emva konyaka wokuhlasela kwesomiso okwenza amanani enyuka kakhulu. Ukuchaza ngokunyakaza kwentengo yommbila, sisebenzisa ukuthenga nokudayisa emazweni angaphandle i-parity band ekhombisa indlela ezothathwa amanani ngonyaka wokushoda aphikisana nonyaka wenala.

Ngokusho kwe-CEC, ummbila omhlophe nophuzi uzokhula ngo-79% kuya ku-13, million tons ngo-2017 kusukela ku-7,7 million tons isivuno sika-2016. Ukulindeleka kwesivuno esikhulu kukhombisa ukuthi iNingizimu Afrika kungenzeke ibe nommbila ozosala kusizini yemakethe ka-2017/2018, kushiya nethuba elikhulu lokudayisela amanye amazwe nokwehla kwentengo yommbila.

Kusukela ngoJanuwari 2017, le makethe yashaywa ukwehla kwamanani ommbila.

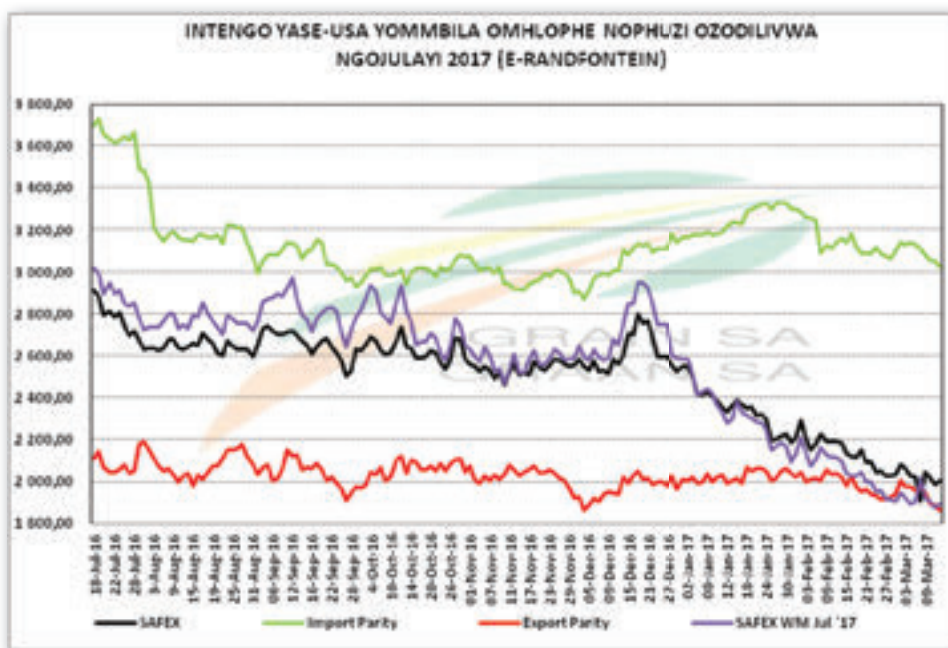
I-Import parity inani elikhishwa ngothengayo noma angalindela ukuyibhadalela izimpahla ayithenge emazweni angaphandle

kanye ne-export parity inani elitholwa ngumkhiziqizi noma angalindela ukulithola uma edayise emazweni angaphandle.

I-Ningizimu Afrika ithole isivuno esiphansi kakhulu sommbila eminyakeni eyisishiyagalolunye, okwenze kwashoda ummbila okubeke iNingizimu Afrika yasuka kuphozishini ye-net exporter kwayibeka ku-net importer. Umthelela okube nawo lokhu kumanani njengoba ubonile ku-Figa 1 kube nomphumela wentengo ephezulu lokho ke kubenze baguqukela ku-import parity band. Ngomhlaka-18 Julayi 2016, intengo yommbila omhlophe nophuzi wokudilivwa ngoJulayi 2017 bewudayiswa ngo-R3 018 no-R2 912, ongalinganiselwa ku-R800 ngaphansi kwe-import parity; kepha ngasekuqaleni konyaka, intengo yommbila yaqala ukwehla ngaphandle kwezindaba ezithi iNingizimu Afrika kungenzeka ivune isilimo esiyinqophamlando. I-Safex July 2017 intengo yommbila omhlophe yehlile kusukela ngoJulayi 2016 kuya kumhla ka-4 Mashi 2017 ngo 37% kanti intengo yommbila ophuzi yehle ngo-31%. Ngale simo, kusobala ukuthi ukwehla kwentengo kulindeleke ikakhulukazi kwesivuno sommbila ozosala sika-2017.

Kanti u-2016 wahlangabezana nesivuno esiphansi namanani aphezulu ommbila; uhambo oluya phambili lwethembisa ukuba nesivuno esiphezulu kodwa amanani ommbila azoba phansi. Ukwehla kwamanani ommbila kungafaka abalimi ngaphansi kwengcindezi njengoba besalulama esomiswena kodwa kunamathuba okuthumela kwamanye amazwe, amanani ommbila ngokushesha angakhombisa ubungcono.

**UFig 1: Amanani ommbila omhlophe nophuzi zodilivwa ngoJulayi 2017 (e-Randfontein).** Umthombo: i-Grain SA



**I-athikhili ibhalwe ngu-Michelle Mokone, oyi-Agricultural Economist kwa-Grain SA. Uma ufuna imininingwane egcwele, thumela i-imeyili ku-Michelle@grainsa.co.za.**

## Pula Imvula's Quote of the Month

*Things do not change; we change.*

~ Henry David Thoreau



Ukulawula ukhula kahle kakhulu uphawu lokuba nekhono.

# Ngingancintisana kanjani NABALIMI ABAKHULU?

**O**munye engabuza ukuthi yini incazelo yomlimi omncane uma kuqhathaniswa nomlimi omkhulu ongenisa inzuzo. Abalimi abaningi bokusahlamvu bazohlukaniswa babe abalimi bokusahlamvu, futhi kugcwaliswe ngemfuyo namanye futhi amabhizinisi.

Lokhu kungahlanganisa umhlambi wezinkomo zenyama, umhlambi wezimvu, kanye nembizini lemfuyo enevelu enkulu efana neyozobisi, izingulube nezinkukhu ukuqinisa impumelelo yebhizinisi lonke lokulima.

## Incazelo ngomlimi omncane

Abalimi bokusahlamvu bangaba nendawo encane eyi-1 ha kuya ku-5 ha abayimayo ngaphansi kwezilimo zokusahlamvu, noma babe semkhakheni ka-10 ha ukuya ku-20 ha futhi bangathathwa njengabalimi bokusahlamvu abancane. Eminye imikhakha ingaba phakathi kuka-20 ha kuya 50 ha, 50 ha kuya ku-100 ha, 100 ha kuya ku-300 ha kuphinde kuye ku-500 ha kutshalwe izilimo zokusahlamvu ezahlukene. Ngisho abalimi bokusahlamvu abalima u-1 000 ha ngaphansi kokusahlamvu endaweni enamandla ezolimo emaphakathi kungaba nobunzima bokusimama ngesikhathi esizayo.

## Iphupho lakho 'njengomlimi omncane'

Noma ngabe lingakanani ipulazi elingaphansi kwakho nolilawulayo kufanele kwenziwe uhlobo olumaqondana nezinsiza ezikhona ngaphambi kwesizini yokukhiqiza okusahlamvu ngayinye. Izinsiza zingafaka phakathi uhlobo lwenhlabathi ngokuhlukaniswa ngokwamazinga, ukudepha

kwenhlabathi ngokwezimbobo zephrofayili, amazinga okuvunda ngokuhlolwa kwenhlabathi, umthamo wezinsimbi zokusebenza kwemishini nekhono, izimali ezigciniwe noma amandla okuthola imalimboleko yokukhiqiza, ikhwalithi, amazinga ekhono nokuqeqeshwa kwesitafu, nokuhlolwa kwamazinga amakhono akho kanye nesipiliyoni sokukhiqiza. Noma yisiphi isibonakalo noma ifektha ezo-afektha amandla akho okulima okusahlamvu kufanele kufakwe esililinganisweni.

Lolwazi kufanele luqoqelwe ndawonye ukuze lukwazi ukukhiqiza imininingwane yangempela ye-*financial gross margin analysis*. Isibonakalo ngasinye somjikelezo wokukhiqiza singachazwa ngokwenani. Noma yiziphi izinsilela ngokwemikhiqizo nomthamo wokukhiqiza uzophumela obala.

I-*gross margin analysis* kodwa ngenye yengxenyane yebhizinisi lakho hlela ukuthi uzofaka phakathi i-*mission statement*, izinhloso zesikhathi esifushane namathemu esikhathi eside kanye nemiphumela elindelekile yepulazi lakho, wena nomndeni wakho.

Nquma ukuthi i-*margin* noma i-*net profit* ngokusele lapho izindleko ngqo noma ama-*variable* nama-*fixed* noma ungene shi ezikweletini ezisusiwe kwi-*gross income*. Leli nani lizonquma ngempela ukuthi ngabe 'ungumlimi omncane' noma cha nokuthi futhi umndeni ungaphila yini ngenani lemali eyenziwe. Uma kungenjalo, amaphuzu abalulekile ebhizinisi lokulima kufanele ecwaningiswe ukubona ukuthi ama-khono nokulima kahlele kungasetshenziswa futhi aqaliswe. Ngethemba uma ipulazi lakho lilikhulu ngokwanele futhi lilinywa kahle, inzuzo eyanele ingenziwa ukondla

umndeni wakho nokuthenga impahla ukuze kukhiqizeke ngendlela nangokuqondile ngokohlelo nangokukhulisa ibhizinisi lokulima ngokuzayo.

## Okusahlamvu kunjengempahla ethengwayo nedayiswayo

Njengoba kwabonakala eminyakeni emibili edlule, intengo yombila wakhuphuka kakhulu ngokwamanani ngenxa yokwehla komkhiqizo njengokwehla kwamanani njengoba isizini ubuyela esimweni esejwayelekile. Ukwenza isibonelo ummbila, wasuka phezulu cishe ku-R3 800/ithani waya ku-R2 000/ithani ngoJulayi 2017 ngokuzayo. Abalimi labo abangazitholanga izindleko zokukhiqiza ngonyaka wesomiso ngeshwa kungenzeka bengabi sesimweni esihle sezimali ngaphandle kwamasu amahle okulima nezilimo ezingaphezulu kwe-avareji yezilimo kulo nyaka.

Ukwehla kwentengo yombila njengempahla eyisisekelo kepha kuzokhuthaza i-*value* engeziwe ezimbonini nasemabhizinisini afana nezinkukhu, izingulube nobisi.

## Isiphetho

Imininingwane yamasu ukuchaza nokwenza ngcono amasu okukhiqiza isilimo sakho kuzohlaziwa ku-athikhili elandelayo.

**I-athikhili ibhalwe ngumlimi osatha-  
tha umhlalaphansi.**

# Khulisa umkhiqizo ngobuchwepheshe obuthuthukile

**A**balimi eNingizimu Afrika banenkinga eyodwa enkulu ababhekene nayo – ukwenza inzuzo ezoqhubeka isikhathi eside emva kwesikhathi eside. Lokhu kwenziwa yilokhu okubizwa ngecindezeleka kwenani lentengo. Ngakho ke, yimpi eqhubekayo yokugcina ukusebenzisa imali okulawulekile nokukhuphula imali engenayo.

Abalimi bethu nabo babhekene nenselelo yokuletha ukudla okwanele ngamanani angabizi kakhulu. Umhlaba okhizayo awandi, ngakho ke umkhiqizo weyunithi ngalinye kufanele ukhule njalo ukwenza iphrofithi ezoqhubeka isikhathi eside nezokondla isizwe. Indlela yokwandisa imali engenayo nokunciphisa izindleko ukuthola ukunakwa okukhulu kamuva nje ukusetshiswa kobuchwepheshe obuthuthukile.

Ngokuphathekayo, sibona ubuchwepheshe obuthuthukile njengokusebenzisa uhlobo lwemishini oluthuthukile (isibonelo iplanta eyamukelekile) lokho kusiza umlimi ukukhiqiza umkhiqizo omningi nongcono. Amanye ama-*apparatus* afana nekhompyutha kanye ne-*smartphone* nakho futhi kungabukeka njengobuchwepheshe obuthuthukile. Manje futhi ekungumkhuba ojwayelekile ukungeza ama-*electronics* afana nama-*GPS* kulezi zinto ezithuthukile ukwenza ngcono ukusebenza kwazo. Lesi senzeko sichazwa njenge-*high tech farming* noma i-*precision farming* esizoxoxa ngayo ku-athikhili elandelayo.

Inhloso yokusebenzisa ubuchwepheshe obuthuthukile ngakho-ke busetshenziselwa kuphela injongo yokukhulisa nokwenza ngcono umkhiqizo. Kepha, kufanele kukhunjulwe ukuthi, ukusetshiswa kobuchwepheshe ngeke kuvale isikhala sokuphatha, ayiphathwa-ke eyokuphatha ngokungagculisi. Uma ungazisebenzisi izindlela zokuphatha eziyisisekelo ezifana nokugcinwa kwamarekhodi, ukusetshiswa kobuchwepheshe obuthuthukile ngeke kukusize ngalutho wena. Umlimi wokusanhlamvu kufanele agcine amarekhodi ukwenza isibonelo imvula, usayizi womhlaba wakho, inani lezitshalo, ukudepha kwezitshalo, amasampuli enhlabathi, iphrofayili yenhlabathi nokukhiqiza. Isinyathelo sokuqala sokuphatha ngokufanele ukugcina ama-rekhodi adingekayo ebhizinisi lakho. Khumbula uma ungalinganisi, ngeke ukwazi ukuphatha.

I-planta ethuthukile ongalawula ngayo inani lezitshalo kanye nokudepha kwesitshalo ngokuqonde ngqo, kuzoba nosizo oluncane

uma ungakulawuli ngokufanele – kunakekele ngendlela efanele, kusetshiswe njengoba kunqunyiwe, njalanjalo.

Yenza unuzo ezokuqhuba isikhathi eside kufanele ube nekhono elifanele unyakanyaka. Ngaphandle kwedatha eyanele, idatha eqondile, lokhu ngeke kwenzake. I-*input* yokuphatha ihlobene kakhulu ne-*input* yezimali zomlimi. Lokhu kusho ukuthi ukungasebenzi ngokufanele kwezokuphatha komsebenzi wokulima, izindleko zokusebenza zizoba zinkulu, futhi kunciphe inzuzo eyenziwayo ebhizinisini.

Okuhle okukodwa kokusebenzisa ubuchwepheshe obuthuthukile ukuthi ngalokho ukukhiqiza kuyakhula ngezenzo zekhono elingcono. Abanye abalimi baphumelele ukukhula ngo-10% emkhiqizweni ngokusebenzisa ubuchwepheshe obuthuthukile. Enye into enhle ukuthi ungonga ekusebenzeni ngaleso sikhathi wonge ezindlekweni. Abalimi abanesipiliyoni barekhode okonga ngo-10% kuzindleko zama-*input*. Kodwa ungakhohlwa ukuthi ukusebenzisa ubuchwepheshe obuthuthukile kunezindleko zakho, ezifana nenzalo, kungahle kube nezindleko eziphezulu zokunakekela, ukwehla kwevelu, nomshuwalense okufanele nawo ukhunjulwe.

Okunye okuhle ngobuchwepheshe obuthuthukile ukuthi buzokwenza ukwazi ukuqedela okwenzayo noma umsebenzi ngesikhathi esifushane, ngokuqonde ngqo nangekhono, ngalokho uyazonga izindleko.

Mayelana nezinto ezimbi, ukufuna ubuchwepheshe obuthuthukile kudinga imali eyengeziwe. Kuya ngohlobo lobuchwepheshe oluthuthukile ofisa ukuthola ngenye imali ephumayo ingaba yisamba esikhulu semali. Uma ucabanga ukweboleka imali funa ubuchwephe obuthuthukile, khumbula ukubhadala inzalo ezimalini ezebolekiwe. Ukusebenzisa imishini ethuthukile nakho kudinga isitafu esiqeqeshwe ngemali epezulu. Imishini ethuthukile nayo ingeza futhi izindleko eziphezulu zokunakekela. Uma ucabanga ngokuthola ubuchwephe obuthuthukile kuzodingeka kwenziwe ucwani-ngo oluphelele ngobuhle kuqhathaniswe nobubi kuzodingeka. Indlela eyodwa esebenzayo yokucabanga ngokuthengwa kobuchwepheshe obuthuthukile ukubhala i-*business plan* – ukuphatha ngokufanele.

Njengesinyathelo sokuqala sokusebenzisa ubuchwepheshe obuthuthukile, sizophakamisa ukuba uthole ikhompyutha efanele – i-*PC* ilunge ngokwanele, awudingi i-*laptop* uma



uqala. Isizathu salesi siphakamiso ukuthi kufanele uthole isisekelo sakho sokuphatha kube sezingeni eliphakeme ngaphambi kokusebenzisa ubuchwepheshe obuthuthukile. Ikhompyutha izokusiza kakhulu ekugcineni amarekhodi. Ungarekhoda futhi ugcine onke amarekhodi akho kukhompyutha yakho kanye nokusebenzisa amaformula uhumushe idatha ibe ulwazi olusebenzayo ongalusebenzisa izinhloso zokuphatha ngendlela efanele. Ikhompyutha exhumene ne-inthanethi fasilithi futhi ingaqinisa ukuxhumana kwakho namaklayenti, ama-supplier nabanye futhi kungaseshensiswa njengenhlalo yomthombo wolwazi mayelana nezolimo ngokusebenzisa i-Google.

Abalimi kufanele badilive umkhiqizo oyikwalithi esezingeni eliphezulu njalo njalo ngesikhathi unciphisa ama-*input*, ngaphandle kokulimaza inhloso yendawo. Ukuphumelela kulokhu, ukusebenzisa ubuchwepheshe obuthuthukile kudingeka ukucabangisise ngokuphelele – kungaba nethuba elihle kodwa kuzobeka ingcindezi ezimalini zakho nakwezokuphatha.

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# I-MYCOTOXINS

## kumasiriyali nakwezinye izilimo

**K**wi –athikhili yethu edlule (Ephreli 2017) sikhulume ngommbila wodwa. Kulokhu ke sizogxila kwezinye izilimo zesiriyali (ebusika nasehlobo) Futhi sidlulele kubhekilanga, amantongomane, imidumba, imikhiqizo yezithelo nezihlahla zama-nathi.

### Amasiriyali asebusika nawasehlobo

**Amasiriyali asehlobo** asabhekwa amabele, i-milethi ngaphansi, utefu nerayisi (kusakhizwa kancane eNingizimu Afrika), kanti amabele yiwo abaluleke kakhulu.

Amabele ahlaselwa yimithelela nekholo-nazeshini ngama-*fungi* amaningi ngesikhathi kusaqhuma nangesikhathi okusanhlamvu kuse-sigabeni sokukhula. Umthelela udala ukuKhunta kweziNhlamvu zaMabele, kanti lokho kuphinde kubizwe ngokuthi 'yi-blackening'. Ama-*fungi* amaningi angadala ukukhunta kwezinhlamvu zamabele, phakathi kwawo akuqondile ngqo futhi ingakholonayiza izinhlobo eziningi zezi-tshalo. I-*Fusarium*, *Aspergillus* ne-*Alternaria species* ephakathi kokusanhlamvu okuvamise ukukhunta kwamabele eNingizimu Afrika.

Ukukhunta kokusanhlamvu kuvamise ukwenzeka ngesizini yemvula noma ngaphansi kokunisela. Kangingi okusanhlamvu okukhuthile kufakela izinhlamvu ze-*panicle* ensimini nezingaphansi kwezininga eliphakathi lemvula, umswakama ophezulu kanye no-

mswakama wokusanhlamvu, le-*fungi* ingakhula phakathi kwezinhlamvu ezikholonayiziwe futhi ingasabalalela kwezinye izinhlamvu ngezikhathi ezincomekayo zezimo ezingemuva kokuvuna. Izigigaba (isilinganiso sokukhunta kwe-panicle) nobucayi (besilinganiso sokusanhlamvu ye-panicle) kwezifo kuncike kuma-*pathogen race*, i-*cultivar* nesimo senhlalo yezendawo.

I-*mycotoxins*, kanye ne-*fungi* ehambisana nayo, etholakala kakhulu emabeleni aseNingizimu Afrika yi: *Fumonisin* (i-FB) i-*zearalenone* (ZEA) ne-*deoxynivakenol* (DON) [ ekhiqizwa ama-*Fusarium species*] kanye ne-*aflatoxin* (i-AFLA, ikhiqizwa *Aspergillus flavus*).

La ma-*fungi* nama-*mycotoxins* nawo angayinukubeza i-*millet* netefu. Lokho kungenzeka naserayisini, kodwa kulokhu isimo se-*mycotoxin* sibucayi kakhulu ngenxa yerayisi elinywa ngaphansi kwezimo ezehlukile zesayensi yesilimo nesimo sendawo.

**Amasiriyali asebusika** (ukolo, ubhali, i-oats, irayi ne-*triticale*) aba nomthelela omkhulu ekwenzekeni nokusabalala kwe-*Fusarium Head Blight* (i-FHB) noma i-*Heda Scab*, isifo esibangelwa kakhulu yi-*Fusarium graminearum* (futhi neyaziwa nge-*Gibberella zeae*) kanye namaningi amanye ama-*Fusarium* ohlobo olusondelene kakhulu. Umphumela walokhu ukunukubezeka kakhulu nge-*mycotoxins* efana ne-DON (neyaziwa nge-*vomitoxin*), ZEA ne-

*nivalemol*. I-FHB yamasiriyali asebusika enzeka emhlabeni wonke jikelele futhi ngesinye sezifo ezibalulekile ezihlobene ne-mycotoxin kwezilimo, kudale ukulahlekelwa okukhulu kwezomnotho. Ukubheduka kwe-FHB kwenzeka lapho kuna kakhulu izimvula ezinkulu ngaphambi nangesikhathi sokumila kwezimbali, noma lapho kuniselwa khona amasimu.

Izimpawu ze-FHB zivaleleke ekhanda nasezinhlamvini. Kwangathi, uphawu lokuqala oluqaphelekayo ukuphaphatheka (ukwenza mhlophe) kokunye kwakho noma okwe-*spikelets* ngenkathi izinhloko zisanempilo ziseluhlaza. Njengoba ama-*fungus* ehambela kuma-*rachis*, ama-*spikelets* ahlezi ngaphezulu noma ngaphansi kwemithelela yokuqala nawo ingaphaphatheka. Ama-masses ama-*spores* aphinki nasawolintshi angabonakala kuma-*spikelets* anomthelela nakhiqizwa ngesikhathi sesimo sezulu esimanzi nesinomswakama. Ama-*kernels* anomswakama, avamise ukubizwa 'ngama-tombstones', abukeka ebunile, futhi enombala ongagqamile, futhe elula. Njengoba izimpawu kokusanhlamvu ziba bu-cayi kakhulu, lokho kusho ukuthi kungalindeleka amazinga amakhulu e-*mycotoxins*.

Okusanhlamvu okulimele kuzoqala uku-afektha uku-greda engatholakala kwi-*silo/levator*, okuzoba nomthelela omkhulu kwinzuzo ebingatholwa abakhiqizi. Imbewu enomthelela inganciphisa ukuqhuma kwembewu futhi ikhuluse ubungozi bokubola kwezimpande kanye nomshophi wezithombo uma kutshaliwe.

Ubungozi bomthelela we-FHB kukolo yi: Umswakama omningi ngokweqile ngaphambi nangesikhathi sokumila kwezimbali; ukufudumala, intwasahlobo emanzi, ukunisela; ukutshala ukolo emva kommbila; ukutshala ukolo emva kukakolo, ukungathili noma ukunciphisa ithileji; kanye nama-*cultivar susceptible*.

U-DON uhambelana nokuphalaza, ukunqaba ukudla kanye nokunciphisa ukudla okuphiwa izingulube, okungaphazamisa impilo enhle yezi-lwane. Izinkomo zizimelela kakhulu kumthelela we-*vomitoxin* uma kuqhathaniswa nezingulube. U-ZEA yikhemikhali esebenza ngendlela efanayo kwi-*hormone* yobulili besifazane, i-estrogen, kanye nokuziveza kuyo ngokweqile kuphazamisa umjikelezo wokuzalana kwezinye izilwane. Izingulube zizwela masinyane uma kuqhathaniswa nezinkomo nezinye izilwane ezetshisayo. Ukuveza obala ku-ZEA ngeke kudale ukuphunza, kodwa kungadala ukungazali ezilwaneni zesifazane nezesilisa.

Indlela enhle kakhulu yokuphathwa kwe-FHB yi-integrated system, kube nokulawula



Izimo ezilungile zokugcina okusanhlamvu ebusika zibalulekile.

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## I-Mycotoxins kumasiriyali nakwezinye izilimo



**Ukukhunta ikakhulukazi kwenzeka ngemasizini  
emvula noma ngaphansi kokunisela.**

okungcono ngaphezu kokujikelezisa izilimo kanye nomkhuba wokungathili, yakha ngasekushaleni ama-cultivar abambelelayo.

### Ezinye izilimo eziwukudla

Ukukhava zonke ezinye izilimo eziwukudla ngeke zingene kule-athikhili, ngakho ke kugxilwe kakhulu kuzilimo ezibalulekile kuphela. Kufanele kuphawulwe ukuthi kaningi ukulawulwa kwezinkinga ze-mycotoxin kuncike ekuguquguqukeni kwesimo sezulu nezimo zendawo, kodwa akufanele singabunaki ubungozi be-mycotoxin.

Nakuba i-AFLA ingabalulekile kakhulu emmbileni waseNingizimu Afrika nakuzilimo zesiriyali, kuyingozi emqoka kumkhizizo wamantongomane kuleli. Amantongomane akasona isilimo esibalulekile kuphela kwezohwebo, kodwa usebenza njengesilimo esincane kwezinye izigodi zasemazansi ne-Afrika. Njengoba i-*Aspergillus flavus* iyi-fungus yenhlabathi, ivele ithelele amantongomane ensimini futhi ingadala ezinye izinkinga ngesikhathi se-windrow drying kanye nokungagcineki ngokufanele. Ukunciphisa ukunokubezwa yi-AFLA, kubalulekile ukuthi bonke abalimi bamantongomane basebenzise Imikhuba Emihle YeZolimo ensimini, bomise imidumba masinyane emva kokuvuna, bese besebenzisa izinyathelo zokuhlunga ezikahle ukususa imidumba ekhuntile namantongomane ngaphambi kokuba kudliwe abantu.

Ezinye izilimo ezisengozini ye-AFLA eNingizimu Afrika ubhekilanga, izinhlamvu zikakotini, izihlahla zamanathi, ikhanola, ezithela imidumba (i-chickpea nobhontshi owomile). Ukuvuna ngendlela efanekile, ukomiswa nokugcinwa kwalezi zilimo kubalulekile.

**Izithelo nemikhizizo yezithelo** zingaba sengozini ye-mycotoxins efanekile ne-patulin (amabhahhula namagonandoda) nama-ochratoxin A (ezithelweni ezomile nakumagilebhisu). I-patulin ayiyona ingozi enkulu empilweni, kodwa ingakuvimbela ukhweba namazwe angaphandle uma amazanga eqa amazanga emigomo ebekiwe yamazwe. I-Ochratoxin A iqukethe ibungozi obukhulu empilweni yabantu futhi ingaba nenkinga uma uthumela umkhizizo wokudla emazweni angaphandle okufana namsiriyali, imikhizizo yamasiriyali, ama-spice, imikhizizo wezithelo zomvini ezomile, ubhontshisi wekhofi nemikhizizo yekhofi, newayini.

Qaphela, uma kuneminye imibuzo ehambelana ne-mycotoxin, thintana nehhlovisi lakho lendawo, noma isitafu kwa-Grain SA.

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