

PULA IMVULA

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UKUBA UKUFAMA LUSHISHINO, abalimi mababe NGOOSOMASHISHINI

UMLIMI NGAMNYE UFANELE UKUZIBONA NJENGOSO-MASHISHINI OPHELELEYO KUNGAKHATHALISEKI UKUBA UFAMA KAKHULU OKANYE KANCINANE – NGOKUNJALO AGCINE IMITHETHO-SISEKO ELUNGILEYO YOKULAWU-LWA KOSHISHINO. KWELI NQAKU SIJONGA UKUFAMA NGOKUKUJONGA KWIGLASI YESANDISO SOKUBUKA USHISHINO OLUSAQALAYO.

UNjengele Eisenhower wathi, *'Akukho ndoda ilumkileyo okanye akukho ndoda ikhaliphileyo ingqengqa kwimizila yembali ukube ilinde uloliwe wexesha elizayo ukuba ayinyathelo'*, oku kuthetha ukuba umfama ngamnye ufanele ukulihlalutya icandelo aze enze iizcwangciso zamanyathelo akhe ngokuqaphela okukhulu ngokweenenkukacha azipokelelayo.

UKUHLALUTYA UBUME OBUNGQONGE OKUPHATHEKAYO

Ngoku njengoko ndihlala kwiPhondo laseMntla Ntshona, abalimi baxakeke

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ngokukhulisa izityalo zasehlotyeni eztsha, basedabini nokhula kunye nezidalwa eztshabalalisa izityalo kanti futhi babek' iliso ngexhala kwiingxelo ngemozulu nakwindalo, zona izibhakabhaka eziggatsayo zibonakala ngathi aziyi ndawo unaphakade. Sinqwenela irhaladiya enobunono yelifu elinokugquma ilanga kunye nemikhwitsho yemvula eyaneleyo ukuba ithotyelwe emhlaben wethu owomileyo, nonxaniweyo – kodwa asisayi kukhalaza naxa izibhakabhaka zibonakalisa umsindo sezijke zamnyama, zitsha ngamafu adudumayo natshica imitha yomnyama zize zithumele iimvula ezigalelekayo!



AMAZWI AVELA... kuDu Toit van der Westhuizen

ENYANISWENI ELI XESHA LONYAKA SILIBZA NGOKUTHI LIxesha LEMERCEDES: LIxESA APHO IINKOZO ZIKWIMBEWU FUTHI SINETHEMBA LESIVUNO ESIHLE, KUXHOMEKEKE KWIINGINGQI EZALUKA-HLUKILEYO.

Eli lixesha apha abalimi bakhola ukuqalisa ngokukhangela kokubangqongileyo ukuze babone imoto entsha aza kuyithenga umntu, kodwa lungaba lukhulu udano xa isityalo sisuka singabi yiyo into ebilindelekile. Musa ukudlalela ekwenzeni ityala. Khumbula: '*Musa ukubala amantshontsho akho engekaqanduselwa*', ngokunjalo yenza konke okuse-mandleni akho phambi kokwenza ityala elingeyomfuneko okanye phambi kokuchitha nayiphi imali.

Sibe nexesha lokulima elinobunzima kweli lizwe, imvula ibingani kuyo yonke indawo futhi ingafiki ngexesh. Sibona kakuhe apha abanye abalimi bebenyanze-leke khona ukwenza izicwangciso ukuze bafake imbewu emhlabenzi kuselithuba ngethemba lokuba isityalo siya kukhula. Abalimi eMntla Ntshona ngakumbi eFree State bebengekafumani mvula ngeKrisimesi kwaze kwafuneka ukuba balungalungise ucwangcisel Iwabo Iwezityalo. Kulinywe umbona organeno noojongilanga abaninzi.

Basekho abalimi abatsala nzima ngokutshabala-isa ukhula. Ngokuqinisekileyo, ukhula lolona tshaba lukhulu lomlimi, kanti kunyaka ofana nalo, ukutshatyalalisa kokhula kunokuba ngumbandela ovalatha isityalo esikhulu nokusilela kwsityalo. Uncedo Iwemali nalo belunqongophele kakhulu kanti isisombululo somlimi esinye kuphela ibikukulondoloza okunokwenzeka ngapha-nidle kokunciphisa ukulima.

Ngethamsanqa, umlimi unakho ukwenza isicwangci-so, kananjalo aye enziwa amacebo! Abalimi mabaqinise-kise ukuba bagcina ubudlelwane obuphilayo nababolekisi babo. Kunyaka nonyaka kwenziwa amalinge okulungise-lela abalimi imali yoncedo kwaye kuthande ukuba lula xa umlimi ethembekile ngesityalo sakhe. Ukuba wena njengomlimi uziva ngathi kukho into engachanekanga entsi-mini yakho enokukuthintela ukuba ungakwazi ukuhlawa liahawunti yakho, xeleta ababolekisi bakho kwangoko.

Wanga umntu ngamnye osebenze nzima kweli xesha lokulima angasikeleka ade amangaliswe xa bemaxha-phetshu abavuni! Uyabulisa uMntla Ntshona. ■

Ukuba ukufama lushishino, abalimi...

Imingeni eyintlaninge ingumqobo obonwa ngabalimi ababukele amasimi ebuniswa bubushushu. Ufundonzulu IweYunivesithi yaseA Colorado State lutyhile ukuba **kufuneka isakhono sobuchule sokulawula amashishini ethu ngamaxhesha anjalo** kuba inkxalabo nodandatheko Iwenza abalimi babe zizisulu. Ngaphandle kwepateni yesimo sokuziphatha kwande ukusetyenziwa kweziyobisi, iingozi zaphakathi efama nokwenzakala kunye nokuzibulala. lingqokelelo-manani zityhila ukwanda kweempixano phakathi nabayeni namakhosikazi kunye nokujongana kakubi phakathi kwabazali nabantwana, kuze kubekho isiphumo sokungaqhube kakuhle esikolweni kunye namanqanaba aphantsi okuzithemb.

UBill Gates uthe sisoloko sinengqikelelo ephezulu ngenqanaba lenguquko eliya kubakho kwiminyaka elandelayo emibini – kodwa sinengqikelelo ephantsi ngenqanaba lenguquko eliya kusetyenzisa kwiminyaka engaphezu kwelishumi.

Ukwenza isiggibo kuxhomekeke kwindlela umntu aphendula ngayo kwiimeko ezmimgqongileyo. **Ekuggibeleni konke kuxhomekeka ekunyamezeleni.** Abantu abanyamezelayo ngabo baphuhla izakhono zemfezeko zobunkokeli ukuze bakhethe 'ukulwa' ingekuko 'ukubaleka'. Aba bantu bafuna izisombululo baze bazingele uncedo. Ukunyamezela kusinceda ngokuba sifumana ithuba lokulunga-lungisa indlela esicinga ngayo ukusuka kuluvo lokuswela ukuya kwindlela apha sizinzisa ingcinga yethu kwizigqibo zethu – kusishe-nxisa kwimo yokungenzi nto ukuya kuleyo yamanyathelo efama nakubudle-lwane bethu.

USOMASHISHINI UJONGA KWIKAMVA

UJIm Carroll ingcali kuggaliselo Iwekamva uqaphela oku, 'Abanye abantu babona isiqhe-lo – baphinde babone isoyikiso. Abavelisi bezi-nto ezintsha babona isiqhelo esinye – baze babone ithuba.' Ukholelwia ekubeni **sifanele ukufumana 'isakhono sentshukumo yeshishini'**. Oku kuyasomeleza ukuba siphendule kwiziqhelo ezhikhawulezayo ezivela ngaphandle ukuze sikwazi ukuchonga ithuba, ukuchitha umngeni nokulungelela-nisa imithombo yoncedo ukwenzela impumelelo ekhawulezayo. Abalimi abakholelwia ekubeni oku akubhekiswa kubo, benza impazamo. Esi sesona sizathu sokuba, umzekelo, abanye bagqalisele kwikamva labo lamaqonga orhwebo ngelixa abanye bermile ngenxa yokukruqua ka nokungabi nathemb.

Singayifumana njani le ntshukumo kushishino ngelixa sisukuzana nemibandela esenza sizive sinomthwalo osindayo



| S AMANDLA | W UBUTHATHAKA | O AMATHUBA | T IZOYIKISO |
|--|---|---|---|
| <ul style="list-style-type: none"> • Yeyiphi imiba yamandla elinayo ishishini lakho eyenza ukuba ube nokhutshiswano oluncomekayo? Imizekelo ingaqua usa-pho, abasebenzi, oomatshini, ubukhulu befama, njalo njalo. • Yintoni oyenza phucukileyo kunaye nabani omnye? • Ungumlawuli olichule wemisebenzi yeofisi, ingcali kwezolimo okanye umkhandi? • Ungumqeshi ohlonipheka kakhulu? • Ingaba uyakwazi ukuggiba imisebenzi yokulima neyokuvuna ngendlela encomekayo? • Abanye babona yiphi imiba eyalatha amandla kuwe? | <ul style="list-style-type: none"> • Kokuphi onokukuphucula? • Zinto zini ezikubuyisela emva? • Zeziphi iinguquko ezincinane ezinokuba nefuthe elikhulu? • Zinto zini ofanele ukuzithintel? • Sowulugqibile uhlalutyo lwemali yeshishini lakho ukuze uvavanye ishishini? • Zeziphi izinto abanye abalimi abazenza phucukileyo kunawe? | <ul style="list-style-type: none"> • Zeziphi iziqhelo ezijongene neshishini lakho? • Kungafuneka ukuba wande ngobukhulu okanye ufanele ukugcina ubukhulu bakho bangoku? • Kwenzeka ntoni eluntwini lwakho enokuba lunchedo kuwe? • Ingaba kukho izibonelelo ezitsha ezifika kwindawo yakho eginokuzisa abathengi abatsha bezityalo ozilimayo nozitengisayo? • Ingaba likhona ithuba lokuthengisa ngqo kubathengi bendawo? • Ingaba kukho ummandla wabathengi onokukunika umtyhi/wohlobo olulodwa? | <ul style="list-style-type: none"> • Zeziphi izithintelo ojongene nazo? • Ingaba ukhutshiswano lwakho lwenza ntoni? • Ingaba iinguquko kwezobuchwepheshe zisisoyikiso kwishishini lakho? • Ingaba imeko yakho yemali isisoyikiso kwishishini lakho? • Ingaba kukho nabuphi ubuthathaka obunokuba sisoyikiso kwifama yakho? |

kwaye sisoyiswa? Sijolisa ngokutsha emfanekisweni obanzi ukuze sifumane umbono ngemisebenzi yethu apho sinokuphumelela khona phakathi kwe-nguquko. UCarroll uthi imibandela esinokugqalisela kuyo yile:

- Ukwakha ngokutsha izakhono zethu zobukrelekrele bokhutshiswano;
- Ukyeka isithethe nokufumana iiprojekthi ezithe kraty ukuya kwinco-pho yobunkokeli;
- Ukenza iziqqibo ngokungathandabuziyo;
- Ukuza nezimvo ezintsha;
- Ukuwahlisa ubudlelwane obungafani nobunye nokudibanisa iintloblo ezingafaniyo kanye; kananjalo
- Ukuqihelanisa nobuchwepheshe obutsha – ngokukhawuleza!

UBill Gates uthe sisoloko sinengqikelelo ephezulu ngenqanaba lenguuko eliya kubakho kwiminyaka elandelayo emibini – kodwa sinengqikelelo ephantsi ngenqanaba lenguuko eliya kusetyenzisa kwiminyaka enga-hezu kwelishumi. Kwiminyaka elishumi edlulileyo, kwakungekho twitter, kungekho mfundu weAmazon Kindle kanti iFacebook yayisetyenziswa ngabafundi beeyunesithi, ubukhulu becalo – kanti no-Apple neeiPad zasingumdlalo wabantu abambalwa – kodwa namhlanje zizixhobo ezibalekileyo ebomini bemihla ngemihla. Akukho mathandabuzo ekubenidinga ukugcina umnwe wethu ngokwesinqisho senguquko.

Linguquko ezimbalwa ezikhankanywe kwi '25 Trends for 2025' kaCarroll zezi:

- Imali iya kuba nako konke kodwa ithi shwaka.
- IAfrika iya kuba iyekile ukuba 'lilizwekazi lasemaphandleni' ngenxa yenyambalala yemfuduko naleyo isingisa ezidolophini. Uninzi Iwananani aphezelu ehlabathi luya kuba luhlala kwizibhadlalala zezixeko ezinganeno kwezingama-30 ngowama-2025.
- Inyambalala yabantu kwiindawo eziziidolphu iya kunyanzelisa ukwandisa okuya phezulu nobuchwepheshe 'bookrwe' izulu'.
- Ubude bobomi obulindelekileyo entshona buya kwanda ngelixa busenokwetha eAsia, eAfrika naseMiddle East.
- Kuya kuvela umfuziselo omtsha woshishino onamaqela amancinane abantu abaggalisele kwiinjongo, kwizimvo nakwiingcinga ezintsha. Phupha ngezinto EZINKULU. Kodwa yiba mncinane!

- Iphepha liza kuba yinto 'yamandulo'.
- Imfundu iza kushenxela kulwazi Iwe 'just-in-time'. Amathuba aya kuxhomekeka kwisakhono sokuzuza imfundu efanelekileyo ngexesha elifanelekileyo ngenjongo efanelekileyo. Imfundu yesidanga yaseyunivesithi iya kuphelelwa lixesha.
- IAfrika engeZantsi kweSahara iya kuhluma njengehlabathi leChina entsha ngezinto ezintsha eziqanja ngokukhawuleza okweosimosisi yamanzi, kuphume ubutyuwa ngokunjalo kubekho nolawulo lobucukubhede bemozulu.

HLOLA ISHISHINI LAKHO NGOKU

Ndicela umneni kuwe wokuba uqale lo nyaka mtsha ngokuqhoba uhlalutyo IweSWOT ukwenzela ishishini lakho. Uhlalutyo IweSWOT linyathelo lokuqala elikhokelela kucwangcisel iwezicwangciso-cebo zeshishini lukwasisixhobo esisetyenziselwa ukuhlalutya amandla (S), ubuthathaka (W), amathuba (O) kanye nezoyikiso (T) zeshishini. Esi sisixhobo esiluncedo sokufumanisa okuthe kraty ngale miba mine yeshishini lakho kwaye iya kukukhokelela ekubenii ukhangele isakhono sempumelelo ngokunjalo uyazi imingcipheko.

Zoba izikwere ezine ephepheni elingenanto njengoko kuboniswe kwiTheyibhile 1 uze ufakele naziphi iingcinga ezifika engqondweni kwiibloko ezifanelekileyo. Imiba yaMandla neyoButhathaka iya kuba yimibandela yangaphakathi okwaziyo WENA UKUYILAWULA, UKUYIPHEMBELELA NOKUYIGUQLA kanti izikwere ezibini ezeiszantsi ziya kuba ngaMathuba neZoyikiso ezigqaliselwe kwimibandela YANGAPHANDLE imibandela ongenakukwazi ukuyilawula – kodwa kungenzeka uzelawule ngendlela enciphisa ifuthe elingafunekiyo kuwe nakwishishini lakho.

Uhlalutyo IweSWOT asingomsebenzi owensiwa kanye uze udlule kodwa uluphengululo lonyaka ngamnye. ulusebenzisela uphengululo Iweempumezo, ukulinganisa izakhono nokuchonga imiba edinga ukuphuculwa. Ukuba sizimisele ngokuphumelela kushishino sidinga ukuzimisela ngomgaqo esivusebenzisela uwangcisel iwezicwangciso-cebo kwaye silulandele kude kuphele unyaka. Wanga unyaka ka-2019 unganguanya wemfezeko nosinika umvuzo thina sonke. ■

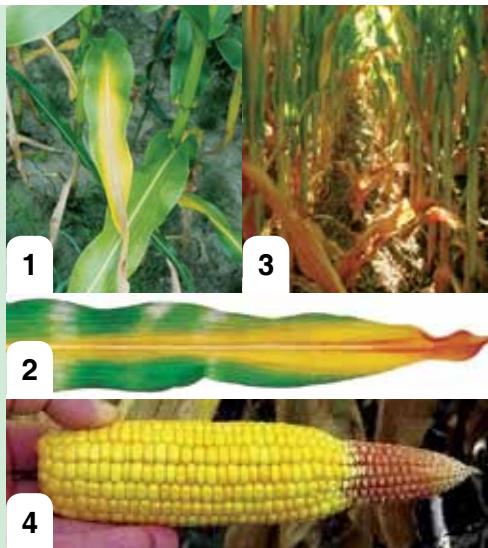
IZIDINGO ZESICHUMISO

ekulimeni umbona ngobuchule



I-NITROGEN (N)

- Ukuncipha kokukhula kwsityalo noku-cotha kokudubula kweentyatyambo.
- Umbala oluhlaza olungaqaqambanga okanye otyheli (**iFoto 1**).
- Ukujika kwamaggabi amadala abe tyheli ukususela encamini, ukwehla embindini ngokwepateni kanobumba "u-V" oqutuyudiweyo (**iFoto 2**).
- Ukuba unqongophalo lunzulu indawo echaphazelekayo ekugqibeleni ijika ibe ntsundu ize ife. Amaggabi amadala abonisa iimpawu zokuqala (**iFoto 3**).
- Incum yesikhwebu ayinazinkozo kanti incum ijika iphele ngokungalungele-nanga ngeenkozo ezilukhuni (**iFoto 4**).



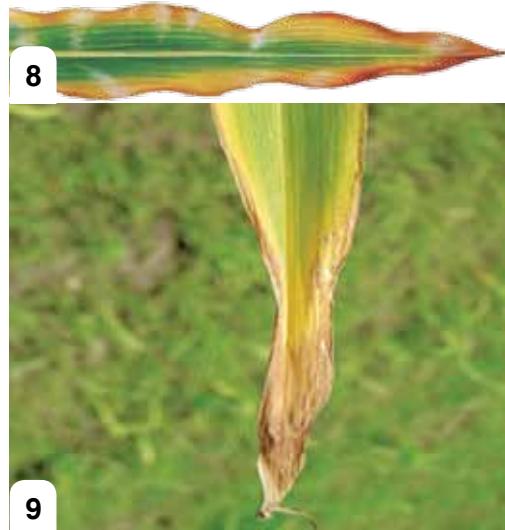
I-POTASSIUM (K)

- Ukuba tyheli kwemiphetho yamagqabi ukususela encamini; emva koko atshe; kodwa umbindi uhlala uluhlaza (**iFoto 8**).
- Ukuba tyheli kwamaggabi kuqala emaggabini asezantsi okanye amadala kuze kunwenwele phezulu. (**iFoto 9**).
- linkozo ziyancipha ngokobukhulu ukuya encamini, ukuze zivele "zitsolo" kakhulu.
- Izityalo esezikhulile ziwa lula ngenxa yokuncipha kwesitroyi okanye kwa-mandla esikhondwana. Oko kwenzeka, ubukhulu becalo, ngenxa yokuba iintlobo ezo ziba zizisulu ngakumbi zezifo phantsi kwemeko ezinjalo.



I-PHOSPHORUS (P)

- Amaggabi ajika abe mfusa kwizityalo ezitsha. (**iFoto 5 neFoto 6**).
- Ukukhula ngokupheleleyo kuyabambezeleka. (**iFoto 7**).
- Ukuncipha kokudubula kweentyatyambo kunye(okanye kokuvela kweenkozo).
- Umxokomelwano weengcambu zezityalo awupuhuhli kakuhle.



UKUZE NASIPHI ISITYALO KUQUKA NOMBONA SITHWALE IMVELISO KANGANGOKO, KUFUNEKA UKUBA MAKUSOLOKO KUKHO UKUFUMA OKUYIMFUNEKO NEZAKHI-ZONDLO ZEZICHUMISO ZIFANELE UKUSOLOKO ZIFUMANEKA NGOKWEZIDINGO ZESITYALO.

Izakhi-zondlo zezixa ezikhulu ezifuneka kakhulu kwsityalo yiNitrogen (N), iPhosphorus (P) nePotassium (K) kodwa ziliqela nezinye izakhi-zondlo ezifana neMagnesium (Mg), iSulphur (S), iCalcium (Ca), iZinc (Zn) neManganese (Mn) ezidingekayo ukuze kubekho okona kukhula kuncomekayo.

I-Nitrogen (N) inoxanduva lweenqubo zobomi ezifana nefotosynthesisi, ukukhula nokuzala okutsha. Ulondolozu lokuchongeka kofuzo luxhomekeke ubukhulu becalo, kwinitrogen. Ifuthe eliphambili le-nitrogen kukuba linika uphawu lombala oluhlaza emaggabini kanti nokukhula ngokuzandisa kwezytalo kunxulunyaniswa ne-nitrogen.

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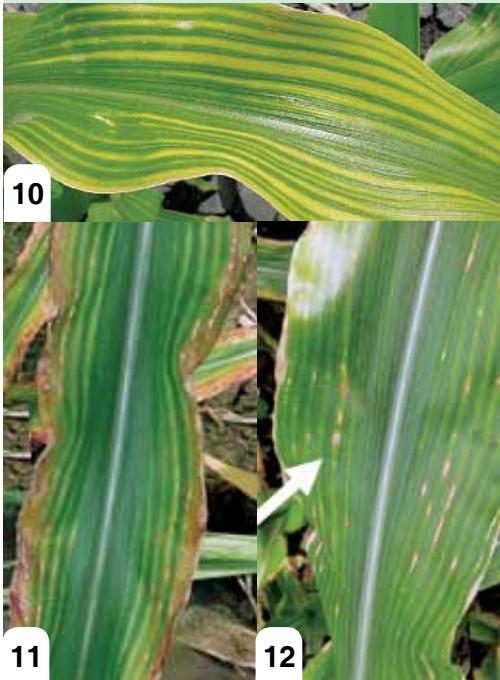
I-Phosphorus (P) nayo inendima kwifotosynthesisi, ukuzala okutsha nokulondolozeka kokuchongeka kofuzo, kanti ikwadlala indima kwiinkqubo zokuphefumla. I-phosphorus inxululunyaniswa ngakumbi nokuzandisa kweeseli ngokuzicanda, ukukhula kweengcambu, ukudubula kweentyatyambo nokukhula ngokupheleleyo kwesityalo.

I-Potassium (K) inxulumene nesitroyi okanye amandla ezikhondwana (ngakumbi kwiinkozo), imbalela nokumelana nengqelete kunye



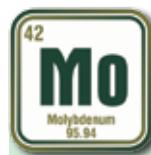
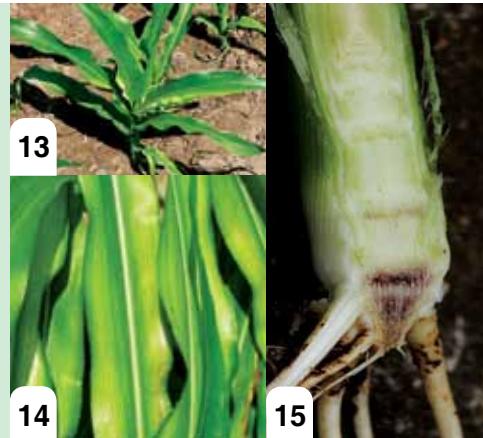
I-MAGNESIUM (MG)

- Imirhithi etyhel i phakathi kwemiqolo yamaggabi (**iFoto 10**).
- Imirhithi ejika ethubeni ibe "yimicukaniso" (**iFoto 11**).
- Amabanga asekuqaleni – ubutyheli obuphakathi kwemiqolo (**iFoto 12**).



I-ZINC (ZN)

- Izityalo ziyanqaphela ubukhulu becalo (**iFoto 13**).
- Imirhithi etyhel i okanye imigca emaggabini ezityalo ezitsha (**iFoto 14**).
- Isenokubonisa yimirhithi ebanzi yobutyheli kwicala elinye okanye kuwo omabini ombindi wamaggabi.
- Ukukhula okujika kube mhlophe.
- Icala lesikhondwana ngokobude baso libonisa ukujika kwamaqhubu asezantsi abe sabumnyama (**iFoto 15**).



I-MOLYBDENUM (MO)

- Amaggabi akholisa ukuba luhlaza okungekho nzulu kwaye angabi banzi (**iFoto 16**).
- lincam zamaggabi nemiphetho yezityalo ezitsa ziyatsha.
- Imbewu ayizinzi kakuhle ngenxa yonqongophalo lomvumvuzelo olusebenzayo.
- Ukuntshula kwembewu okwenzeka phambi kwexesha ngakwisikhwebu lolunye lwe-empawu zonqongophalo lwe-molybdenum.



nomgangatho weziqhamo. Ikhuthaza ukubumbeka kweprotoheyini, iswekile, isitatshi kunye neeoyle.

KwiGrafu 1, kuboniswa isantya seNPK sokufunxeka kwezondlo emboneni ngokwalathwa nguPannar. NgokWeGrafu 1 kubaluleke kakhulu ukuba zonke izakhi-zondlo zifumanek kuselixesha ukuze isityalo sithwale imveliso kangangoko.

Phambi kokudubula kweentyatyambo, izondlo ezininzi sukuba sezi-funxiwe sisityalo. Oku kwenza ukuba kubaluleke kakhulu ukuba zonke izondlo mazifumanek kuselixesha.

NgokweNcwadana yeziChumiso epapashiwego yoMbutho weziChumiso waseMzantsi Afrika, itoni e-1 yombona othengisekayo (kusala izikhondwana entsimini) iya kuthatha malunga ne-15 kg N, 3 kg P ne-4 kg K, 0,5 kg Ca, 1 kg Mg ne- 4,5 kg S. Oku kuthetha ukuba isivuno seetoni ezi-4 siya kudinga ama-60 kg N, 12 kg P ne-16 kg K, 2kg Ca, 4 kg Mg ne-18 kg ye-S. Khumbula ukuba le yikhilogram yezakhi-zondlo ezahluka-hlukileyo asiyokhilogram yesichumiso esifakiwego.

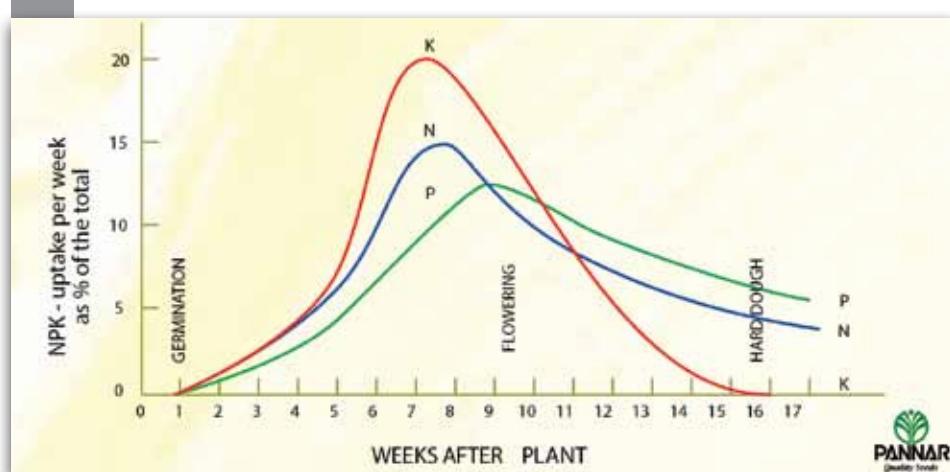
Ezi nkukuchaka maziqukwe xa kusenziwa isigqibo malunga nobungakanani nokuthi sesiphi isichumiso esifanele ukufakwa ukwenzela eyona mveliso iphucukileyo yombona. Iziphumo zesampulu yomhlaba nesakhono somhlaba nazo mazihlanganiselwe ukuze kufunyaniswe izidingo zesichumiso nezekalika.

IIMPAWU ZONQONGOPHALO ZEENTSILELO ZEZAKHI-ZONDLO EZAHLUKA-HLUKILEYO

Impawu ezilandelayo zonqongophalo ziqhelekile kwiintsilelo zezakhi-zondlo ezahluka-hlukileyo. Ukuba ezi mpawu ziyabonakala oko kuthetha ukuba siya kuncipha isivuno.

Kubalulekile ukungaluboni olu nqongophalo emasimini kodwa kufuneka luthintelwe ngokufaka izichumiso ezaneleyo ukwenzela ukufumana eyona mveliso intle. ■

1 Isantya sokufunxeka kwezondlo seNPK emboneni ngokwalathwa nguPannar.



IZITYALO ZOKUTSHINTSHA

Imixube nokusetyenziswa eNtshona Koloni

UKUSETYENZISWA KWEZITYALO ZOKUTSHINTSHA KWII-NKUBO ZOKULIMA YINTO ENTHA ENTSHONA KOLONI. IQELA LABALAWULI BEENZULULWAZI ZEZITYALO BESEBE LEZOLIMO ENTHONA KOLONI LIPHUMEZE IIPROJEKTHI EZIMBINI ZOKUVAVANYA UKUSETYENZISWA KWEZITYALO ZOKUTSHINTSHA KWIMINYAKA EDLULILEYO EMIN. ENYE IJOLISWE EKUVAVANYWENI KWEMIXUBE YEZITYALO ZOKUTSHINTSHA EYAHLUKA-HLUKILEYO KANTI ENYE IGOALISELWE EKUSETYENZISWE NI KWEZITYALO ZOKUTSHINTSHA.

YINTONI ISITYALO SOKUTSHINTSHA?

Isityalo sokutshintsha sisityalo okanye umdibaniso wezityalo ezilinyelwa, ubukhulu becalo, ukuthintela ukhukuliseko lomhlaba, ukulawula ukuchuma komhlaba, umgangatho womhlaba, amanzi, ukhula, izitshabalalisi zezityalo, izifo, ububanzi bendalo ephilayo ngokunjalo nendalo yasendle kwinkqubo yokuphilisana kwendalo kwezolimo. Sifanele ukukhumbula ukuba ifama iyimbumba yokuphilisana kwendalo kwezolimo. Ayiquki kuphela izityalo esizityalayo nezilwanyana esizifuyayo, kodwa iyintlanganisela yeentlobo eziyindalo zezityalo, izilwanyana, iintaka nezinambuzane.

Enye yezona ngxaki zinkulu sijongene nazo kwezolimo namhla kuku-nqongophala kokwahluka-hluka xa sithelekisa imisebenzi yefama nento eyayiyo phambi kokuqaliswa kwezolimo. Ngelishwa, kukho iinkqubo zokuphilisana kwendalo eziyindalo esizitshabalaliseleyo ebezikwiifama zethu nguko sifanele ukuqwelasela iindlela zokubuyisela imifuziselo yezi nkubo ukuqinisekisa uzinzo oluthe kratya kwimisebenzi yethu yokufama.

APHO KUQUKWA KHONA ISITYALO SOKUTSHINTSHA NOKUKHETHWA KWEISITYALO SOKUTSHINTSHA

Ingaba isityalo sokutshintsha singena ndawoni kwixesha lethu lokulima eNtshona Koloni? Ngenxa yonqongophalo lweemvula zasehlotyen'i kweyona ndavo inkulu eNtshona Koloni, impumezo yesityalo sokutshintsha iza kufanele ukuba yinxaleny'e yesicwangciso sakho sojikeleziso lwezityalo sangoku sokulinywa kwezityalo zasebusika.

Ngokuquka isityalo sokutshintsha kujikeleziso lwezityalo oselukhona, uncama ithuba lokulima isityalo semali eyikheshi, ngxaki leyo esabakhathayayo abalimi. Nangona kunjalo, ziliqela izinto eziluncedo ezinokufumaneka xa kuqukwa isityalo sokutshintsha kwinkqubo yokufama njengoko kubonakala kwinkcazelou engasentla.



Imixube yezityalo sokutshintsha ezilinywe eRiversdale (2016).



Izityalo sokutshintsha zasehlotyen'i eRiversdale.

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Umzekelo werola yamafongqofongqo.

Ukuba ufuna indlela efanelekileyo yokutshabalalisa ukhula, lima isityalo esinye esichasana ngamandla nokhula. Umzekelo obalaseleyo yiowuthsi emnyama okanye iowuthsi yesaia. Kuvavanyo esiphuhiisa kulo imixube, silinganise ubunzima obupheleleyo bendalo ephilayo obuveliswa zizityalo sokutshintsha ngokunjalo nokutshatalaliswa kokhula.

Kumaxesha adulileyo amabini okulima iowuthsi emnyama ayikhange ibe nalukhula kwaphela kuvavanyo. Kwakhona ivelisa ubunzima obupheleleyo obuphezulu obunokuncheda ngokugquma umhlaba wakho ngeenanya zobushushu zehlubo ngokunjalo buthinte nokhukuliseko lomhlaba ngumoya. Ukuba unezilwanyana kwifama yakho kungaphinda kube luncedo oko njengoko izilwanyana zisenokutya intsaleda ehlotyeni. Kwithuba langoku sitsaliswa nzima kukumelana kokhula nezitshabalalisi zalo kwezinye zee-ntlobo zokhula esinazo nangokusebenzisa isityalo sokutshintsha, oko kunika umlimi esinye isixhobo esisebhokisini yezihobo zokutshabalalisa ukhula.

Umbono uphelele malunga nezityalo sokutshintsha kukuzilima ngokusebenzisa ezona mveliso zamalungiselelo amancinan. Sizityala ngaphandle kwezichumiso futhi asifaki naziphi iimveliso zamalungiselelo kweli xesa lokulima. Phambi kokumila kwembewu siyinqanda ngerola yamafongqofongqo (jonga **iFoto 1**) okanye ngesitshabalalisi sokhula esiyikhemikhali ehangana nalo.

Xa sithetha ngemixube (**iFoto 2**), kubalulekile ukuchaneka kolwalama-no lwemixube eyahluka-hlukileyo kungenjalo uhlobo olunye lusenokucinezelza ezinye izityalo ezikumxube nazo. Uncedo lwemixube luxhomekeke kubunzuu beengcambu obahluka-hlukileyo bezityalo ezahluka-hlukileyo. Izityalo ezineengcambu ezingekho nzulu kangako zikuniqa uncedo lokuqhekeza ukugangatheka okungaphezulu ngokunjalo nezityalo ezineengcambu ezithande ukuba nzulu, njengoko iradishi ehlakulelwayo, inika ukuhlakule-lwa okunokwensiwa ngohlolo oluyindalo leemaleko ezigangatheke nzulu.

Malunga nemixube, ukholis ukufulanisa ukuba isixa esipheleleyo sithe kratya ngobukhulu kunamalungu, meko leyo ethetha ukuba sikholis ukufulana imveliso ethe kratya yobunzima obupheleleyo bendalo ephilayo xa kusetyenziswe imixube kunaxa iluhlobo olunye lwezityalo. **Kwitheyi-bhile 1** kukho uludwe lwemixube eyahluka-hlukileyo evavanywayo ngoku kwinkqubo yethu yophando. Uludwe luhinda lunike imveliso yobunzima obupheleleyo bendalo ephilayo kune nokutshatalaliswa kokhula kwimixube eyahluka-hlukileyo.

| Umxube | Izityalo | Isantya sokufa-kwa kwembewu kg/ha | Isivuno sobunzima bokuphilayo kg/ha | | Ipesenti yokhula | |
|--------|--|-----------------------------------|-------------------------------------|----------|------------------|----------|
| | | | eTygerhoek | eCaledon | eTygerhoek | eCaledon |
| 1 | Irayi eyisiriyeli | 15 | 2 779 | 3 325 | 41 | 6 |
| | Izityalo ezigwencelayo | 15 | | | | |
| 2 | Ilerityisi zefula | 40 | 2 690 | 3 237 | 32 | 6 |
| | Irayi | 15 | | | | |
| 3 | Irayi eyisiriyeli | 10 | 2 918 | 3 695 | 45 | 5 |
| | Izityalo ezigwencelayo | 10 | | | | |
| | Imidumba yelupin eKrakrayo | 40 | | | | |
| 4 | lowuthsi yesaia | 10 | 3 291 | 2 973 | 35 | 7 |
| | Izityalo ezigwencelayo | 10 | | | | |
| | Imbotyi yefaba | 30 | | | | |
| 5 | Irayi eyisiriyeli | 7 | 3 191 | 3 082 | 30 | 4 |
| | Izityalo ezigwencelayo | 10 | | | | |
| | Ilerityisi zefula | 25 | | | | |
| 6 | Imasitadi emhlophe | 1 | 2 812 | 3 000 | 42 | 4 |
| | Ibhali eyifula | 20 | | | | |
| | Iklowuva yeberseem | 5 | | | | |
| | Ilerityisi zefula | 25 | | | | |
| | Iradishi ehlakulelwayo | 1 | | | | |
| 7 | Iklowuva ebomvu | 5 | 1 752 | 2 828 | 59 | 6 |
| | Irayi yezijungqe | 10 | | | | |
| | Iradishi yesiJapani | 10 | | | | |
| 8 | Ilerityisi zefula | 40 | 3 533 | 3 413 | 49 | 6 |
| | Irayi eyisiriyeli | 15 | | | | |
| | Iklowuva emhlophe eswiti | 5 | | | | |
| 9 | lowuthsi eyisaia | 50 | 3 087 | 4 116 | 0 | 0 |
| | Irayi yezijungqe | 10 | | | | |
| | lowuthsi eyisaia | 10 | | | | |
| 10 | lowuthsi ebomvu | 10 | 3 050 | 2 839 | 29 | 8 |
| | Izityalo ezigwencelayo ezityiswa impahla | 10 | | | | |
| | Iklowuva yesiPersia | 4 | | | | |

INDELA YOKUSEBENZISA ISITYALO SOKUTSHINTSHA

Uphando ngemigaqo eyahluka-hlukileyo yokusetyenzisa kwezityalo zokutshintsha Iwenviwa eLanggewens Research Farm kufuphi neMooreesburg. Sithelekisa ukutyisa impahla isityalo sokutshintsha nokusisusa njengesitha sefula okanye ukusishiya njengentsalela kumphezulu womhlaba.

Kukho iziphumo ezinomdlal ezivela kwezi zifundo. Kufanele ukuba kucacile ukuba ukushiya isityalo sokutshintsha njengentsalela kuya kukhokelela ekugqumakaleni okukona kuphezulu komhlaba, xa kuthelekiswa neminye imigaqo emibini. Ukutyisa isityalo sokutshintsha, kungakwenza ukugquma kumphezulu womhlaba ukuba ukutyisa kuyekiswa kwangoko ngokwaneleyo ukuze kuphinde kwenzeke ukukhula.

Ngokwenza isittha sefula ngesityalo sokutshintsha, phantse konke okukhoyo kuyasuswa kumphezulu womhlaba. Iziphumo ezimangalisyalo kolu vavanyo zivele ngokuthelekisa izondlo ezifumanekayo ezirole emhlabeni neziphakathi kwentsalela. Inkubo yezitha zefula isuse inani eliphezulu lezondlo xa kuthelekiswa nezinye iindlela ezimbini. Nangona kunjalo, akukho kwahluka kwisiqulatho sezondlo ezikhoyo xa kuthelekiswa nesityalo esilandelayo phakathi kweeplothi ekutyiswa kuzo neeplothi zesigcina-kufuma. Oku kuhambelana kakuhle nokusetyenzisa kwezityalo zokutshintsha njengezixhasa ukutyiswa kwempahla ukuze oko kukwenze kuge lula noko ukuluthengisa uluwo Iwezityalo zokutshintsha kubalimi.

Ngaphandle kokuquka izityalo zokutshintsha phakathi kwamaxhesha akho okulima izityalo, kukutyalu isityalo sokutshintsha sasehlotyeni. Nangona kunjalo, oku kunzima kakhulu eNtshona Koloni xa ungenalo unkenccesho. Kukho abalimi eMzantsi Koloni abalime izityalo zokutshintsha zasehlotyeni ngempumelelo eshiya-shiyanayo (ngakumbi ingca yeTeff neentlobo-ntlobo zamazimba), kodwa kungakho iimvula zasehlotyeni, ezingekhoyo eSwartland. Sifumene impumelelo ngezityalo zasehlotyeni zokutshintsha kuphela kuphando Iwethu kunyaaka omnye kwemithathu esizilime ngazo.

Unyaka obe yimpumelelo ufumene ama-200 mm emvula ngexesa lasehlotyeni (**Ifoto 3**). Ukuba uyakwazi ukulima izityalo zokutshintsha zasehlotyeni oko kunganika umlimi amathuba awongezelelweyo okutyisa impahla anokukhetha kuwo okanye anike intsimi ukhuselo lokugqumeka kukhukuliseko lomoya naselangeneli eligqatsayo lasehlotyeni, ngokwenza njalo umhlaba ugcineka upholile kwaye oko kungaphinda kuncede ngokugcinwa kokufuma ehlotyeni kwinyanga kaFebruwari, ekaMatshi neka-Apreli.

ISIPHETHO

Izityalo zokutshintsha zisenokuzisa inguqu-nguquko enku kwiinkquo zethu zangoku zokulima ngelixa kuqinisekiswa ubukho bokutyoka okwaneleyo ngokunjalo kusandiswa ububanzi bokwahluwa kwendalo ephilayo efama. Sininqwenelela uvuyo nonke ekulimeni kwenu izityalo zokutshintsha. ■

Inkangeleko yengqolowa ngo-2018/2019

ELI NQAKU LISHWANKATHELA OKULINDELEKILEYO MALUNGA NEMIMANDLA YENTENGISO YELI LIZWE NA-KWIHLABATHI LIPHELELE, NGOKWEMVELISO, INTENGISO, INTENGO, URHWEBO NEMPAHLA EGCINIWEYO EKUVALWA NGAYO.

OKULINDELEKE EHLABATHINI

Ehlabathini ngowama-2018/2019 iintengiso zengqolowa zilindeleke ukuba zande ngezigidzi zezigidi eziyi-0,8 ngenxa yezo zongezelwe ukusuka eRussia naseCanada, ezihlangabeza ukuncipha kwemveliso yaseAustralia.

Ngokusekwa kuqikelelo oluahlaziwyeo lweABARES, imveliso yaseAustralia yehle ngeetonie ezingama-500,000 ukuya kwizigidi ezili-17,0. Le mveliso inokuba yeyona iphantsi yengqolowa yaseAustralia ukususela ngo-2007/2008. Imveliso yengqolowa yaseCanada inyuke ngeetonie ezingama-300,000 ukuya kwizigidi ezingama-31,8, ngokusekwa kuqikelelo olulolona lwanva lweStatistics Canada.

Urhwebo ekugqaliselwe kulo lihlabathi ngo-2018/2019 lunganeno, njengoko luncitshisa ziintengiso zaseAustralia, iEU neU.S nezhlangatyeza ngokungaphelangza ziintengiso zaseRussia eziphezelu, ezande ngezigidzi zeetonie eziyi-1,5 zezigidi ukuya kwizigidi ezingama-36,5.

I-Russia nabanye abathengisi beBlack Sea bayaqhuba ngokuzikhuphela ngaphandle iintengiso zase-EU neU.S. kwimimandla eliqela yentengiso kwisiqingatha sokuqala sowama-2018/2019 kodwa kulindeleke ukuba lwetha ukutshiswano kwisiqingatha sesibini ngenxa yokuncipha kweentengiso zangaphandle. Iintengiso zengqolowa ezithengiswa eAustralia zehle

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ukususela kwizigidi eziyi-1,0 zeetonie ukuya kwizigidi ezili-10,5 njengoko amaxabiso okuthengisa ngaphandle kulindeleke ukuba ahlale engenakhtshiswano aphi iintengiso ezinini ziya kusetyenziselwa isondlo seli lizwe.

Impahla egciniwyeo ekuvalwe ngayo ehlabathini inyuswe ukususela kwizigidi eziyi-1,4 zeetonie ukuya kwizigidi eziyi-268,1, kakhulu ngenxa yokwanda malunga ne-EU kunye ne-U.S. kodwa kube ngane-no nge 4% kwingxelo yonyaka odlulileyo ebizigidi ezingama-279,9.

OKULINDELEKE KWELI LIZWE

Intengiso yengqolowa igqaliselwe kwizigidi zeetonie eziyi-3,9 ngonyaka wentengiso wango- 2018/2019; oku kuquka malunga neetoni ezingama-700 000 zempahla ekuvulwe ikhona ngomhla woku-1 kuOkthobha 2018, izixa zorhwebo lwei lizwe zezigidi eziyi-1,8 zeetonie kunye nezigidzi eziyi-1,4 zeetonie kunye nezithengwe ngaphandle zezigidi eziyi-1,4 zeetonie, kunye nentshiyekela yeetonie ezingama-8 000.

Intengo yengqolowa igqaliselwe kwizigidi eziyi-3, 3 zeetonie; oku kuquka izigidzi eziyi-3,2 zeetonie ezitywa ngabantu, iitoni eziyi-3 100 ezinkelwa kubasebenzisi ekupheleni zize zirhoxiswe ngumlimi ngokunjalo neetoni ezingama-19 000 zembewu ngeenjongo zokutyalu.

Impahla ethengiswa ngaphandle ekugqaliselwe kuyo ziitoni ezingama-37 000 yemveliso eziqhutelwa phambili kunye neetoni ezingama-80 000 zengqolowa epheleleyo.

Amanqanaba empahla egciniwyeo eyingqolowa agqaliselwe ekubeni ibe ziitoni ezingama-600 0000 ngomhla wama-30 kuSeptember ngo-2019, aphi umyinge wesixa esiqhutelwa phambili siya kuba ziitoni ezingama-260 000 ngenyanga, ezimele impahla egciniwyeo ekhoyo kwiintsuku ezingama-68.

1 Iintengiso nentengo yengqolowa yehlabathi.

| | 2017/2018 | 2018/2019 | |
|------------------------|-------------|-----------------------|-----------------------|
| | Ingqikelelo | Imigqaliselo (01 Nov) | Imigqaliselo (06 Dec) |
| Imveliso | 760,3 | 727,9 | 725,1 |
| Intengiso | 1 015,4 | 1 004,7 | 1 001,9 |
| Ukusetyenziswa | 738,0 | 740,1 | 739,6 |
| Urhwebo | 176,2 | 173,2 | 172,5 |
| Impahla ekuvalwe ngayo | 276,7 | 264,4 | 264,5 |

Umthombo weenkucakacha: Amis (2018)



You need to be aware of what others are doing,
applaud their efforts, acknowledge their successes,
and encourage them in their pursuits.
When we all help one another, everybody wins.

~ JIM STOVALL



Ukulungiselela ixesha lokutyala

– ingqolowa nebhali enkcenkceshwayo

AMALUNGISELELO AFUNEKAYO OKUTYALA INGQOLOWA OKANYE IBHALI EFAMA OKANYE KWINDAWO YONKE-NKCESHO OLUIKELEZE ISIZIKITHI MHLAWUMBI ASENO-KUFANA NGOMLIMI NGAMNYE KODWA MHLAWUMBI, NGOKUBANZI, ANGAHLUKA NGOKWAMAVA ANGAPHA-MBILI OKULIMA NGOKOBUME BOMHLABA NANGOKWEENKQUBO ZOKUNKCENKCESHA EZIFUMANEKA KWIINDAWO EZITHILE.

Ulawulo olufunekayo lokufumana injongo yesakhono semveliso yengqolowa okanye sebhali luya kuxhomekeka kwimibandela ecingisiswe kakuhle nephunyezwe kwangokunjalo.

Le mbandela ingaquka:

- Inkubo yojikeleziso lwezityalo ecwangciselwe kakuhle.
- Ukukhethwa komhlaba.
- Ukuthathwa kweesampulu zomhlaba ukuze kuavavanywe ngokunjalo kuphuculwe imeko yokuchuma komhlaba.
- Inkubo esebezayo yokufakwa kwekalika ukuba akuzondleko ziphe-zulu ukuyifaka.
- Inkubo echanekeleyo yokufakwa kwezichumiso malunga nengqolowa okanye nebhali kuba iyileyo idinga amanqanaba ahluka-hlukileyo okufakwa kwenitrogen.
- Imigaqo efanelekileyo yokulinywa komhlaba.
- Ukutyla imihlanganisela eyiyona ifanelekileyo.
- Imilinganiselo echanekeleyo yeziqhobo zokutyala.
- Ukutyla ngelona xesha lilungileyo okanye ngethuba elifanelekileyo.
- Inkubo ecwangciselwe nephunyezwe kakuhle yokutshizela ukutshabalisa ukhula, izinambuzane nezifo phambi kwexesha lokulima nangethuba lokukhula kwezityalo.
- Ukuvuna ingqolowa okanye ibhali ngexesha elifanelekileyo.
- Ukuthengisa isityalo sakho ngendlela encomekayo.

IMIGQALISELO YOLAWULO PHAMBI KOKUTYALA

Yonke imibandela ekhankanywe ngasentla ifanele ukicingisiswa ngokuqaphela phambi kokwenza isiggibo ngesicwangciso esisesakho sokulima ngokunjalo namanyathelo afanele ukuthathwa. La manyathelo mawathathwe ngexesha elifanelekileyo ukuqinisekisa iimeko ezizezonazichaneke kakhulu zokutyala ngokunjalo nokutyala ngethuba elichanekeleyo ukwenzela imihlanganisela ekhethiweyo.

Ulwazi oluceolelwego lobucukubhede bemijikelo yokukhula kwengqolowa okanye kwebhalu malufunyanwe ngokufunda inkacelo ehanganiselwego efumanekayo. linkalo zokwahluka okubanzi kweenkcazelozamabanga okukhula kwemihlanganisela eza kusetyenziswe maziqatshelwe futhi imisebenzi yolawulo ilunga-ilungiswe ngoweemeko.

Umzekelo, malunga nokulinywa kwengqolowa, zintathu iinkqubo eziphambili ezikhoyo ezichaza iimpawu zokukhula kwengqolowa ezzizezi, iFeekes, iZadoks, neJoubert. Nokuba yeyiphi inkubo owenza isiggibo sokuyisenzisa kubalulekile ukwazi ukuba isityalo sakho sikweliphi ibanga lokukhula ukuze kugalelwwe isixa esichanekeleyo samanzi okunkenccesha ngokunjalo nesixa nitrogeen sinokufakwa ngexesha elichanekeleyo.

Ngokusebeniza zonke iinkcukacha namava angasentla kubalulekile ukufumanisa isivuno ekujolise kuso ngokweemeko okuzo ukuqinisekisa isakhono senzuko sesityalo. Lo mgqaliselo wesivuno uya kuphindawa lathezenzo ezichanekeleyo ezifanele ukusetyenziwa ukuze kuphunyezwe injongo.

UNKCENKCESHO

Ukusetyenziswa kwamanzi sisityalo sakho kuya kuxhomekeka ekufumeni okufumaneka kwimvula enileyo okanye kunkenccheso lwaphambi kokutyala obelusenzelwa ukubeka umhlaba emgangathweni wentsimi, nakwimvula efumanekisweta ngethuba lokukhula kwesityalo nasemanzini okunkencchesha afakiweyo.

Inqaku linikelwe ngumlimi othathe umhlala-phantsi



Bubaluleke kangako ekulinyweni kwengqolowa nebhali ubukho bojikeleziso lwezizikithi neempombo zalo obugcinwe kakuhle neetankizokuxutywa kwechumiso ezisebenza kakuhle ngokupheleleyo phambi kokualiswa kokutyala. Imijikelo yokukhula ikhawuleza kakhulu kangangokuba nakuphi ukwaphuka kwezixhobo zokusebenza kunokuthatha imali eninzi. Akunakugxiniswia ngokupheleleyo ukuba kufuneka ingqwalaseloyokuqinisekisa ukuba inxalenye nganye yesixhobo sokusebenza ikwimeko yokusebenza kangange 100%.

IMIGAQO YOKUHLAKULELA AMALUNGISELELO OMANDALAO WEMBEWU

Omnye wemigqaliselo ebaluleke kakhulu kukwahluka-hluka kwemisebenzi efuneckayoyokuqinisekisa owona mandlalo wembewu ufanelekileyo. Kucetyiswa umgaqo wokuhlakulela ngokwesiqhelo malunga nengqolowa kumjikelo wokulinywa kwengqolowa ukuze kuncitishiswe ithuba lobukho bezifo zeengcambu kwisityalo kodwa oko kuwushiya umhlaba usisisulu sokukhuliseka komoya nangamanzi. Kweminye imimandla yesicwanciso, kusetyenziswia imijikelo enganqunyanyiswayo yamaxesha alandelanayo okulima ngokulandeliswakombona ngengqolowa. Okukunganeziphumo ezibi malunga nokwetha kokuchuma komhlaba okunokhokelela ekucuthekeni kwezivuno zazo zozibini ezi zityalo.

Ukahlakulela ngolondolozo kunakho ukunciphisa ukhukuliselo olunokubakho lomoya namanzi kodwa kungakhokelela kwiintsaledezityalo ezigqithisileyo kumphezulu womhlaba ezinokukwenza nzima kakhulu ukutyla nkqu nangezona 'zixhobo zokutyala ezingahlakulelwayo'. Kulungile kona ukwakheka kwsixa esaneleyo sesigcina-kufuma kodwa singabangela izifo zeengcambu. Sifanele ujikeleziso oluquka imidumba, izityalo zasehlotyeni ezifana nombona kunya namathuba okuyekwa njengefusi xa kwenzive imijikelo yonkenccheso eminini njengakwimisibenzi emikhulu yokufama.

AMATHUBA ANGAWONA AFANELEKILEYO OKUTYALA NOYONDELELWANO LWEMBEWU

Isanya sokufakwa kwembewu ngokweekhilogram ngehektare nganye ukwenzela ukutyla okukokona kufanelekileyo namanani ezityalo ngokwesikvere semitha kokona kubalulekile malunga nezivuno eziphezulu zesityalo. Umlimi makayenze ngokuqaphela imilinganiselo aze abale amanani embewu ngekhilogram nganye efanele ukutyalwa. Kungenjalo, isixa sobunzima bembewu engange-1000 bunokfunyaniswabusetenyisziswe ukuze kusetyenziswe umlinganiselo ochanekileyo we-kg/ha kuso sonke isixhobo sokutyala esisetyenziswayo. Okukunokwahluukususela kwiigram ezingama-25 ukuya kwiigram ezingama-52 ngeenkozo ezili-100, ngoko kekufanele ukusetyenzwa ngokuqaphela.

Xa kuthethwa gabalala, imihla ecetyiswayo yokutyala kunya noyondelewano lokutyala malunga nengqolowa inokususela kumhla woku-1 kujuni ukuya kumhla wama-31 kujulayi ukuze ukuyondelelana kwembewu kubengama-80 kg ukuya kwi-140 kg kude kubeli-160 kg ukuya kuma-200 kg, malunga nemihlanganisela ethile. Umlimi makakwazi ngqo ukuba ngowuphi umhlanganisela odinga esiphi isanya sokutyala. Ibhali ikholisa ukutyalwa ngokwesantya sama-80 kg ukuya kwi-110 kg ngehektare. Kubalulekile ukwazi ukuba kucetyiswa ntoni ngojikeleziso lwakho nangefama yakho.

ISIPHETHO

Kubalulekile ukuza iinkcukacha ezifuneka kwimiba eminini yokulinywa kwengqolowa nebhali enkenccheshwayo ukuze kufumaneke isityalo esinemppumelelo. Ukufama ngempumelelo bubuchule bobugcisa kuphinde kubeyinzululwazi. ■

YANDISA INGENISO YAKHO

– sebenzisa ubuchwepheshe obutsha

UKUBA NGUMILIMI NAMHLA NGUMNGENI OMKHULU FUTHI YINDLELA ENGUMNGCIPHEKO YOKUZIPHILISA. UKUZE UPHUMELELE KUNYANZELEKILE UKUBA UFUMANE INZUZO ENOZINZO EFUMANEKA KWITHUBA ELIDE. QAPHELA UKUBA UZINZO ALUTHETHI EYONA NZUZO IPHEZULU KODWA LUBHEKISELELE EKWENZENI INZUZO EYIYONA IFANELEKI-LEYO EBINOKUFUMANEKA. EYONA IFANELEKILEYO ITHETHA UKUBA YONKE IMITHOMBO YONCEDO EFANA NOMHLABA, ITHAFA KUNYE NAMANZI ZISETYZENZISWE NGENKATHALO UKUZE ZIKHUSELEKE UKWENZELA IZIZUKULWANA ZEKAMVA.

Ngelishwa, uphawu oluphambili emsebenzini wethu wanamhla wokufama uhambelana nesithetho esithi ucinezelo lweendleko-maxabiso. Ubukhulu becala, abalimi ngabamkeli bamaxabiso, asingabo ababeka ixabiso leemveliso zabo, ngummandla wentengiso, intengiso-ngokukhululekileyo yanamhla yiyo eyalatha amaxabiso. Ukunciphisa oku umlimi ufanele ukungena nzulu kulungelelwaniso olusiseko oluth; Inzuko = Ingeniso - linkcitho. Ngoko ke, oku kuthetha ukuba umlimi ufanele ukwandisa ingeniso yeshishini lakhe kunye/okanye anciphise iinkcitho zonyaka ngamnye ukuze ukufama kwakhe kube nozinzo.

Njengoko kusalathwa kwisihloko seli nqaku indlela yokwandisa ingeniso kukusebenzisa ubuchwepheshe obutsha. Akukho mathandabuzo ekubeni ngokusebenzisa ubuchwepheshe obutsha inakho ukwanda ingeniso nangona ubuchwepheshe obutsha bufumaneka ngexabiso eliphezulu.

Xa ufumana amava malunga nobuchwepheshe bamagama, maze ungasoloko ububona njengesixhobo esisetyenziswa ngezandla. Ubu-chwepheshe obutsha bubanzi ngakumbi. Masiqwalasele oku.

Malunga **neemveliso zamalungiselelo**, sesibuqheli ubuchwephe-she obutsha. Imihlanganisela emitsha yezityalo ezahluka-hlkileyo isoloko iphuhliso. Umbona njengomzekelo – kwiminyaka engama-20 edlulileyo imveliso engumyinge phantsi kweemeko ezifaneleke ngokubalaseleyo yaba ziiton ezi-2 ukuya kwezi-2,5 ngehektare, namhla ziiton eziyi-4,5 ukuya kwii-toni ezi-5 ngehektare.

Zonke ezinye iimveliso zamalungiselelo ezifana nesichumiso, iikhemikhali, izondlo zezilwanyana namayeza njalo njalo ziphuculwe – oko buba-chwepheshe obutsha.

Ngakwicala **Iemveliso ephathekayo** kubekho iziganeko ezikhulu zophu-liso eziquka nobuchwepheshe obutsha. Kukho ubungqina obaneleyo bokuba inkubo yokulima izonakalisile iimpawu eziqhelekileyo zemihlabu yethu ezikhokelela kwisidingo sokumana ugalela isichumiso ukuze kwandi-swe imveliso. Abaninzi sebesazi ngoku ngemigaqo yamalungiselelo omhlabu abuyelewyo – ukucuthwa kokuphethulwa komhlaba, ukuhlakula okuncinane kangangoko ngokunjalo nokungabikho kokuhlakula. Le migaqo

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yamalungiselelo omhlabu iphuhliselwe ukulungisa impilo engancomekiyo yomhlabu ngokubanzi nokucuthwa kokusetyenziswa kwezichumiso nezinye iikhemikhali ezinobungozi. Ngaphezu koko, ukusetyenziswa kwezityalo zokutshintsha luphuhliso olulolona lutsha okanye bubuchwepheshe obutsha bokwandisa ingeniso nokunciphisa iinkcitho. Konke okunye kuyinxalenye yokufama ngolondolozo.

Ezi ziganeko zophuhslo zikhokelele kuphuhslo **loomatshini abatsha**, umzekelo, izixhobo zokutyalu ngaphandle kokuphethula umhlabu. Izixhobo zokutyalu nezinye izixhobo ezisetyenziselwa ukulima nokuvuna izityalo, izityalo zokufumana ikheshi nezityalo zefula, konke oko kuphuculelw ukwandisa ukusebenza kwazo. Ukuvakelwa kwezixhobo ezisabukhompyutha ezi-njengeGPS koomatshini nakwiitrekta ukuphucula ukusebenza kwayo kanti oko kwaziwa ngokuba kukufama okuchanekileyo.

Imbonakalo yoshishino oluyimfuyo nayo iguquka ngokophuhslo looma-tshini bemveliso abatsha ukuze kuphuculwe imveliso. linkqubo zokondla ngendlela ezenzekelayo zinciphisa abasebenzi ziqhubele phambili uchaneko xa, umzekelo kusondliwa imfuyo. Kushishino lokubekelwa kwamaqanda, kukho oomatshini bokujqokelela amaqanda, akusaqokelela ngezandla.

Malunga **neenkucakha ngemveliso** ziliqela ii-app okanye iinkqubo ezhkhoyo ezifanele ukusetyenziswa kwiikhompyutha, kwii-iPad okanye kwii-smartphone. Oku kwenza ukuba kube nakho ukwenzeka ukuba umlimi, umzekelo, achonge isinambuzane okanye isifo xa esisentsimini. Enye yee-app zakutshanje ephuhsliwego ibizwa ngokuthi yiKhula, igama lesiXhosa elithetha ukukhula. Le app ijoliswe ekuncediseni abalimi abasakhulayo abalima izixa ezincinane kakhulu kangangokuba bangakwazi ukuthengisa kwimi-mandla yentengiso ecwangciselwego ukuze ngokudibanisa imveliso yabo yeqela labalimi bayihlangabeze iodolo enkulu evela kumxumi.

Ngokusebenzisa i-intanethi naziphi iinkcakacha zifumaneka ngeendleko ezingeph – njengoko kusithiwa ‘ugoogla’ nje.

Izithuthi ezingenabahubi azisaziwa ngoku kodwa zisetyenziselwa ukubukela, ukuthatha iifoto kwifama yakho – emasimini, imfuyo, izityalo, ngeenjongo zokhuselo nezinye iinjongo ezinini. Ngoko ke, zinini iinkcakacha ezinkelwa ukuphucula ulawulo.

Malunga nokuqokelela **kwedata yemveliso**, ubuchwepheshe banamhla buphuhselwe ukuphucula ukuqokelela nokuqhutyelwa phambili kwedata. Zikhona iinkqubo ezinokusetyenziswa ekhompyutheni. Umntu unakho noku-phuhsa inkubo eyeyakhe ngokusebenzisa inkubo ye-Excel. Khumbula ukuba ukulawula, nokulinganisa kunyanzelekle.

Akukho mathandabuzo ekubeni ukusetyenziswa kobuchwepheshe obutsha kwandisa imveliso ngoko ke nengeniso. Nangona kunjalo, kubakho iindleko ezithile xa kufakwa isicelo sobuchwepheshe osebuhambelie phambili ngoko ke kubalulekile ukuqwalasela imeko yakho yemali ngokuqaphela. Qala ngento amandla akho anomufikelela kuyo mhlawumbi ismartphone enonxulumano ne-intanethi uze uquke nobunye ubuchwepheshe xa zisiya ngokulunga izinto.

Kwakhona, khumbula ukuqinisekisa ukuba ulawulo lwakho olusiseko lukwinqanaba elanelisayo phambi kokubandakanya ubuchwepheshe obutsha. Ubuchwepheshe obutsha abunakulungisa naluphi ulawulo oluqhaley, lunokusebenza njengesixhobo kuphela sokuqhubela phambili ulawulo lwakho kwinqanaba eliphezulu. ■



*Ukuqinyenziswa kobuchwepheshe obutsha kunakho
ukwanda imveliso futhi kwande nengeniso yakho.*

UKUHLOLA KUSISISEKO SENQUBO enempumelelo yelPM

E NYANISWENI UKUHLOLA KUTHETHA UKUHAMBA-HAMBA EMASIMINI AKHO APHO UHLOLA KHONA NASIPHI ISITYALO ESIFANELEKILEYO KWINKQUBO YOLAWULO OLUMANYANISIWEYO LWEZONAKALISI (IPM) UKUSUSELA KWIXESHA ELIPHAMBİ KOKUTYALA UKUYA EKUVUNENI NANGAPHAYA KOKO MALUNGA NEMIBANDELA ETHILE EBALULEKILEYO YOMJIKELO WOLAWULO OLUFHELELEYO LWEMVELISO ELINYIWEYO.

LINKUBO ZEIPM

Akuba umlimi enze isiggibo sokuphumeza isicwangciso-cebo sokuqalisa ngenkqubo yelPM, kubalulekile ukugcina ingxelo yezinto ezifanele ukubekw' iliso nokubhalwa.

Imeko yenene ephambili kwimibandela yezityalo efanele ukuqwelasewa inokuthelekiswa neziphumo ebekujolisw kuzo kune nocwangcisel Iwezityalo obelufanele ukwenziwa emva kwestiyalo sokugqibela xa kupuhhliswa uhlahllo-mali Iwfama lokugqibela okanye uhlalutyo lomda osisixa esipheleleyo.

Impazamo ebezenziwe kumaxesha okulima angaphambili zinokulungiswa kwixesha langoku lokulima.

YINTONI ESIYIKHANGELAYO?

Xa sityala, iimeko zomhlaba zisenokuchaphazela ipesenti yokuntshula nenokuphinda incitishiswe bububanzi bezinambuzane ezonakalisa izityalo nkqu zingekahlumi. Bala uze uphinde uqwalese amanani ezityalo ahulumileyo. Thelekisa okunogqaliselo lwakho olucwangciselweyo uze uhlole iingcambu qho emva kweentsuku ezimbawla, amaggabi okanye izikhondo ezhilumayo ukuze ukhangeli ukuba akukho zimpawu zibonakalayo na zokonakalisa yimbungu okanye yimpehla.

Ukubek' iliso kwinkqubo yelPM kuya kwenza ukuba wazi ukususela kumabanga asekuqaleni okukhula kuwo onke amabanga ahluka-hlukileyo okukhula ukuya ekukhulen iokupheleleyo xa umonakalo onokubakho ngenxa yezonakalisi zezityalo ezichongiweyo ezbangela ukuba ukuzitshabalisa ngekhemikhali kube yinto enokwenzeka ngokoqoqosho.

Ngamanye amaxesha emva koqwalaselo olwenziwa kwangoko loka-nakalisa zizinambuzane ezonakalisyayo, kungenziwa amalungiselelo okutshiza isityalo njengoko kufunyaniswa ukuba umonakalo ophuhlayo wesikhondo, wamaggabi okanye wesikhwebu esisesitsita sesifikele kumda woqoqosho apfo ukutshiza sekufaneleke khona. Lindleko zokutshizela ezo zonakalisi ziya kuhlangatyeza kakhulu xa isityalo sihlaziyeka kwsakhono saso nokunkwenzeka kokuzuza izivuno ezhile ngokoqoqosho. Ukuba akwenziwa nto, siya kusilela isityalo. Ufanele ukuzidibana nomcebisi wakho weentengiso zeekhemikhali kune nomthengisi wakho wembewu msinyane wakuba ufumanise ukuba kukho uhlasel Iwezonakalisi zezityalo malunga nokuba leliphi elona xesa lifaneleleyo lokutshataliswa kwezonakalisi ngekhemikhali.

Ukukhethwa kwemihlanganisela emininzi yombona ekwaziyo ukumelana nezinambuzane ezonakalisyayo (i-BtMaize) nezifo sesona siggibo sibalulekileyo sifanele ukwenziwa kwasekuqaleni.

Okufunekayo kumlimi, ngakumbi xa kuselikesha lakkhu lokuqala oyale ngalo umbona, kukufunda banzi okanye uye kwizifundo ezifanele-kileyo ukuze ube nolwazi ngobubanzi bezinambuzane nokhula olunokuba nefuthe kwsityalo sakho sombona nakwelipi ibanga.

Ukuba akuyazi into onokuyihola uya kusoloko ushiywa lixesha lokusindisa isityalo sakho ngelo xesa uya kuyibhaqo ngalo ingxaki. Umlimi makazazi iimpawu zeentlobo zosulelo zokuqala zomngundo nezinye izifo ngokunjalo. Kufuneka wazi ukuba yeyiphi inxalenyne yesityalo sakho esitsha esikhulay ofanele ukuyiqwalasel umonakalo okanye amaqanda empehla eggobhozayo okanye umonakalo osemaggabini obangelwa yimbungu esemincinane.

Xa ufumanisa isityalo esonakeleyo, iggabi nokuba sisikhwebu, gcina isampulu esingxobeni okanye ebhotileni ukuze isinambuzane esisesona sonakalisyayo sichongwe yingcaphephe. Kweminye iminyaka izihlandlo

*Inqaku linikelwe ngumlimi
othathe umhla-phantsi*



zohlaselo olwenziwa zizinambuzane ezingaqhelekanga zisenokwenzeka isipumo ibe kukuba umlimi nabacebisi baqbuliseke.

Khumbula ukuba xa uhlola ufanele ukuqwalasela nokukhula kune nempilo yesityalo, ubukho bezinambuzane ezonakalisyayo ngokunjalo nokuhluma kune nokupuhhlia kwalo naluphi ukhula olungafunekiyo ekufuneka lutshatyaliswe ngekhemikhali okanye ngezandla.

IMILINGANISELO YOBUSHUSHU

Imilinganiselo yobushushu okanye amacondo asemini angumlinganiselo wexesha nobushushu obalathwa bubude bexesha lokukhazimla kvelanga kune namaqondo obushushu asemini nawasebusuku. Isixa samandla elanga esikhoyo ukwenzela ifotosynthesisi malunga nokukhula kwestiyalo okudibene namaqondo obushushu, siya kuba nefuthe kwsantya isityalo esifikelela kuso kumabanga ngamabanga ayimida yokukhula.

Ngokuxhomekeke kumhla wokutalya nakumaqondo obushushu afumaneka kwixesha lokulima elithile, loo mida ingahluka kwimimiseli yesiqhelo elinidelekileyo. Uninzi Iwabathengisi bembewu lungumthombo weenkukacha eziwabonisa kangangoko amabanga okukhula kombona kanti zinokuthotya kwiwebhusayithi zabo. Umlimi makaziqhele ezi nkukacha ukuze athethe ngamabanga okukhula kumthengisi wakhe wembewu kune/okanye oweekhemikhali ukuze alichane kangangoko ixesha nobungakanani bolawulo lokusetyenziswa kweekhemikhali.

Kanye ngokwendlela imilinganiselo yobushushu ichaphazela ngayo ukukhula kwestiyalo ikwanalo ifuthe ekusebenzeni kwaso nakwimijikelo yokukhula kwezinambuzane ezinokonakalisa izityalo zakho. Ubushushu bomzimba wesenambuzane uyele kubume obusingqongileyo. Imijikelo yobushushu ke ngoko iya kuchaphazela uvivingane Iwempehla eggobhoza isikhondo, umzekelo, ukuqalisa umjikelo nokubekela amaqanda kwizityalo zakho eztsha zombona. Oku kujika kwalathe ixesha emva komjikelo omnye wemibungu emincinane eggobhozayo ekhula ibe luvingane olubhabhayo okulixesa lohlasel Iwesibini Iwesityalo sombona.

ISICWANGCISO-CEBO SEIPM SELI XESHA LOKULIMA

Umhlanganisela ngamnye wombona uya kuba nenani leentsuku elilindelekileyo ekunokuthelekiswa nalo ukufikelela kwi 50% yokukhula okupheleleyo kwestiyalo namancuma aso. Ngokuxhomekeke kwindawo yefama yakho na-kwimozu inqanaba lokufikelela kwamanquma kwi 50% yokukhula sinokufikelela kulo kwiintsuku ezingama-64 ukuya kwezingama-84 emva kokutalya kanti ukukhula okupheleleyo kwenzeka kwiintsuku ezili-105 ukuya kwezingama-240 emva kokutalya. Yazi le mida ukwenzela imihlanganisela oyiliimileyo.

Imvula zokuqala ezilindelekileyo mhlawumbi zifike emva krexesha kwindawo yakho, ngoko ke kufanele ukuba kubambezelele ukutalya. Umbona olinye ngo-15 kuNovemba ngo-2018 mhlawumbi uya kufika kuhpela kwi 50% yamanquma ngasekupheleni kukaFebruari ngo-2019. Kungabaluleka kakhulu ukuhlola nzulu ukwenzela ukuhlola umjikelo wesibini wamaqanda empehla eggobhoza isikhondo nokuba bubungqina bomonakalo wamaggabi obenziwa yimbungu emitsha kwinyanga epheleyo kaFebruari.

Malunga nokutalya okwenzeka emva kwexesha nawuphi umonakalo onokuba khona kwizikhwebu zombona ezipuhlayo ufanele ukuqwalasewa ngokuzihola rhoqo izikhwebu. Amathuba asetyenziswa kwangoko ukuhlola ebenokunceda ekutshizeni nasekulawulen iizihlandlo zohlaselo Iwempehla eggobhozayo ukuthintela nawuphi umonakalo oya kwenzeka mva ezikhwebini. Kufuneka kusoloko kusenziwa ukuhlola side sivunwe isityalo. Oku kungenzeka ngenyanya kaEpreli, xa uhlola, ukuze kuhangelwe iingqikelolo ezinokubakho zezivuno ngokusebzisa inani leenkoz ezinomvumuzelo, ezibumbeka kwizikhwebu ezipuhlayo.

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Imozulu nezixa zinefuthe kwixabiso lombona

UKULINYWA KWEMVELISO KUHAMBELANA NENDAWO ELINYIWETO NGOOKUNJALO NESIVUNO; NANGONA KUNJALO, EZI NKAZO ZIMBINI ZIKWAXHOMEKEKA KWIMOZULU.

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Xa kuqwaleselwa ukungazinzi okubangelwa yimozulu malunga neenjongo zokutala, eli nqaku lizingingela kwangaphambili iimeko ezahluka-hlukileyo zokuthengiswa kweemveliso ezyintshihekela emazweni angaphandle ngokusebenza imigqaliselo yekomiti yeengqikelelo zezityalo (CEC) yokutala ngokunjalos nesivuno esiqhelekileyo njengomda osisiseko (**Ittheyibhile 1**).

Kwitheyibhile 2, siyabona ukuba iCEC iqikelelle indawo yokulinwa kombona kwiihektare ezingama-2 448 400 (ummandla osuka ekhohlo uye ekunene), ngelixa isivuno esingumyinge siziiton ezyi-4,98 ngehektare (ummandla osuka phezulu uye ezantsi). Ngokusekwa kwindawo etyaliewyo naksivuno esingumyinge oyintshihekela yenton ezingangama-3 591 545 eziponakala kwitheybile. lntshihekela zemveliso ezinokuthengiswa emazweni angaphandle eziponisa kuhalutylobuntununtunu ziluhlaza xa iitoni zinganeno kwizidi ezyi-1,5 kwixesa elithile lokulima zize zibe zibomvu xa iitoni zingaphezu kwizigidi ezyi-1,5. Isielli zetheyibhile zibonisa ngombala obomvu obuqaqamibileyo nangomtshithi onqamlezeleyo ukuba akukho ntshiyekela enokuthengiswa emazweni angaphandle.

Xa sisaya ngasekunene kwemigqaliselo yeCEC, ukuba indawo elinyiweyo yahluka nge +10%, +15% okanye nge +20% ngapehu kwemigqaliselo ngokwesivuno esingumyinge seetoni ezyi-4,98 ngehektare, oku kungashishi nentshiyekela ephakathi kweetoni ezingama-4 809 624 neeton ezingama-6 027 703. Ngokweemeko zango zemozulu, oku akunakufane kwenzevi.

Xa sisaya ngasekhohlo kwemigqaliselo yeCEC, ukuba indawo elinyiweyo yahluka nge -10% ukuya kwi -15% okanye nge -20% kwimigqaliselo ngokomyinge weetoni ezyi-4,98 ngehektare, intshihekela ingaba phakathi kwezigidi ezingama-2 373 466 nezingama-1 555 387 zeehektare. Xa umahluko uzihektare ezilinganayo kodwa isivuno sibe siphantsi, okugqithisileyo kukuba akusayi kubakho ntshiyekela.

1

Amanani akumda osisiseko malunga nentengiso kunye nentengo yombona.

Umbona opheleleyo

| | |
|---|------------|
| Imigqaliselo yeCEC yokutala (ngehektare) | 2 448 400 |
| Isivuno esiqhelekileyo (iitoni ngehektare) | 4,98 |
| Impahla egciniweyo ekhutshe-lwa ukususela kwengaphambili 2018/2019 (iitoni) | 2 807 005 |
| Okusetyenziswa kweli lizwe kuphelele (umyinge weminyaka emi-3) (iitoni) | 10 130 000 |
| Impahla egciniweyo esendleleni ($\pm 1,5$ yeenyanga) (iitoni) | 1 266 250 |

Umthombo weenkukacha: Grain SA, SAGIS, SASDEC, CEC

Ukulinywa kweemveliso kunefuthe kwintengiso nakwintengo, eziphinda zibe nefuthe kumaxabiso. Ngenxa yentshihekela enokuthengiseka emazweni angaphandle engaphantsi kwezigidi ezyi-1,5 zeetoni, kulindeleke ukuba amaxabiso aye ngakwinqanaba lokulingana kwentengo evela emazweni angaphandle (engaphezulu); oku kubangelwa kukunganeli kwemveliso. Ukuba intshihekela enokuthengiseka emazweni angaphandle ingaphezulu kwizigidi ezyi-1,5 zeetoni, kulindeleke ukuba amaxabiso aye ngakwinqanaba lokulingana kwentengiso kumazwe angaphandle (engaphantsi), oku kubangelwa yimveliso eyintshihekela. Kucacile ukuba ngenxa yeemeko zango zemozulu, indawo elinywe umbona kulindeleke ukuba ibe nganeno kwimigqaliselo yeCEC, enokukholela kumaxabiso anika inkxaso. ■

2

Uhlalutyo lobuntununtunu bombona beentshiyekela ezinokuqhutelwa phambili xa kuqwaleselwa iimeko ezahluka-hlukeneyo zokutala nezezivuno kunyaka wentengiso wango-2019/2020.

Indawo eTyaliweyo (ngehektare)

| | -20% | -15% | -10% | Imigqaliselo yeCEC | +10% | +15% | +20% |
|-----------------------------|-----------|------------|------------|--------------------|-----------|------------|------------|
| | 1 958 720 | 2 081 140 | 2 203 560 | 2 448 400 | 2 693 240 | 2 815 660 | 2 938 080 |
| Isivuno (iitoni ngehektare) | 3,48 | -1 782 693 | -1 357 284 | -931 874 | -81 055 | 769 764 | 1 195 174 |
| | 3,98 | -803 333 | -316 714 | 169 906 | 1 143 145 | 2 116 384 | 2 603 004 |
| | 4,48 | 176 027 | 723 857 | 1 271 686 | 2 367 345 | 3 463 004 | 4 010 834 |
| | 4,98 | 1 155 387 | 1 764 427 | 2 373 466 | 3 591 545 | 4 809 624 | 5 418 664 |
| | 5,48 | 2 134 747 | 2 804 997 | 3 475 246 | 4 815 745 | 6 156 244 | 6 826 494 |
| | 5,98 | 3 114 107 | 3 845 567 | 4 577 026 | 6 039 945 | 7 502 864 | 8 234 324 |
| | 6,48 | 4 093 467 | 4 886 137 | 5 678 806 | 7 264 145 | 8 849 484 | 9 642 154 |
| | 6,98 | 5 072 827 | 5 926 707 | 6 780 586 | 8 488 345 | 10 196 104 | 11 049 984 |

Umthombo weenkukacha: Grain SA, SAGIS, SASDEC, CEC

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