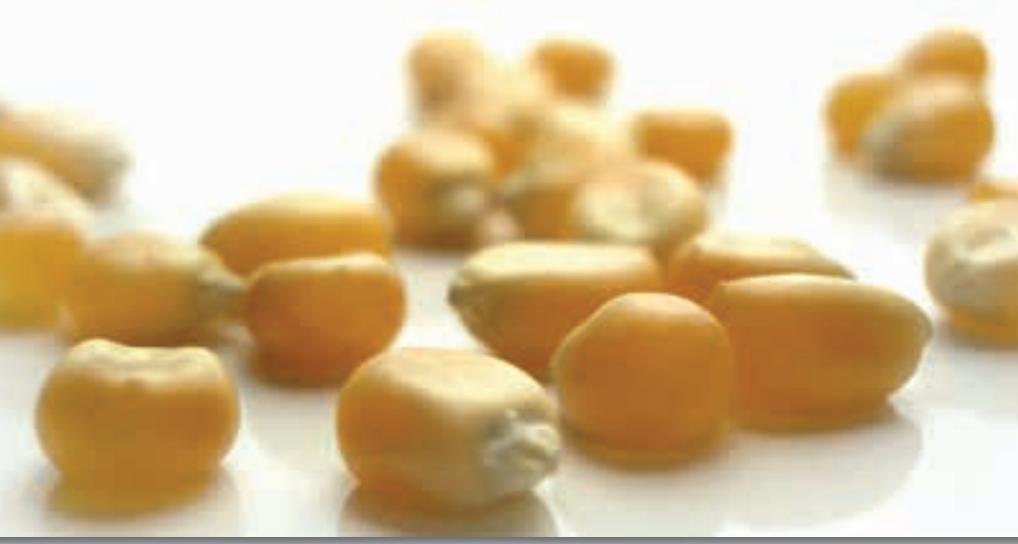


# PULA IMVULA

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USEPTEMBA  
2013



## Impumelelo yesilimo iqala ngesithombo esihle kanye nendlela okulawulwa ukhula ngayo

**U**mhlahlo wenyanga kaJuni wonyaka ka-2013 wekomidi lesilinganiso sezilimo ukhombisa ukuthi kuzovunwa isilimo sommbila omhlophe esingamathani ayizigidi eziyi-5,9 kanye nesilimo sommbila ophuzi esingamathani ayizigidi eziyi-5,5.

Amanani eSafex ommiba omhlophe asuka ku-R2 260 ithani ngalinye kusuka ngenyanga kaJulayi ka-2013 afike ku-R2 130 ngenyanga ka-Jukayi ka-2014. Amanani asekhpukule afika ku-R2 330 kusukela ngenyanga kaDisemba kufikela kuMashika-2014. Ummiba ophuzi ukhombisa iphethini efanayo kepha wona unenzozo ethe ukuba ngaphansana ka-R2 090 ithani ngalinye enyangeni kaJulayi ka-2014.

Le nkomba yamanani akusasa kumelwe iqashelisiswe ikakhulukazi lapho sekwenziwa amalungiselelo esizini ezayo yomkhiqizo kusukela ngo-Okthoba ka-2013 kuya ku-Disemba ka-2013. Sekokwenziwa-ke isinqumo ngengxube yommbila omhlophe noma ophuzi ozofanelo lesi simo sotshala okubhekenwe naso. Kuhle-ke nokukhumbula ukubaluleka kwemfuyo enkambisweni yokulima.

### Unyaka wokukhiqiza odlulile

Umkhiqizo wommbila kule sizini ubunokwethluka lapho nalapho kulandela imvula enile kanye futhi nomthelela wamazinga aphakeme okushisa abe khona ezindaweni ezisemqoka zokukhiqiza kanye nasezinden. Uku-shisa kube nomthelela omubi kanti kwezinje izindawo akubanga napholineshini kulandela izinsuku ebezibekiwe zokutshala. Amapulazi ahlukaniswe nje ngamakhilomitha ambalwa abelahlekewa noma amanye athole umkhiqizo onani linciphe kakhulu kunalowo obulindelwe, kanti amanye wona athole umkhiqizo ongaphezu kwalowo ovamile.

### Izimila nokulawulwa kokhula

Enye yezinto ezibaluleke kakhulu uma kulungiselelo umkhiqizo wonyaka ozayo ukukwazi ukwenza isinqumo ngezimila ezifanele zommbila omhlophe noma ophuzi ezizokwazi ukubambelela kungakhathalekile isimo sezulu sisihle noma sisibi kangakanani.

*Incwadi yeGrain SA  
yabalimi abasakhulayo*

### Funda Ngaphakathi:

- 04 | Iliming isasemqoka kakhulu
- 07 | Amafama ezinhlamvu ase-Nyakatho neKapa – okumele ukwenze ngaphambi kokuphela konyaka
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## Impumelelo yesilimo iqala ngesithombo esihle kanye nendlela okulawulwa ukhula ngayo

Kungaba usizo olukhulu kuwena njengomlimi uma ungaxoxisana noma ungabonisana nosolwazi wembewu kanye namanye amafama enifunda nawo ngesivuno osithole epulazini lakho onyakeni odlule kulandela izimila ozisebenzisile.

Ngaphandle-ke kokukhetha izimila ozozisebenzisa kumele uhlelele phambili ubheke lokhu: ezobuchwepeshe ezishintsha njalo ezifana neBt *technology*, yona emelana nokuhlaselwa kwesilimo sommbila *ngamastalk borers*, ukusetshenziswa kwezicheleli noma imithi yembewu ezingenabungozi endalweni, ukusetshenziswa kwalokho okukhuphula futhi kuphucule izinga lomhlabathi, *ifoliar feeding* emazingeni athize esilimo kanye nakho konke okusha uma kuza ekuphatheni nokunakekela impilo yesitshalo igcinwe iyinle.

Ezingxenyeni zaseMpumalanga nezase-Freystata lapho amandla esivuno aphakathi nje nendawo, izimila ezivuthwa masinya noma lezo ezheshayeo eztishalwe ngeviki lokugcina lenyanga ka-Oktoba nasekuqaleni kukaDisemba zisebenze kahle kakhulu ngesivuno esisukela ku-3,2 kuya ku-3,5 wamathani ihektha ngalinye. Ummbila utshalwe emwakesizini yesoya, kanti izimvula noma bezingezinri ngokwanele nokushisa okweqile isivuno sona sibe sihle uma siqathaniswa naleso sembewu yamasizini amade.

### Ukukhethwa kwembewu eyinhlan-ganisela (*hybrid seed*)

Iningi labakhiqizi noma abadayisi bembewu bavame ukudayisa izimila ezhilukile, kusukela kulezo ezmila ngokushesa okukhulu, ezmila ngokushesa okujwayelekile, ngesivinini esiphakathi nendawo nalezo ezhithatha isikhathi zommbila omhlophe. Umfama uba nenkingake kumele akhethe ngoba nakhu kunengxube yommbila wokwesiko, lowo omelana nestalk borer noma izimila zommbila weBt, izimila ezikwazi ukuthatha amaherbicide eglyphosate, kanye nezimila zamastacked genes ahlanganisa lokhu osekubaliwe.

Kunezinquo eziningi ezahlukene ezingenziwa ukuze zihambisane nenkambiso yakho yokulima kanye nemishini onayo. Khumbula njalo ukuthi noma isinqumo sakho kungukutshala ummbila ojwayelekile oBt resistant nalowo oglyphosate tolerant, kumele utshalwe eduzane nezimila zommbila weBt.

### Ukucabanga ngemishini

Amandla etraki lakho, ubukhulu bemishini yakho yokutshala kanye namathuluzi

okucheleta izitshalo angakuvimbezela lapho kumele utshale izimila ngesikhathi sokutshala. Sebenzisa ingxube yezimila ngokusebenzisa lezo eziwuulobo Iwamasizini amafushane na-lawo amade. Uma wenza njalo uzokwazi ukutshala isikhathi esengeziwe kanti futhi ukwazi nokusebenzisa imishini yakho onayo ngesizini ende yokutshala. Izimila ezhilukene zipholinetai ngezikhathi ezhilukile bese zehlisa ubungozi besimo sezulu esomile esilimaza sonke isilimo ngesikhathi esisodwa vo.

Uma usaqala noma ubusuvele usebenzisa izindlela ezelondayo zokuthila, imishini yakho kumele ibe namandla futhi ibe sesimeni esihle ukuze ukwazi ukutshala ngempumelelo.

Ukusetshenziswa kwezimila ezahlukene ezikhula futhi nezimila ngezikhathi ezhilukene kuyacetshiswa kakhulu njengendlela yokulawula nenciphisa ukulimala komkhiqizo.

Amazinga amasizini okukhula abekwa kumakhathegori ambalwa kanti ahlobene ne-zinsuku eziwwayelekile kuya ku-50% wetheseli, amayunithi okushisa (HU) adingekayo ukuze isitshalo sikhule kufikela ku-505 wetheseli, izinsuku eziwwayelekile zokukhula komzimba kanye nezinsuku zesivuno. Izikhathi zokukhula njengoba kuphawuliwe nazo zincike kakhulu emazingeni okushisa atholakala endaweni leyo.

Izinkampani ezhilukene ngokukhulisa izitshalo zihukanise izimila ezisetshenziselwa ukutshala kwenzozo ngamazinga okukhula. Idatha eqeqwayo yezimila ezikhula masinya noma lezo ezheshayeo ikhonjiswa ngezansi njengesibeno sequantification yamayunithi achazwe nge-nhla.

Kuthatha isikhathi sezinsuku ezi-61 kufika ku-50% wetheseli ezindaweni ezifudumele, bese esimileni esifanayo kungathatha u-78 wezin-suku ezindaweni ezipholile. Kuzodingeka amayunithi okushisa ayi-710 ukuze isitshalo sikhule ngokomzimba. Isikhathi esidingekayo samayunithi okushisa ukuze isitshalo sikhule ngokomzimba kuzoba yizinsuku eziyi-109 ezindaweni ezifudumele nezinsuku eziyi-159 ezindaweni ezipholile. Izinsuku ezilinganisiwe ngaphambi kokuvuna zizoba yi-168 ezindaweni ezifudumele kanti ezindaweni ezipholile zibe ngama-223.

Njengoba ubona ngenhla ukufudumala noma ukuphola kwesimo sezulu kunomthelela omkhulu kumanoma ngesiphi isimila esikhethiwe. Konke lokhu okuphawulwe ngenhla kungaba nomthelela omkhulu ezmileni nanoma yiziphi ezaziwa njengamamedium noma long growth cultivars. Qinisekisa ukuthi izimila ezitholakala ezinkampani ezhilukile ziqhathaniswe nephakethe lembewu etholakala kuleyo nkampani bese ziphinde ziqhathaniswe nephakethe lem-

## UGOGO JANE UTHI...

**N**gaphambi kokuthi uthathe uhambo kumele wazi ukuthi uphokophelele ukuya kuphi. Kanjalo nempilo iwuhambo, kepha-ke uhambo lwempilo lunezindawo eziningi eziphokophelele kuzona. Lezi zindawo ziyashintsha njalo uma ukhula. Ngenkathi usesikoleni samabanga aphansi wawupupha ngokuya esikoleni samabanga aphezulu, esikoleni samabanga aphezulu khona wawupupha ngokuya ekolishi, bese ngenkathi usekolishi wawusucabanga ngomsebenzi ozowenza lapho usuphothula izifundo zakho, kulandele umshado, ukuthenga indlu, ukuba nezingane, njil.

Iningi lethu lisohambeni – lapho siphokophelele khona ukukwazi ukusebenzisa umhlabo esinawo ngendlela efanele. Uhambo lwakho njengomfama kumele lube nalapho uphokophelele khona. Ngabe yini wena ozama ukukwenza?

Baningi abantu emhlabeni abanganawo amapulazi, kanti-ke baningi futhi abantu abalimayo (ukudla) kulowo mhlabo abanawo. Ngike ngabona izithombe lapho abantu betshala izitshalo ngaphakathi kwezitha abazibeka phezu kophahla lwebhilidi ngoba kuyyo kuphela indawo abanayo.

Lapha eNingizimu Afrika iningi labantu linawo umhlabo ngisho omncane nje (ngaphandle kwalabo abahlala emabhilidini aphakeme). Baningi abantu abanomhlabo ongaba nje yihektha eli-1 lomhlaba ohlanganyelwe. Ngabe uwusebenzisa kanjani lo mhlabo onawo wena?

Umhlabo wezolimo (wonke umhlabo) uyakwazi ukumila okuthile. Isilinganiso ongasilindela emhlabathini wakho sincike ekujulenii komhlabathi wakho, imvula enayo kanye NOLWAZI, AMAKHONO KANYE NOKUZIMISELA kwalowo osebenzisa lowo mhlabathi. Ngabe umhlabathi wakho uwusebenzisa ngokwanele na?

Angeke kwenzeka ukuthi wonke umuntu emhlabeni abe nepulazi. Umhlabo awanele ukuthi lokho kwenzeke. Kepha lokhu akusho ukuthi ngeke watsala ukudla emhlabeni omncane onawo.

Isifiso sami kule sizini ukuthi wonke umuntu aqale ukukhiqiza ukudla emhlabeni lowo okhona. Yenza ukulima kube yilapho uphokophelele khona ukute usebenzise umhlabo wakho ngokuphelele. Nawe ungfaka isandla ekunikezeleni ngokudla ekhaya kanye nasekuvikelekeni komhlaba kokudla.



bewu etholakala kwabanye abadayisi. Lokhu kuqhathanisa kuzoholela ukutshala kwezimila ngezinsuku ezifanele. Kubalulekile futhi ukuba nobudlelwano obuhle nalowo othenga kuyena imbewu ukuze ukwazi ukuthola ulwazi lwezinhlolo zezimbewu ezitholakalayo.

### Izhinlelo zokucheleta

Emapulazini lapho kukhethwe khona ukutshala isilimo sommbila *glyphosate tolerant* nezimila zommbila ojwayelekile kuzodingeka kusetshe-nziswe izinhlelo ezahlukene zokucheleta. Kubalulekile ukuhlola imishini yakho yokucheleta kanti futhi ukale uphinde uhlole izinkambiso ngaphambi kwesizini yokutshala.

Ohlelweni lokuthila okulondayo kungadingeke ukuba *glyphosate* ichelelwé kaningana ngaphambi kokutshala. Imvula ena emvakokucheleta kokuqala ingaholela ekumileni kokhula futhi. Ungacabangi ukuthi ukonga izindleko zokuthenga esinye isicheleli uma ukhula soluphinde Iwamila futhi ngaphambi kokutshala kuzokusiza ngoba lolu khula luzoqophisana nesilimo lesi esisha. Kanjalo-ke usuyalahlekela nengixa yokugodla imali engabe iyakusiza.

Uhlelo lokuthila okujwayelekile olusebenzisa imishini ukususa ukhula kanye neglyphosate lulawuleka kalula nje ngokucheleta kanye ngaphambi kokutshala. Kumele njalo kuhlolwe ukumila kokhula kanye nokulahleka komswakama emhlabathini.

Isilinganiso sezindleko zezithako zekhemikhali elinamandla elilulekwayo ihektha ngalinye lommbila *glyphosate tolerant* uma uqhathaniswa nommbila ojwayelekile siboniswa lapha ngezansi. Iseluleko leso singasetshenziswa njengomhlahlandlela osiza ukuqonda amagama amabhrendi amaweedicides kanye nezingxube zamaweedicides ezitholakala ezimakethe.

Uyacelwa ukuba uqinisekise ukuthi imiyalelo yokuhlanganisa izithako ezinamandla nama-additives namanzi kanye nesamba esifikwayo sezithako ezinamandla ezihlanganiswa namanzi ihektha ngalinye iyalandelwa ngaphandle kokugwegwa kuyona. Isamba sengxube efakwayo singaba ngu-150 wamalitha kuya ku-250 wamalitha kulandela isimo somhlabathi kanye nekhono lomfama ukunisela amanzi anele ukuze kuqhuthwe uhlelo lokucheleta. Ingxube eyongezwayo ihektha ngalinye iholela ekucheeleni indawo yonke ngokugculisayo kona okuholela ekulawu-lweni okungcono kokhula.

### Uhlelo lokulawulwa kokhula lommbila *glyphosate tolerant*

Amalitha ama-2 ezithako ezinamandla zeGlyphosate 450 ahangiswe namanzi kanye nama-additives afanele angachelelwá ngaphambi kokutshala ngemali ethi ayilinganiswe ku-R100 ihektha ngalinye. Chelela emvakokutshala kepha kungabi

yisikhathi sokuhluma kwembewu nge-*atecochlor nesafener* enanini lamalitha ayi-0,8 ihektha ngalinye lezithako ezinamandla kuhlanganiswa namanzi abalelwá emalini engaba ngama-R70 ihektha ngalinye. Lokhu kungenziwa kuhlanganiswa nengxube yamalitha ama-2 e-*artrazine netebutylazine* esithako esingamandla kubalelwá emalini engathi ibe yi-R120. Chelela isimila sommbila nge-*RU overmax* engamalitha ayi-1,7 esithako esinamandla ihektha ngayinye sihlanganiswa namanzi ngaphambi kwsigaba sesishiyagalombili samacembe, kubalelwá enanini lama-R90 ihektha ngalinye kanye ne-*Acetochlor* eyilitha eli-1 lesithako esinamandla sihlanganiswe namanzi ihektha ngalinye, kubalelwá enanini lama-R60,00 ihektha ngayinye.

### Ukulawulwa kokhula lwezinhlolo zommbila ojwayelekile/wesiko

Ukulawulwa kokhula emmbileni ojwayelekile kumele kwensiwe emvakokutshala kepha kuge ngaphambi kokuhluma kusetshe-nziswe isicheleli se-*acetochlor* sihlanganiswa nesafener, ilitha eli-1 lesithako esinamandla ihektha ngayinye emalini elinganiswe ku-R87,50 ihektha ngayinye kuhlanganiswa nengxube ye-*artrazine netebutylazine* engamalitha ama-3 emalini ebalelwá ku-R180 ihektha ngayinye. Uhlelo lokucheleta lungaphothulwa ngaphambi kwezinga lesishiyagalombili lamace-mbe nge-*acetochlor* eyilitha eli-1 ihektha ngayinye. Sebenzisa inani elicetshisiwe lengxube yamanzi, ama-additives kanye nezithako ezinamandla.

### Okuqukethwe wubumba emhlabathini

Kubalulekile ukuthi uhlale wazi okuqukethwe wubumba lomhlabathi wakho ongaphezelu (*topsoil*) ukuze amaweedicide a-*artrazine based* afakwe ezingeni elifanele. Umhlabathi onobumba oluningi udinga i-*artrazine* eningana. Kumele kuqashelwe ukuthi i-*artrazine* ethelwe ngokweqile emhlabathini oyisihlabathi ingacina ibaleka iholele ekungcolisekeni kwamanzi kanye nemifudlana eseduzane na-lezo zondawo ezicheleliwe.

Hlola ngokucopelisisa ukuze ukwazi ukubona izinhlobo zokhula olusensimini yakho bese ukhulumisana nomeleuki wakho wamakhemikhali ukuze ukwazi ukusebenzisa amakhemikhali afanele ngendlela efanele.

### Isiphetho

Inhlaziyo eningiliziwe yezimila ezidingekayo kanye nesu eliningiliziwe lezinhlelo zokucheleta kumele zisetshe-nziswe ukuze kuqinisekiswe ukuthi isilimo sinethuba elihle lempumelelo kanti nesivuno naso sinenzu.

**I-athikhili ibhaiwe ngumfama osethate umhlalaphansi.**



# Iliming isasemqoka kakhulu

**I**lime iyingxeneb ebalulekile yokulawulwa kwamanyuthriyenti ngoba uma ipH yomhlabathi yehla, iba nomthelela omubi emkhiquzweni wesilimo nasesivunweni esingalindeleka. Ilime yi-elementi ebalulekile esetshenziswayo ukunyuthralayiza ubumuncu bomhlabathi bese ibubuyisela esimeni esifanelekile ukuze kuge nomkhiqizo ophakeme.

Amafama avame ukudideka lapho ebona omunye umfama ethola isivuno esithe ukuba phezudlwana noma ngabe imihlabathi yabo bobabili ibukeka ifana. Zingaba ziningi izizathu ezenza lokhu kepha esisodwa salezi zizathu kungaba ukuhluka kwamazinga epH emhlabathini. Amafama athola isivuno esiphakeme kungaba yilawo aqaphelisisa amazinga epH emhlabathini futhi aqinisekise ukuthi awehli kakhulu. Ukulahlekela kwesivuno ngenxa kobumuncu bemihlabathi kuthatha isikhathi, kanti futhi-ke kunjalo noma usufaka ilime ukuze ulungise isimo, kuzomele ulinde iminyaka engaba mibili kuya kwemithathu ukuze kuge ngcono amazinga esivuno. Ukulawula amazinga epH kubalulekile ikakhulukazi lapho amafama ehlwanyela ummbila njalo.

## **IpH yomhlabathi efanele ibalulekile ngoba:**

- Iphucula ukutholakala kwamanyuthriyenti ezitshalweni zakho ngokuzisiza ngokuhamba nokumunceka kfefosforasi, inayithrojini nemagneziyamu. Umthelela wepH yomhlaba mkhulu ekuncibilikeni kwamaminerali noma amanyuthriyenti, kanti-ke futhi njengoba amanyuthriyenti amanangi abalulekile asemhlabathini kuhle ukujinisekisa ukuthi ayatholakala esitshalweni ngokuba ancibiliswe engxubeni yomhlabathi.
- Isiza *nitrogen fixation*.
- Iggugquzelu ukukhula okuhle kwesilimo.
- Isiza umsebenzi wamamakhrobiyal asemhlabathini ovundile njengoba ibheneftitha amabhakthiriya, ifungi kanye nokunye okuphila

## **Ubafakazi beginiso bomfama wasKenya – Isivuno sommbila sanda ngokuphindwe kasishiyagalombili**

Ngonyaka ka-2008, u-Isaac Ochieng Okwangi oneminyaka engama-29, umfama waseKenya osafufusa wavuna amathani ommibila ayi-0,12 ihektha ngayinye ensimini yakhe yommbila engamahektha ayi-1,5. Kuleyo nsimu uvuna amathani ommibila ayi-0,960 ihektha ngayinye ngoba ulima eKenya lapho amasizini afudumele amvumela ukuba athole lesi simila kibili on-yakeni. U-Ochieng uthi isizathu esenza isilimo sakhe sikhuphuke ngokuphinde kasishiyagalombili, *amalime applications* awasebenzisayo epulazini lakhe. Ilime isilehlise kakhulu izinga lobumuncu emhlabathini okwenza umhlabathi ukufanele ukukhulisa izilimo. Umsebenzi wokukhiquzisa isivuno unyaka nonyaka ubusuqala ukukhuphula izinga lobumuncu emhlabathini okwenza ukuthi amasimu angabi nasikhathi sokuphumula, lokho-ke okwaholela esivunweni esingesihle. U-Ochieng ubika ukuthi uthi lapho esechelele nge/lime ensimini yakhe yommbila, wabona ushintsho olubonakalayo masinya nje ngoba ummbila waqhakamba futhi wondleka. Iztishalo zonke zommbila zazinamakhoba amabili noma amathathu ngaphezulu kwenani elijwayelekile. U-Ochieng usekwazile ukwakhela umndeni wakhe indlu entsha kanti nesasasa lakhe seligugquzele namanye amafama ukuba nawo asebenzise ilime emadlelweni abo.

emhlabathini ukuthi zijkelezise amanyuthriyenti.

- Ithuthukisa ukusebenza kwamaherbicide. Uknincipha kwemicrobial activity kusho ukuthi kuzoba nezinkinga zokuthwaleka kweherbicide, ngakho-ke amafama kumele abone ukuthi amazinga epH afanelekile ukuze agcine amamicrobes emaningi futhi anempilo.
- Ifaka isandla emhlabathini ophilile lapho umoya namanzi kuzihambela kalula nje.

Kubalulekile ukuthatha amasampula omhlabathi njalo ukuze kuqinisekiswe isidingo selime futhi kubonwe nesilinganiso sangempela okumele sithelele ensimini. Inani lepH ekuhluwensi komhlabathi yikona okuzokuhola.

## **lyini ipH?**

IpH imele amandla ehayidrojini okuthiwa phecelezi yi-“power of hydrogen”, kanti ipH yomhlabathi yona isho ukuthi umhlabathi umuncu kangakanani. IpH ikalwa ngesikala sepH esisuka ku-0 kuya ku-14 lapho u-7 enyuthrali. Ngakho-ke amazinga anaphansi kwa-7 amuncu kanti lawo angaphezu kuka-7 a-alkaline.

## **IpH nezilimo zommbila**

Imfihlo yomhlabathi ozimelele, ovundile itholakala ezingeni lepH. IpH efanele yomhlabathi okhiquzisa ummbila iphakathi kuka-6,0 no-7,0. Uma ipH yomhlabathi ingaphansi kuka-5,5, isitshalo sommbila siqala ukuba nezinkinga ikakhulukazi ngoba ama-elementi e-aluminiyamu nemanganizi ayatholakala emhlabathini omuncu okungaholela ekutheni avimbele ukukhula kwsitshalo noma asibulale.

Ama-elementi anoshev ufa ne-aluminiyamu nemanganizi ayinkinga emhlabathini omuncu ngoba ipH ephansi yenza ancibilike kalula. Lokhu kusho ukuthi ancibilika kalula emanzini bese atholakala kalula okungabu nomthelela ongemuhle esitshalweni. Kuhlala kune-aluminiyamu emhlabathini ngoba yiyo-

“  
Ukuzama ukukhuphula in-zuzo yommbila ngaphandle kokuqonda ubumuncu kufana nokwakha ibhilidi eliphakeme ngaphandle kokubeka isisekelo esiqinile kuqala – sonke nje leso sakhiwo sizovesane sibhidlike.

na elementi etholakala ezingxenyeni eziningi zobumba.

IpH esezeingeni eliphansi yenza ifosforasi, inayithrojini, iphotheziyamu, isalfa, imagneziyamu nekhalsiyamu zingatholakali ngokwanele ezitshaiweli ezikhulayo. Imihlabathi emuncu nayo ivimbewela ukukhula kwezimpande zezitshalo kanye nokusebenza kwamamicro-organisms omhlabathi awusizo.

## **Yini eyenza imihlabathi ibe muncu?**

Zimbadlwana izinto ezinomthelela emazingeni obumuncu bomhlabathi.

## **Imvula eningi**

Izindawo ezinemvula eningi zona zisolahlekela kakhulu amanyuthriyenti omhlabathi ahamba namanzi emvula. Izimvula zenza umhlabathi ube muncu ikakhulukazi uma amanzi amanangi angenelela emhlabathini ngesivinini esikhulu.





# Yazana... noMaurice Boki

Imihlabathi eyisihlabathi yiyona evame ukuba muncu ngoba amanzi asefeka masinya ngenxa yobumba oluncane nobukhona be-organic matter kuwona.

## **Ukukhiqizwa kwesilimo**

Amasimu assetshezniselwa ukulima futhi abuye assetshezniswe njengamadlelo emfuyo alahlekela amaminerali ngokuhamba kwasikhathi ngenxa yokususwa kwezilimo ngoba zombili iztshalo nezilwane zimunca ikhalsiyamu esemhlabathini njengoba nazo ziyinga. Izilimo zimunca ama-elementi *alime-like* emhlabathini ukuze zithole umsoco, bese kuthi lapho sezivunwa khona lezi zilimo, ezinye zamabasic material ebezengamelana nobumuncu ziyalahleka bese izinga lobumuncu landa kancane kancane emhlabathini.

## **Ukuchelela ngomanyolo**

Amakhemikhali nomanyolo wesimanje yiwona anomthelela omkhulu emazingeni obumuncu bomhlabathi. Ama-aplikeshini aminyaka yonke kamanyolo wenayithrojini akhiqiza izimo zobumuncu emasimini kancane kancane.

## **Izindlela zkukulungisa ukungazimeleli**

*Iimestone* iwumthombo wemvelo wekhalsiyamu yona ekhuphula amazinga *epH* emhlabathini. Uhlelo lokulungisa umhlabathi lungathatha iminyaka kufakwa ilime yezolimo ngokuphindelela. Noma kuhona izindawo ezingenayo *ilimestone* yendalo kufana nasesiFundeni saseNyakatho neNtshona, kusesemqoka ukuhlola imihlabathi ukubona ukuthi ukulungiswa komhlabathi kuyadingeka na ukuze kuvinjwe ukukhuphuka kwezinga lobumuncu. Kunezinhlobo ezimbalwa zamalime ezimakethet. *IpH* efanele incike esilimweni esitshaliwe okusho ukuthi kubalulekile ukuthola iseluleko kubadayisi bakamanyolo basendaweni noma usomabhizinisi wezolimo. Uma ilime ifakwa emhlabathini izokuhuphula izinga leph futhi ikhuphule nezinga lekha-lsiyamu nemagneziyamu emhlabathini. Kuthathia amanzi ukuvusa *ilime reaction*, ngakho-ke ilime ithatha isikhathi ukusebenza emhlabathini owomile, kanti ingathatha okungenani unyaka noma ngaphezelu ukukala ushintsho *kupH* yomhlabathi.

Kungcono ukufaka *ilime* ekwindla ukuze ubumuncu bomhlabathi buzonciphia ngaphambi kokumila kwezilimo, kepha uma lokhu kungeke kwakhonakala kungcono ukuyifaka entwasahlolo kunokuthi ingafakwa nhlobo.

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**H**langana noMaurice Mthandeki Boki, indoda ethanda umhlabi, enogqozi kanye nothando Iwezilwane. UMaurice uyindoda ezimisele kakhulu kanti futhi usebenzela ukuba nesasa kukho konke akwenzayo.

## **Ngabe mangaki amahektha ovalimayo? Ulima kuphi na?**

Okwamanje ngilima amahektha ayi-1 178 endaweni yaseCedarville, eMpumalanga neKapa.

## **Ngabe ulima ngani na?**

Ngisebenza kakhulu ngezirkomo kanti futhi ngitshale namahektha ayi-135 ommbla. Ngino-mhlabi wezirkomo ezingama-200 engizelusela endle. Ukulima yinto engiyithanda kakhulu, akukho okunye engiyaye ngifise ukukwenza ngaphandle kokulima nje nkathinzonke.

## **Ngabe yini ekugquguzelayo na?**

Uthando lwami Iwezolimo yilonia olungigqquzelula kakhulu. Kusukela ngiseyingane ngaba nogqozi lokusebenza ngomhlabi kanti-ke ngiyazithanda nezilwane. Mina nomkami, uKholiswa sinezingane ezine. Indodana yami uStembile yena usebenza eGoli emahhovisini, indodakazi yami endala uLindelwa ungudokotela eMonti, indodakazi yethu yesibili uZinble yena usebenza kwezokudayisa eGoli bese kuthi uthunjana wethu yena abe nathi lapha ekhaya.

## **Chaza okubona kungamandla kanye nobuthakathaka bakho**

**Amandla:** Impumelelo yami enkulu ivela ekuzinikeleni ekwenzeni konke okusemandleni ami nokuphopholela ukuba nesasa kukho konke engikwenzayo.

**Ubuthakathaka:** Ubuthaka bami obukawonke-wonke okuwukujaha nokufuna ukuthola konke ngesikhathi nje esifushane. Ngifuna konke kwe-nzeke ngokuphazima kweso.

## **Ngenkathi uqala ukulima isilimo sakho sasithela kangakanani na?**

## **Singakanani isivuno sakho manje?**

Ngiqale ukuba wumfama wenzuso ngonyaka ka-1995 emvakokuthenga ipulazi lami lokuqala. Ngaphambi kwalokho, nganginesitolo soku-hlwebelana, lapho ngangifama futhi ngilinganisela ngemfuyo. Ngenkathi ngiqala ukulima ngathola nje isivuno esingu-2,5 wamathani ommbla ihektha ngayinye. Kodwa-ke manje sengithola isivuno eseqile ku-6 wamathani ihektha ngayinye. Kunjaloo-nje nginomhlabi wezirkomo ezingama-200. Izisindo zokulumula nazo sezande kusuka ku-40 kg kuya ku-50 kg.

## **Ucabanga ukuthi ngabe yini ebe nomthelela kunqubekela phambili kanye nempumelelo yakho na?**

Ukusebenza ngokuzimisela, ukuzibophezela eku-phumeleni nasemagolini esikhathi esifushane, kanye nokwesekwa ngumndeni wami. Lokhu yikona okungenza ngibe nentuthuko nesasasa.

## **Ngabe kuze kuge yimanje nqequeso yini oyitholie, kanti-ke ungathanda ukhubeka uqequeshelwe ini na?**

Sengihambe amakhosi amanangi eCedara kule minyaka engamashumi amabili soloko ngaqala ukulima. Angeke wathi usuyazi kwanele, kumele uqhubeke njalo uzithuthukise ngolwazi.

## **Ngabe uzibona ukuphi emiyakeni emihlanu ezayo? Ungathanda ukuzuza ntoni na?**

Eminyakeni emihlanu ezayo ngingathanda ukuba nesivuno samathani ayishumi sommbila ihektha ngayinye emhlabeni owomile, futhi ngandise nenani lamahektha atshaliwe. Ngibuye ngandise nemfuyo yami ibe ngama-400 ezirkomo. Into nje engathi ukungithikameza kungaba ukweswela umhlabi olingene ukwenza konke loku.

## **Yisiphi iseluleko ongasinika amafama asafufusa?**

Kumafama asemancane nasafulufusa: Ningacabangni ukuthi nizoba yizinjinga masinya nje. Umsebenzi wepulazi unzima kanti futhi uthatha isikhathi ngaphambi kokuba ubone into oyisebenzelayo. Kumele uzmisele, ubo nesineke futhi wenze konke okusemandleni akho ukuze uphumelele njengomfama. Akumele neze sikohohlwe ukuthi inhlosongqangi yokulima ukuba sondle isizwe.

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# *3itshalo zasebusika eziyizinhlamwi*

## Emvakwesivuno: Thatha isikhathi ukuze wonge isikhathi

**K**uvame ukunganakwa ukubaluleka nokuba lula kokugcina ipulazi kanye nokuhlela isitolo neshedi kuse-nesikhathi. Uma konke lokhu kwensiwa masinya nje emvakokuvuna kungongiwa isikhathi esiningi. Kungagwenywa inkinga yokumiswa komsebenzi ukuze kulungiswe imishini futhi kuchithwe nesikhathi kufunwa 'izinto'.

Ukuggcina impahla esimeni esihle kuyithuluzi elibalekile nelinganciphisa izindleko zomshini ikakhuluzi ngesizini uma imishini ilungiswa ukuze igweme izingozi ezithize ezingahle zivele. Kuvamile ukuthi sibheke nje ngaphezulu lapho sihlola imishini, singabhekisisi ngeso elibukhali ukuze sithole izinkinga zexingxene eziphelayo ngaphambi kokuba zande noma kuphuka okuthile. Isibonelo amafan belt namabearing angadinga ukushintshwa.

### Isizini yasemvakwesivuno

Eminye yemishini yasemafama isetshenziswa njalo unyaka wonke kanti eminye yona njengemishini yokuvuna namacombines ingahlala izinyanga ingasebenzi. Uma le mishini ingahlanzwa ngendlela efanele ngaphambi kokuba iyovalerwa ingamosheka kancane kancane bese kuba nezinkinga, Yingakho-ke kubalulekile ukuyinakekela ngendlela efanele ukuze uvikele imali oyitshalile.

Ngesikhathi sokuvuna le mishini isebeenza kanzima bese igcwala uthuli, ukungcola kanye namafutha. Kudingeka ukuba ihlanzwe kahle bese iholowa ukuqinisekisa ukuthi akunalutho oludinga ukulungiswa.

- Shintsha uwoyela namafiltha, hlola ibhethri, shintsha amfiltha omoya.
- Hlola amacooling systems ukuthi awanalapho avuza khona, kumarediyetha noma amaphayiphi amoshekile.

• Hlola ukuthi ngabe wonke amalambu asebenza kahle.

• Kuwumkhuba omuhle ukugcina umgqomo wamafutha ugcwele ukuze uvimbele ikhondenseshini eyenza kube namanzi ngaphakathi kwamafutha okungamosha iphampu likadizili.

• Yonke imishini kumele igcotshwe kahle ngamafutha.

• Amavili kumele avikeleke uma asogcinweni. Kumele agcinwe ngaphakathi endaweni evalelekile noma agqunywe ngotho ukuze avikeleke emisebeni yelanga. Kuwumbango omuhle ukujeka inqola ukuze ususe isisindo emavilini ngenkathi inqola imile ingasebenzi.

• Amanathi amavili kumele ahlolle futhi agcinwe aqinile ngoba uma exega enza kube nomnyakazo kanye nokushafa. Uma enganakwa angaphula amastadi amavili bese amarimu ayaqhekeka.

Imishini kumele ilungiswe ukuze ilungele isikhathi esizayo lapho izosetshenziswa. Ukwenza njalo konga nesikhathi lapho isizini ematasatasa yokuvuna isifika.

### Izindawo zokulonda

Amashedi kumele njalo agcinwe ehlanzekile futhi ehlelekile. Uma kungenjalo abiza amagundane wona alimaza imishini yokusebenza, adle izintambo zemishini okungenza imishini ikuxake lapho sekumele uyisebenzise.

Kuthatha nje ukuzikhandla okuncane kanye nokuhlela izinto kahle ukuze ukwazi ukuthola izinto kahle. Hlanza imishini emile njalo futhi ubale nempahla ngokushesha. Paka izitsha zakudala, qoqa kanye izikhwama zinqwabelane endaweni eyodwa bese ulengisa amathuluzi

emabhodini noma emarekhini. Zama ukugcina phansi kungenalutho futhi kuhanzekile ngokusebenza izinsuku lapho kuna imvula ukusebenza eshedi nalapho kugcinwa khona amathuluzi.



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# Amafama ezinhlamvu aseNyakatho neKapa – okumele ukwenze ngaphambi kokuphela konyaka

**E**ntshonalanga neKapa inyanga kaSepthemba yaziwa njengenyanga lapho konke kuhlala obala ngesizini yomkhiqizo wesilimo senzuso.

NgoSepthemba uma kupholile futhi kummswakama owanele, isizini yokutshala iba yinde. Imbewu igcwala kahle bese isivuno siba ngcono kakhulu. Okuphambene nalesi simo nako kuyiqiniso: Uma imvula ingani namazinga okushisa akhuphuka, isizini iba mfushane bese nenai lesivuno nalo alibi lihle.

Lokhu-ke asingeke sakwazi ukukulawula, ikakhulukazi ngoba sincike kakhulu emvulen ikuze sithole umkhiqizo wesilimo sethu. Kepha-ke singakwazi ukuthola isixazululo ngokusebenzisa uhlelo lokulima okulondayo. Uma izinsalela ezilingene zesilimo esedlule zingasala phezu komhlabathi singakwazi ukugcina umswakama isikhathi eside, okungasiza-ke isilimo ukuba senze umsebenzi wokugcwala imbewu.

Kusukela kuJulayi kuya kuSepthemba kumele siqaphe futhi sibheke izilimo zethu njalonjalo ikuze sibone lapho zihlaselwa yizinambuzane kanye nezifo. Izinambuzane ezifana namabollworms nama-efidi kuko-lweni, amabele ne-oats, nama-efidi eklabishi, idiamond back moth namabollworms kucanola angadala ubungozi esivunweni esilindelekile. Izifo ezifana nezinhlobo ezechlukene zerust kanye nepowdery mildew nazo kumele zilashwe. Kungamele sifake amatopdressings kamanyolo bese ukushoda kwamamicro-elements kumele kulungiswe ngokuchelela ngefoliar.

**Vula amehlo uqaphelisise isilimo sakho. Ngathi isizini yakho yokuvuna ingaba nempumelelo.**

Kusukela ngoSepthemba ukuya phambilizilimo ezahlukene zisuke sezilungele ukuvunwa, kuye ngokuthi zitshalwe nini kanye nendawo lapho ipulazi likhona. Kungenzeka kube kusukela phakathi nenyanga kaSepthemba. Uma izilimo zisikiwe ngolayini, uhlelo lokusika lona lungaqala emaphakathini nenyanga kaSepthemba lapho isilimo ngasinye sesifinylele ezingeni elifanele lokukhula. Uma kuyicanola, ukusika kungaqla masinyane. Qinisekisa ukuthi uyalazi izinga elifanele lokuvuthwa kanye nezinga lomswakama elifanele ukuvunwa kwestilimo ngasinye, kanti futhi-ke nomshini wakho wokuvuna nawo kumele uwulungele ngokuphelele umsebenzi.

Uma uvuna icanola kungono ugale ekuseni kakhulu ugcine ngehora lika-11 khona ekuseni, uphinde nantambama kuze kube yisikhathi lapho amazolo asesinda kakhulu. Isizathu salokho ukuthi amaphodi ecanola avuleka kalula uma avunwe asomile bese kulahleka isivuno esikhulu. Kanti uma kummswakama owanele emoyeni, iphodi alivuleki kalula. Uma livunwel isathambe kakhulu kungaba nezinkinga lapho liyolondwa khona kumasilo, noma-ke liqale ukubola uma lingakomi kahle. Ukolweni namabele zona-ke uma zimanzi kakhulu akulula ukuba zihlukaniswe ezindlebeni nasezinhlamvini ezomile. Iphe-

senti lokungcola ezinhlamvini ezimukiswa kumasilo liyakhuphuka bese izinga lobuhleblesilimo liyehla. Lokhu kusho ukuthi nenzozo ezokwenziwa kuleso sivuno nayo izokwehla.

Vula amehlo uqaphelisise isilimo sakho. Ngathi isizini yakho yokuvuna ingaba nempumelelo.

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USeptemba yisikhathi sokuvunwa kwezilimo ezahlukene. Qinisekisa ukuthi umshini wakho wokuvuna usesimeni esihle ngaphambi kokuba uvune.

# Ukukhiqizwa okunempumelelo kukakolweni oniselwayo

Ningizimu Afrika ingumhwebi wenethi kukakolweni. Ukolweni ongeniswayo ezweni usuka kulowo ongekho ngonyaka ka-1988 kuze kube cishe ngu-1 900 000 (1,9) izigidi zamathani ngonyaka ka-2013. Inani likakolweni lapha ekhaya kuSafex exchange lime njalo ku-R3 400 ithani ngalinye kufika enyageni kaMashi ka-2014. Uma amandla erandi eghubeka ukwehla kungaba nengcindezelo ekhuphukayo kuleli nani eliphansi.

Amafama anezinsiza zokukhiqiza ukolweni ngaphansi kwamacentre pivots bangacabangisa ngokuqhube ka ngokulima ukolweni emjikelwezeni wesilimo sabo. Lo mkhiqizo wasekhaya uzosiza ukunciphisa ukolweni ovela emazweni angaphandle odingeckay ukenelisa izimakethe zalapha ekhaya. Umfama ngamunye kumele enze i-detailed gross margin analysis ukuqinisekisa ukuthi angakkhiqiza abuye enze inzuzu na. Bheka ibreak-even point yamadirect nama-overhead costs esivunweni sehektha ngalinye ukuqinisekisa ukuthi isivuno sakho sizokwazi ukumelana nalokhu.

Ukuphathwa kokukhiqizwa kukakolweni oniselwayo kubalulekile uma umkhiqizo uzoba yimpumelelo.

Izivuno zikakolweni oniselwayo ezindaweni eziniselwayo ezihlukene emapulazini athizezikhule ngokugculisayo futhi zisimeme kusuka

ku-6,5 wamathani ihektha ngayinte kuya ku-10 wamathani ngayinte ngaphansi kwecentre pivot irrigation. Kutholwe i-10 yamathani ihektha ngayinte emjikelwezeni olandela ubhontshisi oniselwayo.

## Umjikelezo womkhiqizo/wokukhiqiza

Thola lapha ngezansi amaphuzu okuhlol ongawasebenzisa uma kuza umjikelezo olandelayo womkhiqizo.

## Imishini yecentre pivot irrigation

Ipumping system kanye nemain electrical supply kumele zihlolwe ngokuphelele ukuze kuminisekisa ukuthi akunazinkinga ngaphambiki kuba kutshalwe isilimo. Sebenzisa ipivot system ukuze uhlole ukuvuza, ukuvimbela nokuphuka kwamanozili kupivot. Hlola futhi amavili, amabheringi namagearbox ohlelweni lwamavili.

Qinisekisa ukuthi inkontileka yakho nabakwa-Eskom kanye nogesi wakho kusesimeni esihle kulungele isizini ezayo.

Beka amafaneli okukala imvula ezikheleni ezisemaphakathini emhlabathini opivot lapho kuzotshalwa khona ukolweni bese ukala imvula enayo kanye namasethingi ebhokisini eliqavile lokulawula.

Ukukhiqizwa kukakolweni oniselwayo ngaphansi kwepivot kudinga amanzi amanji ezingeni lecemele elibanzi kuze kufike ekukhulen kwezimbali. Ukuthikamezeka ekusabaleleni kwamanzi nokucindezeleka komswakama ezitshalweni kungaholela ekulahlekeni kwethani noma amabili omkhiqizo obulindelekile.

## Ukucheleta umanyolo

Ukucheleta umanyolo owanele kanye nenaithrojini etholakalayo njeneyuriya encibilile kubalulekile. Imvamisa inayithrojini ithelwa kathathu kuya kunhlanu uma kuniselwa. Isivuno esilindelwe esingamathani ayi-6,5 ihektha ngylinye sizodinga okungenani amakhiloremu angama-240 enayithrojini. Amakhiloremu angama-40 efosfethi kanye namakhiloremu angama-55 ephoteziyamu ihektha ngayinte. Nanoma ngomuphi umanyolo ozetshensiwayo ngesikhathi kutshalwa kumele ubekwe ngaphansi futhi naseceleni kwembewu ukuze kungabi nakulimala kwembewu esamila. Gwema ukuthela isilinganiso eseqile kumakhiloremu angama-45 enayithrojini ihektha ngalinye ngenkathi utshala. Isilinganiso esengeziwe samakhiloremu ayi-195 enayithrojini edingekayo sizochelelwa ngepivot. Isilimo esikhulu esilindelwe sizodinga ukuba sikhushulelw amanani ngokufanele kulandelwa lezi zinkomba ezbekiwe. Cubungulula imihlabathi yakho futhi uthole iseluleko esishaya emhloeni kumeluleki wakho kamanyolo noma i-agronomisi.

## Ukulungiswa komhlaba

Isimo nesimo sincike ekulawulweni kwezinsalela zesilimo esedlule. Ukushisa kubulala iphotheziyamu eningi emhlabathini. Uma usebenzisa ukuthila okulondayo hlela imishini yakho yokutshalwa ngendlela efanele, futhi uqinisekisa ukuthi imbewu yakho ibekwe ngo-kufanele emhlabathini.

## Iphrofayili emanzi

Kubalileke kakhulu ukuqinisekisa ukuthi iphrofayili yonke yomhlabathi ikulungele ukuba yinsimu ngaphambi kokuba kulinywe. Ingapezulu lingayekelwa ukuba lome nje kancane ukuze kukhushulwe isimo esihle somhlabathi okumele utshalwe bese imbewu yona iniselwa kakhulu ukuze ihlume ngokuphelele.

Sebenzisa uhlole IweSAPWAT noma uhlole umhlabathi ukuze ukwazi ukuqinisekisa umswakama emhlabathini emazingeni onke



Ukukhiqizwa kukakolweni oniselwayo ngaphansi kwepivot kudinga isilinganiso esiphezulu samanzi ezingeni lecemele elibanzi kuze kufikelele ekumileni kwezimbali.

ngomjikelezo wokukhula kwembewu. Kunzima kakhulu ukuhlangabenza nezidingo zokuphela komswakama uma isikhathi sesihambile.

#### Izimila

Kumele kucatshangwe ngokhetho olufanele Iwesilimo ukuze kukhiqizwe isivuno esiningi ngaphansi kwezimo ezitholakala epulazini lakho.

Izimila zikakolweni zaziwa njengezeqiniso zasebusika, ezasebusika kanye nezase-maphakathini noma ezasentwasahlobo. Uhlobo Iwesilimo Iuzoncika kakhulu enanini lesikhathi esibandayo esidingekayo ukuqalisa ukukhula ezingeni lesitshalo kufikela ekukhiqizweni kwamathila lawo wona azokhiqiza amakhanda ezimbewu noma izindlebe zikakolweni. Isidingo lesi samakhaza saziwa njengevernalisation. Izinhlobo zasebusika zikhiqiza amathila amasingi ezimpandeni zangaphezulu ezimila emvakwesiteji sokuqala sokuhluma kwembewu ukudlula izilimo zasentwasahlobo. Izinhlobo zasebusika zona-ke zisebenzisa imbewu encane uma ziqhathaniswa nezinhlobo zasentwasahlobo.

Izimila zasentwasahlobo ezifanelekile ukuniselwa azinasidingo samakhaza futhi zingakhiqiza izimbali kusukela ezinsukwini eziyi-100 kuya ku-130 emvakokutshalwa. Khetha izimila ezaziwayo endaweni yakho. Khetha ezifanele kulandela ukuthi ukhiqiza ezindaweni ezibandayo eziyi central irrigation area noma

ezindaweni ezifudumele ezizindeni zokukhiza zasentshonalanga.

Xhumana nabakhulisi abambadlwana bezimila zikakolweni kanye nabadayisi ukuze uhlale unowlazi lwalokho okusebenza kahle endaweni yangakini.

#### Usuku lokutshala

Izinsuku ezifanelekile zokutshala ezindaweni ezisemaphakathini ezibandayo zisukela mhlaka-1 kuJuni kuya kumhlaka-25 kuJulayi. Inkambiso ejwayelekile ezindaweni ezinye eziniselwayo ukuthi kujikeleziswe ummbila kanye nokolweni ezindaweni ezibandayo kusetshenziswe izimila zommbill omila ngokushe-sha. Isilimo sommbila sivunwa okungenani evikini lokuqala likajuni bese kulandela ukushiswa kwezinsalela zommbila ukuze kuzotshala imbewu kakolweni. Lapho kusetshenziswa ukuthila okulondayo noma uhlelo olungathili nhlobo kumele kusetshenziswe kuphela umshini wokutshala onamandla futhi usesimeni esiwufanele umsebenzi. Ukuutshala kukakolweni emvakwesoya noma ikhefu lokuhlakula emjikelweni wezilimo eziniselwayo kuba lula kakhulu. Ukwakhelana kwezinsalela zezilimo phezu komhlabathi ngaphambi kwsizini kungathikameza ukvela kahle kwezitshalo zikakolweni. Kanti-ke zingahlaselwa yizifo zejmpande nezeziq.

#### Amanani esitshalo

Izeluleko zenani lezitshalo liyehluka kusukela ku-100 wamakhiloremu kuya ku-120 wama-khiloremu ihektha ngalinye okuholela kwitztandi eziphakathi kuka-250 000 kuya ku-325 000 wezitshalo ihektha ngalinye. Ulwazi onalo lwasekhaya kanye nolwakho ngezinhlolo zikakolweni oniselwayo emananini amaningana luzokutshela okufanele umhlabathi wakho kanye nepulazi lakho. Kala njalo izimbewu eziyi-100 ukuze wazi izitshalo ongazilindela ikhiloremu ngayinye yembewu oyisebenzisayo uma ubeka imbewu.

Sebenzisa izinhlelo ezihlanganisiwe zokulawula ukhula kanye nezinambuzane ukuze uhlale uqaphile futhi ulawule isilimo sakho kusukela ngosuku lokuqala lokutshala. Ezinye izindawo zokukhiqiza zidinga ukuba kusetshenziswe amafungicides emazingeni athile okukhula kwestishalo.

#### Isiphetho

Landela yonke imiyalelo enikezwe ngenhla ukuqinisekisa impumelelo. Hlola inqubeke-laphambili yokukhula kwesilimo sakho nsuku zonke ngokubheka ukusebenza ngendlela kwepivot ukunika isilimo amanzi anele.

*I-athikhili ibhalwe umfama osethathe umhlalaphansi.*

**Lo mbhalo okhethekile  
ube khona ngenxa yomnikelo  
kwi-Winter Cereals Trust.**



# Cabangisia ngezolimo ezilondayo

Kusukela ekuqaleni kwsikhathi umuntu ubethila umhlabathi ukuze atshale imbewu ezomupha ukudla. Kwakusetshenziswa amathuluzi asebenzisa amandla kanye nezilwane ukuthila umhlabathi ukuze umuntu akwazi ukuthala.

Ukuvuleka noma ukuxega komhlabathi kwakunomthelela omuhle ngoba kwakuyindlela yokulungisa *iseedbed* enhle. Ukhula lwalulawulwa emvakokuguqlwa komhlabathi. Ukungenelela kwamanzi emvula nakho kuba ngcono emvakokuthila. Umoya noma amanzi emhlabathi nako kuba ngcono, okusiza amaoganizimu aphila emhlabathini adinga i-oksijini ukuze aphile futhi ande.

Ukuthila okusezingeni eliphansi kubandaka-nya *i-aggressive cultivation* yomhlabathi. Amanye *ama-implements* assetshenziswayo kulolu hlelo angalimaza isakhiwo somhlabathi ukudlula ezinye izindlela ezisetshenziswayo.

Ukuthila okusesikweni bekulandela lapho amageja asesetshenziswa ukuphula nokuguqla umhlabathi. Ukuthila okusezingeni eliphezulu kusethenizwa lapho sekuzotshalwa ukuze kulawulwe ukhula kusukela okhuleni olusamila kuze kufike emmbileni ozimilelayo. Lokhu bekuqinisekisa *iseedbed* enhle ebekungatshalwa kuyona nge-pumelelo. Imbewu emile kahle kanye nesibalo esihle zezitshalo kungatholakala kalula uma nje kunomswakama owanele emhlabathini. Ukusethenziswa *kwamaherbicides* emvakokutshala bekuqinisekisa ukulawulwa kokhula okufanele kanti lokhu bekusebenza kahle kakhulu.

Lena kwakuyinjwayelo emhlabeni jikelele, kanti kusenziwa nanamuuhla emhlabeni jikelele, kepha se-kuthe ukuncipha ezikhathini zanamuuhla.

Ukuthila kokugala emvakwesizini kuncike enanini nasohlotsheni lwezinsalela zezitshalo ezise-masimini emvakwesivuno. Uma bekunenani eliningi lezinsalela ezinde, sisebenzisa *idisc plough* ukusika lezi nsalela ngaphambi kokulima. Umfama kumele alime ngesikhathi lapho umhlabathi unomswakama owanele. Umhlabathi owome kakhulu udina *itraction* namandla amaningana, bese umhlabathi uphuka noma uvuleke ube ngamagabade amakhulu azodinga ukuthila okwengezevi ukuze aphuke ngokufanele. Uma umhlabathi umanzi kakhulu ngesikhathi sokutshala, uyaggishelana bese kudingeka kusethenziswe amadeep-tooth *implements* ukuphula ileya eligqishelene lomhlabathi. Umanyolo noma *ilime* kanti kokunye amaherbicides angafawa kangconywana ngedisc plough kumanoma kusethenziswa itooth implement yona ezodinga kuthilwe kabilo noma kathathu.

Kulezi zinsuku amafama alima kancane kanti futhi athila ngokwesilinganiso esincane esebebenzisa *idisc plough*, ilandelwa *yichisel plough eneroller*. Lokhu kuthila kushiya ingcosana yezinsalela ngaphezulu okungaholela emonakalweni wokuguguleka komhlabathi kufana nanoma bekusethenziswa indlela ejwayelekile yokuthila.

ENingizimu Afrika lapho ukuguguleka komhlabathi kanye nesomiso kuyinkinga enku, kubalulekile ukuba sibheke ukulondwa komswakama. Lapha asilimi kanti futhi asenzi *idisc tillage* ukuze siqinisekise ukuthi umfama ufaka izinsalela emhlabathini, kepha futhi kusale nezinsalela ngaphezulu. Lokhu kunge-nziwa *ngamatooth implements*, kodwa-ke *amatooth implements* agcwala masinya yizinsalela eziningi eziensimini. Ukuphula lezi zinsalela, amafama asebenzisa amavili okusika amile assetshenzisela ukusika izinsalela, kanye namarollers anezinsingo nazo ezisika izinsalela zibe zicucwana.

Lapho kuthilwa khona kancane, imbewu it-shalwa ebhendini encane lapho umhlabathi uphamiseke khona akwangathilwa phakathi nemigqa. UKusethenziswa *kwamaherbicides* kwenza kuhonakale ukushiya ingxene yonke yomhlabathi ingathilwanga. Lapho kuthilwa kancane kusethenziswa umshini wokutshala okhethekile, kanti wona uyabiza-ke. Le mishini yokutshala iyasinda kanti kumele ithi ukuba namandla ukuze ikwazi ukusika izinsalela zezitshalo futhi ivule izindlela emhlabathini ongathilwanga ukuze kufakwe imbewu. Lolu hlobo lokuthila solukhombise ukuba ngolusetshenziswa kakhulu ezweni lonkana. Ukungenelela kwamanzi emvula, ukuguguleka okuncane, amazinga okushisa komhlabathi aphansi kanye nokulondwa komswakama okungcono ngezinye nje zobuhle bale nkambiso.

## Isinqumo ngohlobo lokuthila

Izinga umhlabathi ogqishelana ngalo kumele lazi-we ngaphambi kokuba umfama enze isinqumo ngohlobo lokuthila azolusebenzisa. Umhlabathi ogqishelene uzobambezela ukumila kwezimpande zezitshalo noma uzivimbele zingakwazi ukungene-lela zijule emhlabathini. Amanzi asemhlabathini kanye namanyuthriyenti angaphansi komhalabathi ogqishelene angeke afinyeleka kalula yizimpande zezitshalo. Ugugqishelana noma uweweqwe lungave-la futhi njengeleya ngaphezu komhlabathi. Uma kunjalo kungaphazamiseka ukungenelela kanye nokukhula kwezithombo. Indlela efanele yokukwazi ukubona izinga lokugqishelana ukuba kugujwe imigodi yamaphrafayili ukuze kuhlowlwe izimpande zezitshalo ngaphansi emhlabathini. Izimpande ezi-

jwayelekile zezitshalo zihlukene kahle ngokwama-gatsha, zinamacapillary roots amaningana, kanti-ke izimpande ezilimle zona zibukeka ziwigqinsi futhi zimfushane ezingeni lapho ukungenelela kuyinkinga khona.

Umhlabathi oyishlabathi wona ugqishelana masinyane bese nomswakama uba mncane uma uqhathaniswa nomhlabathi osabumba. Isihlabathi esipheshulwe umoya sona sizozwelela kakhulu lapho sigqishelana, ngisho noma sesome nko. Kuvamile-ke ukusethenziswa *kweripper* ebusika ebudepheni buka-450 mm, nobubanzi bemigqa obuyi-1,5 wamamitha. Imigqa yamaplanter at-shalwa ngqo emiqgeni evuliwe ukuze izimpande zezitshalo zikwazi ukuthola umswakama osemhlabathini. Izinsalela zezitshalo kumele zigcinwe esihlabathini esipheshulwe umoya ukuze kuncishiswe ukuguguleka ngazo zonke izindlela. Emhlabathini wobumba osindayo (okuyi-5% - 10%), okwazi ukugcina amanzi kangconywana, ukuthila okujulile kwasikhashana nakho kuzodingeka. Emhlabathini wobumba osindayo (okuyi-10% - 20%), lapho kuba nedensification futhi nalapho insimu ilinyiwe, ivili le-traki lona lingadala *densification*. UKusethenziswa *kwamatooth implements* kumele kusize ukuxazulula le nkinga emhlabathini ngokugculisayo. Umhlabathi onezinga lobumba elidlula u-20% awuvamile ukuba nenkinga yokugqishelana, kepha nje uma unga-thilwanga ngenkathi usemanzi kakhulu. Lapho kuno-bungozi bokugqishelana khona ichisel plough yona izonika imiphumela engcono.

Ngenxa yezezimali kumele kugwenywe ukuthila okungadingekile bese kusethenziswa ukulima okulondayo. Amafama kumele agxile kakhulu ekuthileni okuncane kanye nasekuthileni okulondayo uma umhlabathi wabo ukuvuma lokho ngenxa yezinkinga zezindleko zamanje, ubungozi bokuguguleka kanye nokulondwa komswakama.

*I-athikhili ibhalwe nguJurie Mentz,  
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# Ukuhlelela ezezimali zesilimo sakho esilandelayo

I sichazamazwi yiyona yodwa ndawo lapho uzothola iMPUMELELO ngaphambili kokuSEBENZA. Ukuze uphumelele ebhizinisini lakho kumele usebenze kanzima, kanti nokuhlanganisa uholelo lokusetsenziswa kwezimali nakho kuwumsebenzi.

**Kungani kumele nighlelele ezezimali ngaphambi kzesilimo sami esilandelayo?**  
Izimpendulo zalo mbuzo ziayatholakala, kepha impendulo okuyiyonayona yilena ethi ulima ngoba ufuna ukuzenzela impilo. Ukuze ukwazi

ukukwenza lokhu, ibhizinisi lakho kumele libe nesasasa – inzozo kumele idlule imali esetshenziwe – bese kuba nenzozo wena ongazisebenzisela yona (njengeholo lakho).

Ibhizinisi lokulima ngelinye lamabhzinisi anzima kakhlulu kanti ukuze lingenise inzozo lidinga abaphathi abawaziyo umsebenzi. Uma kuza kwezezimali amafama abhekana nenselelo yamanani ezindleko acindezelekile, kanti amanani ama-*inputs* (imali esetshenziwayo) wona akhuphuka ngezinga eliphezulu ukudlula inani lama-*outputs* (umkhiqizo).

**Ithebula 1: Isibonele sebhajethi yomkhiqizo wommbila omhlophe ojwayelekile ngesizini yonyaka ka-2013/2014.**

	R/ha 3,5 amathani omkhiqizo/ha	Isilinganiso sezindleko zokutshala (100 ha)
Inzozo @ R2 145,00 ithani ngalinye	7 508,00	750 800,00
<b>Inani legross production</b>	<b>7 508,00</b>	<b>750 800,00</b>
<b>Ncane: Amadirect allocated variable costs</b>		
Imbewu	457,00	45 700,00
Umanyolo	1 454,00	145 400,00
Ilime	330,00	33 000,00
Amaherbicides	375,00	37 500,00
Amapesticides	163,00	16 300,00
Umshwalensi – i-input	148,00	14 800,00
Amafutha	805,00	80 500,00
Ukulungisa	515,00	51 500,00
Umshwalensi wesilimo	285,00	28 500,00
Izindleko zokudayisa	237,00	23 700,00
<b>Isamba sezindleko</b>	<b>4 769,00</b>	<b>476 900,00</b>
<b>Gross margin</b>	<b>2 739,00</b>	<b>273 900,00</b>
Ncane: Ama-ovahedi nezindleko ezimile (uma zikhona)	2 350,00	235 000,00
<b>Inzozo yenet enterprise</b>	<b>389,00</b>	<b>38 900,00</b>

**Ithebula 2: Isibonele sokubala izimali ozozisebenzisa ihektha ngayinye uphindaphinde nezindleko ze-input.**

Isilinganiso sezindleko zembewu					
Inani elilindelwe/25 kg isikhwama (a)	Imbewu ihektha ngayinye (b)	Izindleko ihektha ngayinye (c) (a/25 x b)	Amahektha azotshalwa (d)	Inani lezikhwama ezizo-thengwa (e) (d x 6)/25	Isamba sezindleko ezibhekiwe (c x d)
R1 904,00	6 kg	R457,00	100	24 izikhwama	R45 696,00
Isilinganiso sezindleko zomshwalensi wesilimo					
-	-	R285,00	100	-	R28 500,00

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### IPULA IMVULA IYATHOLAKALA FUTHI NANGALEZI ZILIMI EZLANDELAYO:

**IsiZulu,**  
 IsiBhunu, isiNgisi, IsiSwana, IsiSuthu,  
 IsiSuthu saseNyakatho, nesiXhosa.

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**Le mininingwane yenziwe  
ngabakwaMaize Trust.**



# Ukuhlelela ezezimali zesilimo sakho esilandelayo

Iphendula ngokugcwele umbuzo othi "Ukhiqiza kanjani".

Izindaba ezingemandi ukuthi kumele uhlele ezezimali minyaka yonke, kepha okuhle ukuthi uma usunohlelo Iwakho lokulawulwa komkhiqizo kanye nohlelo Iwezezimali kuba lula onyakeni ozayo ngoba awusaqali phansi. Ulungisa lapho kudingeka khona. KEPHA lona nguKEPHA obalulekile – cubungula futhi ubuyekeze uhlelo Iwakho minyaka yonke. Kubalulekile kakhulu ukuze uphucule umkhiqizo wakho unyaka nonyaka. Izimila ezintsha ziyakhula, amakhemikhali amasha futhi an-gcono ayatholakala, kuzoba netheknojoli entsha, njll.

**Isinyathelo esilandelayo** ukumatanisa imali nakho konke ozimisele ukukwenza. Ukuze wenze lokhu udinga imininingwane ngamanani, okuyinzuso kanye nemali esethenziswayo. Kungcono ukusebenza ngehektha ngalinye bese uliguqula libe yinani lamahektha ozowatshala.

### Ngabe ngiwathola kuphi amanani?

Lokhu kungumsebenzi kanti kuthatha ne-sikhathi. Sebenzisa amanani akho angonyaka odlule uma unawo njengesiqalo sakho. Xhumana nabadayisi, xhumana nabakwaGrain SA, kanye neqembu ofunda nalo. Bheka amaphephabhu ahlukene atholakalayo, uma unayo ungavakashela ngisho ne-inthanethi.

Ukuze ubale izindleko zehektha ngayinye yento ngayinye kumele ubale imali ozoyise-benzisa ihektha ngayinye uyiphindaphinde nezindleko ze-input. Izindleko okunzima ukuzibala ezikaphethiloli/amanfutha kanye nezindleko zokulungisa izinqola zokulima, kepha kumele ube neminingwane obuyisebenzise ngaphambilini ongasebenzela phezu kwayo.

### Kulandela ini?

Uma usunayo yonke imniningwane yezezimali kumele manje uhlanganise ibhajethi yokukhiqiza eyaziwa futhi njenge enterprise budget. Isibonelo esingeza sibonisa yona. Ibhajethi yokukhiqiza yona izoqukatha izindleko zokukhiqiza zonyaka

ozayo zona zincike ohlelweni Iwakho lokulawula ukukhiqiza. Khumbula ukuthi ibhajethi yaziwa njengohlelo olubhaliwe, Iwaphimiselwa ngezilinaniso zomsebenzi wezandla kanye nezezimali, nalokho okuzokwenziwa kusasa ebhizinisini lako ukuze kufinyelelw enhlosweni onayo.

Uma wehluleka ukuzenzela eyakho ibhajethi khumbula ukuthi lukhona usizo olutholakala eminyangweni ehlukene. Noma-ke thola omunye ongakwenzela, noma ngabe kusho ukuthi kumele umkhokhele – ngeke wazisola – ngyiethembisa. Noma-ke ungathola ibhajethi kwabakwaGrain SA, i-input service provider yakho noma inkampani yezolimo esendaweni eseduze nawe. Noma la mabhajethi angekho ngqo, kepha ayisiqalo esihle.

Uma usuwenzile umsebenzi wokwenza ibhajethi kuhle ke ukuthi uyisebenzise ngendlela efanele njengethuluzi lokuphatha. Uma usebenzisa ibhajethi yakho ngokuphelele uba nobuqotho ekaphatheni ibhizinisi lako. Njengomnininibhizinisi kungaba nzima ngesinye isikhathi "ukuziphatha" wena qobo Iwakho. Njengoba uziphethe kanti futhi nemali kungeyakho ungenza nanoma yini oyifunayo futhi usebenzise imali ngendlela othanda ngayo. Uma wenza ngale ndlela uzobe usuzibiza izinkinga ezinkulu. Ibhajethi ingakusiza ngoba yona isebezenza njengomphathi wakho ukuze ibhizinisi lako lime. Uma uyisebenzisa le bhajethi uzoba nokuhlakanipha bokwenza nokuqedza imisebenzi ehleliwe ulandela imali efanele lowo msebenzi. Ibhajethi izokusiza ukulawula ibhizinisi lako ngokuhlakanipha.

Khumbula, indawo kuphela lapho uzothola khona iMPUMELELO ngaphambi koku-SEBENZA yisesichazamazwini. Ukuhlelela ezezimali kuthatha isikhathi kanye nokuzimisela (umsebenzi). Akekho owathi ukulima kulula – lima ukuya ngamandla akho, ngeke wazisola.

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