

# Ukwenziwa kokuTshala ngokonga

Kunezindlela eziningana zokutshala uma utshala ngokonga. Isinqumo somlimi ekusebenziseni lezi zindlela kanti futhi kuncika ikakhulukazi ebubanzini bendawo azimisele ukuyitshala, izinsiza kusebenza zokutshala ngokonga kanye nama-ndla okusebenza leyo ndawo. Kuphinde kuncike kakhulu ohlobeni lwenhlabathi onayo kanye nesembozo esiphezu kwaleyo nhlabathi.

Izindlela ezintathu ezimqoka zokutshala ngokonga yilezi:

- \* Ukutshala ngezandla
- \* Amageja adonswa ngezinkabi atshala ngokonga
- \* Amageja amakhulu adonswa ngogandaganda atshala ngokonga.

Ukutshala ngokonga lokhu yindlela yokwehlisa izinga lesidingo zezinsiza kusebenza eziphuma ngaphandle. Ngalandlela sihlose ukuvuna ukudla okuningi sisebenzise inani eliphansi kakhulu lemithi yokushisa ukhula nezinambuzane kanye nomanyolo. Ukuphumelela kwethu kulezizinhloso kulele eqophelweni esilandela ngayo lemigomo yokulima ngokonga esibala kukho: a) ukungavukuzwa kwenhlabathi, b) ukugcina inhlabathi inesebozo, kanye c) ukushintshashintsha izitshalo nokutshala izitshalo eziyisembozo.

Uma sisaqala ukutshala ngokonga kungathatha isikhathi ukuthi imvelo ibuyeke esimweni sayo noma ukuthi imvelo isisebenzela ngendlela ukuze izitshalo zikhule ngendlela efanele. Kuleminyaka yokuqala kunokwenzeka kube nezingqinamba ezikhona njengokusabalala kokhula, ukuswelakala kwemvunda enhlabathini, ukungavundi kwenhlabathi okubandakanya ubumuncu ezindaweni ezinemvula eningi.

Ezindimeni ezincane kulula ukufaka isembozo ukwehlisa izinga lokhula kanti lokhu kuyakusebenzela ukudla kwasemasimini kanye namaveji. Yize nasezindimeni ezinkulu kunokwenzeka nakhona kodwa ke ngokujwayelekile siye sinqume ukufafaza imithi yokhula ngaphambi kokutshala noma sesitshala, siphinde sifafaze emva kokutshala. Ngalesisikhathi isembozo sidlondlobala ukhula luya ngokuncipha ngaleyo ndlela isidingo semithi yokhula iya incipha. Inhloso enkulu ukufika esimweni sokungasebenzisi mithi qobo.



**Kwesokudla:** Indima yamaklabishi etshalwe ngendlela yokonga. Qaphela isembozo esigwema ukukhula kokhula. From: Mr Simon Hodgson, Cover Crop Solutions, 2014

## Ukuncishiswa kokhula ngokuxuba izitshalo

Izindima ezitshalwe uhlobo lwesitshalo olulodwa zibanokhula oluningi ngoba kuba nezikhala phakathi kwemigqa yazo. Izitshalo ezixutshiwe endimen eyodwa zakha umpheme omboza inhlabathi ngokushesha kunalezo zindima ezitshalwe isitshalo esisodwa. Lokhu kucindezela ukukhula kokhula.

Izindima ezinezitshalo ezixutshiwe, nezikhala ezincane zingadinga ukuhlakulelwa kube kanye okanye zingahlakulelwa nhlobo. Izitshalo ezitshalwe ngazodwana zona zingadinga ukuhlakulelwa kube kabili noma kathathu.



**Kwesokudla:** Indima kabhontshisi lapho ukusabalala kokhula sekwehlise izinga lokukhula kwezitshalo okubonakala ngomubala ophuzi.

**Kude ngakwesokudla:** indima yombila nobhontshisi okutshalwe ndawonye ekhombisa ukucindezeleka kokhula nokukhula kwezitshalo okuhle. (Pics from GrainsA SFIP, Bergville 2014)

## Ukulungiselela ngesikhathi nokutshala

Ukulungisa insimi kanye no kutshala ngesikhathi kubaluleke kakhulu.

Yikuphi okumele kwenziwe?	Kwenziwe nini?
Ukulungisa insimu (ukumba imigodi noma Amahholo, ukuvula imisedlana, ukumba imisele)	uNtulikazi (July) – uMfumfu (October)
Ukuchela ngemithi yokhula ngaphambi kokutshala	uMandulo (September) – uMfumfu (October) (amasonto amabili ngaphambi kokuba utshale)
Ukufakwa kwesivundisi sangaphansi (umquba, ikhomposi, umanyolo, ikalika)	uMfumfu (October) – uLwezi (November) (Ngesikhathi utshala noma amasonto amabili ngaphambi kokutshala)
Ukutshala; ukuchela umithi wezinambuzane (umubundane nesihlava), ezitshalweni ezitshalwe ngazodwana nezixutshiwe	uMfumfu (October) – uLwezi (November)
Ukuhlakula kokuqala kanye nokutshala isitshalo zasebusika okanye izitshalo eziyisembozo	Ngesikhathi luqala ukuvela ukhula emva kwesonto noma amabili
Ukuhlakula kwesibili nokufakwa kwesikhuthazi; ukuhlelela isihlava nokuchela umuthi uma kunesidingo.	uZibandlela (December) – uMasingana (January) Ngaphambi kokuba ukhuthaze, amasonto amane kuya kwayisithupha utshalile
Ukutshalwa kwesitshalo eziyisembozo ebusika nokuhlakulela kokugcina. Ukuhlelela izinambuzane uma sekuqhuma intshakazi (ukhahlela) nokuqhuma kwezikhwebu, (ubekela) fafaza uma kudingeka.	uNhlolanja (February) – uNdasas (March)
Ukuvuna	uNhlaba (May) – uNhlanguane (June)
Ukunakekela emva kokuvuna	uNhlanguane (June) – Ntulikazi (July)

\*Zama ukuthola omanyolo ababunene kwiMvelo.

## Ukulungiswa komhlaba okuzotshalwa kuwo ngezandla

**QAPHELA:** Sinikeze iseluleko esifanayo malunga namanani omquba kanye nomanoyolo adingekayo; lokhu kususelwe enanini lemvula yasehlobo yalendawo engu 700-800 mm ngonyaka ebese iba nenhlabathi esalubumba (20-30% enhlabathini engaphezulu) le nhlabathi encike isikahulukazi ekutheni ibe muncu. Isivuno esiqageliwe salesisibonelo ngamathani angu4 kuya kwangu 8 kwihaktha ngonyaka Izitshalo ezisensimini zombila zingaqagelelwa e-40,000 kuya 70,000 nge hekethe.



## Ukutshalwa ngemigodi noma amahholo

Imbewu ayitshalwa emisedlaneni njengokujwayelekile kodwa phakathi emgodini emincane embiwe ngegeja lesandla ngaphandle kokuvukuza insimi yonke.

### Isinyathelo 1: Yimba imigojana noma amahholo Ntulikazi (July)–uMfumfu (Oct)

- \* Susa ukhula lwanyakenye (langonyaka ophelile)
- \* Yimba imigojana engasentimitha ayishumi nanhlanu (15cm) ubude, yishumi nanhlanu (15cm) ububanzi, kube yishumi nanhlanu (15cm) ukujula
- \* Imigojani yakho mayime umugqa. Isikhala phakathi kwayo mayibe ngasentimitha angamashumi ayithupha (60cm) bese kube ngasentimitha angamashumi ayishiyagalolunye (90cm) phakathi kwemigqa. Kanti makube ngasentimitha angamashumi ayiskhombisa nanhlanu (75cm) phakathi kwemigojana kanye nemigqa imigojana ingasetshenziswa.



Uhlobo lukamanyolo olusebenzi-sayo luqondene nensimu yakho. Uma ungenayo imiphumela yokuhlolwa komhlaba yensimi yakho kunemithetho ejwayelekile engasetshenziswa ukukusiza ngokwasendawen okuyo.

**Kwesokudla:** insimu enemigojana esezilindlwe ukutshalwa.

### Isinyathelo 2: Faka isivundisi sangaphansi uMandulo (Sep)–uMfumfu (Oct)

- \* Faka izandla zibe 5-10 okanye umlomo wesipeti esisodwa somquba okanye ikhomposi emgodini ngamunye bese ubuyisa kancane inhlabathi. Uma unokalika, faka uwuhlanganise nomquba, faka uhhafu wekopi lokudla emgodini ngamunye. Lokhu kulinganiselwa kusinganise sethani eleilodwa kwihaktha.
- \* Kuwumqondo omuhle ukufaka umquba nekalika ngaphambi kokutshala ukunikeza imisico isikhathi sokungena enhlabathini isebenze.



**Kwesokudla ngenhla:** ukufakwa kukamanyolo emgodini. **Kwesokudla ngezansi:** ukufakwa kukalika kusetshe-nziswa ibhokisi likamentshisi

### Isinyathelo 3. Ukutshala uLwezi (Nov)- uZibandlela (Dec)

- \* Tshala emva kwezimvula ezinhle lapho inhlabathi isemanzi
- \* Uma kufakwa nomanyolo, faka ngesivalo sebhodlela lesiphuzo esingaqongile sibe sinye noma isipuni setiye esincane emgodini ngamunye womanyolo iMAP. Faka lo manyolo ecaleni elilodwa lomgodi bese umboza kancane ngenhlabathi ngaphambi kokubeka imbewu.
- \* Faka izinhlamvu zibentathu emgodini ngamunye
- \* Mboza izinhlamvu ngenhlabathi

**Kwesokudla:** ukufakwa kwamanyolo ongangesivalo sedilinki esingingqin



Ukuhlakula  
ngokuphelele  
kungandisa  
isivuno sakho  
ngokuphindiwe  
(50%)

### Isinyathelo 4. Ukuhlakulelwa nokusiphulwa (ukupha) uZibandlela (Dec)-uNhlolanja (Feb)

- \* Ukuhlakulelwa kokuqala: Kwenziwa lapho luqala ukucela ukhula.
- \* Ukusiphulwa (ukupha): Kwenziwa emavikini amabili kuya kwamathathu imbewu imilile, shiya izithombo ezimbili emgodini ngamunye.
- \* UKuhlakulelwa kweisibili: Kwenziwa emavikini amane kuya kwayisithupha kumilile.

### Isinyathelo 5. Ukukhuthaza nge Banda - limestone ammonium Nitrate (LAN) uMasingana (Jan)-uNhlolanja (Feb)

- \* Faka iBanda -LAN uma ummbila usunamaqabunga amahlanu kuya kwayisithupha, sebenzisa uhhafu wesivalo sesiphuzo okanye uhhafu wesipuni setiye esincane.
- \* Ungawusakazi ngesandla umanyolo-ufake ngokucophelela phansi eduze nesiqu sesitshalo ngasinye. ngalendlela wonke umanyolo ungena esitshalweni ngasinye ngqo, akukho ukumosha. Faka umanyolo enhlabathini ethanda ukuba manzi-hhay kowomile.



**Kwesokudla:** ukufakwa kwesikhuthazi ngohhafu wesipuni setiye esincane se LAN ngesingi.

### Isinyathelo 6. Ukuvuna uNdasa (Mar)- uNtulikazi (July)

- \* Khipha izikhwebu ushiye amahlanga emile ensimini
- \* Nquma izinhlanga maphansi nesiqu
- \* Sakaza izinhlanga ensimini maphathi nenmingqa yommbila

### Isinyathelo 7. Ukunakekelwa kwensimu ebusika uNhlanguane (June)-Mandulo (Sep)

- \* Susa ukhula olusasele ensimini
- \* lungisa imigodi lapho kade ekade ikhona nyakenye ebese uqalelela kabusha.



## Imisedlana yokutshala engajulile

Le ndlela yokulima ngokonga isebenzisa amageja ezandla kanti nakhona akumelanga uvukuze insimi yakho yonke ngaphambi kokutshala. Njengokutshala emigodini, ukulungisa inhlabathi kuhle kwenzeke ngaphambi kwesikhathi semvula okusukela ku July kuya ku October.

### Isinyathelo 1. Ukulungisa imisedlana uNtulikazi (July)–uMfumfu (Oct)

- \* Susa ukhula lwanyakenye (kungaba ngemishini noma ngemithi)
- \* Yimba imisele engamasentimitha amahlanu kuya kwayishumi ukuvuleka ebese iba ngama ngambili kuya kwamahlanu ukujula. Izikhala ke sincika ohlotsheni lokutshala olusebenzisayo. Hlukanisa imisedlana ngamasentimitha angamashumi amahlanu kuya kwangamashumi ayisikhombisa nanhlanu (50cm-75cm) okanye angamashumi ayisishiyagalolunye (90cm) ukuqhelelana uma utshala ummbila. Uma izikhala phakathi kwemisedlana zinkulu lokho kusho ukuthi ungatshala ummbila omningi emugqeni wommbila ngamunye; isibonelo, ungenza amasentimitha angamashumi ayisishiyagalolunye (90cm) phakathi kwemisedlana yommbila, bese usebenzisa ama 40cm emgodi ngamunye wommbila' noma wenze ama 50cm maphakathi kwemisedlana kanye nama 50cm emigqeni ngamunye wommbila. Kubhontshisi khona emugqeni ngamunye unga-sebenzisa ama 10cm ebese usebenzisa ama 25cm, 30cm noma 50cm maphakathi kwemisedlana kabhontshisi.

*QAPHELA: ukusondela kwezitshalo ndawonye kuchaza ukuvikeleka kahle kwenhlabathi nokucindezeleka kokhula.*

**Kwesokudla:** olayini bentambo ababekelwe ukukala izikhala zemisedlana, lana khona kwenziwe ama 25cm yemigqa emibili kabhontshisi kanye nama 50cm yemigqa emibili yommbila.

Kulula  
ukuhlakulela  
izithslao uma zitshalwe  
zagqagqaniswa  
kuphinde kubelula  
ukukhula kokhula.



### Isinyathelo 2. Ukuthelwa komquba

uMandulo (Sep)–uMfumfu (Oct)

- \* Faka izipeti ezimbili ezigcwele zomquba noma ikhomposi njalo ngemitha lomsedlana
- \* Uma kuzofakwa nokalika, awuhlanganiswe nomquba, ufake ikopi elilodwa lokudla (500g) ngemitha lomsedlana. Kuhle lokhu ukwenze ngaphambi kokutshala kunikeza imisoco isikhathi sokusebenza.

**Kwesokudla:** ukufakwa kwekalika emisedlaneni yokutshala



### Isinyathelo 3. Ukutshala

uLwezi (Nov)–uZibandlela (Dec)

- \* Tshala emva kwezimvula ezinhle
- \* Uma umanyolo wangaphansi ukhona; njenge MAP faka izivalo sesiphuzo ezingangqongile zibe mbili ngemitha lomsedlana owodwa noma uhhafu webhokisi likamentshi ngemitha lomsedlana
- \* Beka imbewu ibe amasentimitha alishumi kuya kwangamashumi amahlanu (10-50cm) ukwehluka phakathi emseleni, kuncike ekutheni utshala ubhontshisi noma ummbila
- \* Mboza izinhlamvu ngenhlabathi



#### Isinyathelo 4. Ukuhlakula uZibandlela (Dec)–uNhlolanja (Feb)

- \* Ukuhlakula kokuqala kwenziwa ngokushesha uma kubonakala ukhula
- \* Ukuhlakula kwesibili kwenziwa emva kwamaviki amane kuya kwayisithupha (4-6) emva kokuqhuba kwembewu

#### Isinyathelo 5. Ukukhuthaza ngeBanda e uMasingana (Jan)–uNhlolanja (Feb)

- \* Faka isikhuthazi uma ummbila usunamaqabunga amahlanu kuya kwayisithupha (5-6); sebenzisa ingxenye yesivalo sesiphuzo noma ingxenye yesipuni setiye esincane esitshalweni ngasinye. Kodwa kubhontshisi ungasebenzisa okuncanyana kunalokhu njengo ubhontshisi uzikhiqizela esayo isikhuthazi, kanti ukufa umanyolo ngokweqile kungavuna ukukhula kwamaqabunga kakhulu kunokuthela kwawo ubhontshisi
- \* Ungawusakazi umanyolo-ufake ngokucophelela phansi nesiqu sesitshalo ngasinye.

#### Isinyathelo 6. Ukuvuna uNdasa (Mar)–uNtulikazi (July)

- \* Susa izikhwebu ushiye amahlanga emile ensimini
- \* Nquma izinhlanga phansi nesiqu, wawise noma uwashiye emile
- \* Beka izinhlanga ezinqunyiwe ensimini maphakathi nemingqa

**Kwesokudla:** insimu enesembozo esihle samahlanga ommbila nezinsalela. Kunesitshalo sasebusika esibonakala siqhuma phakathi kwalesi sembozo.



#### Isinyathelo 7. Ukunakekelwa kwaseBusika uNhlanguane (June)–Mandulo (Sep)

- \* Susa ukhula olubonakala lusekhona ensimini
- \* Lungisa imigqa yakho lapho ebekade kume khona eyangonyaka ophelile!

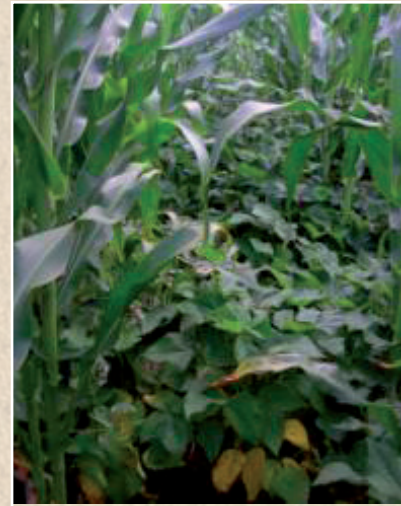
### Ukuxutshwa kutshalwa ngolayini (Tramline intercropping)

Le ndlela yokutshala ngokonga kutshalwa izitshalo zasensimini zixutshwe ukunciphisa ukuncintisana kwezitshalo zifuna ukukhanya, amanzi kanye nemisoco. Lendlela iphinde ikwazi ukusebenzisa indawo ngokwenele lokho okuzokwandisa isivuno. Lokhu kunzeka ngokusebenzisa imishini yokutshala yezandla noma le edonswa izinkabi.

- \* imigqa emibili yommbila itshalwa ihlukaniswe ngamasentimitha angamashumi ayisikhombisa nanhlano (75cm) ukuhlukana ebese izinhlamvu zihlukaniswe ngamasentimitha angamashumi amthathu (30cm) phakathi nomugqa
- \* Kule sisikhala esiyimitha nohrafu (1.5m) esiphakathi kwemigqa emibili yommbila kube sekutshalwa imigqa emibili kabhontshini enamasentimitha angamashumi amahlanu (50cm) phakathi kwayo namasentimitha amathathu kuya kwamahlanu (3-5cm) wesikhala phakathi kwezinhlamvu emugqni ngamunye.
- \* amathanga angafakwa ngokulinga agudle olayini bommbila angabi maningi.



Kuyavuma ukucinanisa noma utshal a ngalendlela. Inhloso yokutshala ucinanise ukwenzela uku-shesha kokuba nompheme izitshalo zisakhula ukwenza ukucindezela ukhula. Nakhu imigqa emibili yommbila. Itshalwe yehlukaniswa ngama 50cm maphakathi kwemigwa yase ihlukaniswa ngama 25cm izinhlamvu emugqeni ngamunye kanye nemigqa emibili kabhontshisi ehlukaniswe ngama 25cm imigqa emibili yahlukaniswa ngama 10cm zinhlamvu emugqeni ngamunye.



Kule ndlela yemigqa ingxube yemigojana kanye nemigqa isangasetshenziswa; imigodi yenzelwe ukutshala ummbila kanti imigqa itshalwe ubhontshisiphakathi nemigqa yommbila.

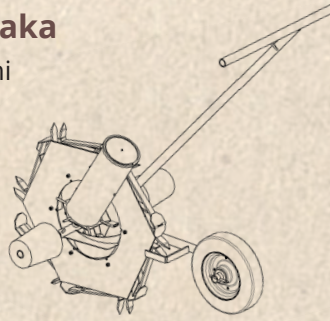


### **Ukusebenzisa imishini yokutshala yezandla**

Imishini yokutshala ngokonga yezandla yakhiwe ngendlela yokuthi yenze izimbobo ezincane enhlabathini ebese yona le mishini ikhiphe imbewu nomanyolo kulezo zimbobo. Lokhu kwenza inhlabathi ingavukuzwa nhlobo iphinde inciphise amandla adingekayo ngesikhathi sokutshala. Kunezinhlabezemishini yokutshal yezandla etholakalayo; nazi ezinye zezibonelo ngezansi.

## Umshini wokutshala wezandla iHaraka

IHaraka lena etshengiswe ngenhla engumshini wokutshala oqhutshwa ngezandla isondo lijikeleze utshale ngokonga. Lo mshini ufaka izinhlobonhlobo zembewu okubalwa kuzo ummbila, ubhontshisi kanye nembewu encane efana njengama klabishi, amabele nezitshalo eziyisembozo. Iharaka lishiya izikhala ezingamasentimitha angamashumi amamthathu(30cm) phakathi kwembewu. Uma kuzofakwa nomanyolo, ubekwa ngaphezulu eceleni kunalapho kungen khona imbewu. Lo mshini ke uyakwazi ukumelana sezimo zenhlabathu eyisihlabathi noma esalubumba. Enhlabathini esalubumba singengeza isindo somshini ukwenzela ingene phakathi enhlabathini ngokwanelene.



Lo mshini ukahle uma uzosebenza indawo encane kuya kwephakathi kukahhafunwe hekethe kuya kwamahlanu (0.5-5 ha). Lo mshini wokutshala yiwo ohamba phambili ngokushesha emishini esetshenzisa ngezandla kanti ukhiqizwa yinkampani iGrowing Nations and Eden Equip ([www.eden-equip.co.za](http://www.eden-equip.co.za)).

## Umshini wokutshala ngezandla uMbli

Afritrac ([www.afritrac.co.za](http://www.afritrac.co.za)) yona ikhiqiza i Mealiebrand MBILI okuwumshini otshala usetshenziswa ngezandla. Lo mshini ke wona usebenza ngokufanayo negeja leli lasekhaya kodwa ke wona ufaka imbewu nomanyolo kanye kanye ngokuvula imigojana emibili emincane. Imbewu ifakwa kulombhombho oqondile oluhlaza ebese umanyolo ungena esikhwameni lesiya esincanyana. Kunama puleti akhona avumela umlimi ukuba atshale izinhlonhlobo zezimbewu njengo mmbila, ubhontshisi nezinye ezincane ezinjengamabele. Kulula ukusebenzisa lo mshini kanti uyakwazi nawo ukumelana nenhlabathi eyisihlabathi nesalubumba, ifanele kakhulu izindima ezincane ezingafinyelela ku kwihekethe elilodwa.



## Umshini wokutshala iMatraca

Umshini wokutshala iMatraca isuka le eBrazil ifaka umkanye imbewu nomanyolo ngokuvula imigojana eqondene nesondelene. Uyayiphakamisa uyihlabe enhlabathini uyivulele khona phansi njengesikele ukuze ikhiphe imbewu nomanyolo.





Nayo ngokunjalo iyamelana nenhlabathi eyisihlabathi nobumba kodwa ke idinga amandla ezingalweni. Isebenza kahle ezindaweni ezincane ezingafinyelela ku kwihekethe elilodwa okwamanje ithengiswa, Inntac Trading ([www.inntac.co.za](http://www.inntac.co.za)).

## Imishini yokutshala edonswa izinkomo (izinkabi)

Kunezinhlobo zemishini yokutshala edonswa izinkabi kulokhu kutshala ngokonga. Eyokuqala ukusebenzisa i-ripper evula imisedlalna lapho kuzofakwa khona imbewu nomanyolo ngesandla bese kwembozwa ngenhlabathi (bona isithombe).

**Kwesokudla:** umshini odonswa izinkabi ovula imisele (from [www.afritrac.co.za](http://www.afritrac.co.za))

Omunye wesibili umshini ophelile odonswa zinkabi olima ngokonga owenzelwe ukukhipha imbewu nomamnyolo emselene eyenziwa i-ripper exhunywe kuwo lo mshini. Lesi isibonelo somshini wenani eliphansi omdala oshintshiwe ususelwa kowaziwayo umshini iSafim edayiswa ngu Afritrac ([www.afritrac.co.za](http://www.afritrac.co.za)).



Umshini wokutshala iNapick eyalandwa eBrazil yona umshini wesimanje nawo odonswa izinkabi othe ukudla ngokubiza. Ngenxa yezipilingi nama-sondo akulomshini kulula ukujika ekupheleni kwensimi.



## Ukuhlakula

Ingxube yezindlela ezihlobene nendalo, imithi kanye negeja lezandla zingasetshenziswa ndawonye ukubhekana nokhula, kuncika eku-sabalaleni nobuningi bokhula nokuthi imithi nezinsiza kusebenza ziyatholakala yini na.

### Imithi yokushisa ukhula

#### Izinto ezinhle ngokusebenzisa imithi ukulawula ukhula

Imithi yokhula isivumela ukulawula ukhula sinciphise amazinga okuvukuza inhlabathi kanjalo nokucophelela isikhathi. Lokhu sekwenze kwabalula ukusebenzisa le ndlela yokutshala ngokonga. Imithi lena yehlisa izinga lomsebenzei nabantu abadingekayo ukuhlakula.

#### Izinto ezimbi ngokusebenzisa imithi ukulawula ukhula

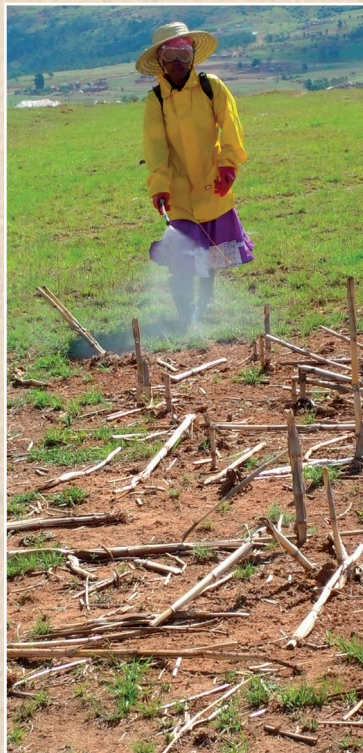
Kunokwenzeka kufafazeke izitshalo ezingaqondiwe, izitshalo zingafa, umuthi ungasalela enhlabathini ukhubaze izitshalo ezizotshalwa, ukhula lungagcina lungasawuzweli umuthi, ukugcinwa nokulahlwa kwezitsha eziphatha imithi ukungcoliseka kwamanzi asemadanyini, aseziphethwini, amanzi ahlala ngaphansi komhlaba kanye nokuba sengcupheni kwezimpilo zabantu uma imithi ingasetshenziswa ngendlela.

Kunolwazi olunzulu kanye nekhono oludingekayo ukusebenzisa le mithi. Imigomo yokuphepha kumele ilandelwe njalo nangokuphelele uma kusetshenziswa imithi yokhula.

***Kusukela esinxeleni kuya esidleni: kubalulekile ukugqoka ndendlela efanele-izibuko, isifonyo, amagilavu, amadadla nokuwucwazi okuvikela umzimba. Kwezinye izinkathi abantu bakuthola kunzima ukugqoka zonke izimfanelo uma kunjalo faka okungenani izibuko, amagilavu kanye amadadla.***

Ekuzuzeni kwabalimi abancane akukho okubaluleke njengokulawula ukhula

- Roland Bunch



## Ukusetshenziswa kwemithi yokhula ekulimeni ngokonga

Faka umuthi wokhula ongakhethi usebenzisa isigubhu sokufutha kuphele amasonto amabili ngaphambi kokutshala. Faka umuthi wokhula kungakaqhumu ukudla.

Imithi okufuthwa ngayo ngaphambi kokutshala:

- I mithi equkethe i-Alachlor efane ne: Lasso, Sanachlor, Alanex
- Equkethe I -S-metolachlor + safener afana ne Dual S Gold
- Equkethe I -Acetochlor efana ne Trophée CS, Relay, Guardian

*QAPHELA: Yonke lemithi ibulala ukhula*

Imithi ebulala ukhula oselumilile nakho konke okumilile:

- Equkethe i -Glyphosate efane ne Round-up, No-plough, Mamba, Senator neminye)
- Equkethe i-Paraquate efana ne Gramoxone, Agroquat (INOBUHI OBUYINGOZI KAKHULU!)

*QAPHELA: Lemithi ibulala ukhula olusuluhla-za!*

## Ukufutha imithi yokhula

Qala ngokufutha umuthi ongakhethi ozobulala utshani kanye nokhula. I-Glyphosate enye yalemithi kanti yaziwa kahle ngele Roundup (ekhiqizwa yinkampani yemithi iMonsanto). Ngokujwayelekile kufakwa amalitha amabili kuya kwamane hekethe (2-4l/ha) kuncika ekusabalaleni nohlobo lokhula olukhona. Lokhu kuchaza ukuthi uzofaka isilinganiso esingu200-320ml eRoundup namanzi angamalitha ayishumi nesthupha (16) amanzi ugcalise isigubhu sokufutha.

Ijubane ohamba ngalo, nejubane ompompa ngalo, kanye nengalo yokumpompa iyona ezokutshela ukuthi ufaka umuthi ongakanani enhlabathini. Ngokomthetho kufanele ingalo uyimpompe kanye njalo ngomzuzwana owodwa. Ngaleyo ndlela uma uhamba ungasheshi futhi ungagijimi, isifutho usiphakamise ngokufika edolweni, ube usho buthule igama "one thousand" uphindelela, loku kuyokwenza ufuthe ngomgqigqo oyiwona futhi uyihlabane esikhonkosini.

Ngokujwayelekile kufakwa amalitha angamakhulu amabili (200) ngehekethe. Ukuze uzibone ke uthi wena kulokhu umi kuphi kubalulekile ukuthi uziqeqeshe ngaphambi kokufaka umuthi. Lokhu ungakwenza ngokuthi ukale indawo engu 10m x 10m endaweni eqinile neyomile ebese ufaka amalitha amanzi abe mabili. Kumele umuntu ofuthayo ahambe ngendlela yokuthi kuphele amanzi esigujini kungabibikho ndawo engafuthekanga.

**Kwesokudla ngenhla:** Kubalulekile uqinisekisa ukuthi izinti ezixhunyiwe zixhunyiwe ngendlela eyiyo, faka amazi uhlole. **Kwesokunxele ngezans:** Umeluleki nomlimi bahlola indlela yokuhamba yomuntu ozofutha. **Kwesokudla ngesanzi:** Qaphela ubude benduku yokufutha ukusuka phansi.



## Izeluleko zokufutha imithi yokhula

- \* Ukhula kumele lufuthwe lusaqhuma, uma selingamasentimitha amane luya kwayishumi (4-10cm) ubude
- \* Futha ngesikhathi esipholile sosuku
- \* Ungafuthi uma kusenamazolo okhuleni, lokhu kuyawudunga umuthi
- \* Ungafuthi uma kunomoya
- \* Ungafuthi uma khuhloma izulu noma uma lizona
- \* Sebenzisa amanzi ahlanzekile ukuhlanganisa umuthi
- \* Hlela isigubhu sakho ukuqunisekisa ukuse-tshenziswa komuthi ofanele
- \* Gqoka izimpahla zokuvikela ufake izifonyo zomlomo namakhala
- \* Geza izitsha ebezinomuthi ebese uyazigqibela
- \* Kubalulekile ukwazi ukuthi izinhlobo zemithi ziyahlanganiswa noma cha, olunye lwalolu lwazi lutholakala epheshaneni elisebhodloleni lawo umuthi. Eminye imithi ayihambelani, uma ihlanganisiwe igcina ingasebenzi kumbe yenza okubi
- \* Hlanganisa amanzi nomuthi kulingane nalokho okudingekayo okuzosebenza ngaleso sikhathi kuphela
- \* Uma usebenza ngemithi engafakiwe amanzi kubalulekile ukuthi ugqoke izimpahla zokuvikela. Yonke imithi inobungozi kakhulu uma ingahlanganisiwe namanzi. Iyakwazi ke futhi ukungena emzimbeni womuntu esikhunjeni noma ngokuyihogela. Gqoka amagilavu nezi-fonyo.
- \* Valela imithi endaweni ephephile, ukhiye, makube indawo lapho abantwana bengafinyeleli khona. Ungayifaki imithi emabhodloleni esiphuzo okungenzeka kuphuzeke kuwo ngokungazi. Zonke izitsha ezinemthi mazibhalwe kucace.
- \* Kubalulekile ukuhlanzwa kwezigubhu zokufutha. Ziyakaze kuze kube kathahu izigubhu ngamanzi ahlanzekile uwafuthe lamanzi aphume nangepayipi.
- \* Shintshashintsha umuthi obulala ngawo ukhula ukuze ukhula lungawujwayeli umuthi
- \* Sebenzisa izindlela zokulwisana nokhula zemvelo ngokusemandleni ukuze unciphise ukusetshenziswa kemithi yokhula.



*Inozzle noma umlomo wesifutho uba sekupheleni kwenduku oyibambayo uma fufutha lapho kutsaza khona uketshezi olufuthwayo. Inozzle okyiyonana yokufutha imithi yokhula yaziwa njengeyisicaba (flat fan).*



Uyakwazi  
ukulawula ukhula  
ngokuphele ngaphandle  
kokusebenzisa imithi  
yokhula  
ngokweqile

## Okwenziwa imithi yokhula nalokho okungenziwa imithi yokhula

Imithi yokhula ayiyona impendulo yokungana-kekelwa kokhula. Uma ukhula lwakho seluxakile awukho umuthi ozokulamulela.

**Kwesokudla:** imithi yokhula angeke isebenze okhuleni lonjenga lolu

Imithi yokhula ingashisa nokudla kwakho uma ungaqapheli. IRoundup izowushisa qobo ummbila nobhonthsisi, ngokunjalo ne Gramaxone. Uma ukudla kwakho sekukhulile kuyancomeka ukuthi ukuhlakulele ngezandla.



**Ngenhla kwesokunxele:** isibonelo sokudla okwafuthwa ngomuthi wokhula sekuqhumile-umlimi lapha wayengazi ukuthi umuthi uzobulala nokudla kwakhe. **Kwesiphakathi nendawo:** amabala ashiywa umuthi wokhula lapho umuthi wapheshulelwa umoya ekudleni ngenkathi kufuthwa maphakathi nemigqa yombila kusetshenziswe iGramaxone. **Kwesokudla:** isibonelo sokufuthwa kwe Roundup ezikhaleni maphakathi nolayini ekuhambe kwezizini lokho okwabulala ubhontshisi kodwa ayangenza umsebenzi oncomekayo ekulawuleni ukhula olaselukhule kakhulu.

## Izinhlelo zokufutha imithi yokhula

Zimbili izinhlelo ezijwayelekile zokufutha ukhula esezike zazanywa ebalimini abancane. Umbono lana wukuthi utshani obufana neNqonqodwane kanye noqambalala buyi zinkinga ezinkulu.

**Kwesokudla:** Isithombe sokhula iNqonqodwane.

**IRoundup (Glyphosate)** ibulala utshani nokhula olukhula ngokushesha. Uma ike yathintana nokudla kwakho nakho izokubulala. Ngaleyo ndlela kudingeka ukuthi ifuthwe izinsuku eziyi 10 ngaphambi kokutshala. Ungangeni usebenze ensimini eqeda kufuthwa ngomuthi, iyeke noma usuku lube lunye okungenani. IGlyphosate ayisebenzi kahle noma kwenzeka ingasebenzi nhlobo okhuleni oseluludala.

**IGramoxone** umuthi ongakhethelutho osebenza ngaphambi kokuqhuma kokudla. Ifana ncamashi njenge Roundup nayo izoshisa nanoma yini ethintana nayo. Yona ke isebenza ngokuthintana nokhula kumbe notshani ayihlali enhlabathini ngaleyo ndlela ayakheli imbodelane enhlabathini. Kodwa ke iyona enibungozi obudlulele kuthina bantu nasemfuyweni yethu okudlula iRoundup. Iyingozi kakhulu uma ingaxutshiwe namanzi. Umaseyididiyelwe namanzi iyaphlela ubuyona uma ithinta inhlabathi kodwa ishise ukhula uma ithintana nalo.



**IDual Gold** isebenza kahle kahle ngokumunceka ezimpandeni zezitshalo ezisaqhuma kanye nezithombo. Ngaleyo ndlela ukhula lolu ilubulala lungakaqhumi, lusaqhuma noma kancane nje emva kokuqhuma.

**1. Glyphosate and S-Metolachlor:**

- a. Sebenzisa iRoundup turbo or max, emasontweni amabili ngaphambi kokutshala
- b. Uma kusomile nenhlabathi ingena sembozo
  - i. Futha iRoundup uma uqeda kutshala noma
  - ii. Futhu iRoundup ngaphambi kokutshala kanye ne Dual Gold ne Decis Forte emva kokutshala

*NOMA*

**2. Paraquate**

- a. Futh iGramoxmone kuphele izinsuku ezimbili ngaphambi kokutshala uma kunotshani obude nokhula oluningi (iRoundup ayinamndla kangako kulokhu) uphinde
- b. Ufuthe iDual Gold exutshwe neDecis Forte yezinambuzane amva kokutshala, uma kwenza ngoba kuba nenkinga yotshani kanye ne nenqonqodwane.

**IDual Gold** kumele ithole imvula emasontweni amabili ifuthiwe ngale kwalokho ayibe isazwela. Uma kwenza ngoba ifakwe yaningi ingabulala ubhontshisi noma ikhubaze ukuqhuma kwawo. Nkokunjalo ne Roundup. Ngakho ke kubalulekile ukuqaphela uma usebenza ngemithi yokhula uma ukulandela imvelo kungasetshenziswa.

**iRoundup** ayifuthwa enhlabathini engenalutho eqimbile noma kunothuli oluningi lokhu kuyayibulala iRoundup.