

UKULIMA KUHLE IZILIMO EZIZALA NGEMPANDE LEZILENHLAMVU EN ZIMBABABWE

*INDLELA ELULA YOKULIMA IZILIMO
ZESINTU EZIDLIWAYO*



FOOD PLANT SOLUTIONS
ROTARY ACTION GROUP
Solutions to Malnutrition and Food Security



A project of the Rotary Club of Devonport North and
District 9830



Ukulima kühle izilimo ezizala ngempande lezilenhlamvu en Zimbabwe



Inhlanganiso ye Food Plant Solutions iloba ingwalo ezifundisa abantu ngokuqakatheka kokudla kwesintu. Enye injongo yikumemethekisa ulwazi ngemisoco eqakathekileyo etholakala kulokhu kudla. Inengi lezilimo zokudla kwesintu azivamanga ukulinywa laloba zilohlonzi ukwedlula izilimo zaphetsheya. Inhlanganiso ye Food Plant Solutions iloba lezizifundo ngoba umzuzu ngomzuzu kufa abantwana abahlanu ngenxa yendlala lokuswela ukudla okulemisoco eyaneleyo.

Usizo lwenu lwamukelekile njalo siyalikhuthaza ukuthi liqhubeke lisisekela.

Inhlanganiso yeFood Plant Solutions yasungulwa yi Rotary Club yase Devonport North le Rotary District 9830.

Lolugwalo lulotshwe kusetshenziswa ulwazi oluvela kuluhlu lwezilimo ezidliwayo olwaqoqwa ngabe Food Plants International. Umlobi woluhlu lolu lwe FPI wayethiwa nguBruce French.

Version 2, Apr 2025 (Ndebele)

Ukudla ukdla okulomsoco kulula

Lima njalo udle izilimo eziyimihlobo etshiyeneyo.
Ngokunjalo nxa kulomsoco osilela kwesinye ungawuthola kwesinye
isilimo. Lokhu kwenza udle ukudla okulemisoco eyaneleyo.



Umklampunzi



Imbambayila

Ukudla okwakha umzimba

Abantu bonke, ikakhulu abantwana kumele badle ukudla okutshiyeneyo ukuze babe lempilakahle. Ukudla lokhu kumele kube ngokupha imisoco etshiyeneyo – okupha amandla, okukhulisa umzimba lokuvikela umzimba emikhuhlaneni. Imisoco yonke edingwa ngumzimba kumele itholakale njalo ngesilinganiso esaneleyo.

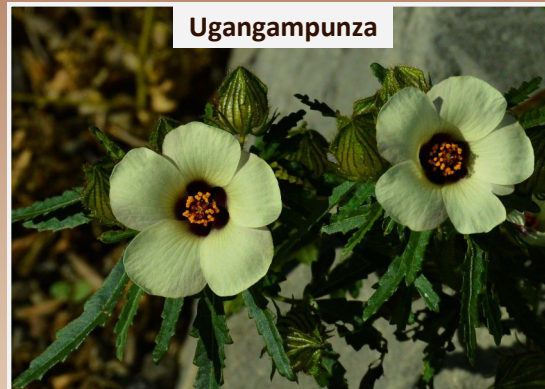


Indlela elula yokuthola ukudla izikhathi zonke yikusebenzisa izilimo ezitholakala lula kulow

Indlela elula yokuthola ukudla izikhathi zonke yikusebenzisa izilimo ezivumelana lomkathi lomhlabathi walowo.



Njengoba ziyizilimo zalowo mango zilamandla okumelana lobudli lemikhuhlane yakuleyo ndawo.



Lezo zilimo zilendlela yokumelana lesomiso kumbe umhlabathi ongavundanga.



Indlela yokulima ngokwemvelo



**Ukulima izilimo ezakhukeneyo ndawonye
yindlela elula yokulwisana lezibudli
lemikhuhlane.**



Indlela yokulima ngokwemvelo

Emvelweni izilimo azikhuli zisemzileni oqonde nta.

Njalo akuvamanga ukuthi kube endaweni kube lomhlobo owodwa wezilimo.

Emvelweni izilimo zikhula endaweni evumelana lazo.

Izithelo lazo zilesigaba ezitholakala ngazo.

Izakhamzimba zigaywa kabusha ngokwemvelo.

Emvelweni, inhlabathi ihlala iphila njalo ivundile .

Ukulima izilimo ezahlukeneyo kulungile

Imbuya lomumbu kulinywe ndawonye.



Imjumbula, amabhanana lemibhida.

Ulwazi ngokulima isivande



**Ukusweleka
kwemisoco**

**Kumele sifunde sonke
njalo sabelne ulwazi.**



Ukugcina inhlanyelo



Ubudli

Imikhuhlane



Izilimo zakho zondlekile na?

Izilimo zilezibonakaliso ezikhomba ukungakhuli kuhle.

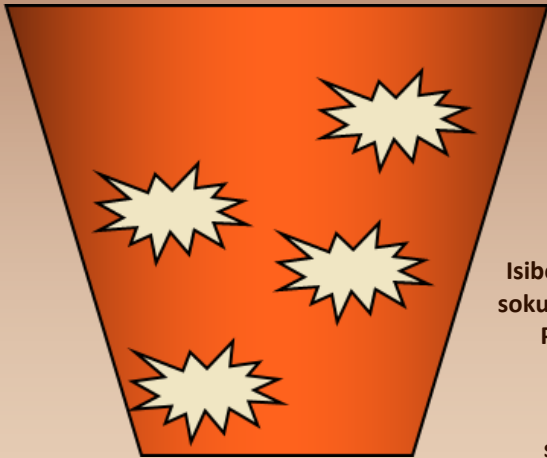
Umumbu lo usilela ngomvundiso we Nitrogen. Lokhu kubonakala ngokoma kwehlabvu elidala okwenza ibala elingu "V".

I-Nitrogen iyatholakala emoyeni kodwa izilimo azenelisi ukuyisebenzisa. Kumele iqale ihugelwe emhlabathini yizibungwana ezitholakala empandeni zezilimo zendumba. Lezo zibungu ziguqula iNitrogen esemoyeni ibe yikudla kwezilimo emhlabathini.



Ibhakede lemisoco!

Uma singacabanga inhlabathi ifana lebhakede lemisoco, ngakho-ke kudingeka silungise imbobo ephansi kakhulu, (noma sengeze isakhi esitholakalayo sisilutshwane kakhulu), ngaphambi kokuba ibhakede lithwale



Isakhi esisilelayo singasibona ngokukhangelisisa isilimo.

Isibonakaliso sokusilela kwe Phosphorus

Isibonakaliso sokusilela kwe Potash

Isibonakaliso sokusilela kwe Nitrogen



Izilimo ezahlukeneyo zikhula kule emhlabathini ehlukene



Imjumbula ifuna umhlabathi ovundileyo



Ama Taro adinga umhlabathi omuhle



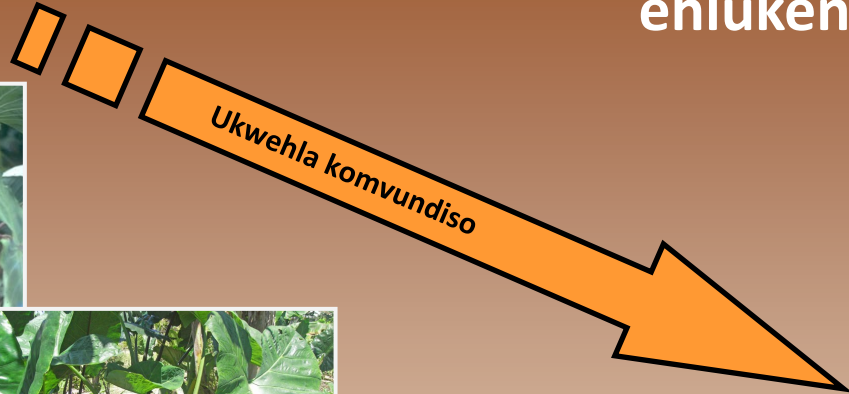
Isilimo se-Chinese Taro siyenelisa ukukhula emhlabathini ovunde okuphakathi laphakathi



Imbambayila iyalimeka emhlabathini ongavundanga kakhulu



Umjumbula iyazala emhlabathini ongavundanga kakhulu

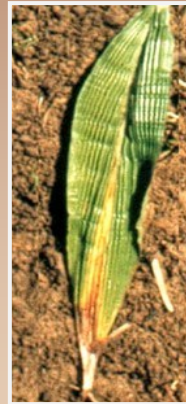


Nxa kusilela imvudiso we Nitrogen ...



Isilimo se-pine apple
siguquka sibe lombala
obomvu.

**Umvundiso we Nitrogen usebenza
ukukhulisa amahlamvu esilimo.**



Izilimo ezilombala oluhlaza ziyatsha
amahlamvu amadala enze ulufa olibala
elingu "V".



Amahlamvu amadala
abalombala
olithanga.

Indumba zipha umsoco owakha umzimba njalo ziyavundisa umhlabathi

Impande zendumba zilezibungu ezihuga umvundiso weNitrogen emoyeni ziwenze ube yikudla kwezilimo emhlabathini.



Indumba ezinabayo ziyalimeka endimeni yomumbu zizale kuhle njalo zikhulise umumbu ngomvundiso wazo.

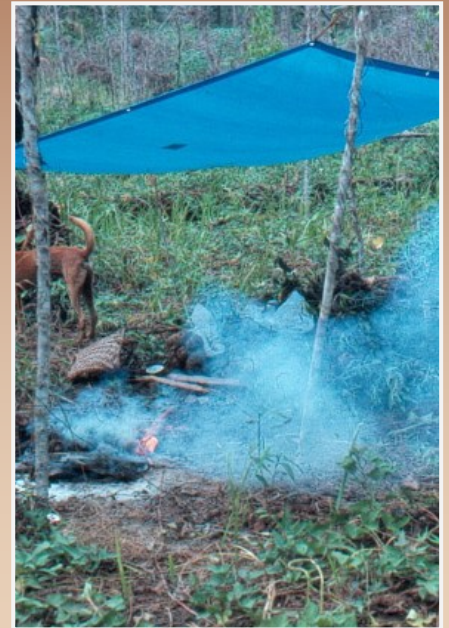
Ukutshisa amahlanga ezilimo kuyaqeda izakhi njalo kuyalimaza umhlabathi

Ukutshisa kuyindlela elula yokucenta isivande kodwa nxa kusenxa kungaba kuhle nxa amahlanga engagqitshelwa emhlabathini ukuze abolelekhona abengumvundiso.

Lokhu kunikeza izakhi emhlabathini njalo kusiza amagciwane nezinye izinanakazana eziphilayo emhlabathini eziqakatheke kakhulu ekukhuleni kwezilimo.

Umhlabathi obolele amahlanga awugugudeki imisoco lula kungaba lezulu elinengi.

Nxa amahlanga esitsha umvundiso we Nitrogen leSulphur uyaphephuka kusale iPotash emlotheni.



Ukwenza umquba



**Umquba ulungele isivande
esincane.**

Ungatshisi izibi – yenza ngazo umquba



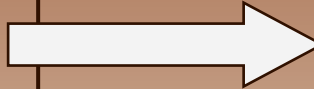
Indlela yokwenza umquba

Imithetho yokwenza umquba:

- **Yakha ibhokisi elilula elivuleke phezulu ukuze inyamazana zingangeni lula.**
- **Faka izinto ezindala ezibolayo ukuze uqale inqubo.**
- **Hlanganisa izilimo eziluhlaza kanye nezomile.**
- **Vumela umoya ungene emqubeni.**
- **Gcina umbheda womquba umanzi.**
- **Faka noma yini ebiyisilimo esiphilayo.**
- **Uma kungenzeka, phendula inqwaba yakhona ukuze uyivumele ifudumale futhi ibozise kuhle.**

Izizathu zokwenza umquba

Amagciwane amancane nezinye izibungu eziphilayo zisebenza nzima ukudiliza amahlanga izilimo ezindala nezinye izinto eziphilayo zibe ngumquba.



Ngenxa yokuthi amagciwane ayaphila, adinga umoya lamanzi, kanye lokudla okunomsoco okuluhlaza nokomile.

Izinto eziphilayo sezivele zilemisoco elingenayo ukuze kukhule izilimo ezintsha, ngakho-ke umquba ungumanyolo ophelele.



Ukuze uhlale unempilo, umhlabathi udinga umquba omnengi ukwenza wonke umsebenzi omangalisayo oqhubeka ungabonakali enhlabathini.

Umquba kufanele utshise ukuze ukhula nezinambuzane kufe.

Gcina inhlanyelo

Izilimo ezihlanyelwa ngehlanyelo engciniweyo zandise ukuba lemikhuhlane emlutshwane ngoba isijwayele indawo.



Ukwenza usaba ngengatsha

Eyinye indlela yokwenza usaba ekhethekileyo yikusika inxeba egatsheni oluncane lusanamathele kunina. Lelinxeba beselithandelwa ngenhlabathi evundileyo kubotshwe ngephepha leplastic. Besekulindwa kuze kumile impande khonapho. Imande zingamila ugatshana lolu solungaqunywa luhlanyelwe.



Nxa kulesihlahla esithakazelelwayo ngobunandi baso kuhle ukuquma ingatsha zibe lusaba. Usaba olwenze ngegatsha lwenza izihlahla ezifana xhathu lonina.

Eminye imikhuhlane ibika indatshana

Umthetho wakuqala wokuvikela ubudli
lemikhuhlane yikulima endaweni efaneleyo
ngendlela eqondileyo.

Umkhuhlane
wepeanut rust



Umkhuhlane we leaf
spot esilimeni
samabanana



Eminye imikhuhlane ibika indatshana

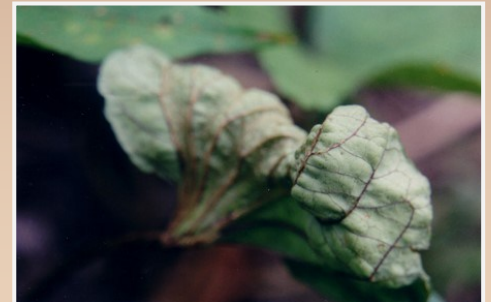
Umkhuhlane we *Elsinoe scab* embambayileni usitshela into ezintathu

- **Umhlabathi awuvundanga**
- **Umhlobo wembambayila uhlaselwa lula ngumkhuhlane**
- **Umhlobo wembambayila ivelela ngaphandle kwelizwe awukwanisi ukuzivikela**



Vikela umkhuhlane lo ngoku

- **Thuthukisa umhlabathi**
- **Khetha umhlobo ojwayelekile**



Imikhuhlane yamabanana

Ubudli obutshiyeneyo benza amatshatha enhlavini zamabanana kakhulu ngesikhathi sezulu.



Amatshatha amnyama

Khetha umhlobo wamabanana olemikhuhlane emilutshwane.

Ubudli bamabanana

**Ukusebenzisa imihlobo etshiyeneyo yezilimo kuyavikela
ubudli lemikhuhlane.**

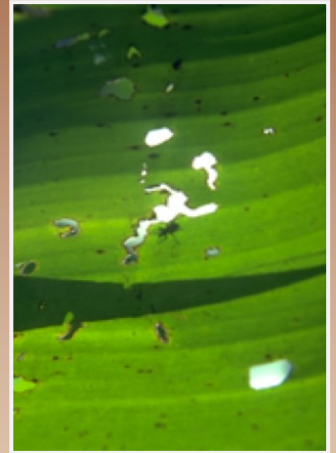


Ubudli lemikhuhlane yamabanana



Inkuba ziyagebha izigodo lempande zebanana zibelula.

Imihogoyi intethe lemphehlane kuyadla amahlavu ebanana.



Ibanana weevil borer iyagebha impande zesihlahla sebanana siwe.

Umkuhlane we Taro

Umkuhlane we Alomae / Bobone virus



**Lima imihlobo
etshiyeneyo eyezilimo
ukuze ungadlelwa**

**Umkuhlane we Taro blight le Alomae/Bobone
virus yiyo eyingozi kakhulu.**

**Umkuhlane we Taro
blight yibudli obegeza
ngezulu ngobusuku
kutshisa kumbe
kunetha.**



Umkuhlane we Taro

**Umkuhlane weTaro
mosaic virus**



**Umkuhlane we Taro
shot hole ngumkuhlane
ungelabungozi kakhulu**



**Umkuhlane
weTaro diffuse
yellow leaf spot**



Izibungu lobudli be Taro



Ubutata



Amavevane

Izibungu



Intethe



Imikhuhlane yembambayila

**Ukuswaba kwamahlamvu
embambayila.**

**Lobu budli bande emhlabathini
ongavundanga lemhlobeni engenelisi
ukuzivikela.**



Umkhuhlane ehlasela imjumbula

Amahlamvu amadala nxa esiba lithanga akhomba ukusilela kweNitrogen.



Umjumbula ukhula kuhle emhlabathini ole Potash enengi. Ipotash itholakala emlotheni.

Amahlamvu abansudu abe buthakathaka nxa ehlaselwe yisifo sefungus.



Amahlamvu amancane amatsha abalombala olithanga nxa umjumbula ulinywe esimunywini.



Izilimo ezizalela enhlabathini lamabele e Zimbabwe



Izilimo lezi zikhula kuhle emkhathini otshisayo.

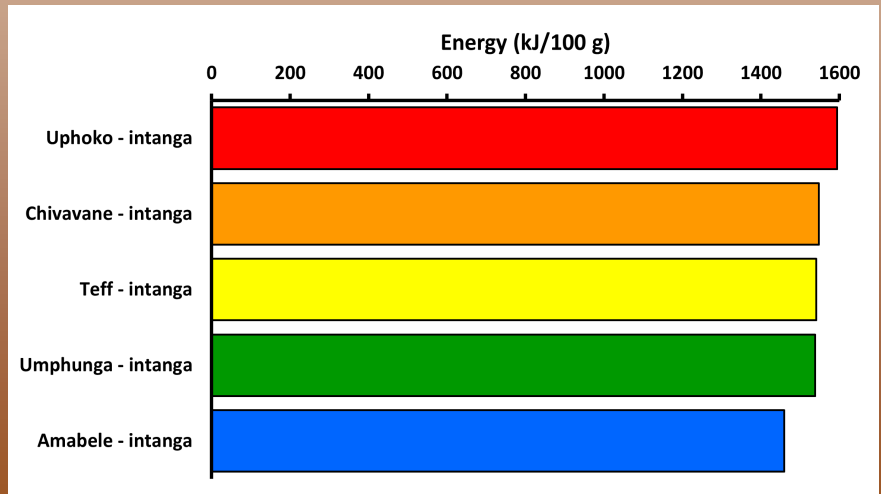
Zidliwa kakhulu kuleli lizwe.



Izilimo ezizalela emhlabathini lamabele zipha umzimba amandla



Amabele apha umzimba amandla amanengi.



Umjumbula



- Itaro ikhula kuhle emahlaphozini alamanzi amanengi kumbe agelezayo.
- Ivuthwa ngemva kwenyanga eziyisithupha kusiya kweziyisifica munwe munye.

Amabele

- Amabele angagingwa abeyimpuphu yokupheka ilambazi lesijeza.
- Amabele awala –gluten enengi



**Amabele ayamila
angavunwa kodwa
ayagcineka okwesikhathi
eside nxa evikelekile.**



Teff

Itef ingagigwa ibe yimpuphu engasebenza ukupheka isinkwa esingela mvubelo.

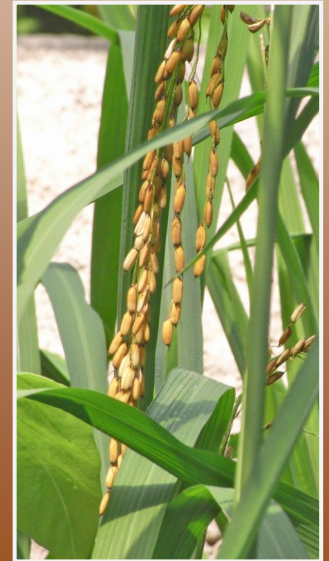


- **Isilimo se Tef sivuthwa ngemva kwenyanga ezintathu kusiya kwezine. Eminye imihlobo iyafikisa inyanga ezine.**
- **Iyagcineka esiphaleni okweminyaka eminengi.**



Umphunga

- Ungaphekwa kumbe ugigwe ubeyimphuphu yokubhaka isinkwa.
- Inhlanyelwa ngentanga.
- Imhlanyelo yakhona imila ngemva kwamalanga amane kusi kwamahlanu.
- Ilinyelwa emaxhaphozini.



Inyawuthi

- Iyadliwa njengohayezi.
- Ingagigwa kubeyimpuphu yokupheka isinkwa kumbe ilambazi
- Ingakhanziwa
- Eminye imihlobo ilamahlanga angadliwa njengemfe.



Amazwi okubonga



Lolugwalo lwasekelwa kakhulu ngemali ngabe yiRotary Club yase Devonport North.

Loluhlelo lokuqoqa lezizifundo belungeke luphumelele kungela sekelo lwamavolontiya azinikelayo.

Abahlela lokuhlaziya lolugwalo - Tom Goninon, John McPhee

Owahumutshela esiNdebeleni - Alfa Ndlovu

Ukutholwa ulwazi olugcweleyo lobelani kukheli ethi: info@foodplantsolutions.org kumbe lixhumale lathi ebulenjini ku www.foodplantsolutions.org

Inhlanganiso yeFood Plant Solutions isebenza ilandela ingqubomgomo ye Rotary International kodwa ilugatsha oluzimele lodwa irgekho ngaphansi kwe Rotary International.

Imifanekiso

Imifanekiso eminengi esetshenziswe kulolugwalo ithethwe kuluhlu lwabe Food Plants International. Imifanekiso yezilimo ezilandelayo ithethwe kundawo ezehlukeneyo kusuka ku inthanethi.

Igama lesayensi	Ibizo elijwayelekileyo	Lapho okuthethwe khona umfanekiso lo
<i>Hibiscus trionum</i>	Ugangampunza (Flower-of-an-hour)	https://i.pinimg.com/originals/29/a5/c2/29a5c2c4457308d0fc36439ee5e26310.jpg
<i>Parkia filicoidea</i>	African locust bean	http://www.westafricanplants.senckenberg.de/images/pictures/fabmimo_parkia_filicoidea_cbch_6118_4049_b8ed36.jpg
<i>Oryza glaberrima</i>	Umphunga (African rice)	https://i.pinimg.com/474x/77/48/1f/77481fb8134243595c851b56ac63ea4c--natural-resources-mali.jpg
<i>Tylosema esculentum</i>	Umbama (Gembok bean)	https://upload.wikimedia.org/wikipedia/commons/thumb/8/8d/Tylosema_esculenta_pod.PNG/220px-Tylosema_esculenta_pod.PNG
<i>Tylosema fassoglensis</i>	Indumba (Marama bean)	http://palkowitschia.cz/sukulenty/img/travelling/kenya/flora/Tylosema%20fassoglensis%20Ghazi%20Kenya%202014_0192.jpg



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