



INGEDE

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TSHALA IZITSHALO EZIYIZIDLO EMOBENI

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Kusuka ngonyaka ka 1996, i-Project ebambisene phakathi kuka SASEX nomnyango Wezolimo Nezemvelo kwaZulu-Natal ibisebenza ekwenzeni ngcono isivuno sezitshalo sabalimi bakamoba abancane. Le Project ibicwaninga ngokutshala umoba ngokuxubanisa nezitshalo eziyizidlo, ukwenzela umlimi akwazi ukuthi abe evuna ukudla ngenkathi esalinde umoba wakhe ukuthi uvuthwe.

Ezindaweni ezinganiselwa, ilayini elilodwa lo mmbila omanzi, iklabishi okanye ubhatata lingatshalwa phakathi kwalelo nalelo layini lomoba ngasontolinye lokutshala umoba. Isikhathi esikahle sokutshala umoba ngokuxubanisa kuseNtwasahlobo. Amalayini kamoba kumele aqhelelaniswe ngo 1.2m. Ummbila omanzi neklabishi kungaba sekukulungele ukuvunwa ezinyangeni ezintathu kusuka kutshaliwe ekanti ubhatata wona ungalunga emva kwezinyangeni ezine no hhafu. Umhlabathi umele uqale uhlole e-Cedara ukuthola ubungakho nohlobo lomanyolo odingwa izitshalo eziyizidlo, kanye nase Mt. Edgecombe ukuthola umanyolo odingwa umoba. Insimu kumele igcinwe ihlanzekile ngokuthi ihlakulelwe kuze kube izitshalo eziyizidlo ziyavunwa. Izitshalo eziyizidlo kakumele zitshalwe ensimini eyabe ifuthwe ngophoyizeni ohlala isikhathi eside emhlabathini kungakadluli izinyanga ezingu 15. Ummbila kuphela ongatshalwa emobeni oyihlumela.

UKUTSHALA UMOBA

- Lima insimu ubulale ukhula ukwenzela izitshalo eziyizidlo
- Yenza amalayini kamoba futhi ufake nomanyolo
- Tshala imigoqo ngamibili kamoba elayinini bese ugqiba

UKUTSHALA UMMBILA OMANZI

- Faka umanyolo wommbila elayinini libe phakathi nendawo kumalayini kamoba, bese ugqiba kancane ngomhlabathi
- Tshala izinhlamvu ngazimbili ziqhelelane ngo 30cm elayinini
- Uma ngabe ummbila usungango 20cm ubude usiphune kusale isitshalo ngasinye ngomgodi
- Faka isikhuthazakhaba uma ummbila ungu 30cm ubude, bese ufaka nomuthi wesihlava emnconcweni wesitshalo.

UKUTSHALA IKLABISHI

- Faka umanyolo weklabishi elayinini libe phakathi nendawo kumalayini kamoba, bese ugqiba kancane ngomhlabathi
- Tshala izithombo zeklabishi ziqhelelane ngo 40cm elayinini, bese uyanisela evikini lokuqala uma lingani
- Faka isikhuthazakhaba emva kwamasonto amathathu, uphinde futhi emva kwamasonto amahlanu
- Futha izithombo ngophoyizeni ukubulala izinambuzane

UKUTSHALA UBHATATA

- Yenza umbundu ube phakathi kwamalayini kamoba phezu kukamanyolo wobhatata
- Tshala amakhasi phezu kombundu, aqhelelane ngo 30cm
- Nisela amakhasi nge-watering can isonto elilodwa
- Faka isikhuthazakhaba emva kwamasonto ayisithupha

Uma unesifiso sokutshala umoba ngokuxubanisa ungathintana nomehleki wakho wezolimo.



Iklabishi nommbila okutshalwe phakathi komoba.



IZINAMBUZANE ZOMOBA

Izinambuzane ezivamise ukwenza umonakalo emobeni



I-Eldana

- ◆ **I-Eldana itholakala:**
 - ▶ Ikakhulukazi ezindaweni ezifudumele, ogwini.
 - ▶ Emobeni noma ngabe ungakanani ngokwem inyaka, noma inini.
 - ▶ Emobeni ongondlekile.
- ◆ **Umonakalo:**
 - ▶ Ingena ogoqweni lomoba
 - ▶ Ingalimaza sonke isitshalo
- ◆ **Yini ongayenza:**
 - ▶ Hlola umoba ozowuhlala ngonyaka olandelayo
 - ▶ Hlala ngokushesha umoba one-eldana
 - ▶ Ukuphunda umoba kungenziwa
 - ▶ Hlala umoba ungakashiwa yisikhathi
 - ▶ Faka isikhuthazakhaba njengoba kuncome imiphumela yenhlabathi (FAS)
 - ▶ Musa ukuhlala umoba omdala noma ongondlekile ngonyaka olandelayo
 - ▶ Tshala uhlobo lomoba olungahlaseleki kalula
 - ▶ Tshala kuphela imbewu ehloliwe.



I-Sesamia

- ◆ Isibungu esiphehla umoba esifana ne-Eldana
- ◆ Senza umonakalo omncane kune-Eldana
- ◆ **Umehluko phakathi kwe-Eldana ne-Sesamia**
 - ▶ I-Eldana ikhuthela kune-Sesamia
 - ▶ I-Eldana iyashesha ukugoqana uma uyithinta kune-Sesamia
 - ▶ I-Eldana iyakwazi ukuhamba ihlehle uma uyithinta ekhanda
 - ▶ I-Eldana inobulwembu, kanti i-Sesamia ayinabo
 - ▶ I-Eldana ithi ayibe mnyama ngombala, kanti i-Sesamia iphuzi.



Isibungu sopayi noma itashi (trash caterpillar)

- ◆ **Sitholakala kuphi:**
 - ▶ Imvamisa ensimini engashiswanga
 - ▶ Ngesikhathi sokuhlala (Meyi kuya ku-Novemba)
 - ▶ Ebusuku sidla amaqabunga omoba osemncane
 - ▶ Emini ngaphansi kopayi noma itashi
- ◆ **Umonakalo:**
 - ▶ Kungalahleka isivuno esingase sibe wu-17t/ha uma izinambuzane ziziningi kakhulu
 - ▶ Isitshalo sibuye sihlume
- ◆ **Ukuvikela**
 - ▶ Ukuvikela ngokwemvelo- i-fungi, izimpukane neminyovu enobuthi, izinyoni, izintuthwane, ulwembu
 - ▶ Ukusetshenziswa kwezibulala zinambuzane **AKUNCONYIWE**



Ithuku (White Grub)

- ◆ A Limise okwesikela@, isibungu esimhloshana noma esimpunga
- ◆ **Lesisibungu sitholakala**
 - ▶ ezimpandeni zomoba
 - ▶ sivamise ukubonakala ngo Febuwari kuya ku Ogasti
- ◆ **Umonakalo**
 - ▶ lidla izimpande zomoba
 - ▶ Isitshalo esingaphilile kahle namaqabunga aphuzi uma emaningi kakhulu emhlabathini
- ◆ **Ukuvikela**
 - ▶ Ukuvikela akulula
 - ▶ Ukuvikela ngokwemvelo (I-fungi kanye nezinambuzane ezisemhlabathini ezidla amathuku) akuthembekile.
 - ▶ Izibulalazinambuzane kufanele zichelwe ngqo esibungwini - lokhu akulula emobeni oyihlumela
 - ▶ Izibulala zinambuzane **AZINCONYIWE**



Umuhlwa

- ▶ Kawuvamisile ukudala umonakalo emobeni
- ▶ Umonakalo uvamise ukuba setshalweni, ngesikhathi sesomiso, emhlabathini oyihlabathi lapho umuhlwa ufuna ukuthola umswakama.
- ◆ **Ukuvikela**
 - ▶ Kayikho indlela enconyiwe okwamanje
 - ▶ Ukuqala kwezimvula kuyasiza
- ◆ **Yini okumele uyenze**
 - ▶ Tshala kabusha izindawo ezidliwe
- ◆ **NEMATODES (Imisudu emincane edla izimpande)**
 - ▶ Lena yimisundu emincane etholakala emhlabathini oyihlabathi (onobumba olungaphansi kuka < 6%)
 - ▶ Kayibonakali ngamhlo enyama
 - ◆ **Yini okumele uyenze?**
 - ▶ Tshala uhlobo lwembewu olungahlaseleki kalula
 - ▶ Sebenzisa amadaka noma umquba ngenkathi utshala
 - ◆ **Umonakalo**
 - ▶ Ihlasela izimpande zomoba izenze zibe zimfishane bese ziyavuvukala
 - ◆ **Izimpawu eziye zibonakale:**
 - ▶ Umoba ongalingani, obhashile nama xhantela angamahle kanye namaqabunga acijile okusameva
 - ◆ **Ukuvikela**
 - ▶ Ayikho indlela engakuzuzisa.



UKUPHATHWA NOMA UKUSETSHENZISWA KWEMITH

Tulani Masondo

Ukusetshenziswa kwemithi ngendlela efanele kusemqoka, ekuvikeleni ubuthi emkhizweni wezishalo nezilwane kanye nasekuvikeleni impilo yezilwane (imfuyo), umphakathi, imvelo kanye nokuzama ukunciphisa ukusetshenziswa kwemithi ngokungeyikho ukuze ukulima kuqhubeke kahle kwamukelele nakwabezempilo.

Ngaso sonke isikhathi funa ulwazi uma ungaqondisi kahle ukuthi umuthi kumele uwusebenzise kanjani.

Ngasonke isikhathi uma ufuna ukuthenga umuthi, yazi ukuthi udinga into engakanani, thenga lokhu ozofika ukusebenzise. Musa ukuthenga umuthi omningi kanti wena udinga omncane.

Ungawamkeli umuthi ovuzayo, noma onesazisi esingakugculisi noma umuthi osuke usuthululelwe kwesinye isitsha.

Uma uyothenga umuthi qikelela ukuthi awuxutshwa nokudla ezimpahleni, kungaba okwasekhaya noma okwemfuyo ngisho nogwayi imbala.

UKUGCINWA KOMUTHI

Ngasonke isikhathi umuthi kumele ugcinwe endaweni ekhiywayo, lapho izingane nomuntu ongenalo igunya angeke afike khona.

Imithi kumele ihlukaniswe, isibonelo:

- imithi mayibekwe ngobungozi bayo kanye nangokusebenza kwayo
- umuthi ofike kuqala makube yiwona ophuma kuqala (first in-first out) ukuze ugweme ukuphelelwa yisikhathi kwemithi okungadingekile.

OKUMELE UKWENZE NGAPHAMBI KOKUTHI USEBENZISE UMUTHI

- gqoka izingubo ezizokuvikela emthini
- funda isazisi ukuthi sithini (bheka isithombe 1)
- ungaxubeli umuthi eduze nemithombo yamanzi
- ungasebenzisi umuthi uma kunomoya
- qiniseka ukuthi isifutho sakho sisebenza kahle nokuthi asivuzi

NGEMVA KOKUFUTHA

- washa izingubo obufutha ngazo ngensipho, ungazixubi nezinye zasekhaya (bheka isithombe 2)
- washa isifutho sakho
- washa umzimba wakho kahle ngensipho nangamanzi ahlanzekile (bheka isithombe 3)
- ngaso sonke isikhathi geza ngaphambi kokuthi udle, uphuze noma ubheme.

IZINDLELA UMUTHI ONGANGENA NGAZO EMZIMBENI

- ungangena ngesikhumba
- ungangena ngamakhala
- ungangena ngomlomo
- ungangena nangamehlo

ONGAKWENZA UMA KWENZEKILE WANGENWA WUMUTHI

Ngesikhumba - khumula izingubo ezinomuthi bese uyageza (Ungahlikihi mawala ngoba kuvuleka iziqu zoboyo bese umuthi ungena kalula - bheka isithombe 4).

Ngamehlo - hlambulula iso ngokushesha ngamanzi abandayo, ahlanzekile bese umboza iso (bheka isithombe 5) ngento ehlanzekile bese uphuthuma esibhedlela.

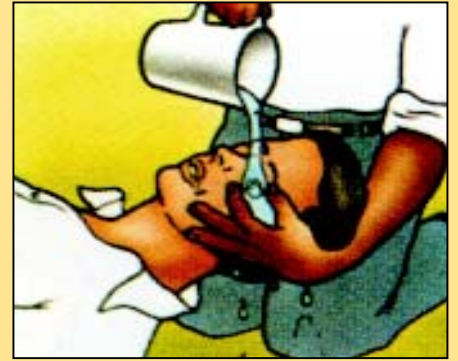
Ngomlomo - musa ukuhlamba, ngaphandle uma kubhalwe kwisazisi.

PHUTHUMA ESIBHEDELELA NGOKUSHESHA, UNGAKHOHLWA UKUPHATHA ISAZISI SOMUTHI UKUZE UNIKEZE U-DOKOTELA.

(Ngokuzayo siyoxoxa ngokumele ukwenze uma umuthi uchithekele phansi, nokuthi isitsha somuthi esesisebenzile kumele senziwe njani).



4. Khumula izingubo ugeze.



5. Hlambulula iso.



1. Funda isazisi.



2. Washa izingubo.



3. Geza.

AMASU ASEMQOKA NOMA IZELULEKO EZILUSIZO

Ku - Disemba kuya ku Febhuwari

- Qiniseka ukuthi onke amasimu azosala kulonyaka (carry - over fields) awanazo izifo kanye ne eldana
- Hlahla amasimu anesifo kanye ne-eldana umshini ungakavali
- Hlela umsebenzi wakho wangonyaka ozayo (2001) wokuhlala nokutshala kabusha amasimu
- Ukuze uthole imiphumela emihle musa ukusebenzisa imithi (chemicals) kwi- minimum tillage ngemuva kuka Mashi .
- Qiniseka ukuthi imbewu yakho yomoba ayinaso isiwumba (smut) kanye nezinye izifo
- Amasimu akho kudingeka ukuba asefakiwe izibulalakhula kanye nomanyolo ukuze umoba ukwazi ukusebenzisa isimo sezulu sasehlobo ngokuyinzuzo
- Qeqesha abasebenzi bakho ngokugcina izinto zokusebenza zisesimweni ukuze zilungele unyaka omusha
- Hambisa umhlabathi wamasimu azotshalwa kabusha uyohlolwa (ngoba kungenzeke udinge umcaka wabalimi)
- Qaphela ukuthi i-Mosaic ingase ibe inkinga kwezinye izindawo uma utshala ehlobo
- Iba nesiqiniseko sokuthi unolwazi olwanele ngobuhle bomoba kanye nendlela entsha yokukhokheleka nge - R.V.
- Hlela noso Nkontileka ukuthi nizosebenza kanjani ngonyaka ozayo, ukuhlala kanye nokudonsa.

Martin Eweg