

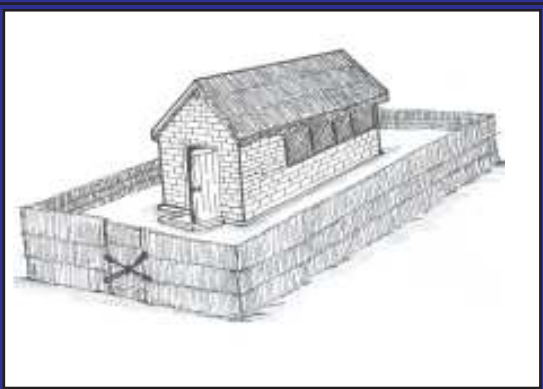
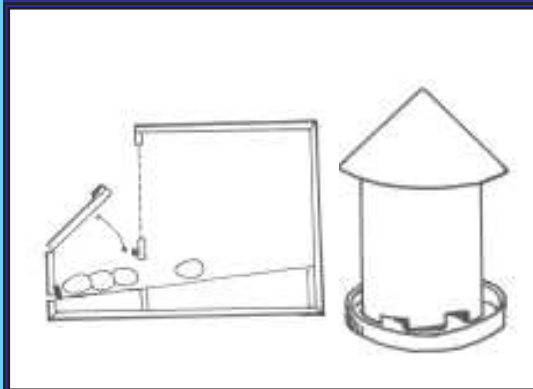
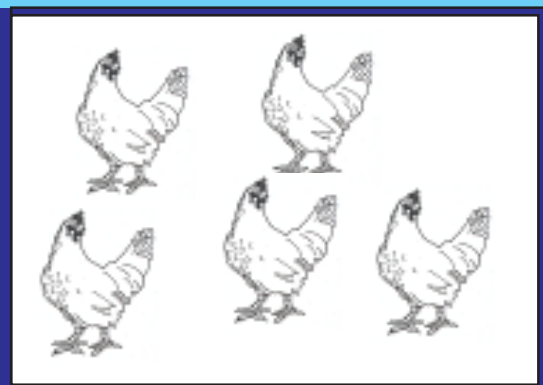


MINISTRY OF
AGRICULTURE

KULIMBIKITSA ULIMI WA NKHUKU ZA MAZIRA



DAN CHURCH AID



Ngati njira yopezera ndalama

BUKHU LOTSOGOLERA

MAU OYAMBA

Mdziko lathu lino ulimi wa nkuku ndi ofunika kwambiri. Alimi amaweta nkuku ndi zolinga sosiyana siyana. Ulimi wa nkuku ndi imodzi mwa njira zomwe alimi amapezera ndalama, akagulitsa nkuku zao kapena mazira. Alimi amatha kupha nkuku zao ndi kugwiritsa ntchito ngati ndiwo. Chimodzimodzi alimi amathanso kuphika mazira ngati ndiwo. Zitosi za nkuku zimagwiritsidwa ntchito ngati manyowa makamaka pa ulimi wa chimanga.

Bukhuli lalembedwa ndi cholinga chothandiza alimi ang'onoang'ono kuti akapititse patsogolo ulimi wao wa nkuku za mazira. Malangizo opezeka m'bukhuli alembedwa pogwiritsa ntchito maulangizi osiyanasiyana a ulimi wa nkuku omwe alangizi a mu madera a Kasungu ndi Lilongwe ADD akhala akupereka kwa alimi, kuphatikizapo zolinga za alimi zomwe olemba bukhuli adapeza pakafukufuku yemwe adachitika mu madera awiriwa.

Maphunziro omwe akupezeka mu bukhuli ndi ofunikira kwa alimi omwe adayamba kale kuweta nkuku za mazira komanso ndi ofunikira kwa alimi amene akufuna kuyamba ulimi wa mtundu umenewu. Bukhuli lingathenso kuthandiza alangizi pa ntchito yao yolangiza alimi pa ulimi wa nkuku za mazira.

Bukhuli lalembedwa ndi Richard Alick Gad M Gomezulu, katswiri wa kawetedwe ka ziweto zing'onozing'ono kuphatikizapo nkuku.

Wolemba bukhuli akuthokoza onse amene adatengapo mbali m'njira zosiyanasiyana kuti bukhuli lilembedwe. Choyamba wolemba bukhuli akuthokoza a Dan Church Aid chifukwa cha thandizo lomwe adapereka kuti ntchito yonse yolemba bukhuli ikachitite. Kuthokoza kwa padera ndi koyenera bambo Kaphamtengo, Mai Mahiyu, bambo Mmodzi ndi bambo L. C. Tumbwe a ku Lilongwe ADD; bambo Khonje, bambo Phiri ndi bambo Mdulamizu a ku Kasungu ADD chifukwa cha upangiri, malangizo ndi maganizo omwe adaperekapo, omwe adatsogolera kulemba bukhuli, ndi bambo M.B.Nkambeni a ku Agricultural Communication Branch amene adajambula zinthuzi zonse zomwe zikupezeka mu bukhuli. Koposa, wolemba bukhuli akuthokoza alimi onse ndi magulu onse a azimai omwe adatengapo mbali pa misonkhano ya kafukufuku wa maphunziro oyenera kulembedwa mu bukhuli.

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MAU OTSOGOLERA

Bukhuli likufotokoza mwatsatanetsatane mfundo zofunika kuzitsata pa ulimi wa nkhuku za mazira. Malangizo amenewa akufotokoza mwakuya za mmene alimi angasamalire nkhuku zao makamaka pogwiritsa ntchito khola lapansi.

Mitundu ya nkhuku zachizungu yomwe ikupezeka mdziko lathu lino imakhala yopindulitsa pokhapokha nkhukuzo zikusamalidwa bwino. Choncho ndi koyenera kuti alimi akatsatire malangizo omwe alembedwa mu bukhuli kuti ngati akufuna ulimi wao wa nkhuku uwapindulire.

Bukhuli likufotokoza za mmene alimi angakonzere ndondomeko za kawetedwe ka nkhuku, mmene angamangire khola lapansi, za ziwiya zofunika kupezeka mu khola la nkhuku; za matenda akhuku, kupewa ndi kuchiritsa kwake; za ukhondo ndi za kalemba pa zochitika zonse pa ulimi wa nkhuku.

Bukhuli latsindikizidwa ndi cholinga choti likathandize alangizi ndi alimi ngati malangizo owatsogolera pa ntchito yao yokhuza ulimi wa nkhuku za mazira. Mu bukhuli mukupezeka zithunzi zosiyanasiyana zomwe zikuthandizira kufotokota za maphunziorowa kuti akamveke bwino.

Bukhuli likuthandizani mmene mungayambire ndi mmene mungachepetsere mabvuto pa ulimi wanu wa nkhuku. Choncho mutha kugwiritsa ntchito bukhuli:

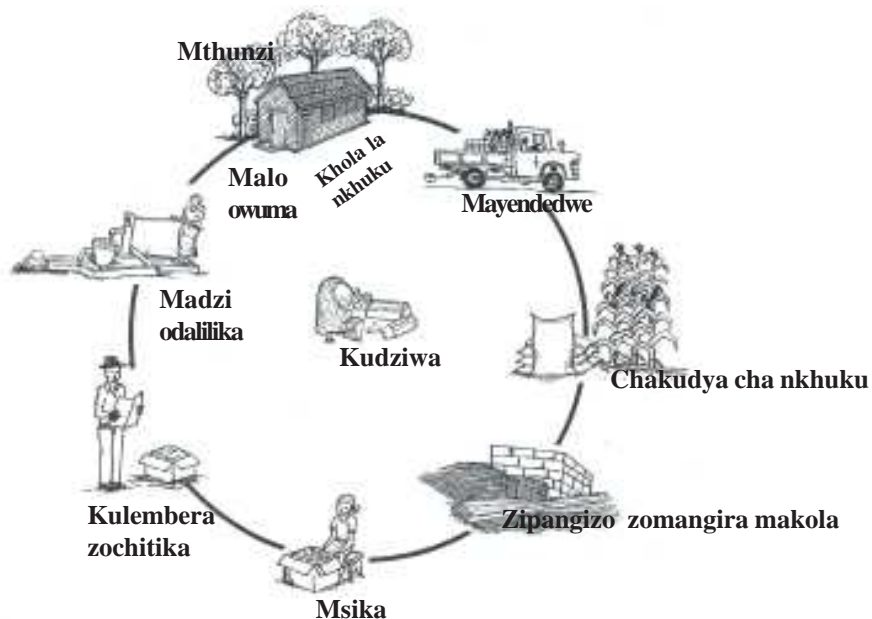
- pokoza ndondomeko ya kamangidwe ka makola ndi kukonza ziwiya zofunika kuika mu khola mwanu.
- kuunika bizinesi yanu ya nkhuku za mazira kuti mudziwe ngati ndiyopindulitsa kapena ai.
- ngati chida chokutsogolerani pa dongosolo lakawetedwe ka nkhuku, kusamalira moyo wa nkhuku, kapangidwe ka chakudya cha nkhuku ndi kulemba koyenera pa zochitika pa ulimi wa nkhuku.

MUTU 1

KUPANGA NDONDOMEKO YA ULIMI WA NKHUKU ZAMAZIRA

Musanayambe kuchita ulimi wanu woweta nkhuku zamazira dzifunsemi ndi kuyankha mafunso awa kuti mudziwe ngati ulimi wa mazira ndi wopindulitsa kwa inu kapena ai:

- Kodi msika wa mazira ulipo mdera lanu ? Kodi msika wa mazira ndi okula bwanji?
- Kodi mazira muziwatenga bwanji kupita nawo ku msika? Nanga chakudya muzikachigula kuti ndipo muziyenda nacho bwanji?
- Kodi malo omwe mukufuna kumangapo khola lanu ali motani? Kodi ndi otaya madzi? Kodi pali mitengo yotchinga mphepo? Kodi pali muthunzi wokwanira?
Kodi malo omwe mukufuna kumangapo khola lanu ali pafupi ndi madzi okwanira ndi odalirika?
- Kodi ndalama zomangira khola ziripo?
- Kodi mukuwona kuti bizinesi ya nkhuku za mazira ndiyopindulitsa kuposa mitundu yina ya mabizinesi omwe mungathe kuchita mdera lanu?
- Kodi zipangizo zomangira makola zimapezeka mdera lanu mosavuta?
- Kodi chakudya chankhuku chimapezeka mosavuta? Nanga ndi chakudya chochuluka bwanji chomwe mungathe kupanga nokha kupyolera mu mbeu zolima nokha? Nanga ndi chakudya chochuluka bwanji chomwe muyenera kugula?
- Kodi mungathe kugwiritsa ntchito manyowa ankhuku m'munda mwanu kapena kugulitsa kwa anthu ena?
- Kodi mukudziwa mwakuya za kawetedwe ka nkhuku za mazira?
- Kodi ndikotheka kutemera nkhuku zanu kapena kugula mankhwala kuti mupewe matenda a nkhuku?



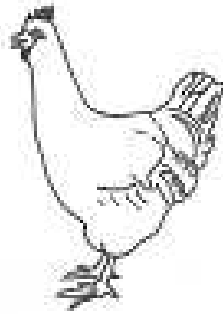
Chithunzi 1. Zinthu zofunika pa ulimi wa nkhuku

KUKONZEKERA NDONDOMEKO YA ULIMI WA NKHUKU

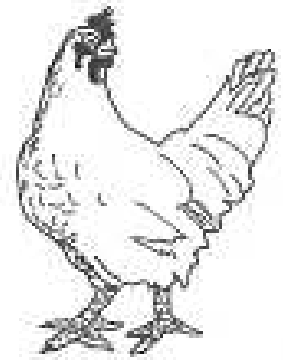
Chisamaliro choyenera, malo olongosoka ndi zofunikira pa moyo wa nkhuku ndizofunika kuziganizira musanayambe kuchita chirichonse pa ulimi wanu wa nkhuku. Chiyambi cha nkhuku ya mazira ndi mwanapiye yemwe amakula kufika pa msinkhu wa msoti. Kenaka msoti umasanduka kukhala thadzi lomwe limaikira mazira.



Mwanapiye



Msoti



Thadzi

Chithunzi 2. M'mene mwanapiye amakulira khukhala thadzi

MUTU 2.

MAKOLA A KHUKU

2.1 Kusankha mtundu wa khola

Mutha kusankha mtundu wa khola molingana ndi kupeza kwanu kapena kudziwa kwanu pachisamaliro cha nkuku poganiziranso za nyengo momwe zimakhala m'dera lomwe mukufuna kuchita bizinesi yanu ya nkuku. Mdziko lathu lino kwenikweni alimi amasunga khuku zao mu makola a mitundu iwiri. Mitundu ya makolawa ndi khola lapansi ndi batire keji.

Malingana ndi cholinga cha bukhuli pano tikambapo mwakuya za khola la pansi lokha. Mwachudule tifotokozanso za mmene mungamangire khola la m'mwamba.

2.2 Kukula kwa malo ofunika pa nkuku imodzi

Nkoyenera kuti nkuku zikhale ndi malo okwanira bwino mkhola kuti zikule bwino komanso kuti ziziikira mazira ambiri. Nkuku khumi ziri zonse za msinkhu wapakati pa masabata anayi kufikira masabata asanu ndi awiri zimafuna malo okwana sikweya mita imodzi (1 square metre). Malo omwewa ngokwanira nkuku zitatu zokha za msinkhu wa masabata makumi awiri kupita mtsogolo. Choncho khola la mamita khumi ndi imodzi ndi mamita asanu ndi imodzi (11 m x 6 m) ndilokwanira nkuku mazana awiri okha (200).

2.3 Kusankha malo omanga khola

Sankhani malo omangapo khola omwe ali pafupi ndi nyumba yanu kuti khuku zanu muthe kuziyanganira bwino ndikuziteteza ku mbava ndi nyama zolusa.

Malo omangapo khola akhale otaya madzi bwino

Malo omangapo khola pakhale mitengo kuti izipereka mthunzi nthawi yotetha. Ngati mitengo palibe ndikofunikira kubzala mitengo pamalopo.

Ndondomeko ya kamangidwe ndi kayalidwe kamakola ichitike poganizira kuti muziyamba kuchotsa zitosi mumakola a nkuku zing'onozing'o ndikutsirizira ku makola a khuku zikuzikuru.

Chikuta cha anapiye chimangidwe motalikirana ndi makola ankhuku zikuluzikulu (misoti ndi mathadzi) pa mtunda wosachepera mamita makumi asanu ndi anayi (90 metres).

Chotsani tchire pa mtunda okwana mamita atatu (3 metres) mozongulira khola lanu kuti njoka, mbewa ndi makoswe zisayandikire ndikulowa mumakola anu. Tchetchani udzu mozongulira khola lanu mosatakasa nthaka kuti muchepetse pfumbi lomwe lingathe kulowa mu makola.

2.4 Kamangidwe ka khola lapansi

(i) Khola lapansi litha kukhala ladothi losinja; lomangidwa ndi nsungwi ngakhale lomangidwa ndi njerwa zootcha kapena zosaotcha.

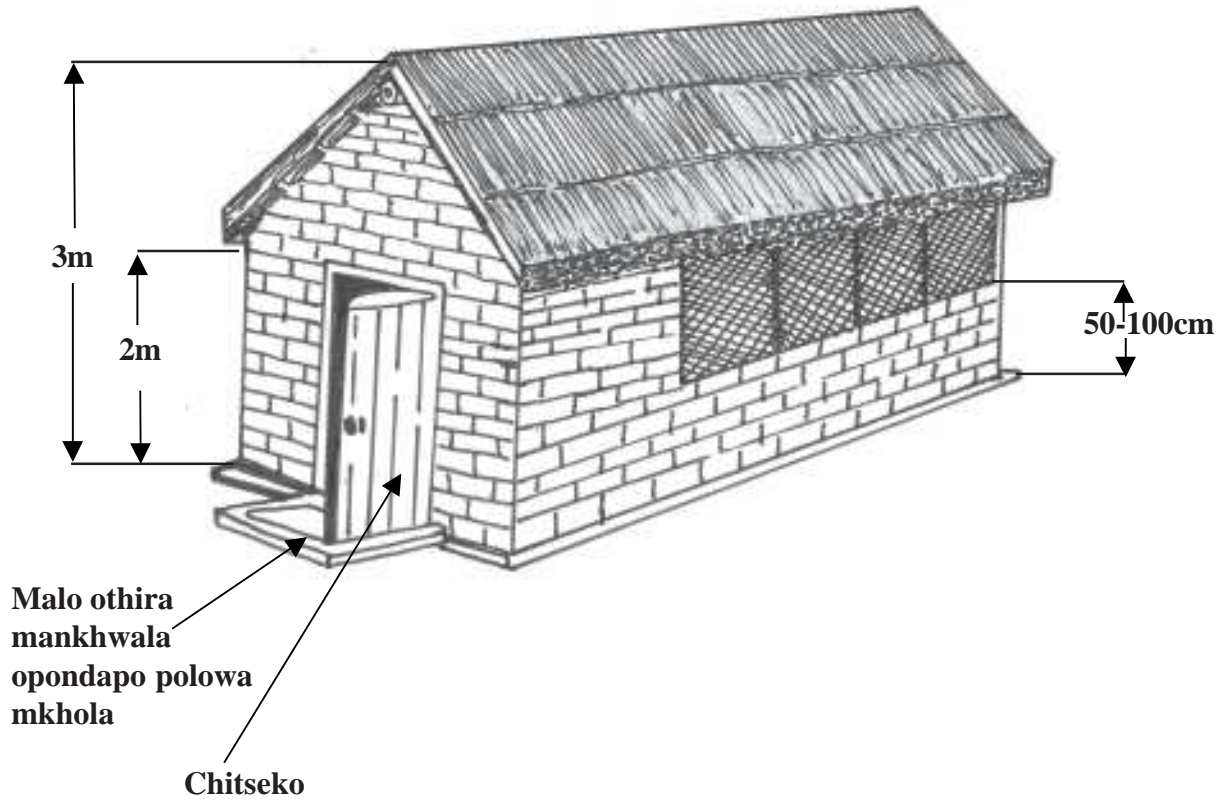
- (ii) Kotalika kwa makoma kuchokera pansi kufika pamene payambira mazenera kukhale pakati pa 50 cm ndi 100 cm molingana ndi kuzizira kwa kudera komwe mukufuna kumanga khola lanu.
- (iii) Kutambalala kwa mazenela kukhale pakati pa 100 cm ndi 150 cm molingana ndi kotalika kwa makoma pamwamba pa mazenerawo.
- (iv) Mazenera onse atsekedwe ndi waya wa mng'onomng'ono (wire netting) kuti mpweya uzilowa okwanira komanso kuti nkhuku zanu zitetezedwe ku nyama zomwe zimagwira ndikupha nkhuku monga abvumbwe, mimphamba ndi makoswe.
- (v) Ikani masaka aziguduli kapena makatani ngakhalenso mapepala a pulasitiki mu mazenera kuti muteteze nkhuku zanu ku mvula, malazi a dzuwa ndi mphepo ngati ndikoyenera kutero.
- (vi) Kotalika kwa khoma lonse la khola kusapitilire 3 m.
- (vii) Mkati mwakhola mukhale mokwererapo ndi 20 cm kusiyana ndi panja kuti madzi amvula asalowe mkhola. Mutha kukonza pansi pa mkati mwa khola ndi dothi kapena simenti.
- (viii) Denga lakhola lipitirire ndi 50 - 80 cm kuchokera pa chipupa mbali zonze kuti madzi amvula ndi malazi adzuwa asalowe mkhola.
- (ix) Denga la khola lanu litha kukhala lamalata kapena laudzu mumene inu eni ake mungathere.
- (x) Ikani udzu owuma oduladula ngati zogonera zankhuku komanso kuti muchepetse chinyonthe cha madzi akamataikira komanso kuti zitosi zisabweretse chinyonthe mukhola lanu.
- (xi) Mangirani mpanda khola lanu kuti anthu osagwira ntchito pamalopo asaliyandikire ndikuti nkhuku zam'mudzi zisanyandikere khola lanu kuti mupewe matenda.

2.5 Kasamalidwe kamakola a pansi

- (i) Ikani zogonera zankhuku mkhola lanu. Zogonera zitha kukhala udzu owuma oduladula bwino, utuchi wa matabwa, makhuzu a mpunga, makoko a mtedza, zisonokho zachimanga, mapesi ouma achimanga oduladula. Onetsetani kuti zogonera za nkhuku ndizabwino moti zitha kuchepetsa chinyonthe mukhola lanu.
- (ii) Zogonera zikhale zouma bwino zopanda nguwi ndipo mkazifinya mmanja zisamatane kupanga mpira.
- (iii) Ikani zogonerazi mwadongosolo ndipo kuzama kwake kukhale kwa pakati pa 8 cm ndi 10 cm kuchokera pansi. Onjezerani zogonerazi nthawi ndi nthawi kuti zisatibuke. Zogonera zakhuku zikatibuka zimabweretsa matenda monga chimfine chifukwa cha fumbi, ndi kamwazi chifukwa cha kunyowa kwa mkhola.
- (iv) Takasani zogonerazi ndikuonjezera zina kamodzi pa mulungu uli onse kuti zizikhala zouma nthawi zonse ndi kuti mkhola mwanu mukhale mwaukhondo.
- (v) Ikani zogonera zina muzisa momwe khuku zimaikira ndipo kuzama kwake kukhale 5 cm kuti mupewe kusweka kwa mazira.
- (vi) Onetsetsani kuti zogonera zankhuku ndizouma kuti muchepetse mphweya oipa mukhola lanu.
- (vii) Nthawi zonse onetsetsani kuti mkhola lanu mukulowa mphweya wokwanira.
- (viii) Mukachotsa nkhuku mkhola, konzani mkati wakhola pochotsa zogonera zonse ndi kusesa ndi kuthira mankhwala a disinfectant musanalowetse zina.

A.

KAMANGIDWE KAKHOLA LAPANSI



B.

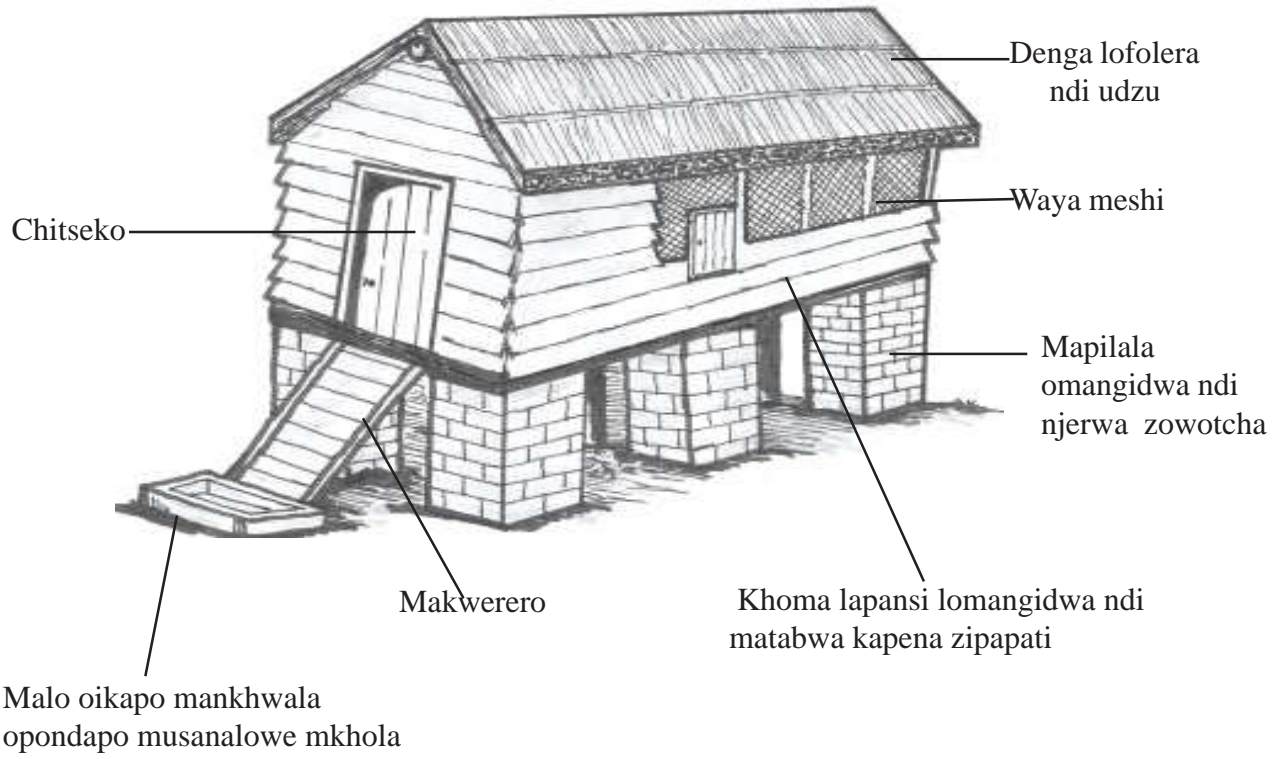
KHOLA LAPANSI LAMPANDA WA TSEKERA



Chithunzi 3 a . Khola lapansi

2.6 Kamangidwe ka khola lankhuku lammwamba

- Khola lammwamba litha kumangidwa ndi matabwa, zipapati za matabwa kapena nsungwi. Khoma lake limamangidwa pamwamba pa phaka. Pansi pa phaka kwenikweni pamangidwa mapilala a njera zowotcha pogwiritsa ntchito simenti kuti mapilalawo achirikize phaka. Matabwa, zipapati kapena nsungwi zong'amba zopangira khoma zimakhomedwa ku mitengo yowongoka bwino ya bulugamu imene masinde ake amalowetsedwa ndi kumangidwa limodzi ndi mapilala moimiritsa.
- Kuchokera pa pilala imodzi kufika pa pilala yina kusalika kwake kusapitirire 2 m.
- Kuchokera pansi kufika pa phaka, kusalika kwake kukhale kwa pakati pa 50 cm ndi 60 cm kuti muzisesa ndi kuchotsa zitosi pansi pa khola lanu mosavutika.
- Ikani mogoneka mitanda yokula komanso yowongoka bwino mopingasa pamwamba pa mapilala kuti igwire phaka. Mangani phaka pamwamba pa mitanda pogwiritsa ntchito mbalawala zomwe kukula kwake kusachepere 50 mm. Yalani mbalawala chopingasa poyerekeza ndi mmene mwakhazikira mitanda pamwamba pa mapilala.
- Mutha kugwiritsa ntchito mitengo ying'onoying'no ya bulugamu, nsungwi ngakhale matabwa ang'onoang'ono pomanga phaka. Khomererani mbalawala ku mitanda ndi misomali ya 5 inches. Nthawi zonse onetsetsani kuti zinthu zomwe mugwiritse ntchito ngati mbalawala ndizowongoka bwino.
- Siyani mipata ya 7.5 mm pakati pa mbalawala zoyandikana kuti zitosi zankhuku zizigwera pansi mosavuta.
- Magani chipinda mkati mwakhola kuti muzigwiritsa ntchito ngat sitolo yosungira chakudya chankhuku.
- Khola lotalika 4.0 m mulifupi ndipo lotalika 7.0 m mulitali ndilokwanira nkuku 200.
- Khoma lapansi likhale la matabwa, zipapati kapena nsungwi ndipo kusalika kwake kukhale kwa pakati pa 0.8 ndi 1.0 m.
- Khoma la khola litalite 2 m kuchokera pa phaka
- Khoma la mmwamba likhale la waya meshi (wire mesh) ndipo kusalika kwake kukhale kwa pakati pa 0.9 ndi 1.2 m Ikani mitanda pamwamba pa khoma kuti igwire mitengo yomangira denga.
- Khola lonse kuphatikiza magebulo kusalika kwake kukhale kwa pakati pa 3.8 ndi 4.7 m kuchokera pansi.
- Denga lipitirire ndi pakati pa 50 ndi 80 cm mbali zonse kuchokera pa khoma kuti mukhola musalowe madzi amvula ndi malazi adzuwa.
- Mutha kufolera denga la khola lanu ndi udzu kapena malata mumene mungathere.
- Mangirani Mpanda khola lanu kuti anthu osagwira ntchito pamalopo asaliyandikire ndikuti nkuku zam'mudzi zisaliyandikire kuti mupewe matenda monga Chitopa.
- Nkuku zilowetseddwe mkhola lammwamba pakati pa msinkhu wa masabata 17 ndi 18. Choncho muyenera kukhala ndi khola lina lapansi lomwe mutha kugwiritsa ntchito polera anapiye ndi misoti.
- Zipangizo zofunika kuika mkhola la mmwamba ndi chimodzimodzi monga khola lapansi. Koma simuyera kuika matanda okwerapo nkuku chifukwa mbalawala zimagwiranso ntchito chimodzimodzi monga matanda.
- Musaike zogonera zankhuku mkhola lammwamba chifukwa mukatero zitosi sizingathe kugwera pansi. Izi zingathe kubweretsa matenda mkhola lanu monga kamwazi.
- Ikani makwerero pakhomo kuti muzikwerapo mukamalowa mkhola



Chithunzi 3 b. Kholo lammwamba

MUTU 3

KASAMALIDWE KA ANAPIYE NDI MISOTI

3.1 Makhalidwe ndi maonekedwe oyenera a anapiye a nkhuku

Anapiye okhawa owoneka bwino ndiamene ayenera kuwetedwa kuti adzakhale nkhuku zoyikira mazira. Anapiye oterewa ndiamene angakhale nkhuku za thanzi komanso zodalirika poyikira mazira.

Anapiye onse osungidwa akhale ndi izi:

- (i) Anapiye achokere ku nkhuku za thanzi labwino.
- (ii) Akhale ofanana m' maonekedwe.
- (iii) Nthenga za anapiye zikhale zouma bwino.
- (iv) Akhale ochangamuka m' maonekedwe.
- (v) Michombo yawo ikhale youma bwino ndi yopanda matenda, komanso osamatidwa zitosi kumbuyo kwake.
- (vi) Akhale opanda chilema.
- (vii) Akhale ochokera khola limodzi.

3.2 Kukonzekera anapiye asanafike

Ndikoyenera nthawi zonse kuti alimi akhale okonzekera anapiye asanafike mkhola.

Mfundo izi nthawi zonse nkoyenera kuzitsatira:

- (i) Itanitsani anapiye nthawi yokatengera isanakwane ndipo munene tsiku limene mukuganiza kukatenga.
- (ii) Nthawi zonse gulani anapiye kumalo ambiri yabwino yoswetsera anapiye. Kuno ku Malawi mutha kugula anapiyewa ku Charles Stuart ku Kanengo mu mzinda wa Lilongwe ndi ku Chigumula mu mzinda wa Blantyre.
- (iii) Onetsetsani kuti khola mwamangiratu anapiye asanabwere ndipo khola likhale lokula malingana ndi kuchuluka kwa anapiye mukufuna kuweta.
- (iv) Ikiranitu mbaula ya makala, ya palafini kapena ya magetsi mkhola anapiye asanabwere ndipo yesani ngati ikugwira ntchito komanso ikupereka moto okwanira.
- (v) Ikiranitu magome odyera ndi omwera okwanira mkhola anapiye asanabwere.
- (vi) Ikiranitu zogonera monga utuchi wa matabwa, udzu owuma oduladula bwino, makhusu a mpunga, makoko a mtedza, zitsonokho za chimanga ndi zina zotero.

3.3 Kamangidwe kachikuta cha mbaula

Zipangizo:

Zipangizo zofuna kumangira chikuta cha mbaula ndi izi:

- mitengo kapena njerwa zomangira chipupa cha pansu
- udzu kapena malata ofolera denga

Kamangidwe:

- (i) Chipupa chapansi mutha kumanga ndi njerwa kapena mitengo. Ngati mwamanga ndi mitengo onetsetsani kuti chipupacho mwaphoma ndi dothi. Chipupa chitalike 1.5 m kuchokera pansu.

(ii) Ikani mitengo pamwamba pa chipupa yomwe idzapereke mpata olowetsa ndi kutulutsa mphweya pakati padenga ndi chipupa komanso kugwirizitsa denga.

(iii) Folerani denga ndi udzu kapena malata.

(iv) Khola la anapiye litalikirane ndi khola la nkuku za zikuku ndi 90 m.

3.4 Zipangizo zofunika mkhola la anapiye

Mbaula ya makala, mafuta anyale kapena magetsi

- Mukhoza kugwiritsa ntchito mbaulazi malingana ndi kupeza kwanu
- Ngati mugwiritsa ntchito mbaula yamakala kapena yamafuta anyale, zunguzani mbaula yanu ndi waya motalikira 15 cm kuchokera pa mbaula kuteteza anapiye kuti asapse.
- Ikani mozungulira mpanda wa chikuta cha anapiye. Ichi mukhoza kupanga kuchokera ku mapepala olimba monga amakatoni.
- Mpandawu umathandiza anapiye kukhala malo ofunda.
- Anapiye akangodziwa malo ofunda mukhoza kukulitsa mpandawo.
- Mukhoza kugwiritsa ntchito mpandawo kwa masiku asanu ndi limodzi kapena asanu ndi anayi.

Manthu wa mbaula

- Ichi chimapangidwa kuchokera ku chitsulo monga malata chomwe ntchito yake chimayikidwa pamwamba pa mbaula ndi cholinga chakuti kutentha kwa mbaula kukaomba pa chitsulochi kubwerere pansu kuti anapiye amve kufunda.
- Manthu amagwiranso ntchito yosunga kutentha kuti kukhale nthawi yayitali komanso kusapite m'mwamba.

Zogonera

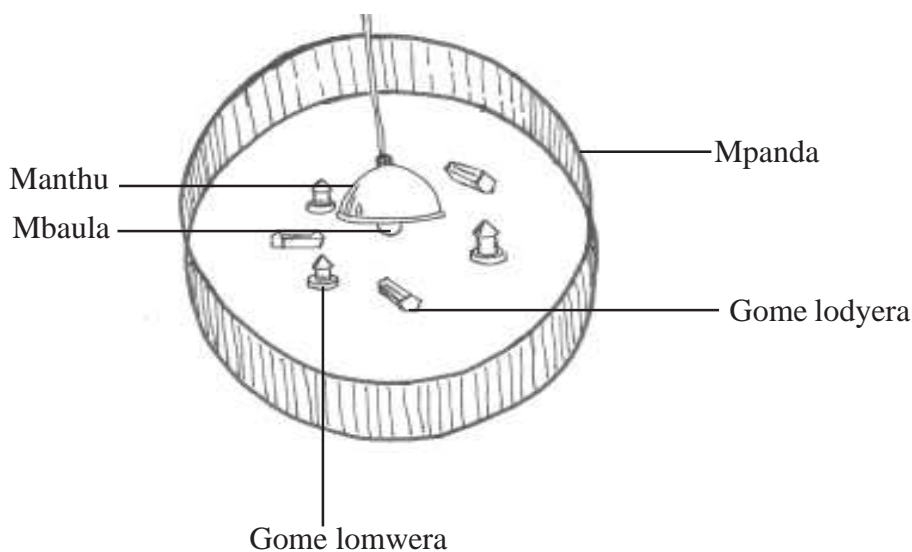
- Ikani zogonera za anapiye mkhola ndipo mphipi yake ikhale pakati pa 6 ndi 9 cm.
- Zogonerazi zimathandiza kuchepetsa chinyontho ndi kuzizira mkhola choncho anapiye amamva bwino pogona.
- Sikololedwa kuika utuchi kapena udzu otibuka kwambiri mkhola chifukwa zimayambitsa chimfine ndi chifuwa.
- Phimbirani utuchi ndi pepala kapena masaka kufikira anapiye atazolowera kudya chakudya.

Magome Odyera

- Magome osakwanira amapangitsa kuti anapiye asakule bwino chifukwa sadya mokwanira.
- Nthawi yoyamba anapiye sangathe kudyera magome, choncho nkofunika kugwiritsa nthcito zinthu zomwe angathe kudyeramo mosavuta monga motengera mazira (egg trays), mapepala a makatoni a chivindikiro cha momwe munatengera anapiyewo.
- Nthawi yomweyo ikaninso chakudya m' magome odyera kuti anapiye adziphunzira kudyera m' magomewo.
- Zodyera zonse zimene munayika moyembekezera zichotseni anapiye angangozolowera kudyera m' magome. Mwanapiye aliyense akhale ndi mpata wa 5 cm pa gome lodyera.

Magome Omwera madzi

- Anapiye apatsidwe madzi maola awiri kapena anayi asanapatsidwe chakudya.
- Ikani magome omwera madzi pafupipafupi kuti anapiye asamayende mtunda opitirira 2.5 m asanapeze madzi.
- Ikani magome omwera madzi mosapitilira msinkhu wa anapiye.
- Thirani madzi m' magome pamlingo oyenerera kuti asamataye madziwo.
- Anapiye apatsidwe madzi asanapatsidwe chakudya.
- Onetsetsani kuti anapiye amwa madzi akangoikidwa muchikuta.
- Mwanapiye aliyense akhale ndi mpata wa 1.5 cm pa gome lomwera madzi



Chithunzi 4. Kayikidwe ka zipangizo mchikuta cha anapiye

3.5 Kamangidwe ka chikuta chopanda mbaula



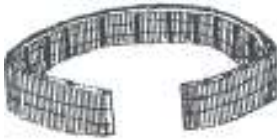
- Mutha kugwiritsa ntchito mtundu wa chikuta chimenechi mu nyengo yotentha

Kapangidwe kake:

- Choyamba pezani chingwe chotalika 60 cm ndi ndodo ziwiri zotalika 30 cm zonse ziwiri.
- Chachiwiri khomani ndodo imodzi pansi ngati chikhomo. Mukatero mangirirani chingwecho ku ndodo yokhomedwa ndipo mbali inayo mangirirani ku ndodo yosakhomedwayo. Pakati pa ndodo yokhomedwa ndi ndodo yosakhomedwa pakhale 50 cm. Mukatero jambulani mozungulira.
- Kulungani waya meshi (wire mesh) wamipata ya pakati pa 12 ndi 18 mm mozungulira, potsatira mzere omwe mwajambula pansi. Siyani mpata okwanira 250 mm ndipo kutalika kwa wayayo kukhale 300 mm kuchokera pansi.



Zikhomo



Dulani zikhomo makumi awiri ndipo chirichonse chitalike 300 mm ndipo zikani zikhomozi motsatira mzere mwajambulawo. Ndipo mukatero mangirirani waya meshiyo ku zikhomo, ndipo zitarikirane 150 mm kuchokera pa chikhomo chimodzi kufika pa china. Ikani tinthambi tamitengo mozungulira kunjja kwa waya meshi ndi zikhomo kuti khoma la chikuta lilimbe bwino.

Zikani timitengo motsatira mzere mwajambula pansi, ndipo mangani miyanga mizere iwiri moyandikana pogwiritsa ntchito luzi kapena linya.

Kufolera

Phimbirani ndi udzu kunjja ndi mkati mwa waya meshi pomanga ndi miyanga kuti mphipi yake yikhale lolimba.



Denga:

Mangani denga moyerekeza kukula kwa chipupa chapansi. Onetsetsani kuti pasapezeke mipata yolowera mphepo ndipo ikani mzati mkati mwake kuti muzitha kukweza denga ngati kutentha komanso kulitsitsa ngati kuzizira.

Mpanda Wachikuta



- Choyamba tetenganinso ndodo ziwiri zoyamba zija mujambulenso mzere pansi pogwiritsa ntchito chingwe chotalika chosachepera 3 m.
- Pakati pa ndodo yokhomedwa ndi yosakhomedwa pakhale mosapitirira 125 cm. Mukatero jambulani pansi mozungulira.
- Kulungani waya meshi mozungulira mzere mwajambula pansi mosasiya khomo, ndipo waya meshiyo akhale 600 mm kutalika kuchokera pansi.
- Phimbirani ndi nsungwi, makatoni kapena udzu.

3.6 Kayikidwe ka anapiye mu chikuta

- (i) Nthawi yabwino yotengera anapiye ndi m'mawa kukadali kozizira. Izi zimakupatsani mwayi moti muone anapiye ngati pali chovuta.
- (ii) Anapiye ayenera kuikidwa mchikuta patapita maola 6 kapena 12 kuchokera pa nthawi imene aswa kuchokera m'mazira. Izi zimathandiza kuteteza anapiye kuti asathe madzi mthupi chifukwa cha kutentha kwa mchikuta mukawaika maola tatchulawa asanakwane.
- (iii) Pezani chiwerengero cha anapiye amene mwagula
- (iv) Yanganani anapiye onse mwagula ngati ali bwino. Chotsani anapiye ofowoka, odwala ndi achilema.
- (v) Ngati mugwiritsa ntchito chikuta cha mbaula, onetsetsani kuti mbaula zikugwira ntchito ndipo zikupereka kutentha koyenerera.
- (vi) Muonetsetse kuti mphepo yozizira sikulowa mchikuta cha anapiye

Kutentha Koyenerera

Napiye akagomola kumene alandire kutentha kwa pakati pa 32°C ndi 35°C. Kutentha kumeneku kumachepetsedwa ndi 3°C sabata iliyonse mpaka 21°C. Pamenepo nthenga za nkuku zimakhala zitakula. Khalidwe laanapiye mu mpanda wa chikuta limafotokozera bwino za kuzizira kapena kutentha kwa mchikuta, kotero muyenera kutanthauzira bwino mosalakwitsa.

Kutentha koyenerera ndi kofunika pa moyo ndi thanzi labwino la anapiye. Kutentha kwambiri ndi kowopsya chifukwa anapiye amaphikika kenaka amafa. Kuzizira kwambiri ndi kowopsya chifukwa anapiye amazidwa ndi kuchita chibayo ndi kutsegula m'mimba kenaka amafa.

Ngati anapiye asonyeza kufooka ndi katemera onjezerani kutentha kwa chikuta ndi 2.8°C. Izi mukhoza kuzichita mpaka mutaonetsetsa kuti anapiye ali bwino. Chinthunzi 5 chikusonyeza m'mene mungadziwire kutentha kapena kuzizira kwa mchikuta kupyolrea mkhalidwe la anapiye

Zizindikiro zosonyeza kuti anapiye akumva kutentha

Anapiye amafooka, amayasamula kukamwa, amasolola makosi ndi kutambasula mapiko ndipo amathawa mbaula/manthu akatenthedwa kwambiri. Chocho muyenera kutsegula mazenera ndikuchepetsa moto kuti kutentha kubwerere koyenera.

Zizindikiro zosonyeza kuti anapiye akumva kuzizira

Anapiye amachita chibayo ndikutsegula m’ mimba; amapuma mofulumira ndi kubanika, kenaka amafa. Choncho mukaona izi zikuchitika, muyenera kutsitsa manthu kapena kuwonjezera moto ngakhale kutsika mazenera ena kuti anapiye amve kufunda.

Zizindikiro zosonyeza kuti mphepo yozizira ikulowa mchikuta

Anapiye amathawira mbali imodzi ya chikuta ndikumamatirana ngati mchikuta mukulowa mphepo yozizira.

Zizindikiro zoti mchikuta mkutentha koyenera

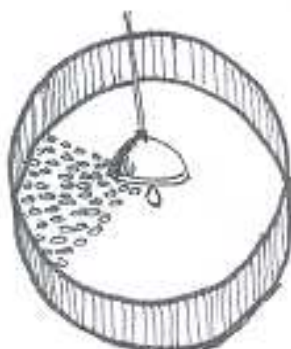
Ngati mchikuta mkutentha koyenera, anapiye amakhala mosangala, sathawa mbaula ndipo amapezeka mbali zonse za chikuta mofanana.



Kuthentha koyenerera



Kuzizira kwambiri



Mphepo yozizira ikulowa



Kutentha kwambiri

Chinthunzi 5. M'mene mungadziwire kuntha kupena kuzizira kwa mchikuta kupyolera mkhalidwe la anapiye

Kutentha koyenerera ndikofunika pa moyo wa anapiye pa zifukwa izi:

- (i) Anapiye akatenthedwa kwambiri sadya mokwanira. Mapeto ake sakula bwino. Mathadzi amayikira mazira ang'onoang'ono osalimba chikamba kutentha kukapitirira 28°C.
- (ii) Kukazizira kwambiri nkhuu imadya kwambiri pofuna kutenthesa thupi lake molingana ndi nyengo.
- (iii) Kukatentha kwambiri nkhuu zimamwa madzi ambiri ndipo zitosi zake zimakhala zamadzimadzi; mapeto ake mkhola mumakhala chinyontho ndipo sotsatira zake zimayambitsa matenda a nkhuu akamwazi (Coccidiosis).
- (iv) Anapiye akatenthedwa kwambiri amafooka ndipo amafa.

3.7 Zofunika posamalira anapiye ndi misoti

Malo ofunikira pa nkhuu makumi asanu (50)

Kuyambira sabata yoyamba kufikira yachitatu pafunika malo okula 1 m².

Kuyambira sabata yachinayi mpaka yachisanu ndi zitatatu pafunika malo okwana 5 m²

Kuyambira sabata yachisanu ndi zinayi mpaka khumi ndi zitatatu pafunika malo okula 8 m²

Magome Odyera

Ngati muyika magome odyera mbali imodzi gome lotalika 5 m likhoza kukwanira nkhuu 50 za msinkhu wa pakati pa masabata 9 ndi 18. Koma ngati muyika magome odyera mbali zonse ziwiri gome limodzi lotalika 2.5 m likhoza kukwanira nkhuu 50 za msinkhu wa pakati pa masabata 9 ndi 18.

Magome Omwera

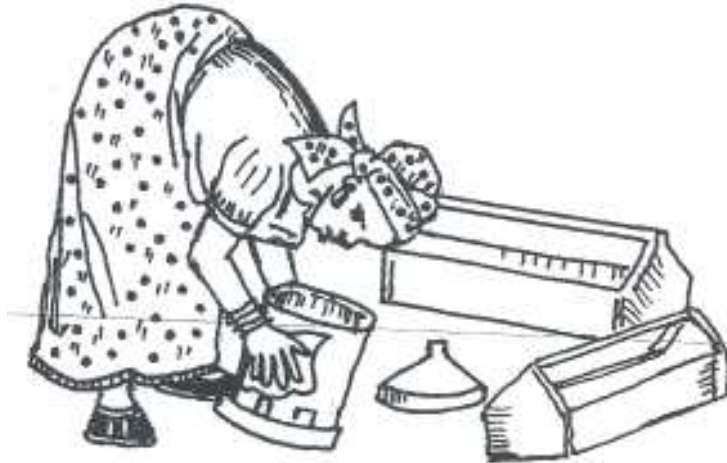
Nkhuu 50 za msinkhu wa masabata a pakati pa 9 ndi 18 zikhoza kumwa madzi ochuluka pafupifupi malita 15 (15 litres) pa tsiku. Kukula kwa gome lozungulira kukhale 300 mm.

3.8 Mfundo zoyenera kutsata

- Chikuta cha anapiye chikhale pafupi ndi nyuma yanu kuti muthe kuyang'anira bwino nkhuu zanu.
- Choyamba yang'anirani anapiye m'mawa kukangocha komaso masana.
- Apatseni anapiye anu chakudya ndi madzi okwanira.
- Anapiye amadana ndi phokoso ndi kudzidzimutsidwa. Choncho onetsetsani kuti izi sizikuchitika.
- Chikuta cha anapiye chitalikirane ndi khola la nkhuu zazikulu ndi 90 m kuti mupewe kufalikira kwa matenda kuchokera ku nkhuu zazikulu.
- Kafunseni alangizi a ziweto za katemera yemwe mungathe kupereka ku nkhuu zanu.

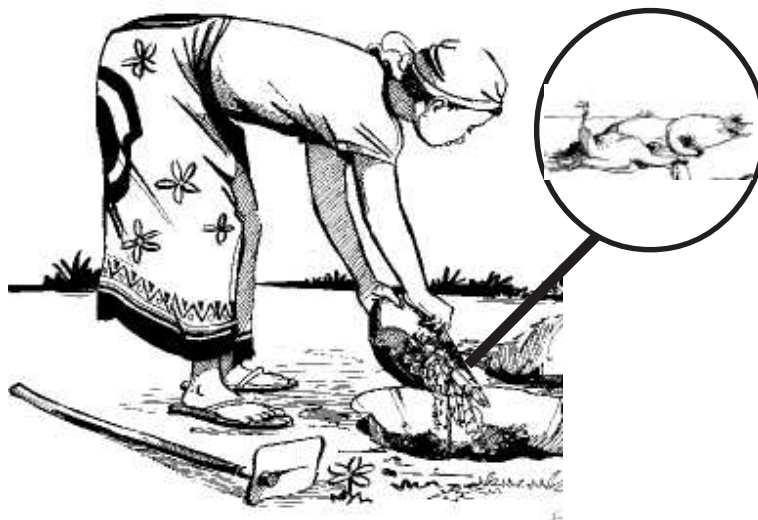
Kuteteza matenda a nkhuku

- Onetsetsani kuti zogonera zankhuku monga utuchi wa matabwa, zomwe mwaika mkhola mwanu ndi zosanyowa.
- Onetsetsani kuti magome omwera ndi odyera akusamalidwa bwino mwaukhondo nthawi zonse kuti mupewe matenda. Chinthunzi 6.chikusonyeza mayi akusamala magome omwera ndi odyera nkhuku.
- Onetsetsani kuti nkhuku zanu zikumwa madzi abwino ndi kudya chakudya chosamalidwa bwino.



Chithunzi 6. Mayi akusamala magome omwera ndi odyera nkhuku mwaukhondo

- Tenthani kapena kwirirani nkhuku zodwala kuti muchepetse matenda monga chithunzi 7. chikuonetsa.



Chithunzi 7. Mayi akukwirira nkhuku zodwala ndi zakufa kuti achepetse kufala kwa matenda

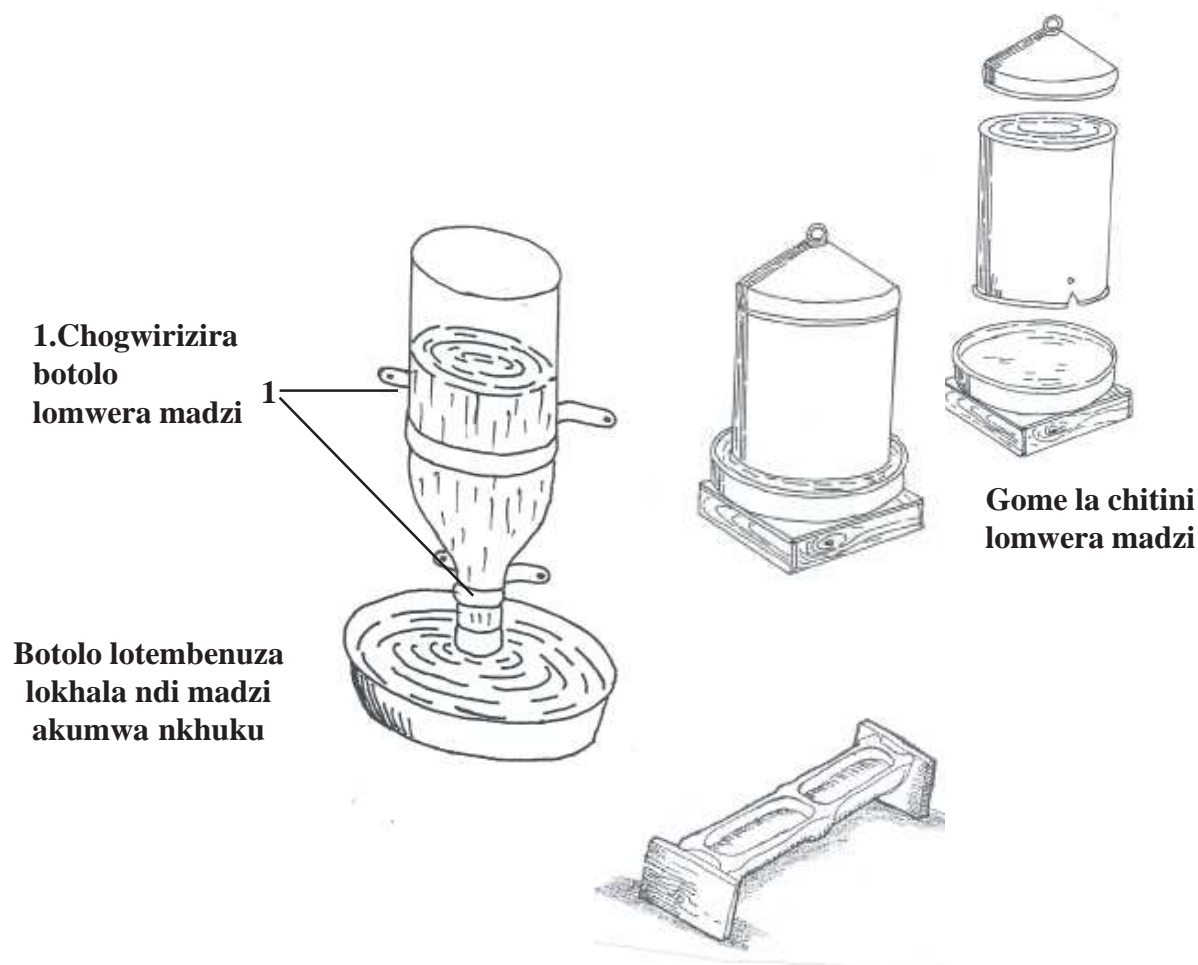
MUTU 4

ZIPANGIZO ZOYENERA KUYIKIDWA MKHOLA LA NKHUKU

Mkhola la nkuku muyenera kuyikidwa zinthu izi: Magome omwera ndi odyera, mapanda okwerapo nkuku ndi malo oyikiriramo nkuku.

4.1 Magome Omwera

(i) Mutha kupanga magome omwera kuchokera ku msungwi kapena malata. Mungathenso kugwiritsa ntchito botolo politembenuza monga mmene mukuonera pa chithunzi 8.



Gome lomwera madzi la nsungwi lokhoma ndi thabwa mmbali kuti madzi asataike

Chithunzi 8. Zitsanzo za magome omwera madzi nkuku

4.1.1 Mfundo zoyenera kutsata poyika magome omwera

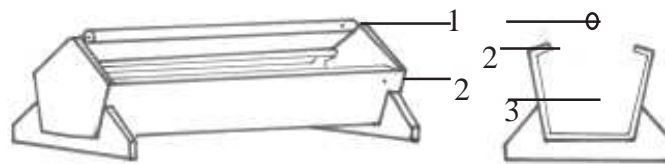
- Onetsetsani kuti magome okwanira ayikidwa mkhola lanu ndipo pakhale mpata osapitilira 5 m kuchokera pa gome lina kufika pa lina.
- Tsukani magome omwera tsiku lirilonse.
- Onetsetsani kuti magome sataya madzi popewa chinyonho mkhola.
- Onetsetsani kuti zogonera zozungulira magome omwera ndi zouma nthawi zonse.
- Ikani magome omwera pa miyala kapena mangirirani kudenga ndi chingwe chachitali.
- Ngati mumangirira gome lomwera kudenga onetsetsani kuti mukusintha malo omangirira tsiku lirilonse popewa chinyonho chomwe chingayambitse matenda.
- Thadzi limodzi limafuna malo okwanira 5 cm pa gome lomwera.

4.2 Magome Odyera

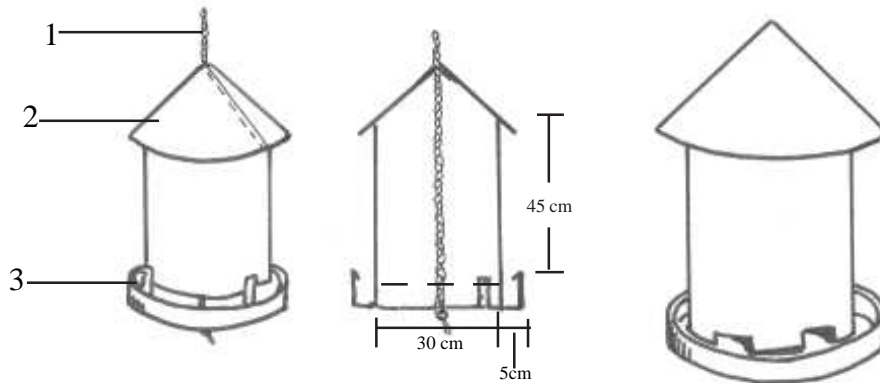
- Magome odyera akhale woti nkhuku singathe kupalapasira chakudya pansu.
- Magomewa atha kukhala ozungulira ngakhale amakona anayi.
- Magome atha kupangidwa kuchokera ku mitengo, msungwi, zitini ndi matayala akale.
- Onetsetsani mkhola mwanu mwayikidwa magome odyera okwanira, ndipo nkhuku imodzi imafuna malo okula 4 cm pa gome lozungulira ndipo pa gome la makona imafuna malo okula 10 cm.



Gome lodyera la msungwi



Gome lodyera la matabwa lokhazikidwa pa miyendo. 1. kamtengo kamene kamazungulira nkhuu ikakwerapo 2. milomo 3. mkati mwa gome

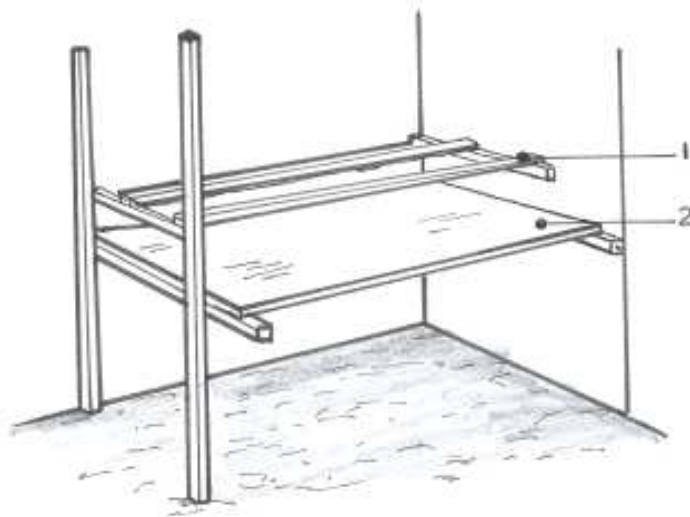


Gome lodyera lachitsulo. Gome lokula 40 cm lozungulira ndilokwanira mathadzi 10. 1. waya kapena chingwe chomangilira gome kudenga, 2. chivindikiro 3. Mbale ya lata yokhazikapo gome pamene chakudya chimagwera nkhuu zikamadya.

Chithunzi 9. Mitundu yosiyanasiyana ya magome odyera opangidwa kuchokera ku zinthu sosiyanasiyana.

4.3 Mapanda okwerapo nkhuku

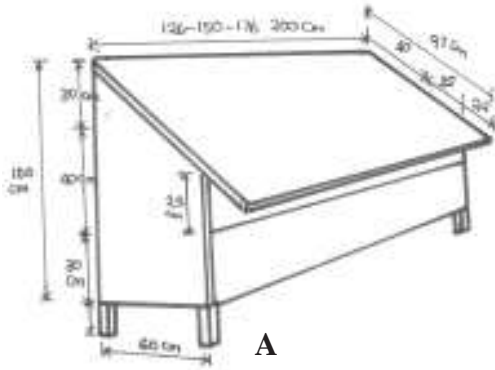
- Nkhuku zimakonda kugona pamwamba kukada. Choncho nkoyenera kuziyikira mapanda mkhola.
- Mukhoza kupanga mapanda a matabwa ang'onoang'ono kapena nsungwi.
- Kuchokera pa phanda limodzi kufika pa phada lina pasatalikire 60 cm.
- Kutalika kwake kwa mapanda kukhale 100 cm kuchokera pansi.
- Onetsetsani kuti pali mpata osapitilira 25 cm kuchokera pa nkhuku imodzi kukafika pa nkhuku ina.
- Ikani thabwa losaboola pansi pa mapanda lotchinga zitosi kuti pansi pasanyowe. Thabwa limeneli mukhoza kumasesapo kamodzi pasabata.
- Ikani thabwali pa mtunda wa 80 cm kuchokera pansi.



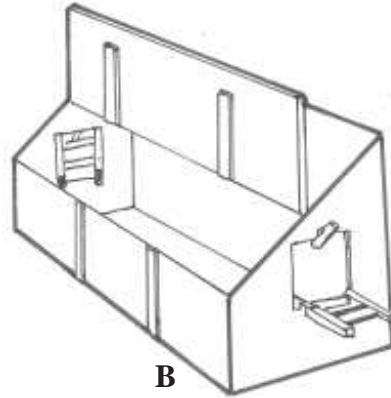
Chithunzi 10. Mapanda okhala ndi thabwa pansi lotchinga zitosi

4.4 Moyikira mazira

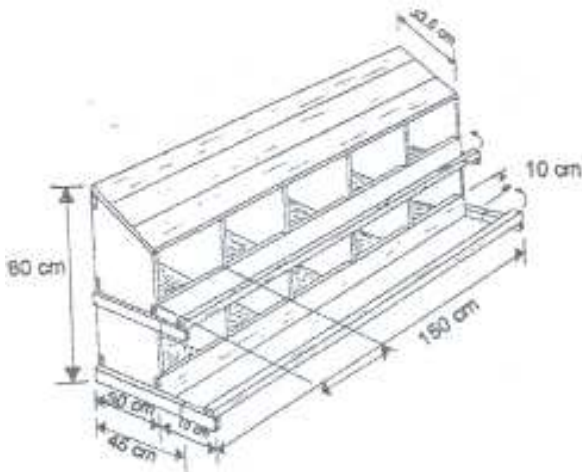
- Nkhuku zimakonda kuyikira mazira ake malo otetezedwa choncho nkofunika kuzipangira malo oyikira mazira.
- Mukhoza kupanga zoyikirira mazira kuchokera kubango, matabwa, nsungwi kapena udzu.
- Bokosi limodzi lokula 30cm mulifupi ndi 40cm kuchokera pansi kupita pamwamba likhoza kukwanira nkhuu zisanu zoikira.
- Kutu mazira asasweke ikani udzu kapena utuchi m'malo oyikirira mazira. Konzani malowa mopitsa pansu ndi 5 cm.



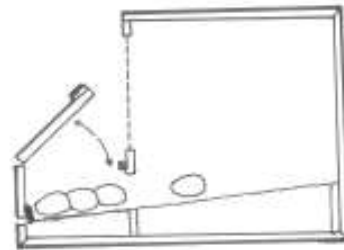
A



B



C



D



E

A, B, C ndi D ndi malo oyikirira nkhuu zambiri opangidwa ndi matabwa,
E ndi malo oyikirira nkhuu opangidwa kuchokera kubango kapena nsungwi.

Chithunzi 11. Mitundu yosiyanasiyana ya malo oyikirira mazira

4.5 Kasamalidwe ka nkhuuku za mazira

4.5.1 Kadyetsedwe ka nkhuuku za mazira:

- Nkhuuku za mazira zimafuna chakudya cha mitundu itatu malingana ndi misinkku yake.
 - Kuyambira sabata yoyamba kufika yachisanu ndi zitatu zipatseni chakudya cha anapiye (chick mash).
 - Kuyambira sabata yachisanu ndi zitatu kufika khumi, zisanu ndi zitatu zipatseni chakudya chokulitsa (growers mash).
 - Kuyambira sabata yakhumi, zisanu ndi zitatu kufika kumapeto koyikira mazira zipatseni chakudya choyikiritsa mazira (layers mash).
- Ngati nkotheke sakanizani mchenga ndi chakudya choyikiritsa kuti mchenga uhandizire kugaya chakudya mthutumba zankhuuku.
- Onetsetsani kuti panthawi yomwe misoti yayamba kuyikira mazira chakudya chake chikhale ndi mchere wa kasiyamu (calcium) okwanira 3 ndi 4 % (peresenti). Mukhoza kupeza mcherewu kuchokera kumiyala ya laimu.

4.5.2 Madzi akumwa

- Zipatseni nkhuuku zanu madzi okwanira nthawi zonse.
- Kusowa kwa madzi kukhoza kupangitsa nkhuuku kuyikira mazira ochepa ngakhale kufa kumene.
- Izi zimakhala zovuta makamaka madera otentha.

4.5.3 Kuwala

- Kuwala ndi kofunika kwambiri makamaka kunkhuuku zoyikira.
- Kuwala kumathandiza nkhuuku kuti zizidya mokwanira komanso kumwa madzi koyenerera.
- Maola owala akhale pakati pa 16 ndi 18 patsiku. Izi zimathandiza nkhuuku kudya mokwanira komanso kumwa madzi mokwanira potero zimayikira mazira ochuluka.
- Kuonjezera maola owala ndi mangetsi kapena nyale kumathandiza nkhuuku kuikira mazira ochulukirapo ndi makumi awiri (20) pa zana (100) lililonse.

4.5.4 Ukhondo

- Khola likhale ndi mazenera okwanira kuti mphepo izitha kulowa ndi kutuluka.
- Onetsetsani kuti madzi sakutayikira mkhola.
- Kulungizani khoma lakhola kuti lisakhale ndi ming'alu kupewetsa tizirombo toyamwa magari nkhuku kubisalamo.
- Onetsetsani kuti denga lakhola silikudontha.
- Chotsani magome omwera wobooka ndi kuwakonzanso bwino popewa chinyontho mkhola.
- Takasani ndi kuonjezera zogonera (utuchi) zankhuku kamodzi pasabata kuti zisatibuke.
- Samalani magome omwera ndi odyera mmawa, masana ndi madzulo tsiku lililonse.
- Zipatseni nkhuku zanu madzi abwino mmawa, masana ndi madzulo tsiku lililonse.
- Zipatseni nkhuku zanu chakudya chabwino tsiku lililonse.
- Ikani mankhwala pakhomo lolowera mkhola kuti muziponda musanalowe mkati popewa kulowetsa matenda.
- Musalole aliyese kulowa mkhola popewa kulowetsa matenda monga chitopa.
- Mukaona kuti zogonera zatibukatibuka zichotseni ndikuika zina zatsopano.

MUTU 5.

KUPANGA CHAKUDYA CHA NKHUKU NDI KADYETSEDWE KA NKHUKU ZA MAZIRA

5.1 Kapanginde ka chakudya chankhuku

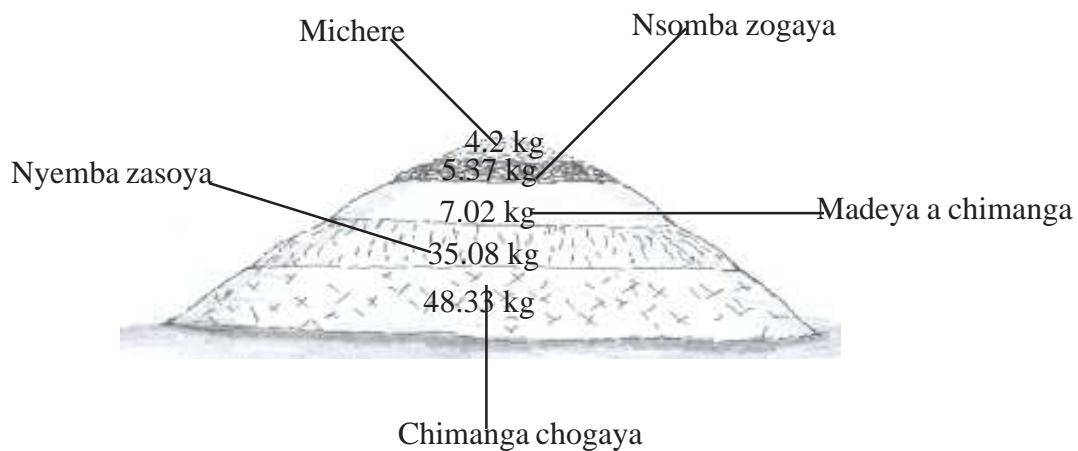
Malingana ndi kukwera kwa mitengo ya zakudya zankhuku alimi akulimbikitsidwa kupanga chakudya cha nkhuku wokha. Kuti mupange chakudyachi tsatirani ndondomeko iyi:

- i. Popanga chakudya cha nkhuku pamafunika kudziwa zimene zimafunika kuti nkhuku ikule bwino komanso kuikira mazira moyenera.
- ii. Nkhuku imafuna chakudya chopatsa mphamvu monga chimanga, madeya a chimanga, mpunga ndi mapira. Chakudya chomanga thupi monga nyemba za soya, chiponde cha mtedza, mpendadzuwa ogaya, nyemba, nsomba zogaya, nyama ndi mafupa ogaya, michere yosiyanasiyana yosakaniza ndi yosakaniza (Monocalcium phosphate, phosphate, lime, Mineral premixes), chakudya chotetedza matenda (vitamins) komanso mankhwala oteteza matenda akamwazi monga Coccidiostat.
- iii. Choyamba pezani zinthu zomwe mungathe kupangira chakudya cha nkhuku monga chimanga, madeya a chimanga kapena mpunga, chinangwa, nyemba za soya, mtedza, mpendadzuwa, nyemba, nandolo, khobwe, njere za thonje zogaya zochotsa mafuta ndi zina zotere.
- iv. Munyemba za soya ndi mmadeya mumapezeka zinthu zina zomwe zingapangitse kuti nkhuku zisakule mofulumira. Pofuna kupewa izi muyenera kukazinga nyemba zanu za soya kufikira zitaoneka mtundu wa khofi kapena zitayamba kuonetsa ming'alu ndipo musaike madeya ochuluka mchakudya cha nkhuku zanu.
- v. Musakazinge nyemba za soya mopitiriza muyeso chifukwa mukatero chakudya chomanga ndi kukulitsa thupi chimapserera.
- vi. Nsomba zogaya ndi zodula choncho ikani zochepa kuti musaononge ndalama zambiri popanga chakudya.
- vii. Pezani zakudya zomwe zingapezeke pa khomo panu popanga chakudyachi. Mukulimbikitsidwa kulima mbewu monga chimanga, nyemba za soya, nandolo, mtedza, mpendadzuwa ndi zina zotero zomwe mungathe kupangira chakudyachi.
- viii. Pezani michere ndi mankhwala zomwe muyenera kuyika mchakudya cha nkhuku monga layimu, monokasiyamu fosifeti (monocalcium phosphate), vitamini minirolu pulimikisi (vita min-mineral premix), mefiyo naini (Methionin), kokusidiyositati (coccidiostat).
- ix. Dziwani miyeso ya chakudya chofunikira pa nkhuku za misinkhu yosiyanasiyana.
- x. Pezani alangizi a ziweto kuti akuthandizeni miyezo ya zakudya zofunikira mthupi la nkhuku za misinkhu yosiyanasiyana. Mungathenso kugwiritsa ntchito thebulo lili pansili.

| Mtundu | Chakudya chopatsa mphamvu (ME-Kcl./Kg) | Chakudya chomanga ndi kukulitsa thupi (CP%) | Mbali ya chakudya chomwe simagaidwa (CF%) | Zakudya zoteteza matenda | | Michere yofunikira mthupi la nkhuu | |
|---------------------------------------|--|---|---|--------------------------|--------------|------------------------------------|--------------|
| | | | | (Lysine(%)) | (Methionine) | (Calcium (%)) | (Phosphorus) |
| Anapiye a mazira | 2000 | 20 | 5 | 1.0 | 4.5 | 1.0 | 0.7 |
| Misoti | 2700 | 16 | 5 | 0.8 | 0.32 | 1.0 | 0.7 |
| Mathadzi ang'onoang'ono | 2700 | 16 | 5 | 0.7 | 0.20 | 2-3.5 | 0.8 |
| Mathadzi akuluakulu | 2800 | 17 | 5 | 0.75 | 0.30 | 2-3.5 | 0.8 |
| Chakudya choyamba cha nkhuu za nyama | 3100 | 22 | 35 | 1.2 | 0.50 | 1.0 | 0.8 |
| Chakudya chomaliza cha nkhuu za nyama | 3200 | 20 | 35 | 1.0 | 0.45 | 1.0 | 0.7 |

- xi. Sankhani zakudya zomwe mungathe kupangira chakudya kuti mukwaniritse muyeso ofunikira pankhuu zomwe mukusunga monga muyeso wa 22% CP (wa chakudya chomanga ndi kukulitsa thupi).
- xii. Pezani michere yomwe nthawi zonse ifunika kupezeka popanga chakudya cha nkhuu monga mchere (0.3% salt), 0.3% vitamin/mineral premix, 2.0% monocalcium phosphate, 1.5% lime ndi 0.1% DL-methionine).
- Miyesoyi ndi chimodzimidzi 0.3 kg mchere (salt), 0.3kg vitamini/minoro purimikisi (vitamin/mineral premix), 2.0 kg monokasiyamu fosifeti (monocalcium phosphate), 1.5 kg laimu (lime). Zonsezi mukasakaniza zimalemera 4.2 kg ndipo izi ziyenera kupezeka mchakudya cholemera 100 kg.
- xiii. Kuti mupeze kulemera kwa zakudya zina mchakudya cholemera 100 kg chotserani 4.2 kg choncho muona kuti zinthu zina zofunika mchakudya ndi 95.8 kg (100 kg - 4.2 kg = 95.8 kg).
- xiv. Sankhaninso zinthu zina zikwaniritse 95.8 kg. Mwachitsanzo mutha kugwiritsa ntchito chimanga chogaya mchigayo atachotsamo sefa (8%CP), madeya a chimanga (11%CP), nsomba zogaya (67%CP) ndi nyemba za soya (37 %CP).
- xv. Chimanga ndi madeya a chimanga zimagwira ntchito ngati chakudya chopatsa mphamvu pamene nyemba za soya zokazinga ndikugaya ndi nsomba zogaya zimagwira ntchito ngati chakudya chomanga ndi kukulitsa thupi.

- xvi. Sankhani zigawo za m'mene mungasakanizire zakudyazi.
Mwachitsanzo zigawo zisanu ndi zinayi za chimanga kuphatikiza ndi chigawo chimodzi cha madeya a chimanga ; zigawo zisanu za nyemba zasoya ndi chigawo chimodzi cha nsomba.
- xvii. Pogwiritsa ntchito masamu akasakanizidwe kachakudyachi mupeza kuti pafunika 48.33 kg ya chimanga chogaya, 5.37 kg ya madeya a chimanga, 35.08 kg ya nyemba zasoya ndi 7.02 kg ya nsomba zogaya.
- xviii. Kazingani nyemba zasoya musanayambe kugwiritsa ntchito.
- xix. Tengani 1 kg ya chimanga chogaya ndi kusakaniza ndi michere tafotokoza poyamba ija yolemera 4.2 kg.
- xx. Sakanizani bwinobwino michereyo ndi zinthu zina monga chimanga chogaya, madeya a chimanga nyemba zasoya zogaya ndi nsomba zogaya. Mutha kusakaniza chakudyachi pogwiritsa ntchito m'golo. Ngati mulibe mgolo wosakanizira chakudya cha nkuku ikani zinthuzi pasimenti posesedwa bwino ndi kusakaniza. Muthanso kugwiritsa ntchito pepala la pulasitiki lokula malinga ndi chakudya chimene mukufuna kupanga.
- xxi Choyamba ikani chimanga chogaya pansi, kachiwiri ikani nyemba zasoya zogaya pamwamba pa chimanga, kachitatu ikani madeya a chimanga pamwamba pa nyemba zasoya, kachinayi ikani nsomba zogaya pamwamba pa nyemba zasoya pomaliza ikani michere pamwamba pa nsomba zogaya. Chithunzi chiri pansichi chikuonetsetsa mumene mungaikire mbali zosiyanasiyana za chakudya musanasakanize



- xxii. Dziwani kuti nkofunikira kusakaniza chakudyachi bwinobwino kuti chikathe kugwira ntchito yake bwino.

xxiii. Tebulo ili m'musiya ikusonyeza zinthu zomwe zikupezeka mchakudya chomwe chapangidwa potsatira njira tafotokozayi:

| Zosakaniza | Kulemera kwake (kg) |
|-------------------------------|---------------------|
| Chimanga chogaya | 48.33 |
| Madeya a chimanga | 5.37 |
| Nyemba zasoya | 35.08 |
| Nsomba zogaya | 7.02 |
| Mchere | 0.30 |
| Purimikisi (Premix) | 0.300 |
| MCP | 2.00 |
| Laimu (Lime) | 1.500 |
| DI-mefionaini (DI-methionine) | 0.100 |
| Zonse | 100 kg |

Tebulo iri m'munsiya ikusonyeza zinthu zomwe mungaphatikize popanga mitundu itatu yosiyana ya chakudya choikiritsa chokwana 1000 kg.

| Zinthu zopangira zakudya | Chakudya 1 (Kg) | Chakudya 2 (Kg) | Chakudya 3 (Kg) |
|---|-----------------|-----------------|-----------------|
| Chimanga chogaya | 694 | 714 | 482 |
| Madeya a chimanga | - | - | 320 |
| Nsomba zogaya | 100 | 70 | 120 |
| Nyemba zasoya zogaya | 150 | 150 | 50 |
| Ufa wa miyala ya Layimu | 40 | 50 | 15 |
| Mafupa ogaya | 10 | 10 | 8 |
| Vitamin-mineral premix | 2 | 2 | 2.5 |
| Mchere wotsakaniza ndi iodine | 2 | 2 | 2.0 |
| Lysine | 1.5 | 1.5 | 1.5 |
| Methionine | 0.5 | 0.5 | 0.5 |
| Kuchuruka chakudya chokulitsa ndi kumanga thupi (%CP) | 18.2 | 16.5 | 15.3 |

5.2 Kadyetsedwe ka nkhuu za mazira

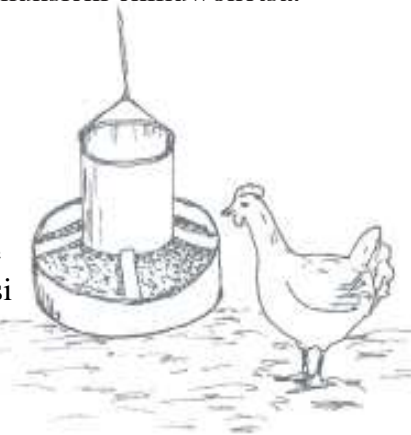
Nkhuu za mazira zimafuna chakudya cha mitundu itatu yosiyansiyana malingana ndi msinku wake motere.

- Kuyambira sabata yoyamba kufika yachisanu ndi zitatu zipatseni nkhuu zanu chakudya cha anapiye (chick mash)
- Kuyambira sabata yachisanu ndi zitatu kufika sabata khumi, zisanu ndi zitatu zipatseni nkhuu

chakudya chokulitsa (growers mash).

- Kuyambira sabata yakhumi, zisanu ndi zitanu kufika kumapeto koyikira mazira zipatseni nkhuku zanu chakudya choyikiritsa mazira (layers mash).
- Ngati nkotheke sakanizani chakudya choikiritsa ndi mchenga pang'ono kuti mchenga uthandizire kugaya chakudya m'nthutumba za nkhuku.
- Onetsetsani kuti panthawi yomwe misoti yayamba kuyikira mazira chakudya chake chikhale ndi mchere wa kasiyamu (calcium) okwanira 3 ndi 4% (peresenti). Mukhoza kupeza mcherewu kuchokera kumiyala ya laimu.
- Onetsetsani kuti chakudya sichikutayika pogwiritsa ntchito magome odyera oyenera. Chakudya chisadzaze kwambiri chikamayikidwa koma chilekeze pa theka lagome kuti chisatayikire pansi. Magome odyera aikidwe pamwamba ndipo kutalika kwake kuchokera pansi kulingane ndi khosi lankhuku ikaima monga chithunzi chiri mmunsichi chikuwonetsa.

Mmbali mwa gome molingana ndi khosi lankhuku ikaima



- Onetsetsani kuti pamene mukuyamba kuqyetsa chakudya cna mtundu wina kusintha kwake kusakhale kwadzidzi chifukwa mukatero nkhuku zanu. Ndongomeko yoyenera yakusintha kuchokera ku chick mash kupita ku growers mash ndi yotere:-

- (a) Tsiku loyamba dyetsani chick mash yekha.
- (b) Tsiku lachiwiri phatikizani zigawo zitanu za growers mash ndi chigawo chimodzi cha growers mash.
- (c) Tsiku lachitatu phatikizani theka la chick mash ndi theka la growers mash
- (d) Tsiku lachinayi phatikizani gawo limodzi la chick mash ndi magawo atatu a growers mash.
- (e) Tsiku lachisani dyetsani growers mash yekha.

Kuchuluka kwa chakudya chofunika ku nkhuku za misinkhu yosiyanasiyana

| Mtundu wa chakudya | Nkhuku imodzi | Nkhuku makumi khumi | Nkhuku makumi awiri ndi asanu |
|---|---------------|---------------------|-------------------------------|
| Chakudya cha mtundu wa chick mash | 2.0 kg | 200kg | 500 kg |
| Chakudya cha mtundu wa growers mash | 5.0 kg | 500 kg | 1250 kg |
| Chakudya cha mtundu wa layers mash pa mwezi | 3.5kg | 350 kg | 875kg |

MUTU 6.

KUSAMALA MAZIRA KUTI ASAONONGEKE

- Ngati cholinga chanu ndikugulitsa mazira monga chakudya asungeni mwaukhondo.
- Tolerani mazira mkhola mwanu katatu patsiku kuti nkhuku zisadetse komanso kupwanya.
- Mazira abwino ayenera kukhala ndi maonekedwe ozungulira mophwaphwatika m' mbali (oval shape).
- Mazira abwino akhale ndi chikamba cholimba.
- Chikamba chadzira chimatha kukhala cha maonekedwe osiyanasiyana malingana ndi mtundu wa nkhuku. Mwachitsanzo nkhuku za Mikolongwe chikamba chake chimaoneka choyera pamene nkhuku za Hayilaini (Hyline) chikamba chake chimaoneka chayuu (brown).
- Anthu ambiri amakonda mazira achikamba chayuu (brown) m' maonekedwe.
- Musasunge mazira nthawi yayitali kuopa kuonongeka.
- Yesani mazira poika m' madzi kuti muone ngati ali abwino. Mazira okhalitsa ndi owonongeka amayandama m' madzi.
- Musasunge mazira malo amene ali ndi zinthu zafungo loipa chifukwa amatha kutengera fungolo.
- Gwiritsani ntchito zipangizo zoyikirira mazira kuti mazira a nkhuku zanu akhale awukhondo.

Kupukuta ndi kasungidwe ka mazira

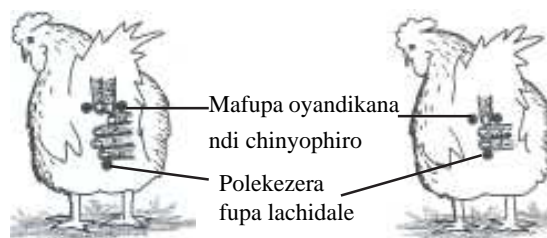
- Sankhani mazira ndipo muwalekanitse motero: akuoneka kuda ndi zinthu zina monga zitosi akhale paokha ndipo onse abwino akhalenso paokha.
 - Pukutani mazira onse owoneka mwakuda ndi zinthu zina ndi kansalu kouma koyera bwino.
- * CHENJEZO: Pewani kugwiritsa ntchito kansalu konyowa popukuta mazira chifukwa kakhoza kufalitsa matenda ku mazira.
- Musasunge mazira nthawi yayitali musanagulitse.

MUTU 7

KUCHOTSA NKHUKU ZOSAFUNIKIRA

- Ntchito yochotsa nkhuku zosafunikira mkhola imakhudzana kwenikweni ndi nkhuku zonse zimene sizikupereka mazira , ngakhalenso zodwala ndi zachilema chifukwa nkhuku zotero nzosapindulitsa. Nkhuku zikachotsedwa pa zifukwa ngati zimenezi zingathe kugwiritsidwa ntchito ngati ndiwo koma sikoledwa kudya kapena kugulitsa nkhuku zodwala.
- Kuchotsa nkhuku zimene sizikupereka mazira, zodwala ndi zachilema kumathandizira kuchepetsa ndalama zowononga posamala nkhuku komanso kuchepetsa kufala kwa matenda mkhola.
- Nkhuku zodwala zichotsedwe nthawi yomweyo mwazona chifukwa zitha kupatsira matenda ku nkhuku zina zabwino.
- Pewani kubweretsa nkhuku mkhola zomwe mudazichotsa chifukwa chodwala zikachira chifukwa zingathe kufalitsabe matenda ku nkhuku zabwino.
- Chotsani nkhuku zosafunika mkhola nthawi ya usiku chifukwa mukazitutumutsa nthawi ya masana chiwerengero choyikira mazira chimatsika.
- Gwirani mosamala pochotsa nkhuku zosafunika mkhola.
- Ngati nkhuku zimene zimadwala zikusonyeza kuchila zidikireni pang’ono musanazichotse.
- Tebulo ili m’munsiyi komanso chithunzi 12 zikusonyeza zomwe zingakutsogolereni pofuna kutchotsa nkhuku zosaikira.

| Nkhuku yoikira | Nkhuku yosaikira |
|---|---|
| Lipombo limakhala lalikulu komanso lofiira moyenerera. | Lipombo limakhala laling’ono komanso lamaoneledwe ofiira mwakuda |
| Pakati pa mafupa oyandikana ndi chinyophiro ndi polekezera fupa la chidale pamalowa zala zinayi mopingasa | Pakati pa mafupa oyandikana ndi chinyophiro ndi polekezera fupa la chidale pamalowa zala ziwiri mopingasa |
| Pakati pa mafupa oyandikana ndi chinyophiro pamalowa zala ziwiri motsika | Pakati pa mafupa oyandikana ndi chinyophiro pamalowa chala chimodzi motsika |



Nkhuku yoikira

Nkhuku yosaikira

Chithunzi 12. Mmene mungadziwire nkhuku yosaikira

MUTU 8

MATENDA A NKHUKU

Pali matenda osiyansiyana omwe amagwira nkhuku. Matenda ankhuku omwe amapezeka kawirikawiri kuno ku Malawi ndi Chitopa/ Chideru, Kamwazi (Coccidiosis), Nthomba za nkhuku/ Chikwirikwiti (Fowl Pox), Khuputo (Gumboro), Chifuwa cha nkhuku (infectious Coryza).

8.1 Chitopa (Chideru)

- Matendawa amagwira nkhuku za misinkhu yonse.
- Matendawa amapha nkhuku zambiri mwinanso zonse pamasiku ochepa. Choncho ulimi wa nkhuku umalowa pansu ndikutayitsa ndalama zambiri kamba kakufa kwa nkhuku.

8.1.1 Kufala kwa Chitopa/Chideru

- Matendawa amafala kudzera muzitosi za nkhuku zodwala chitopa, malovu, mamina a nkhuku yodwala, mafupa ndi zotaya zochokera ku nkhuku ya kufa ndi matendawa.
- Matendawa amafalanso ndi anthu ngati sasamala ziwiyi.
- Amafala ngati nkhuku zodwala zimakhala limodzi ndi nkhuku zosadwala.

8.1.2 Zizindikiro za Matenda a Chitopa

- Nkhuku zimasokomola, zimakhala ndi thovu kukamwa.
- Nkhuku zimapuma movutika
- Nkhuku zoikira zimachepetsa mwinanso kuleka kumene kuikira mazira.
- Matendawa akagwira misempha ya bongo nkhuku zimapepeluka poyenda komanso zimazunguza makosi.
- Nkhuku zimatsegula m'mimba mwachikasu ndi chosakanakizana ndi kubiriwira (Green diarrhoea)
- Nkhuku zimachepetsa kudya mwinanso kuleka kumene.
- Mapiko a nkhuku zodwala chitopa amalendewera ngati jekete, nthenga zake zimanyankhalala.
- Pena mutu ndi khosi zimatupa.
- Nkhuku zimafa zambiri pafupifupi theka mwina mpaka zonse mkhola.



Mapiko
amalendewera
ngati jekete



Chitosi
chobiriwira



Khosi
lopindika

Chithunzi 13. Zina mwa zizindikiro za Chitopa

- Ziweto zina monga abakha, nkhangha, nkhunda sikwnikweni kugwidwa ndi matendawa koma zimafalitsa.

8.1.3 Njira zopewera ndi kuteteza Chitopa

- Ukhondo utsatidwe wa mkhola, ziwiya ndi zina zonse.
- Matendawa ngati agwira nkhuu zonse mwa mphamvu, ndibwino kupha khunku zonse mkhola.
- Thirani mankhwala opha tizirombo (disinfectant) mkhola musanalowetsemo nkhuu zina.
- Musapite ku makola a anthu ena ngati nkhuu zanu zikudwala kapena ayi.
- Pewani kugwiritsa ntchito ziwiya zokhuzidwa ndi nkhuu zakufa kapena zodwala.
- Kwirilani kapena tenthani nkhuu zonse zokufa ndi matenda.
- Osagula nkhuu pamene chitopa chiri pakati.
- Perekani katemera wa chitopa pa miyezi itatu kapena inayi iriyonse.
- Katemera wa Chitopa alipo wa mitundu yosiyanasiyana koma opezeka nthawi zambiri ndi Lasota yemwe amathiridwa m'madzi akumwa kapena m'maso.
- Palibe mankhwala a mtundu uliwonse ochiza matenda achitopa.
- Tebulo ili pansiyi ikusonyeza ndondomeko yakaperekedwe kakatemera ndi mankhwala kuti nkhuu zikhale ndi thanzi labwino.

| Msinkhu | Matenda | Katemera/Mankhwala | Ndemanga |
|--------------------------------------|----------------|---------------------------|-------------------------------|
| Tsiku loyamba | Mareks | | Kumalo koswetsera anapiye |
| Tsiku lachisanu ndi chinayi | Gumboro | Bursine 2 | M'madzi akumwa |
| Tsiku lakhumi, chisanu ndi limodzi | Chitopa | V4/Hitchner/Lasota | M'madzi akumwa kapena m'maso |
| Tsiku lakhumi, chisanu ndi atatu | Nyongolotsi | Piperazine | Mchakudya kapena madzi akumwa |
| Tsiku lakhumi, chisanu ndi anayi | Chitopa | V4/Hitchner/Lasota | M'madzi akumwa kapena m'maso |
| Masiku makumi awiri ndi limodzi | Gumboro | Bursine 2 | M'madzi akumwa |
| Masiku makumi awiri ndi limodzi | Nyongolotsi | Piperazine | Mchakudya kapena madzi akumwa |
| Masiku makumi awiri, asanu ndi atatu | Chitopa | V4/Hitchner/Lasota | M'madzi akumwa kapena m'maso |
| Masiku makumi asanu | Chitopa | V4/Hitchner/Lasota | M'madzi akumwa kapena m'maso |

8.2 Matenda a Kamwazi (Coccidiosis)

Matenda a kamwazi ndi oopsa paulimi wankhuku za mtundu uliwonse. Matendawa amafala chifukwa chakusowa ukhondo mkhola monga kusasamala kwa chakudya, magome odyera ndi omwera komanso chifukwa cha kunyowa kwa mkhola.

8.2.1 Zizindikiro za matenda a Kamwazi

- Chitosi cha madzimadzi chosakanikirana ndi magazi.
- Nkhuku zimaonda/kupepuka.
- Kusakhala ndi chilakolako chakudya.
- Nkhuku yodwala matenda a kamwazi imazolika pansu, mapiko amavuvumala/amalendewera ngati jekete, nthenganso zimachita nyankhalala.



8.2.2 Kupewa/Kuteteza matenda a kamwazi

- Onetsetsani kuti zogonera zankhuku monga utuchi wa matabwa ndi zouma bwino nthawi zonse.
- Ngati zogonera za nkhuku zatibuka chotsani ndikuika zina.
- Ngati magome omwera akutaya madzi konzani kuti akhale bwino popewa chinyonho mkhola.
- Samalani magome omwera ndi odyera mwaukhondo nthawi zonse.
- Nkoyenera kuyika makhwala mchakudya cha nkhuku othedwa Kokisidiyositati (Coccidiostat) kuti mupewe matendawa.
- Musasakanize nkhuku zazikulu ndi zazing'ono chifukwa nkhuku zazikulu zikhoza kupatsira matendawa zazing'ono.
- Chotsani zitosi mkhola pafupipafupi.

8.2.3 Kuchiritsa Matenda Akamwazi

Nkhuku zodwala ziyenera kulandira makhwala awa:

- Amprolium
- Sulphermetazine
- Sulphedimadine

Mankhwala onsewa mutha kusungunula ndi madzi kapena kusanganiza ndi chakudya potsatira malangizo olembedwa pa pepala lobwera ndi mankhwalawo.

8.3 Matenda a Khuputo/Gumboro

Matendawa amagwira anapiye a msinkhu wosaposa miyezi iwiri. Nkhuku zazikulu sizigwidwa.

8.3.1 Zizindikiro za Matenda a Khuputo/ Gumboro

- Nthenga zimanyankhalala
- Nkhuku zimakhala chinyophiro, zimatsegula mmimba motulutsa zitosi za chikasu.
- Nkhuku zodwala Khuputo zimamwa madzi ambiri koma osadya, mapeto ake zimatsegula m'mimba mwa madzi ambiri.
- Matendawa amachititsanso kuti akatemera ena monga wa chitopa asagwire bwino ntchito yake.
- Nkhuku zodwala za chiwerengero chapakati pa khumi limodzi kufikira makumi asanu pa zana limodzi zimafa pakati pa masiku awiri.



Nkhuku yosadwala

Nkhuku yodwala matenda a Gumboro ya thenga zonyankhalala

8.3.2 Njira zopewera matenda a Khuputo/Gumboro

- Makola akhale aukhondo.
- Mukasesa mkhola m'mene munali nkhuku zina onetsetsani kuti papita sabata imodzi musanalowetse nkhuku zina.
- Musapite ku makola ankhuku za anthu ena.
- Nkhuku zilandire katemera wa Bursine2 zikadali zazing'ono.

8.3.3 Katemera wakhuputo/Gumboro

- Katemera wa Gumboro ndi Barasini 2 (Bursine 2).
- Ketemerayu amathiridwa mmadzi ochokera pachitsime, pa mjigo ngakhale madzi amvula. Koma ngati mugwiritsa ntchito madzi apampopi onetsetsani kuti madziwo ndi ogonamo chifukwa madzi apampopi amakhala ndi mankhwala omwe amaononga katemera ndipo amapangitsa katemera kusagwira bwino nthito yache.
- Botolo limodzi la katemera wa Gumboro limakwanira nkhuku chikwi chimodzi (1000) komanso amagwiritsidwa nthito kamodzi akasungunulidwa.
- Ngati kulibe matendawa ndipo makola ndi aukhondo anapiye amakhala otetezedwa mukawatemera ali ndi masiku khumi (10). Bwerezaninso katememerayu anapiye ali ndi sabata zitatu (masiku 21).

8.4 Chifuwa Cha Nkhuku (Infectious Coryza)

Matendawa ndi oopsa ku nkhuku chifukwa amatha kufalikira pakati pa nkhuku zokhazokha ndipo amatenga nthawi yayitali kuti athe.

8.4.1 Zizindikiro Za Matenda a Chifuwa cha Nkhuku

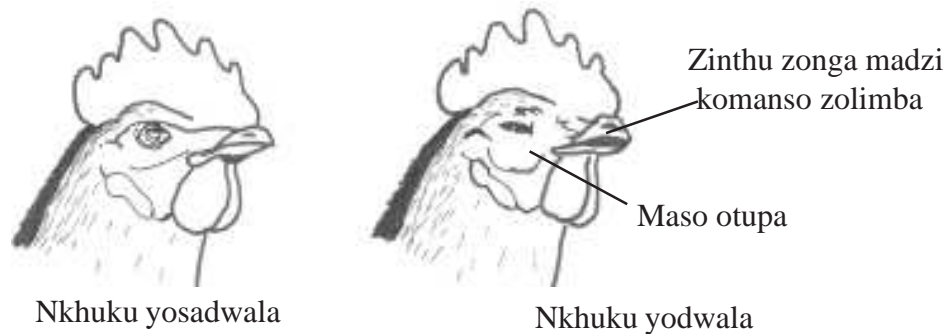
- Chizindikiro choyamba ndikuyetsemula kwa nkhuku kenaka zimatupa maso komanso m' mbali mwa mphuno ndi maso mumapezeka zinthu zonga madzi koma zirizolimba.
- Nkhuku sizimafa zambiri koma chiwerengero choikira mazira chimatsika.

8.4.2 Katetezedwe ka Infectious Coryza

- Matendawa akhoza kupeweka ngati mukutsatira ukhondo mkhola.
- Palibe mankhwala ochiza matendawa.

8.4.3 Katemera wa Infectious Coryza

- Zipatseni katemera nkhuku zanu zikakwanitsa sabata nkhumu ndi ziwiri, kenaka bwerezaninso katemerayu zikakwanitsa sabata nkhumu ndi zisanu.
- Afunsemi alangizi a ziweto mmene mungapezere katemera ameneyu.
- Chithunzi 14 chikusonyeza nkhuku yosadwala ndi nkhuku yodwala matenda a chifuwa cha Infectious Coryza.



Chinthunzi 14. Nkhuku yodwala ndi nkhuku yosadwala Infectious Coryza

8.5 Nthomba za Nkhuku/Chikwirikwiti (Fowl Pox)

Matendawa ndi odziwika kwambiri kuyambira kale pomwe anthu anayamba kuweta nhkuku.

8.5.1 Kufalikira kwa Chikwirikwiti

- Matendawa amafala pang'onopang'ono ku nkhuku za khola limodzi zikamajomphana ndipo atha kutha miyezi iwiri kapena yitatu asanathe.
- Nkhuku zikachira kumatendawa sizimadwalanso kachiwiri.
- Matendawa samapha nkhuku koma anapiye akagwidwa kwambiri amafa chifukwa chamatenda ena ongolowelera.

8.5.2 Zizindikiro za Nthomba za Nkhuku

- Nkhuku zimatuluka timatuza toyera pa lilombo/lipombo ndipo timakula mwansanga nkusanduka takhofi.
- Tizilonda timauma pakatha sabata ziwiri ndipo kenako timabala toumato timapanga tizipsera.
- Matendawa akafika poyipa amagwiranso miyendo, zipalapasiro, kholongo ndi thupi lonse.
- Nthawi zina matuzawa amakomana ndikupanga chilonda chachikulu pa mlomo wa nkhuku kotero zimalephera kudy.

8.5.3 Kupewa kwa Matenda a Nthomba

Temerani nkhuku zanu ndi katemera wa Fowl Pox wotchedwa Poxine kwa anapiye asabata zisanu ndi imodzi (6) ndipo mukatero mudzabwerezense katemerayu nkhuku zanu zikadzafika pa msinkhu wa sabata khumi ndi zisanu (15).



Nthomba za nkhuku/Chikwirikwiti



Tetezani udzudzu popewa matendawa

8.6 Matenda Owumitsa Miyendo (Marek's Disease)

Awa ndi matenda amene amagwira nkhuku zing'onozing'ono. Matendawa amapha miyendo.

8.6.1 Zizindikiro za Matenda a Marek's

Chizindikiro Choyamba, nkhuku imagwetsa mapiko; kenaka miyendo ndi mapiko zimauma moti singathenso kuyenda.



Chinthunzi 15. Mmene nkhuku yodwala matenda a Mareks imaonekera

8.6.2 Kuteteza matenda a Mareks

Musasakanize nkhuku zazikulu ndi zazing'ono chifukwa matenda a Marek's amafalikira kuchokera ku nkhuku zazikulu kupita kuzazing'ono.

8.6.3 Katemera wa matenda a Mareks

Nkhuku zipatsidwe katemera wa Marek's ziri ndi tsiku limodzi lobadwa. Choncho onetsetsani kuti mwagula anapiye kumalo okhawa amene ali ndi mbiri yabwino yoswetsera anapiye monga ku Charles Stuart ku Kanengo mu mzinda wa Lilomgwe ndi kuchigumula mu mzinda wa Blantyre.

8.7 Chifuwa Cha Nkhuku Cha Chronic Respiratory Disease

Nkhuku zikagwidwa matendawa zimapanga chimfine ndipo zambiri zimafa kamba ka matendawa ngati sizilandira mankhwala.

8.7.1 Zizindikiro za Chronic Respiratory Disease

- Nkhuku zimafooka ndipo zimakhaira chipsepe
- Nkhuku zimatuluka mamina mu mphuno ndipo zimayetsemula
- Matendawa akafika povuta kwambiri mzitosi za nkhuku zodwala mumapezeka magazi.

8.7.2 Kuteteza matenda a Chronic Respiratory Disease

Tetezani nkhuku zanu kuti zisazizidwe.

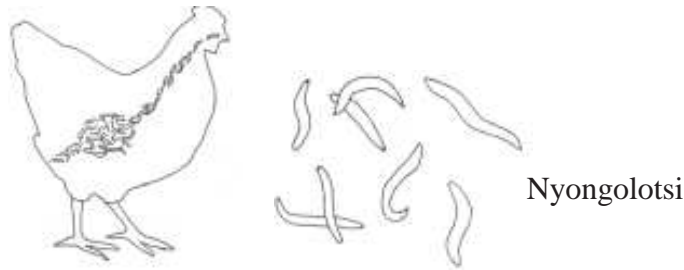
8.7.3 Kuchiritsa matenda a Chronic Respiratory Disease

Zipatseni nkhuku zanu mankhwala a ufa a teramaisini (terramycin powder) m'madzi akumwa zikadwala matenda a Chifuwa (Chronic Respiratory).

8.8 Nyongolotsi

Nyongolotsi ndi tizirombo toyamwa magazi tomwe timapezeka mmatumbo a nkhuku.

Nyongolotsi zimabwezera ulimi wa nkhuku za mazira mbuyo chifukwa nkhuku zambiri zimafa.



8.8.1 Kufala kwa Nyongolosi

Nyongolotsi zimalowa mnkhuku

- Ngati malo omwera madzi kapena odyera ndi oyipa.
- Ngati makola a nkhuku ndi odontha.
- Ngati nkhuku zosadwala zikhuzana ndi zitosi zankhuku zomwe muli nyongolotsi.

8.8.2 Kupewa Nyongolosi

- Ukhondo pamalo odyera ndi omwera ndi ofunika.
- Khola lisakhale lodontha; lizikhala louma nthawi zonse.
- Kuika maudzu owuma mkhola komanso kuchotsa pafupipafupi maudzu otibuka ndi onyowa.
- Osaika nkhuku zambiri kuposa chiwerengero chofunikira mkhola limodzi.

8.8.3 Kuchiza Nyongolosi

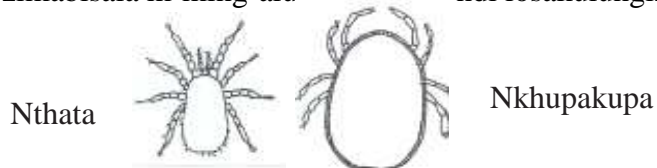
- Nkhuku zilandire mankhwala otchedwa piperazine kamodzi pa mwezi uliwonse makamaka nkhuku zimene zimatuluka kunja.
- Zamkhola zitha kulandira kamodzi pamiyezi itatu iliyonse (1 teaspoon pa 5 litres iliyonse ya madzi).

8.9 Tizirombo toyamwa magazi pa khungu la nkhuku

- Pali tizirombo tamitundu yosiyanasian tomwe timayamwa magazi nkhuku monga utitiri, unyang'anya, nsabwe, nkhopakupa ndi nthata.

8.9.1 Nthata ndi nkhopakupa

- Nthata ndi nkhopakupa ndi zoopsa kwambiri pamoyo wa nkhuku chifukwa zimatha kupha nkhuku poyamwa magazi. Izi zimabisala m'ming'alu ngati khola ndi losakulungiza.



8.9.1.1 Kuteteza nthata ndi nkhopakupa

- Khoma la khola lisakhale ndi ming'alu

8.9.1.2 **Kuchiza nthata ndi khupakupa**

- Poperani khola lanu ndi mankhwala a mtundu wa Fendona potsatira malangizo apapepala lobwera ndi mankhwala.
- Khola likhale lamawindo otha kulowetsa ndi kutuluka mphepo.
- Nthawi zonse mukaturutsamo nkhuku kulungizani kapena kupenta khoma la khola lanu musanalowetse zina.

8.9.2 **Nsabwe:**

- Nsabwe zosiyanasiyana zimapezeka m' mutu, mthupi ndi mnthenga za nkhuku. Nsabwe zimayamwa magazi choncho zimabweretsa vuto lochepa magazi mthupi la nkhuku.



Nsabwe

- Nkhuku zoikira mazira zikakhala ndi nsabwe, nthenga zimasosoka chifukwa zimazijomphajompha komanso chiwerenero cha mazira chimatsika.

8.9.2.1 **Kupewa Nsabwe**

- Tsatirani zonse za ukhondo wa mkhola la nkhuku
- Musakhale nkhuku zambiri kuposa chiwerengero cha nkhuku zofunika mkhola limodzi.

8.9.2.2 **Mankhwala a Nsabwe**

- Thirani mankhwala a Actellic Super mkhola
- Ziwazeni nkhuku zonse Actellic Super
- Poperani mankhwala a disinfekitanti (disinfectant) mkhola lanu

8.9.3 **Utitori**

- Utitori umayamwa magazi ankhuku.
- Nkhuku zokhala ndi utitiri nthenga zimasosoka chifukwa chozijomphajompha komanso chiwerengero chamazira oyikikra chimatsika.



Utitori

8.9.3.1 **Kupewa Utitori**

- Tsatirani zonse za ukhondo wa mkhola la nkhuku
- Musakhale nkhuku zambiri kuposa chiwerengero cha nkhuku zofunika mkhola limodzi.

8.9.3.2 **Mankhwala a Utitori**

- Thirani mankhwala a Actellic Super mkhola
- Ziwazeni nkhuku zonse Actellic Super
- Poperani mankhwala a disinfekitanti (disinfectant) mkhola lanu

MUTU 9

MMENE MUNGASAMALIRE UMOYO WANKHUKU



Khola loyenerera



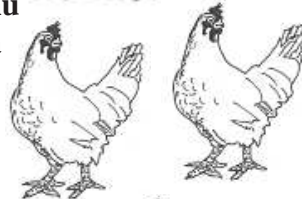
**Takasani ndi kuonjezera
zogonera za nkhuku kuti zizikhala
zouma nthawi zonse komanso kuti
mukhola musachite fumbi**



Anapiye

**Sungani nkhuku za misinkhu
yosiyana mmakhola osiyana**

90m



Mathadzi

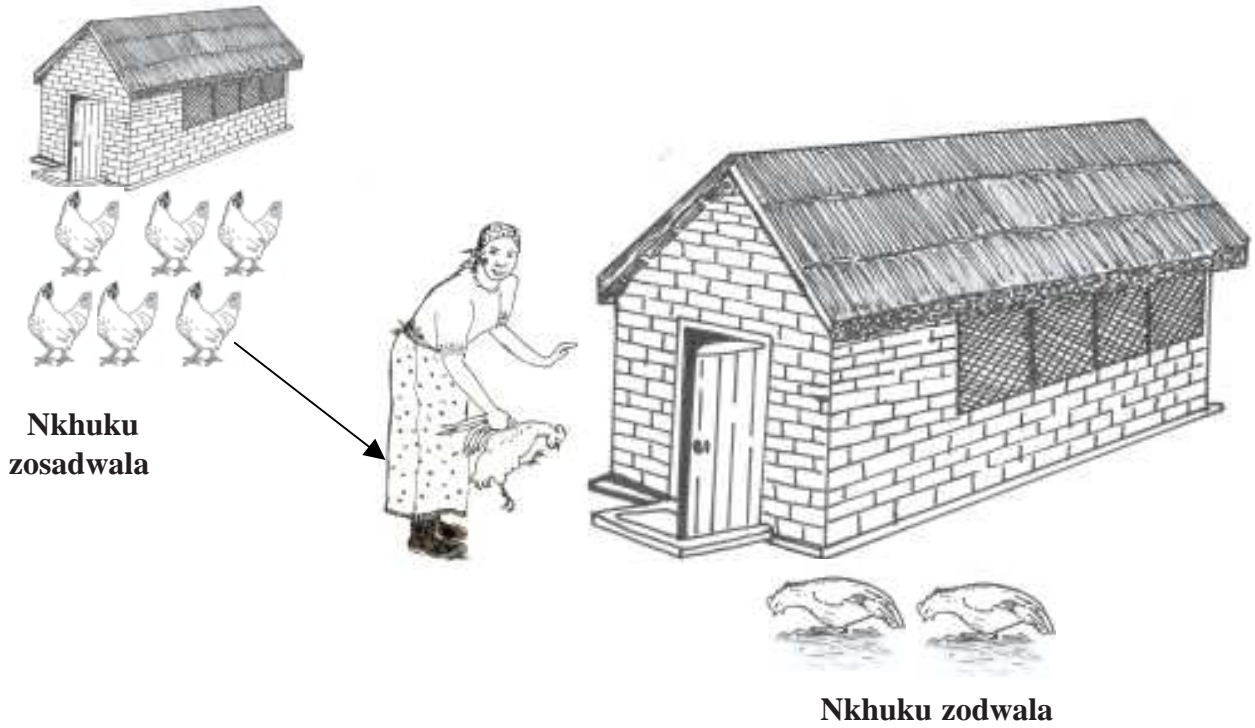


**Musasakanize nkhuku ndi ziweto zina moga
abakha, nkhukundembo ndi nkhangwa**



**Chotsani nkhuku
zodwala**

Lekanitsani nkhuku zodwala ndi zosadwala



Zipatseni nkhuku zanu katemera kuti mupewe matenda a Chitopa, Gumboro ndi Chifuwa cha nkhuku (Infectious Coryza)



MUTU 10

KULEMBA ZOCHITIKA

Zolembe zichitike pa zinthu izi: chiwerengero cha nkhuku, mtundu wa nkhuku, kadyetsedwe ka chakudya, matenda, kufa kwa nkhuku, malonda, kaperekedwe ka mankhwala ndi katemera. Zolembe zonse zichitike mwadongosolo, mowoneka ndi momveka bwino.



Kuti kulemba kumeneku kuyende bwino tsatirani izi:

- Munthu m' modzi yekha akhale ndi udindo olembera zonse zochitika (Secretary).
- Sungani zolembedwa zonse malo amodzi
- Gwiritsani ntchito mabuku polemba zonse zofunikira
- Lembani zochitika zonse tsiku ndi tsiku.
- Werengani zolowa ndi zotuluka mwezi ndi mwezi
- Yezani chakudya cha nkhuku

Alimi onse oweta nkhuku za mazira ayenera kumasunga ndondomeko yazonse zolembedwa pa zifukwa izi:

- Pofuna kusiyantsa nkhuku zomwe ziripo ndi zomwe zinalipo masiku ambuyo.
- Kusiyantsa ndalama zolowa ndi zotuluka.
- Kufuna kusiyantsa chiwerengero cha mazira omwe timayembekezera kutolera patsiku ngati chikukwera kapena kutsika.
- Pofuna kudziwa ngati pali mabvuto ndi m'mene angathetsedwere

| Ndalama zolowa | | | | Ndalama zotuluka | | | |
|----------------|-----------------------|---|---|------------------|-----------------------|---|---|
| Tsiku | Katundu | K | t | Tsiku | Katundu | K | t |
| | Mazira | | | | Kugula misoti | | |
| | Nkhuku zosiya kuikira | | | | Kugula anapiye | | |
| | Manyowa ogulitsa | | | | Kugula katemera | | |
| | | | | | Mankhwala anyongolosi | | |

(b) Kulembera mazira, nkhuku ndi chakudya

Mtundu wa nkhuku Chaka

Zolembera zatsiku ndi tsiku Woperekerera Mwezi.....

Khola katundu

Tsiku lofika

Msinkhu tsiku lofika.....

Chiwerengero kumayambiriro a mwezi

Sabata zimene nkhuku zakhala zikuyikira

| Tsiku | Mazira apatsiku | Nkhuku | Zakufa | Nkhuku zosiya kuikira | Chakudya anapiye/kg | Chakudya chamisoti/kg | Chakudya mathadzi/kg | Ndemanga |
|-------|-----------------|--------|--------|-----------------------|---------------------|-----------------------|----------------------|----------|
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Chiwerengero cha nkhuku patsiku

Chiwerengero cha mazira oyenera msika

| | |
|---|--|
| Ndalama zogulira chakudya anapiye patsiku | Ndalama zogulitsa mazira patsiku |
| Ndalama zogulira chakudya chamisoti patsiku | Ndalama zogulira chakudya chonse patsiku |
| Ndalama zogulira chakudya mathadzi patsiku | Phindu lopezeka patsiku |
| Ndalama zonse zowononga pamwezi | Phindu lopezeka pamwezi |

MUTU 11

KUGULITSA MAZIRA

Kagulitsidwe kabwino ndi kofunika pa malonda a mazira. Kagutsidwe kabwino ndi kamene kamakopa anthu ogula mazira. Ngati mazira anu sakuyenda malonda simungapeze phindu. Izi zingathe kupangitsa anzanu kapena gulu kuchita ulesi kapena kusakhala nchidwi ndi ulimi oweta nkhuku za mazira. Choncho muyenera kupeza njira zomwe zingakope anthu okugulani mazira kuti mupeze phindu lokwanira pa ulimi wanu oweta nkhuku.

Tsatirani mfundo izi pogulitsa mazira a nkhuku zanu kuti mupeze phindu lokwanira.

- Mazira akhale amaonekedwe ndi masamalidwe abwino.
- Mazira azipezeka nthawi zonse chifukwa akamasowa ogula amakhumudwa.
- Sungani mazira omwe mukuyembekezera kugulitsa pamalo ozizira bwino.
- Ikani mazira mwadongosolo muchotengera kuti mukope ogula.
- Musasunge mazira pafupi ndi zinthu zotulutsa fungo loipa chifukwa mazira amatengera fungolo.

Malo ogulitsira

Gulitsirani malo oti anthu akhale owazindikira bwinobwino.

Mtengo wa mazira

Mtengo wa mazira ukhale wabwino wokopa anthu ogula. Mutha kupereka mitengo yosiyanasiyana molingana ndi maonekedwe ndi kukula kwake.

Kukopa ogula

Mukhoza kukopa ogula mazira a nkhuku zanu kudzera pa wailesi, munyuzi pepala, kukhoma makalata mmitengo ndi m'malo onse amene mumakhala anthu.

Ndondomeko ya ulimi wa mazira

Ndondomeko za ulimi zikhale zosavuta kutsatira ndipo patakhalala zinthu zofuna kusintha zikhale zosavuta kutero.

Anthu ogulitsa mazira

Akhale anthu okhulupirika ndi odziwa bwino ntchito yawo komanso ochitiira ulemu ogula.

MUTU 12

MFUNDO ZOWONGOLERA PAKASAMALIDWE KA NKHUKU

1. Nthawi zonse onetsetsani kuti mwamanga khola ndipo zipangizo zonse zofunika mkhola ziripo musanatenge anapiye
2. Itanitsani anapiye nthawi yabwino kuti muthe kukatenga pa tsiku lomwe mukufuna.
3. Gulani anapiye kumalo okhawa amene ali ndi mbiri yabwino.
4. Gulani anapiye kumalo komwe muli ndi chitsimikizo kuti amatemera matenda moga owumitsa miyendo (Mareks disease), kutsegula m'mimba zitosi zoyera (Salmonella).
5. Onetsetsani maonekedwe ngati maonekedwe a anapiye alibwino musanaike mkhola.
6. Musasunge anapiye achilema ndi odwala chifukwa sangakupindulireni.
7. Nyamulani anapiye moyenerera kuti asakafike mkhola ali ofooka.
8. Nyamulani anapiye nthawi ya mmawa nyengo ikadali yozizira.
9. Ngati anapiye afooka apatseni chakudya choonjezera makamaka chamichere monga mavitamini (vitamins) ndi maminorozi (minerals).
10. Ngati mufuna kugula misoti onetsetsani kuti mwagula kukhola kopanda matenda.
11. Nthawi zonse onetsetsani kuti anapiye akukhala malo ofunda bwino.
12. Musaike anapiye mothithikana mkhola.
13. Perekani katemera oyenerera panthawi yake. Tsatirani malangizo olembedwa papepala lobwera ndi katemera.
14. Ikani magome omwera ndi odyera okwanira.
15. Ikani madzi abwino m'magome tsiku lililonse.
16. Zipatseni nkuku chakudya choyenerera nthawi zonse.
17. Gulani chakudya cha nkuku kumalo amene mukudziwa mbiri yake kuti ndiyabwino.
18. Ngati mukupanga chakudya cha nkuku painu nokha onetsetsani kuti mwaikamo mankhwala monga oteteza kamwazi (Coccidiostat).
19. Tetezani tizirombo toyamwa magazi nkuku.

20. Zipatseni mankhwala oteteza nyongolosi nkhuku zanu.
21. Onetsetsani kuti mkhola simukupezeka makoswe.
22. Nthawi zonse yanganitsitsani makulidwe, makhalidwe, kadyedwe ndi zovuta zina zili zonse kuti musamale bwino nkhuku zanu.
23. Ngati nkhuku yanu ikudwala pitani nayo kwa alangizi a ziweto kuti akayiyese.
24. Tenthani kapena kwirirani nkhuku zakufa ndi matenda.
25. Onetsetsani kuti mwaika mankhwala (disinfectant) pakhomo oti muzipondapo musanalowa mkhola.
26. Musalole aliyense yemwe sagwira ntchito mkhola lanu kulowa mkhola popewa matenda.
27. Nthawi zonse sungani nkhuku za msinkhu umodzi mkhola limodzi.
28. Poperani mankhwala mkhola musamalowetse zina.
29. Tsukani zipangizo zonse mkhola pamene mukupopera mankhwala.
30. Tsekani mazenera ndi waya meshi (wire mesh) kuti zirombo kapena anthu akuba asalowe mukhola.
31. Onetsetsani kuti nthawi yotentha mukhola simukutentha mopitirira muyeso.
32. Onetsetsani kuti mukutsatira njira zaukhondo nthawi zonse.

Mndandanda wa mabuku amene agwiritsidwa ntchito polemba bukhuli

Alders R. and Spradbrow P. (2001). Controlling Newcastle Disease in Village chickens. ACIA Monograph No. 82. 112pp.

Hägg A. and Henriksson (1992). Building and Management Systems for Broilers and Layers, Technical Systems for Agriculture, Harare, Zimbabwe.

Intervet (1972). Important Poultry Diseases, Intervet International, Netherlands.

Mgomezulu R.A.G., Safalaoh A. C. L. and Tawonezvi P. H. R. (2003). Manual for Training of Trainers Induction Course, Livestock Diversification Component, FAO Special Programme for Food Security, Malawi.

Payne W. J. A. (1990). An introduction to Animal Husbandry in the Tropics, Longman Group, London (pp684-744).

Smith A. J. (2001). Poultry. The Tropical Agriculturalist, Macmillan Education Ltd, London and oxford. 242pp.

Van Eekeren N., Mass A., Saatkamp H. W. and Verschuur (1995). Agrodok No. 4. Small-scale poultry production in the tropics, Agromisa, Wageningen. 80pp.



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