

MAC-HADKA CILMI-BAADHISTA XOOLAHA IYO BEERAHA DAWLADDA DEEGAANKA SOOMAALIDA

Mac-hadka Cilmi-baadhista Xoolaha iyo Calafka

Tusaha

Xeeladaha Horumarinta Wax Soo Saarka Calafka Xoolaha Iyo Farsamooyinka Casriga Ah Ee Loo Beero

Nuqul Loo Diyaariyay Xoolo-Dhaqatada

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Erey Bixinta Maaddada

Daaq: -Ereyga daaq waxa uu sicaadi ah u qeexayaa dhul-daaqsimeed iskiis u baxa oo furan ama xidhan, roob ha ku baxo ama halla waraabiyo balse aanu sida caadiga ah dadku beerin hase ahaatee si dabiici ah u baxa.

Calaf: -ereyga calaf ayaa isaguna waxa uu qeexayaa noocyada cawska iyo calafka kale ee caleenleyda ah sida digirta iyo wixii la mid ah, waxa uunanoqon karaa mid labeero ama sidabiici/si iskii ah u baxa oo ay xooluhu cunaan.

Bakaar: - waa marka la khamiirinayo daaqa isaga oo cagaaran iyo dhirta kale ee cagaaran si loogu hayo cadadka qoyaanka ah ee ku jira iyada oo lagu dedayo shiraac iyo wixii lamid ah.

Bal/Caws (Hay) Haygu: - waa daaqa cagaaran kaasi oo qallaylka kujira uuyahay 80-85%, Waxa ay ilaalisaa nafaqadeeda iyada oo yeelanayso kaarotiin (nafaqada).

Xagaa: -xagaagu waa mid ka mid ah xilliyada waxa uuna ku aaddanyahay bilaha (June, July iyo Augusto).

Dayr: - waaxiliga lafisho inuu roobbadan da'o islamar ahaantaana labeerto lana goosto midhaha (September, October iyo November).

Jiilaal: waa xilliga la galo bilaha sida (December, Januaryiyo February) waana xilliga uu soomaalida qaarkeed u yaqaano xilli qorraxeedka.

Gu: -wuxuu da'aaxilliga bilaha sida (March, April iyo May).

1. Hordhac

Xooluhu waa lafdhabarta nolosha, dakhliga ugu badan ayay bulshada ku nool deegaanka Soomaalidu ka heshaa xoolaha ay dhaqdaan, waxaana xoolaha laga helaa wax soo saar badan sida caanaha, hilibka iyo lacagta oo loo adeegsado in lagu daboolo kharashyada qoysku u baahanyahay sida cuntada iyo waxyaabaha kale ee lagama maarmaanka ah. Tirada xoolaha ee deegaanka ayaa lagu qiyaasayaa inay tahay **40.3 million (CSA, 2020/2021)**

Inkasta oo ay xooluhu aad muhiim ugu yihiin bulshada inta badan ee deegaanka iyo dhaqaalaha waddankaba, haddana wax soo saarka xoolaha ee degaanku aad ayuu u hooseeyaa sababta oo ah adeegyada xagga xoolaha ee deegaanka oo liita. Cudurrada wax baabi'iya, abaaraha soo noqnoqonaya ee qotoda dheer iyo daaq yaraanta ayaa ah waxyaabaha ugu muhiimsan ee taabanaya wax soo saarka dhanka xoolaha.

Haddaba si dhibaatooyinkaasi wax looga qabto loona yareeyo gaar ahaan daaq yaraanta ayuu Mac-hadka cilmi baadhista xoolaha iyo beeraha ee dawladda deegaanka soomalida waxa uu deegaanka keenay toban iyo afar nooc oo ah calafka xoolaha loo beero kuwaasi oo isugu jira noocyada cawsaska ah iyo kuwa digiraha ahba.

Noocyadan calafka xoolaha ah ayaa laga keenay deegaannada kale ee dalka kuwaasi oo aynu cimilo isku mid ah ama isu dhow wadaagno. Noocyadan ayaa lagu tijaabiyay xarumaha cilmi baadhista ee Goday, Qallaafo, Dollo-addo, Jarrati, Faafan iyo Jigjiga kuwani oo roobka iyo waraabkaba lagu tijaabiyay si ay u matalaan meelaha cimilo ahaan kala duwan ee deegaanka.

Toban iyo afarta nooc ee calafka xoolaha ah ayaa lagu tijaabiyay beeraha xarumaha cilmi baadhista ah iyo beeraha dadka xoolo-dhaqatada ah midkiiba 3 xilli oo xidhiidh ah, sagaal ka mid ah toban iyo afartii si fiican ayay ula qabatimeen deegaanka haddana diyaar ayay u yihiin in la gaadhsiiyo bulshada xoolo-dhaqatada ee deegaanka ku nool iyada oo in bandanna horeba loo gaadhsiiyay si baahsanna ay u faafeen loogana faa'iidaysto.

Dhul daaqsimeedka ama daaqa dabiiciga ahi waa fursadda iyo khayraadka ugu wayn ee ay xooluhu haystaan isla markaana ay daaqaan iyada oo aan lakala lahayn balse ay cid waliba six or ah uga faa'iidaysato hadba meesha ay fursaddaasi ka helayaan. Carqaladaha ugu waawayn ee lasoo darsasare uqaadidda wax soo saarka xoolaha waxaa ugu horreeya waxyaabaha soo socda:

- Daaq yaraan ama daaqa oo xilliyo badan gabaabsi noqda iyada oo ay ugu wacantahay roob yaraan iyo abaaro isdaba joog ah oo ka dhasha isbeddelka cimilada.
- Maamul xumo ka timaadda dhinaca maaraynta daaqa iyo hab daaqsimeedka.

- Daaqa ay xooluhu daqaan oo aan tayo fiican lahayn.

Haddaba waxaa habboon inlabeerto calaf tayo sare leh siloo helo wax soosaartiro iyo tayo wanaagsanleh. Nafaqada ugu wayn ee ay xooluhu ku siinoolaan karaan ama ay wax soosaar kuyeelan karaan ama ay taran fiican kuyeelankaraanwaxa ay xooluhu ubaahanyihiin inay cunaan

- Tamar
- Borootiin (nafaqada lagahelo quudka)

Neef waliba waa inuu leeyahay ama uu helaa borootin joogta ah si uu caafimaadkiisu u ahaado mid joogo ah ama uu baaqi unoqdo.

Daaqu: - waxa uu noqon karaa labo qaab midkood

- Daaqu inuu yahay mid qoyan oo cagaar ah ama doog ah
- Daaqu inuu yahay mid laqallajiyay ama la bakaareeyay/lakhamiiriyay oo la kaydiyay

Calafka xoolaha oo la beerto; waxa uu xoolo-dhaqatada awood usiinayaa inay helaan xoolo tayo ahaan iyo tiro ahaanba ufiican, isla mar ahaantaana ay xoolo-dhaqatadu xoolahooda uhelaan daaq mar walba joogta ah.

Inta badan beerashada calafka xoolaha iyo habayntiisa ama daryeelkiisa waxaa la isticmaalaa marka ay jiraan marxaladahan hoos ku xusan

- Abaaraha
- Roob yaraanta
- Daaq yaraanta

Aasaaska iyo abuuritaanka calafka xoolaha waxa ay siballaadhan ugu xidhantahay ama ay ugu tiirsantahay siyaabahan soo socoda

- Aqoon buuxda in loo lahaado
- Xirfadda la xidhiidha maaraynta calafka ee kala duwan
- Cimilada iyo jawiga degaanka ama bay'ada
- Nooca carrada
- Nooca biyha/ilo biyoodka

1.2 Agabka iyo qalabka muhiimka u ahwaxsoosaarka calafka xoolaha waxaa ka mid ah

- Xagaaf ama Badiilka carrada lagu saaro
- Weel-biyood sida tuubbada lagu waraabiyo dhirta
- Bakhaar lagu kaydsado dhammaan qalabka noocyadiisa kala duwan
- Yaambo, xagaaf, ama cagaf
- Gudin ama faash ama jidib
- Mitirka lagu cabbiro dhererka
- Miisaanka lagu cabbiro culayska
- Matorka biyaha
- Farageeto

1.2. Tallaabooyinka looraaco beerista noocyada kala duwan ee calafka xoolaha

- Waa in marka hore la doorto goobti wax lagu beeri lahaa,
- Waa in ladoorto midho tayo sare leh.
- Waa in la qardeeyaa dhulka la beerayo si ay ufududaato in la abuuro
- Waa in laga guraa saaqa ama haramaha kohor inta aanan la beerin dhulka.
- Waa inay carradu noqotaa mid siman isla mar ahaantaana adag oo aan lahayn wax fudad ah.
- Waa in midhaha la geliyaa ama la abuuro iyada oo la raacayo saddexda hab ee wax loo beerto midkood sida Miigaynta/Fajaaska, Saydhidda iyo masmarka
- Waa in carrada lagudaraa walxaha wax bacriya sida kuwa kiimikada ahee ay ka midka yihiin Yuuriyada (Urea), Daabta (DAP) iyo wixii la mid ah ama walxaha kale ee dabiiciga ah loona yaqaanno Walxaha Orgaanigga ah (Organic matter) sida Digada xoolaha iyo wixii la mid ah.
- Waa in lawaraabiyo dhulka la beerayo.
- Waa in si joogto ah saaqa loogala dagaallamoama looga harameeyaa.
- Waa in lagu buufiyaa maadada disha cayayaan cuna beerta.
- Waa in laga jaraa daaqa.
- Kadib waa in lawaraabiyaa si uu mar labaad usoo fufo loogana faa'iidaysto.

Fiiro Gaar ah:

- Dhirta loogu talagalay in la tallaalo waa in lagu bacriyo Naytaroojiin (Nitrogin) si bakteriyada looga ilaaliyo.
- Midhaha la bacriyayi waa in uu noqdaan midho cusub ilaa inta laga beerayo oo ay dhirtu ka yeelanayso xidid adag iyo xubin iyada oo lagu darayo maadada Naytaroojiinta.
- Dhirta caleenta leh ee ubaahan inlagu sameeyo tallaalka (bacrinta) waxaa ka mid ah Alfalfaha (Alfalfa), Qasabka (Sugarcane), Digirta (Cowpea), Lawska (Groudnut/Peanut), i.w.m.

2. AASAASIDDA IYO MAARAYNTA DAAQA LA ABUURO (ESTABLISHMENT AND MANAGEMENT OF SOWN PASTURES)

Waxyaabaha Muhiimka ah ee La Tixgeliyo Goorta Beerta Daaqa La Asaasayo

In la aasaaso daaq joogto ah waa mid aad u qaali ah, markaasi qof kasta waxaa looga baahanyahay in uu tixgeliyo qodobbada soo socda ka hor inta aanu billaabin shaqadaasi.

- **In ay carradu leedahay rays ku filan**: -

Noocyada daaqa ee wax soo saarka badan, waxaa jira fursad fiican oo ay ku gulaysan karaan haddii meeshu ay sannadkii hesho roob dhan 600mm ama ka badan ama ay jiraan biyo waraab oo lagu kabo goorta uu roobku yaraado.

- **Nafaqada carrada**: -

Calafka horumarsani waxa uu u baahan karaa carro nafaqo leh, sida noocyada dalagga kale.

- **Aragtida dhulka:** -
- Waa in uu dhulku noqdo mid ku habboon shaqooyinka beerta laga qabanayo, sida (qodidda, bacrinta, goynta iwm) iyo in uu ahaado mid ku habboon daaqa xoolaha (haddii dhul-daaqsimeed jiro). Waa inay noqoto mid ku kacaysa qiimo fiican oo tixgelin siinaysa wax soo saarka dhulka haddii aytahay diyaarintadhulka, qodidda, kudaridda bacrinta, iyo ka siidaynta biyaha dheeradka ah.
- **Dhammaan shaqooyinkani waa in ay noqdaan qaar qeexan qiimo fiicanna ku kacaya**:- Suurtagalnimada lagu ilaalinayo daaqa la aasaasay iyada oo la isticmaalayo tallaabooyinka lagu daryeelayo, kuwaasna waxaa ka mid ah: -
  - Iyada oo si fiican loogu qaybiyo xoolaha
- Iyada oo la isticmaalo hab daaqsimeed fiican

- In la dhimo tirada xoolaha, iyo
- In laga joojiyo xoolaha ilaa daaqu soo baxayo (si fiican u kacayo)

3. NOOCYADA CALAFYADA XOOLAHA EE LAGU TIJAABIYAY XARUMAHA CILMIBAADHISTA LANA QABSADAY CIMILADA DEEGAANKA SOOMAALIDA

Ciir-dhuuq (Buffal grass)



1. Faah-faahinta Cawska Tayaysan (Description)

- ☞ Waxa uu sifiicaan ugu baxaa goobaha abaaraha;
- ☞ Waxa uu leeyahay xidid adag oo si dheer u faafa dhulka, umana baahna in markasta oo lagoosto dib loo abuuro.
- ☞ Waxaa lagu goosan karaa oo uu ku bislaadaa muddo 80 cisho ah keliya.
- ☞ Waa caws iska caabbiya haramaha kulana tartamaya nafaqada carrada.

2. Nidaamka Beerista iyo maaraynta calafka (Management)

- **Dhul diyaarinta (Field preparation):**

Dhulka lagu beerayo calafkani waa in siwanaagsan loo carro rogo kadibna laga burburiyo gaantayga ama fudadka waawayn ee kasamaysma carrorogga si loo fududeeyo biqilka shinnida calafka.

3. **Shinniyaynta/Abuurida (Establishment)**

Maadaama shinnida cawskan tayaysan ay khafiif dabayshu sifudud u qaadayso tahay, waa inaad cabbir 1cm/xubin fareed carrada hoos u geliso shinnida kadibna carrada ku dabooshaa.

4. **Bacrinta (Fertilization)**

Waxaa halkii hektar (4 qoodi) ee aad cawskani lagu beerayo lagu bacrinayaa DAP dhan 100kg marka ugu horraysa ee la beerayo ka dibna markasta oo cawska la jaro waxaa lagu bacrinayaaNaytaroojiin/digo dhan 100kg hektarkiiba si uu dib ugu soo baxo waraabin ama roob helid kadib.

5. **Haramayn (Weeding)**

Beeritaanka kadib, waa in la harameeyo bishiiba labo jeer inta uu sifiican uga soo baxayo si kor loogu qaado waxsoo saarka calafkai tayaysan. Wixii intaa kadanbeeya waxaa la haramaynayaa bishiiba hal mar.

6. **Goynta (Harvesting)**

Xilliga ugu habboon ee lagu goosan karo calafkani ayaa ah wakhtiga uu taaganyahay ubax bixinta.

Xiligan uu ubaxa soo saaro haddii lagu goosto waxaa laga helayaa calaf badan oo tayadii ugu fiicnayd leh. Xaalado degdegloogu baahanyahayi marka ay jirtaan waxaa lagu goosan karaa marka uu cawska dhererkiisu gaadho 10cm iyada oo 20 kii cishaba hal mar la jarayo xilli roobaadka, ama 30 kii cishaba hal mar xilliga uu roobku yaryahay ama aanu jirinba sida Jiilaalka iyo kuwa la midka ah.

7. **Dabeecadaha iyo hiddaha cawskan (Agronomic and morphological characteristics)**

❖ Meelaha ama ku Haboon Cawskan (Adaptation area):

- Joogga Dhulka (Altitude): <1500 m ka sarreeya badda.
- Cadadka Roobka (Rain fall (mm): Goobaha hela roob dhan 200-600mm sannadkii.

✓ Qiyaasta Shinnida/Abuurka 1 hektar (Seed rate):4 Kg/ha.

✓ Muddada uu ku bislaanayo ama lagu goosanayo (Days to maturity): 83 maalmood.

✓ Dhererka lagu goosanayo (Plant height at harvest):107 cm marka uu gaadho.

✓ Inta ka soo go'da hektarkii/sannadkii (Yield (tons/ha):25

1.1. Timo haweenle (Rhodes grass)



1. **Faah-faahinta Cawskan Tayaysan (Description)**

- ☞ Waa caws degdeg ku go'a, Xidid qoto dheer leh islamarkaana waxsoosaar badan.
- ☞ Waa caws u dulqaata abaarta iyo dhanaha.
- ☞ Waa caws laqabsada dhulal iyo cimilooyin kala duwan.
- ☞ Waa caws nafaqo iyo tayo badan u leh xoolaha.
- ☞ Waa caws halmar markaad beerto ee aad goosato aan u baahnayn inaad dib u beerto balse keliya aad waraabinayso ama roobka ugu horreeya kusoo bixi.

2. Nidaamka Beerasho iyo Maaraynta Calafkan (Management)

- **Dhul diyaarinta (Field preparation)**: Waa in dhulka si fiican loogu diyaariyo oo loo carro rogo.
- **Shinniyaynta/Abuuridda (Establishment)**: Tallaal iyo shinniyayn labadaba waa loo isticmaali karaa si loo abuuro calafkani. Marka shinniyaynta la isticmaalayo waa in shinnida 1cm carrada hoos loo geliyo.

4. **Bacriminta (Fertilization):**

Waxa aad halkii hektar ee aad cawskan ku beerayso ku bacrinaysaa DAP dhan 100kg marka ugu horraysa ee aad beerayso kadibna markasta oo aad goosato waxa aad ku bacrinaysaa Naytaroojiin ama digo dhan 100kg hektarkiiba si uu dib ugu soo baxo kadib marka uu roob helo ama la waraabiyo.

5. **Haramayn (Weeding)**

Beeritaanka kadib, waa in la harameeyo bishiiba labo jeer inta uu sifiican uga soo baxayo si kor loogu qaado wax soosaarka calafkan tayaysan. Wixii intaa kadanbeeya waxaa la haramayn bishiiba hal mar.

6. **Goynta (Harvesting)**

Marka ugu horraysa ee la abuuro waxaa lasugayaa inta uu ubaxa ka bixinayo (ugu badnaan muddo 4-5 bilood ah) waxaana lagoosanayaa marka uu ubaxa bixiyo. Wixii intaa ka danbeeya waxaa lagu goosan karaa 2 dii biloodba halmar. Si ayna isu dhimin tayada nafaqo ee calafkani waa in goosashadiisu ayna ka danbaynin bixinta ubaxa.

7. Dabeecadaha iyo Hidaha Cawskan (Agronomic and morphological characteristics)

8. Meelaha ugu Habboon la qabsiga cawskan (Adaptation area)

- Joogga dhulka (Altitude): dhulka joogiisa ka sarraynta baddu uu dhanyahay <1500 mitir.
- Cadadka Roobka ku filan sannadkii (Rain fall (mm): Goobaha hela roob dhan 200-600mm

- ✓ Qiyaasta Shinnida/Abuurka (Seed rate (kg/ha):4kg/ha.
- ✓ Muddada Lagu goosanayo (Days to maturity):100 maalmod.
- ✓ Dhererka lagu goosanayo (Plant height at harvest (cm): 113cm
- ✓ Maxsuulkaka soo go'aya hektarkii (Yield (ton/ha): 26

Panicum maximum L.



1. **Faah-faahinta Cawskan Tayaysan (Description):**

☞ Waa caws tayaysan oo nafaqo badan islamarkaana katirsan cawsaska waara marka halmar la beerana aan u baahnayn beerid kale ilaa muddo.

☞ Waxa uu dhererkiisu gaadhaa ilaa 150 cm.

☞ Waa caws aad ula qabsada sifiicanna uga soo baxa meelaha ugu engegan ama ugu qallalan isla markaana biyuhu ku yaryihiin.

2. **Nidaamka Beerasho & Maaraynta Calafkan (Management):**

❖ **Shinniyaynta/Abuuridda (Establishment)**

Calafkani waxa uu u baahanyahay dhul si fiican loo diyaariyay islamarkaana beeritaankiisu waa iyada oo la isticmaalayo shinnidiisa/abuurkiisa. Dhul dhan hal hektar waxa uu u baahanyahay shinni/abuur dhan 5-7kg marka loo beerayo qaabka saydhista/fajaaska (broadcasting). Dhinaca kale haddii la isticmaalayo qaabka beeritaanka sadarka, halkii hektar waxa uu u baahanyahay shinni/abuur dhan 2-3 kg iyada oo shinnida/abuurka ciidda hoos loogalinayo cabbir gaadhaya 2cm.

3. **Bacriminta (Fertilizer)**

Waxsoosaarka calafkani waxaa lagu kordhin karaa haddii dhulka lagu bacriyo Naytaroojiin qiyaas dhan 23 kiiloo hektarkii iyada lagu cleinayo boqolkii cishoba hal mar.

4. Dabeecadaha iyo Hiddaha Cawska (Agronomic and Morphological Characterstics*):*

❖ **Meelaha ku Habboon ee uu la qabsado (Adaptation area)**:

- Joogga Dhulka (Altitude)<1500 masl.
- Xaddigaroobka (Rain fall (mm): Goobaha hela roob dhan 200-600mm.

✓ Qiyaasta Shinnida/Abuurka (Seed rate (kg/ha): 5-7

✓ Muddada lagu goosanayo (Days to maturity): 80 maalmood beeritaanka ka dib.

✓ Dhererka lagu goosanayo (Plant height at harvest (cm): 105.

✓ Maxsuulkaka soo Go'aya hektarkii (Yield (qt/ha): 25

Caws maroodi, Nappier Grass/Elephant Grass (*Pennisitum purpureum*)





- **Faah-faahinta Cawskan Tayaysan (Description):**

☞ Waa caws tayaysan oo nafaqo badan islamarkaana katirsan cawsaska waara marka halmar la beero aan u baahnayn beerid kale ilaa intii muddo ah.

☞ Waa caws qaab ballaadhan u baxa waxa uuna yeeshaa caleemo badan iyo dhuux aad u dhaadheer waxa uuna dhererkiisu gaadhaa ilaa 7.5 m.

☞ Waa caws aad ula qabsada sifiicanna uga soo baxa meelaha ugu engegan ee ay biyo yaraantu ka jirto.

☞ Waa caws beekhaama kuna habboon quudinta xoolaha la naaxinayo. Waxa kale oo uu aad ugu habboonyahay in loo kaydsado xilliga abaarta.

- **Nidaamka Beerista iyo Maaraynta Calafka (Management)**

Shinniyaynta/Abuuridda (Establishment): Calafkani waxa uu u baahanyahay dhul sifiican loo diyaariyay islamarkaana beeritaankiisu waa iyada oo la isticmaalayo shinnidiisa/abuurkiisa amaba tallaaljirriddiisa dhulka toos loogu tallaalo. Marka jirriddiisa la beerayo waa in siballaadh ah loo beero,

dhulkana hoos loo xuluuliyo 5-10cm iyada oo la adeegsanayo nidaamka saf u beerista. Waa in safafka loo dhaxaysiiyo 0.5-2m. Sidoo kalena labada geed waxaa loo dhaxaysiinayaa 0.3-1m.

- **Bacrinta (Fertilization):** Waxsoosaarka calafkan waxaa lagu kordhin karaa haddii dhulka lagu bacriyo Naytaroojiin qiyaas dhan 150-300 kiiloo hektarkii sanniidkii.

5. Dabeecadaha iyo Hiddaha Cawskan (Agronomic and Morphological Characterstics):

- ✓ Meelaha ku Habboon (Adaptation area):
  - Joogga dhulka (Altitude: ilaa 2000 masl.
  - Xaddigaroobka (Rain fall (mm): Goobaha hela roob dhan >1000mm sannadkii.
- ✓ Qiyaasta Shinnida/Jirridda (Seed rate (kg/ha): 2000
- ✓ Muddada lagu goosanayo (Days to maturity): 90 maalmood.
- ✓ Dhererka lagu goosanayo (Plant height at harvest (m): 1.5
- ✓ Maxsuulka ka soo Go'aya hektarkii (Yield (ton/ha): 20-30 ton.

3.5. Caws Suudaan/Hadhuudh shinbireed (Sudan grass)



- **Dabeecadaha iyo Hiddaha Calafka (Agronomic and morphological characteristics)**

❖ Meelaha ku Habboon (Adaptation area):

- Joogga dhulka (Altitude: <1500 masl.
- Xaddigaroobka (Rain fall (mm): Goobaha hela roob dhan 200-600mm sannadskii.

✓ Qiyaasta Shinnida/Abuurka (Seed rate (kg/ha) 7-9.

✓ Muddada lagu goosanayo (Days to maturity): 81 maalmood.

✓ Dhererka lagu goosanayo (Plant height at harvest (cm):172

✓ Maxsuulka kasoo Go'aya hektarkii (Yield (qt/ha):22

3.6. Alfalfa (Medicago sativa)



1. **Faah-faahinta Calafkan Tayaysan (Description):**

- ☞ Waa calaf tayadiisa nafaqo (Barootiin) aad u sarrayso.
- ☞ Waa calaf katirsan cawsaska waara marka halmar la beerana aan u baahnayn beerid kale ilaa muddo.
- ☞ Waxa uu leeyahay awood laqabsi cimilooyin kala duwan.

Dhalliisha Calafkan (Limitations):

- ☞ Haddii ay xooluhu badsadaan calafkan waxa uu kukeenaa inay ku dibbiraan (Bakhakh) waxa ayna halis unoqdaan inay calooshu qaraxdo.

2. **Nidaamka Beerista iyo Maaraynta ee Calafka (Management):**

- ➢ **Dhul-diyaarinta (Field preparation)**: Calafkani waxa uu u baahanyahay dhul sifiican loo carro rogay islamarkaana loo diyaariyay oo isku mid ah ama isku siman.
- ➢ **Shinniyaynta/Abuuridda (Establishment)**: Calafkan labada nooc ee Saydhista/fajaasidda iyo qaabka sadaraynta ee abuurka carrada hoos loogelinayo

labadaba waalagu beeri karaa. Marka qaabka sadarka lagu beerayo waa in labada masmar loo dhaxaysiiyo qiyaas dhan 55-72cm. Marka waraab la adeegsanayo, halkii hektar waxaa loo baahanyahay shinni/abuur dhan 12-20 kiiloo. Sidoo kale marka roob lagu beerayo shinnida/abuurka ku filan in lagu beero halkii hektar waa 10-12 kiiloo.

3. **Bacriminta (Fertilizer)**

Dhulka lagu beerayo calafkan waxaa lagu bacrinayaa 100 kiiloo oo DAP ah halkii hektar.

4. **Haramayn (Weeding):** Calafkan markii labeero inta uu sifiican uga soo baxayo waxaa loo baahanyahay ugu yaraan 2 jeer bishii in laharameeyo.

Goynta (Harvesting)

Xilliga ugu habboon ee lagoosan karo calafkani waa marka ugu horraysa ee uu ubaxa bixiyo. Sidoo kale haddii kayd loogu talo galo waa in lagu goostaa marka uu dhererkiisu gaadho xubin fareed (5cm.)

5. **Dabeecadaha iyo hiddaha calafkan (Agronomic and morphological characteristics)**

❖ **Meelaha ugu habboon ee uu la qabsado (Adaptation area):**

- Joogga Dhulka (Altitude <1500 masl.
- Xaddiga roobka (Rain fall (mm): Goobaha hela roob dhan 200-600mm.

✓ Qiyaasta Shinnida/Abuurka (Seed rate (kg/ha):10-12.

✓ Muddada lagu goosanayo (Days to maturity):56 maalmood.

✓ Dhererka lagu goosanayo (Plant height at harvest (cm):86cm.

✓ Maxsuulka ka soo Go'aya hektarkiiba (Yield (qt/h): 7

3.7 Dolichos Lablab (Lablab purpureus)



1. Faah-faahinta Calafkan Tayaysan (Description)

- Xilli danbe ayuu daaqani ubaxa soo saaraa, caleemo waawayn ayuu leeyahay, ubax caddaan ah iyo midhomidbkoodu bunni u dhowyahay ayuu leeyahay.
- Waa dhir sannadle ah.
- Degdeg ayuu daaqani u baxaa waxa uuna calaf xoolo oo fiican ku soo saaraa ilaa 3 bilood beeritaanka ka dib.
- Waa nooc digirta la bah ah una adkaysta biyo la'aanta.
- Waxaa kale oo uu adkaysi u leeyahay heer kulka qabow.
- Waxaa loo isticmaali karaa in xoolaha lagusii daayo si ay toos ugu daaqaan ama loo inta loo gooyo ka dibna loo dhigo xoolaha

Dhalliisha Calafka lablabka (Limitations)

- ☞ Calafkani kamaboxo meelaha biyo fadhiisiga ah.
- ☞ Calafka Lablabka kama baxo meelaha qaboobaha ah.
- ☞ Calafkani kama baxo meelaha roobku ku badan yahay.
- ☞ Kuma fiicna in laga sameeyo cawska qallalan balse waa in qoyaanka lagu isticmaalo.

- ☞ Haddii xaddi badan oo daaqani ah oo cagaaran ama qoyan lagu quudiyo xoolaha dibbito ayuu ku keenaa.

2. Nidaamka Beerista iyo Maaraynta ee Calafka (Management):

- **Dhul-diyaarinta (Field preparation)**: waa in carrada sii fiican loo diyaariyo la iskuna qaso.
- **Shinniyaynta/Abuuridda (Establishment)**: midhaha daaqani ayaa dhulka hoos loo geliyaa fogaan dhan 3cm ka dibna carrada ayaa lagu dedaa iyada oo xaddiga abuurkuna uu yahay 30kg hektarkiiba.

3. Bacriminta (Fertilization)

Waxa lagu bacriyaa DAP xaddigiisu dhanyahay 100kg hektarkiiba ama waxa la adeegsadaa digada xoolaha. Calafkani uma baahna in Naytaroojiin (Urea) lagu daro sababta oo ah dhirta noocanahi hawada ayay ka qaadataa Naytaroojinta maadaama uu geedkani ka mid yahay bahda digiraha (Legumes).

4. Haramayn (Weeding)

Calafkani waxa ku filan in hal mar la harameeyo saddex toddobaad ka dib marka la beero.

5. Goynta (Harvesting)

Waxa ku habboon in la jaro xilliga ubax bixinta ama qaangaadh noqdo

6. Dabeecadaha iyo Hiddaha Calafka (Agronomic and morphological characteristics)

❖ **Meelaha ugu habboon ee uu la qabsado (Adaptation area):**

- Joogga dhulka (Altitude: <1500 masl.
- Xaddiga roobka (Rain fall (mm): Goobaha hela roob dhan 200-600mm sannadkii.

✓ Qiyaasta Shinnida/Abuurka (Seed rate (kg/ha): 30.

✓ Muddada lagu goosanayo (Days to maturity):56 maalmood beerista ka dib

✓ Dhererka lagu goosanayo (Plant height at harvest (cm):107.

✓ Maxsuulka ka soo go'aya hektarkii (Yield (qt/ha):16

CALAFKA DIGIRTA (COWPEA) (Vigna unguiculata)



1. Faah-faahinta Calafkan Tayaysan(Description)

- ☞ Daaqan oo la bah ah digirta si degdeg ah ayuu u baxaa, waana sannadle.
- ☞ Caleemaha daaqani iyo laamihiisaba waxaa loo adeegsadaa calaf xoolaad.
- ☞ Noocyo badan oo carro ah oo kala duwan ayuu daaqani ka bixi karaa.
- ☞ Daaqani adkaysi ayuu u leeyahay abaarta (biyo la'aanta).
- ☞ Si fiican ayuuu ubaxaa marka lagu dhex beero noocyo kale oo daaqa cawska ah sida firileyda (hadhuudh, dukhun) iyo nooca digirta la bahda ah ee (Pigeon pea iyo Lawska).
- ☞ Nafaqo fiican oo barootiin ah ayaa ku jirta, xooluhuna way jecelyihiiin.
- ☞ Isaga oo cagaaran ayaa la jari karaa xoolahana la siin karaa, waxaa kale oo laga samayn karaa khamiirka calafka xoolaha (calafka oo la khamiiriyay, isaga oo god lagu guray lagana ilaaliyay hawada in muddo ah ka dibna xoolaha lasiiyo).

Waxyaabaha uuna daaqani ku fiicnayn ama dhalliilaha

- ☞ Waa in laga ilaaliyo xoolaha oo si xad dhaafa u daaqa.
- ☞ Qabowga iyo roobabka badan uma adkaysto.
- ☞ Waxa uu u nugulyahay si dhib yarnaugu dhaca cudurrada.

2. Maaraynta daaqani

- **Dhul diyaarinta** – waa in carrada si fiican loo diyaariyo la iskuna qaso.
- **Beeridda** – midhaha daaqan ayaa dhulka lagu beeraa iyada oo la adeegsanayo xaddi abuur oo dhan 25-30kg hektarkiiba waxaana dhulka hoos loo geliyaa cabbir gaadhaya 3cm ka dibna carrada ayaa lagu dedaa waana in xarriiq ahaan ama sadar loo beero, labada sadar ayaa la isu jirsiinayaa fogaan 30-60cm halka fogaanta labada geed ee halka sadar ku wada yaallana la isu jirsiiyo 10-15cm.

3. Carro nafaqeeyayaasha (Fertilization)

Waxa ugu muhiimsan oo lagu nafaqeeyaa xaddi DAP ah oo dhan 100kg hektarkiiba ama digada xoolaha.

4. Haramaynta (Weeding)

Laba jeer ayaa laga gurayaa haramaha ka dib marka la beero.

5. Goynta (Harvesting)

Xilliga ugu horraysa ee ay tahay in calafkani la jaro ayaa ah goorta uu ubaxa bixiyo siddeed toddobaad ka dib haddii loo adeegsanayo uga u isticmaalka caws qallalan ama waxaa la sugayaa ilaa xilliga ay midhihiisu ka bislaanayaan oo gaadhaysa muddo dhan 3-4 bilood ka dib marka la beero.

Shaxda 1aad. Soo Koobidda Xidhmada Soo SaariddaCalafyada Tayaysan ee Xoolaha

Tirsi	Magaca	Abuurka	Roobka	Cimilada	Bislaadka	Maxsuulka
1	Buffel grass	4 Kg/ha	200m-600mm	20-39 C^0	70-80 Maalmood	3-4 ton/ha
2	Rhodes grass	4kg/ha	200m-600mm	20-39 C^0	60 Maalmood	5.2 ton/ha
3	Panicum	5-7 Kg/ha,	200m-600mm	20-39 C^0	80 Maalmood	10 ton/ha
4	Elephant grass	2500 Xabbo/ha	800-900mm	20-39 C^0	90 Maalmood	10 ton/ha
5	Sudan grass	7-9 Kg/ha	200m-600mm	20-39 C^0	81 Maalimood	5.5 ton/ha
6	alfalfa	12-20 kg	200m-600mm	20-39 C^0	56 Maalimood	3-5 ton/ha
7	Lablab	30 Kg/ha	200m-600mm	20-39 C^0	56 Maalmood	4 ton/ha

9. Siyaabaha loo kaydiyo Calafka Xoolaha

Qaababka ugu muhiimsan ee loo kaydiyo calafka xoolaha si loo sugo isticmaalkooda muddo ka dib isla markaana loo ilaaliyo tayadooda ayaa waxa ugu muhiimsan hababka soo socda:

- ✓ Qallajinta/engejinta cawska
- ✓ Khamiirinta calafka

1. Kaydinta cawska qallalan

- ☞ Waxaa laga sameeyaa marka daaqa cagaaran la engejiyo ilaa uu qoyaanka ku jiraa ka noqonayo 15%.
- ☞ Guud ahaan cawska oo la qallajiyo waa nooca ugu fiican ee kaydinta calafka xoolaha, waana qaabka ugu kharashka yar isla markaana ugu fudud ee calafka loo kaydiyo si loo isticmaalo xilliga daaq yaraantu jirto.
- ☞ Xilliga ugu wanaagsan ee ay tahay in calafka la jaro ayaa ah marka dhirta la jaro xilliga ugu horraysa ee ay ubaxayso. Marka wakhtigaas la jaro inkasta oo wax soosaarku yaryahay haddana nafaqada ku jirta ayaa aad usarraysa.
- ☞ Haddii la jaro calafka kadib marka ay dhirtu ubaxayso waxaa yaraanaya oo hoos u dhacaysa nafaqada ku jirta.

Tallaabooyinka loo maro samaynta cawska qallalan

- ☞ Waa in dhirta la jaraa inta aynan ubaxa soosaarin, sababta oo ah nafaqada ku jirta dhirta xilligaas ayay ugu badantahay.
- ☞ Waa in la jaraa wakhti aysan dhirtu lahayn biyo fadhiya caleenta korkeeda, iyo xilliyada ay dhadadu jirto.
- ☞ Kadib marka la gooyo dhirtaasi (daaqaasi) waa in la dul dhigaa meel kasarraysa dhulka 20-30 cm kadibna waa in la rogrogaa daqa si ay cadceeddu u wada gaadho oo uu daaqu si degdeg ah ugu qallalo.

Qiimaynta tayadda cawska qallalan

Waxyaabaha saameeya tayada cawska qallalan waxaa kamidah:

Midho dhalinta: waxay saamayn ku leedahay wax soo saarka (yield) iyo nafaqada ku jirta cawskaba. Dhirta yaryar ayay xooluhu ka dheefshiidi ogyihiin dhirta waawayn sababta oo ah qolofta adage ee ku samaysanta dhirta ayaa sii badata marka ay da'da dhirtu sii waynaataba.

- ☞ Dhirta yaryar ayaa ka barootiin, nafaqo iyo kaarootiin (vit A) badan dhirta waawayn.
- ☞ Xoolaha ayaa jecel dhirta yaryar ee aan waawaynaanin sababta oo ah cunitaanka ayay u fududahay.

Caleemaha: inta badan caleemaha ayaa laga helaa dhirta nooca ay digirta isku bahda yihiin.

- ☞ Caleemaha ayay ku badanyihiin walxaha ay ka midka yihiin; barootiin, macdanta kaalshiyamka iyo fosfooraska marka la barbar dhigo qaybaha dhumucda leh ee dhirta.
- ☞ Caleemaha ayuu dheefshiidka xooluhu ka shiidi ogyahay qaybaha kale ee dhirta.

2. Kaydinta Calafka khamiirka ah

- ☞ Calafka khamiirka ah waxaa laga sameeyaa dhirta cagaaran ee qoyan oo lagu guray meel la yidhaahdo ***Silo*** ama godka khamiirinta si ay bakteeriyada bilaa Ogsajiinta noolaata ay u khamiiriso.

Faa'iidooyinka calafka khamiirka ah iyo sababaha loogu baahdo

- ☞ Waxaa lagu samaynkaraa meelaha ay dhirtu tahay in calafka la qallajiyo sababta oo ah cimilada oo aan saamaxaynin in daaqu qallalo ama dhirtu qallasho.
- ☞ Waxaa loo isticmaalaa dhirta ay adagtahay in laga sameeyo caws qallalan ama ayna xooluhu cunin marka ay qallasho.
- ☞ Si fudud ayay xooluhu u cuni karaan.
- ☞ Calafka la khamiiriyo ayaan lahayn dhibaatada iyo khasaaraha uu dabku keeno sida calafka la qallajiyo oo isagu si fudud u guban kara.

Noocyada boholaha (Silos) ah ee calafka khamiirka ah

Guud ahaan waxaa jira afar nooc oo ah boholaha ama meelaha lagu sameeyo calafka khamiirka ah, noocyadaasi ayay ugu muhiimsanyihiin labada nooc ee kala ah; **Barkad dhulka korkiisa laga dhiso** iyo**Bohol dhulka hoostiisa laga qodo**. Labadan nidaam ayay badanaa isticmaalaan beeraleyda xoolaha dhaqataa faahfaahintooduna waa sidan soo socota.

1. Barkad dhulka dushiisa laga dhiso

- ➢ Waa meel kasarraysa dhulka laguna qariyo bac (plastic) si aysan hawada (Ogsojiinta) ahi u gelin.
- ➢ Waa in dhirtu ay aad u qoyantahay biyo badanina ku jiraan.
- ➢ Waa in wax lagu daboolo si looga hortago hawada gelaysa culaysna ay ugu noqoto.

2. Barkad dhulka hoostiisa laga qodo (Clamp silo)

- ☞ Waxa ay leedahay saddex gidaar kuwaasi oo yara kala sarreeya xoogna loo adkeeyay si ay u cadaadiyaan calafka khamiiraya.

- ☞ Waa in ay gidaarradu ka sarreeyaan calafka khamiiraya si uuna calafkaasi u khasaarin loogana ilaaliyo in uu daato wakhtiga calafka lagu gurayo bohosha.
- ☞ Waa inayna bohoshu lahayn duleello kuwaasi oo ay hawadu ka soo geli karto haddii kale khasaare ayaa dhacaya.

Guridda dhirta iyo ku guridda bohosha

- ☞ Dhirta waxaa lagusoo goyn karaa gacanta ama qalab yaryar oo gacanta lagu sameeyay.
- ☞ Kadib waxaa lagu rari karaa xoolaha si loogu gaadhsiiyo halkii la rabay in lagu khamiiriyo.
- ☞ Kadib marka lagu guro bohosha waxaa la dulmariyaa wax culus si uu isugucadaadiyo una cufo dhirta lagu guray bohosha.
- ☞ Waxaa wanaagsan marka bohosha la buuxinayo in ilaa korka u sarreeya la buuxiyo meel kasarraysa dhinacyada si uuna roobku gudaha ugu gelin.
- ☞ Intaa kadibna waa in dusha laga saaro qaranka hadhuudhka ama kan galleyda, ka dibna lagu daboolo bac (Polyethene).
- ☞ Waxyaalaha khamiirka ku jira sida(Lactic iyo Acetic acids), waxa ay ku xidhanyihiin xaddiga sokorta ah ee ku jirta calafka inta aan la khamiirinin kahor, sokortaas oo marka danbana isku beddesha (Lactic iyo Acetic acid). Si uu khamiirku si fiican ugu samaysmo sokorta ku jirtaa waa in ay ahaato 6%.
- ☞ Guud ahaan waxa uu khamiirku ku dhacaa muddo 21 maalmood laga billaabo goortii la fuliyay hawsha khamiirinta.
- ☞ Calafka la khamiiriyay gaar ahaan, ka laga sameeyay balka galleyda waxa uu joogi karaa ilaa iyo 12 sano.

10.Hababka loo ilaaliyo loona isticmaalo calafka xoolaha

Ahmiyadda ay leedahay ilaalinta calafka xoolaha

Waxaaynu ognahay xilliyada Jiilaalka iyo Xagaaga inuusan jirin daaqa qoyani (waa marka aynu ka hadlayno gobollada deegaankeenna inta badan iyo weliba dhulalka kale ee aynu isku cimilada nahay innaga oo maanka ku haynayna in ay gobobolladeenna qaarkood xagaaga helaan roobabka loo yaqaanno Karanta) dhinaca kale xilliyada Guga, Dayrta iyo Karanta ayaa ah xilliyo ay jirto fursadda helidda daaqa qoyan (haba lagu kala duwanaadee). Waxaaloo baahanyahay in aynuka faa'iidaysanno nidaamka bakaaraynta ama khamiirinta daaqa

qoyan si aan xoolaha u siinno xilliyada ay abaaruhu jiraan ama aan la helaynin doog iyo caws qoyan amabase ay daaq yaraani jirto.

Waxaa la soo daristay xoolo-dhaqatdeennaaqoonla'aan dhanka ilaalinta ama bakaaraynta calafka xoolaha ah iyo qaababkan danbe ee daaqa kala duwan loo meel marin lahaa iyo sidii ay kor ugu soo qaadi lahaayeen nafaqada kujirta daaqa xoolaha.

Sidaasi awgeed daaqa xilliga barwaaqada lahelo waa inaynu ilaalinno si cowska qoyan loo qallajiyo ama bakaar aynu ugu samayno.

Waxaa jirta dhibaatooyin laxidhiidha tirada iyo tayada daaqa taas oo lasoo darista bulshada kunool dhulka joogga hoose iyo dhulka jooggiisu sarreeyaba taasi oo uu keeno xilligu.Haddaba si aynu uhelno xal wanaagsan waa in aynu ilaashanno calafka aan haysanno si fiicanna u maarayno goorta uu badanyahay si aynu uga faa'iidaysanno xilliga uu yaryahay baahida xooluhuna badantahay.

Samayta cawska/balka iyo isticmaalkiisa (Hay making)

Bal/Cawsku (hay) waa daaqa cagaaran kaasoo qallaylkiisu ggadhayo 80-85%, Waxa ay ilaalisaa nafaqadeeda ayada oo yeelanaysanafaqada loo yaqaanno kaarotiin.

- ☞ Waxaa la jarayaa doogga marka uuqoyanyahay kadibna waa la qallajinayaa waana la wadhayaa cawska la jaray lana qallajiyay, cawska la mariyo geeddi-socodkaasi ayaa lagu magacaabaa (Hay) waxaana lagu quudiyaa xoolaha.
- ☞ Balka (Hay)-gu waxa uu xigaa daaqa cagaaran, si cawska la sameeyaa uu u noqdo mid wanaagsan, waa in la jaraa marka uu qoyanyahay inta uunan midhaha bixinin oo ayna adkaanin haddii kale cawska ama balku waxa uu noqonayaa sida qaranka oo kale kadibna way kuadkaanaysaa xooluhu inay calaliyaan/raamsadaan.

Noocyada dhirta ku habboon balka

Geedaha kala duwan ee ay xooluhu calfadaan ayuu qaarkoodba ku habboonyahay in loo habeeyo qaab gooni ah. Haddaba samaynta balka ayaa waxaa ku wanaagsan dhirta ay xididdadoodu jilicsantahay ee si fudud u cuntami karta sida dhirta caleenleyda ah ee ay ka midka yihiin; Liyuusiinaha, Digiraha iwm ayaa ku habboon samayta balka.

- Dhirta da'doodu gaadho sannadka iyo kuwa kabadanba way kuhabboonyihiin hay-ga laakiin galleyda iwm waxa ay kuhabboonyihiin sida Silejka (bakaarta).
- Dhirta leh xididdada dhuudhuuban ee durbadiiba lajaro waxa ay kuhabboontahay in laga sameeyo balka.

Xilliga ugu habboon dhirta in laga sameeyo balka waa inta aynan dhirtu ubaxa bixinin ama 10-20% ay ubaxa saarto.

Habka loo sameeyo balka

I. Waa in lajaraa doogga iyda oo la isticmaalayo manjo inta ayna dhirtu ubaxa bixinin ama goorta ay ubaxa soo saarayso.
II. Waa in laqallajiyaa doogga 2-3 maalmood, balse muddada ay kuqallalayso waxa ay ku xidhantahay cimilada iyo nooca dooggu uu yahay.
III. Cimilada ugu wanaagsan xilliga la samaynayo balka waa wakhtiga qorrax kulaylka ah ama ay dabayli jirto, laakiin waa in laga ilaaliyo qorraxda badan si midabkeeda iyo nafaqadeedu uusan u lumin waana inla xaqiijiyaa qoyaanka kuhadhay dooggiila qallajiyay inuu gaadhayo 15-20 % iyo in kale, adiga oo cantoobinaya doogga, haddii uusan durba jabin weli waxa kujira qoyaan markaa waxa uu ubaahanayaa qallajin dheeraad ah.
IV. Waa in lagu xidhaa balka iyada oo la adeegsanayo sanduuqa loogu talogalay ama iyada oo isticmaalayo hog/god.
    - Faa'iidada ay leedahay xidhitaanka balka ayaa ahfududayntararka ama gelinta bakhaarka kaydka.

Kaydinta balka (Hay storage)

- Waa in lagu kaydiyo meel hoos ah ama shiraac leh si uu uga ilaaliyo roobka sidoo kale qorraxdu waxa ay u keentaa cudur loo yaqaanno***Gorofoow.***
- Waa in dhulka kor looga qaado marka la kaydinayo si aboorku uusan u gelin.

Qaabka ay xooluhu ucuni karaan balka

- Calafka habkani lagu kaydiyo ayay xooluhu xaddi laxaad leh ka cuni karaa.

- Balka tayada sare leh sida hayga laga sameeyo dhirta calaynta leh waxaa loo adeegsan karaa quudin dheeraad ah.

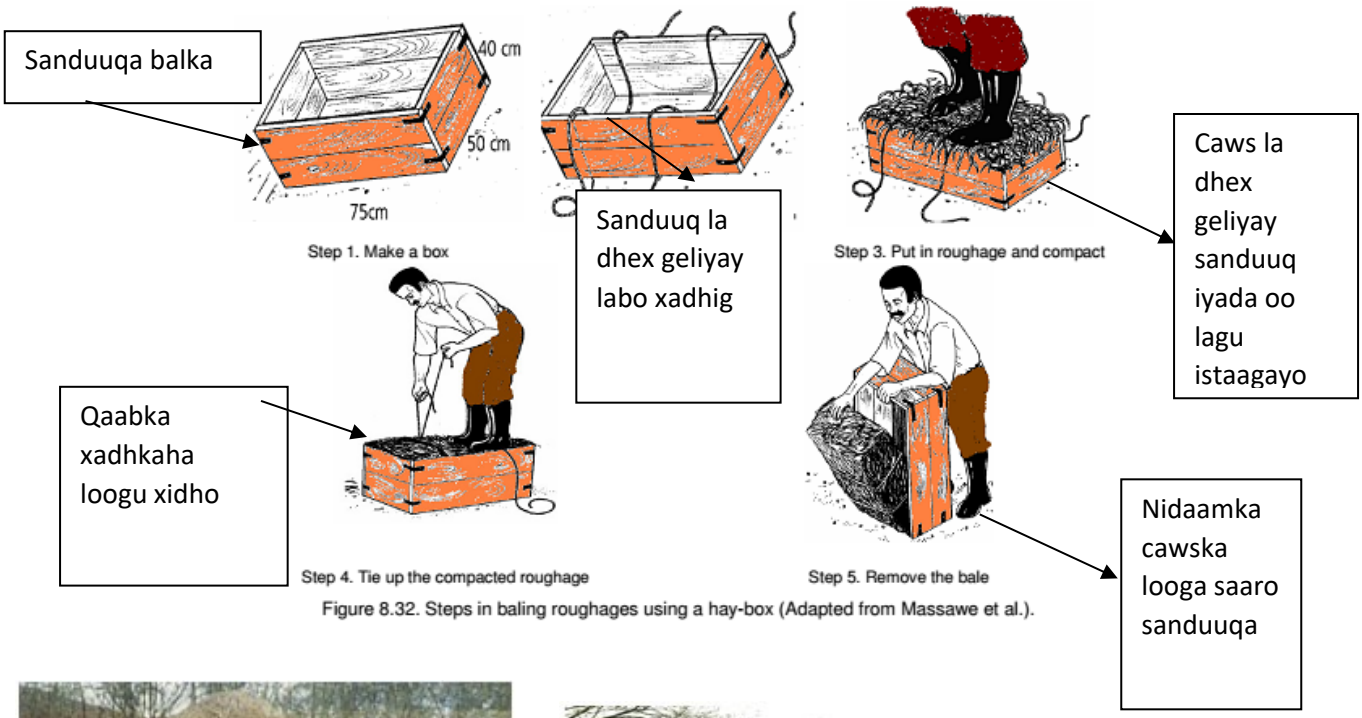
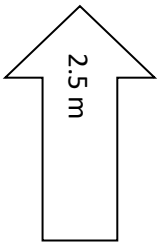


Figure 8.32. Steps in baling roughages using a hay-box (Adapted from Massawe et al.).







Habka hayga lagu sameeyo iyada oo ah seddex xagalka

DABEECADAHA UU LEEYAHAY BALKA WANAAGSANI

- Balka wanaagsani waxa uu leeyahay caleemo iyo midab cagaaran sida doogga, maadama ay caleentu leedahay barootin, kaaroot, macdan iyo nafaqo.marka la barbardhigo kuwa kale.
- Waa inuu jilicsanyahayoo uu cuntami karo, qoyaan yarna leeyahay.
- Waa in uusan lahayn ooro iwm.
- Waa inuu lahaado caraf/udgoon.

HABKA LOO OGAADO BALKA AMA CAWSKA (HAY) TAYADA LEH

Waxaa lagu ogaan karaa in la eego midabka ay caleenta balku/cawsku yeelatay iyo habka loo xidhay balse muhiimadda ugu wayni waa midabka guud iyo kancaleenta iwm.

- ☞ Muuqaalka caleenta iyo midabka guud ee balku waa in uu ahaado cagaar.
- ☞ Haddii uu yeesho midka ay oorada ku dhalato waxaa kuu caddaanaysa in qoyaan badan uulahaa markiilagu samaynayay hab kaydineedkan, sidaa daraaddeed waa in qoyaanka badan laga yareeyo marka balka samaynayso ee dariiqadani lagu kaydinayo.

Faa'iidada iyo khasaaraha uuleeyahay hab caws kaydineedkani (Hay making)

Faa' iidada ay leedahay dariiqadani

- ☞ Waa dariiqo caws kaydineed oo raqiis ahkharashka lagu qabtaana uu yahay mid jaban marka loo eego hababka kale.

Khasaaraha ay leedahay dariiqadani

- ☞ Haddii qaab xun loo sameeyo cawska ama balka oo aan loo raacin xeerarka u yaalla waxaa katagta ama hoos u dhacda nafaqada ku jirta.
- ☞ Samaynta nidaamkani waxa ay kutiirsantahay deegaanka lagu noolyahay sida uuyahay.

CAWS/BAL (HAY) KU QUUDINTA XOOLAHA

Goorta nidaamkani lagu quudinayo xoolaha waa in la raaco tilmaamaha soosocda;

- ☞ Waa in uusan lahayn saaq ama waxyaabo kale oo sooraaca oo aan ka mid ahayn cawska asalka ah ee loogu talagalay in loo adeegsado hawshani.
- ☞ Waa inuusan lahayn xadhko ama silig iwm oo haddii uu ku dhex qarsoomo waxyeello u gaysan kara xoolaha.
- ☞ Waa inuusan aboor kudhalanin.

11. Samaynta Calafka La Khamiiriyay (Silage making)iyo ku quudinta Xoolaha

Bakaaraynta calafka (Silage).

Qeexidda bakaaraynta (Silege): habkan ayaa ah bakaaraynta ama qudhminta calafka cagaaran iyada oo laga dhawray ama laga ilaaliyay inay gasho hawo si aynan uga luminin midabkeedii cagaarnaa, isla markaana ay xafidato midabkeeda cagaaran goorta lagu calfinayo xoolaha.

Duugitaanka/aasidda/xabaalidda calafka:habkani waa qaabka sileegeka loo gelinayo hogga/godka lagu khamiirinayo laguna kaydinayo ilaa inta laga gaadhayo quudinta xoolaha.

Hogga/godka: waa godka la geliyo ama lagu sameeyo isla markaana lagu kaydiyo calafka loo sameeyo nidaamka loo yaqaanno (Silage).

Faa'iidada iyo khasaaraha uu leeyahay habkani (Silage)

- **Faa'iidada nidaamka**

☞ Waxaa loo baxsadaa xilliga ay abaari ama daaqyari timaado isaga oo nafaqadii ku jirtay markuu qoyanaa ay sidi ugu jirto maadaama qoyaan lagujaray markiisi hore isla markaan loo ilaaliyay qoyaankaasi iyo midabkiisii cagaarnaaba.

☞ Dhirta aan kufiicnayn samaynta balka waxaa laga samayn karaa (Silage) wanaagsan.

☞ Dhul xaddidan oo kooban ayaa (Silage) badan lagu kaydsan karaa sababta oo ah dhul badan kaama qaadanayo sida cawska qallalan (hay).

☞ Isticmaalka (Silage) waxa uu fududeeyaa inxoolo badan lagu dhaqaalayn karo beerta dhexdeeda.

- **Khasaaraha (Silage) uuleeyahay**

☞ Haddii aan sifiican loo duugin waa uu qudhmaa.

☞ Nafaqo badan oo kujirtay ayaa lumaysa.

☞ Waxa ay ubaahantay shaqaale iyo kharashb ka badan kan imanaya goorta la isticmaalo cawska qallalan (Hay).

☞ Lama rari karo lagamana ganacsankaro.

Noocyada Bakaaraynta Calafka (Silage)

I. Bakaarayn (Silage) loo sameeyo sida haanta oo ah mid kor utaagan sida haanka.
II. Bakaarayn (Silage) godka samaysan oo ah nooc god laga qodo dhulka ka dibna calafka lagu khamiiriyo.
III. Bakaarayn (Silage) ka samaysan god looqodo sida iilka ookale.
IV. Bakaarayn (Silage) lagu sameeyo dhulka korkiisa iyada oo laga samaynayo dhagax iyo sibidh isla markaana korka lagaga dedayo carro si aynan hawo u gelin.

Calafka Kuhabboon in Laga Sameeyo Bakaarta (Silage).

Dalagyada ugu habboon in laga sameeyo calafka la bakaareeyay (Silage) waxaa galleyda, caws suudaan (sudangrass) i.w.m. Dhirta caleenleyda ah keligeed lagama samayn karo (Silage), sababta oo ah waxa kamaqan maaddada loo yaqaanno Karbohaydarayd (Carbohydrate) dhinaca kalena waxa ay leedahay qoyaan badan oo ay adagtahay in si fudud looga qallajiyo.

Sidaa darteed dhirta caleenlayda ah waxaa loo adeegsan karaa (Silage) iyada oo lagu qasayo kuwo kale iyo habab kaleba in loo sameeyo kuwaasi oo ay ka mid yihiin habaka soo socda:

- ☞ In la qallajiyo maalin iyo maalin badhkeed si qoyaanku uga yaraado.
- ☞ In lugudaro dhirta aan calayta lahayn sida galleyda i.w.m.
- ☞ Calafka caleenleyda ah waa in lagu daraa bal ama qaran saami dhan 1:3.

Nidaamka Guud ee Loo Sameeyo (Silage)

Shaxda 2 aad: Diyaarinta godka lagu duugo/la geliyo (Silage)oo leh cabbir kaladuwan.

Dherer	Ballac	Qodid ahaan	Inta kilo ee uu qaadi karo godku
1.5m	1.5m	1.8m	22.5 Kg oo (Silage) ah
3m	1.5m	1.8m	45 Kg
4.5m	1.5m	1.8m	67.5 Kg
6m	1.5m	1.8m	90 Kg
7.5m	1.5m	1.8m	112.5 Kg

1. Doogga ayaa la jarjarayaa lana yaryaraynayaa si uu cufmo marka laduugayo ee laga rabo (Silage).
2. Waxaa lagu darayaa 1% oo Urea ah haddii ay suurtagaltahay.
3. Urea dii iyo biyihi la iskuqasay ayaa lagu buufinayaa (Silage) kii la diyaariyay.
4. Bakaartii (Silage) kii la diyaariyay ayaa la isticmaali karaa xoolahana lagu calfin karaa iyada oo godka laga soo saarayo 50-60 maalmood kadib diyaarintiisa.

Tilmaamaha Muuqaal ee uu Leeyahay (Silage) ka Wanaagsani

- ☞ Waa in ay yeelato ur udgoon ama caraf malabayna aynan kudhalanin.
- ☞ Waa in midabkeedu uu ahaado mid isugu jira cagaar iyo jaalle ama huruud.
- ☞ Waa in ay ahaato mid xoolaha ucuntami karta.
- ☞ Waa in ay ahaato mid aan qallafsanayn balse ay jilicsanaato.

Qiimaha (Silage) ka iyo Habka Xoolaha Loogu Quudiyo

1. Waxaa la faydayaa ama daboolka laga qaadayaa god bakaareedka marka uu gaadho 50-60 maalmoodlaga billaabo xilligii la sameeyay kadibna inta la soo saaro ayaa xoolaha la siiyaa.
2. Calafka dariiqadan lagu sameeyay haddii ay gebi ahaantiis ama qayb ka mid ah ku dhalato malabay ama ooro waa in la tuuraa oo aan xoolaha la siinin.
3. Waxaa muhiim ah in taxadar laga sameeyo marka lasoo saarayo calafka si aynan godka hawo u gelin.