“Haɓaka Yanayi Mai Juriya Wa Nomar Shinkafa A Ƙasashen Afirka Ta Yamma”

(A ƙasashen Benin, Burkina Faso, Cote d’lvoire, Gambia, Ghana, Guinea Conakry, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo).

JAGORAR ILMANTARWA

ILMANTAR DA MANOMA GAME DA TAKIN GARGAJIYA DA KUMA YADDA AKE SAMAR DA SHI

…………..Tsarin samar da yanayi mai juriya wa nomar shinkafa

DISAMBA 2024

GABATARWA

Manufar Wannan Tsarin: Tsarin ya tanadi yadda za a iya samar da takin gargajiya tare da yadda za a iya amfani da shi wajen inganta ƙasar gona tare da haɓɓaka amfanin gona mai ɗorewa. Inganta dausayin ƙasar gona ta hanyar inganta ta tare da amfani da takin gargajiya. Sabon tsarin inganta takin gargajiya shi ne mafita ga Fasahar Tsarin Haɓɓaka Nonan Shinkafa na (SRI).

Kudurorin Ayyukan RICOWAS: Domin inganta juriya ga sauye-sauyen yanayi tare da inganta tsarin nomar shinkafa wa ƙananan manoman a kasashen Afirka ta Yamma ta hanyar amfani da tsarin nomar shinkafa mai iya jure wa sauyin yanayi. An ƙaddamar da ayyukan **RICOWAS** ne a matakai na yankuna ƙarƙashin gudanarwar Hukumar Saka Ido na Sahara da Sahel (OSS), bisa ɗaukan nauyin Hukumar Adaptation Fund (AF) sannan an ƙaddamar da ayyukan ne a cikin ƙasashe 13 da ke cikin Ƙungiyar Haɓaka Tattalin Arzikin Ƙasashen Yammacin Afirka ECOWAS. Ingantawa tare da haɓaka Ingantaccen Tsarin Nomar Shinkafa (SRI) sannan da bunkasa ƙasar noma da kuma ruwa (SLWM) a yunƙurin farfaɗo da Afirka ta Yamma bisa tsarin sakamakon nasarorin ayyukan yankuna na SRI-WAAPP.

Manufofin SRI: An hassasa Tsarin Nomar Shinkafar ne fiƙirar yin shukar lafiyayyen iri kuma a kan lokaci, taƙaita gogaiya a tsakanin shukoki, samar da ingantacciyar ƙasar noma mai ɗauke da takin gargajiya daga tsirrai da kuma dabbobi, tattalin ruwa a tsanake domin kula da inda ƙasar ta tsandare sannan da yin amfani da na'urar da kan maye gurbin amfani da sinadarin kashe ciyayi wajen nome ciyayi. Tsari SRI kan haɓaka samar da amfanin gona da ƙarin kaso 20 zuwa 50 cikin 100, yakan rage ɓarnar iri da kaso 90 a cikin 100, yakan rage amfani da ruwa na kimanin kaso 30 zuwa 50 cikin 100, haka kuma taki ɗan kaɗan kawai ake buƙata domin haɓaka yawan shinkafa tare da rage yaɗuwar tururin sinadarin gubar methane a sararin samaniya da kaso 50 a cikin 100.

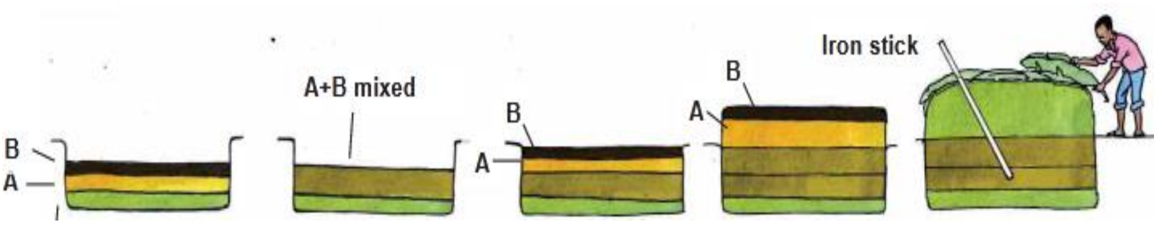
Sinadarin Organic Matter: Sun hada da ruɓaɓɓun tsirrai da kashin dabbobi tare da kananan hallittu tattare da su.

Takin Gargajiya: Takin gargajiya ya ƙunshi duk wani takin da ya samo asali daga kashin dabbobi, tarkacen juji na ƙauyuka da birane, da wasu abubuwan da aka gama cin moriyar su daga jikin dabbobi da hatsi. An riga an tsara jadawalin haɓakawa da inganta ƙasar gona don samar da yalwataccen hatsi.

Takin Compost: Kammalallan taki cakuɗuwa ne na mafi akasiri, ruɓaɓɓabun ganyaye, akan yi amfani da shi domin samar da sinadrin da shuka ke bukata da kume daidaito na inganta gona domin haɓaka amfanin noma.

Taswira Ta 1. Tsubin takin da aka samar a sakamakon fasahar samar da takin gargajiya na compost.

Samar da Takin Compost: Matakai ne na amfani da abubuwan da basu da wani amfani a gonaki da kuma gidaje mu, domin samar da takin gargajiya mai aminici domin inganta gonakin mu.



Taswira Ta 2. Matakan sarrafa shara domin samar da takin gargajiya.

Muhimmancin Takin Gargajiya wa Ƙasar Gona.

- Sauƙaƙe sarrafa ƙasar gona a lokacin kaftu da kuma shuka.
- Inganta ƙarfin ƙasa domin riƙe danshi na lokaci mai tsawo.
- Rage haɗarin wanzuwar zaizayar ƙasa.
- Taimakawa wajen daidaita yanayin ɗumamar ƙasa (yanayin zafin ƙasa).
- Rage tururin ruwa tare da daidaita yanayin danshi.
- Samar da kananan sinaran irin su N, P, K da kuma micronutrients
- Inganta ƙarkon ƙasa riƙe sinadarai na tsawon lokaci.

- Samar da ƙwayoyin halittu masu rubar da ganyaye zuwa ga sinadarin taki tare kuma da daƙushe abubuwa masu illata kasar gona.
- Inganta yanayin ƙasa tare da samar da sinadarin carbon domin tattalin halittu irin su Tana dake inganta kasa.

Abubuwan Da Ake Bukata Domin Samar Da Taki

- **Shara:** Misali Ɓawon 'ya'yan itatuwa da ganyayyaki da ga gonaki. Takin dabbobi. Misali: Kashin dabbobi, (kashin kaji, tumaki da awaki). Sharar Muhalli: (ganyayyaki, yankakkun ciyayi, ɓurɓushin ƙirare), tare da sauran dangogin tsirrai.
- **Sinadarin Carbon Mai Launin Ƙasa:** Misalan ingantaccen abubuwan sinadarin carbon sun ƙunshi busasassun ganyayyaki da zangarniya da duddugan icce da gutsuttsurarru takardu da kuma manyan takardun.
- **Sinadarin Nitrogen Mai Launin Kore:** Abubuwa masu launin kore sun ƙunshi yankakkun ɗanyun ciyayi da ganyaye daga manyan bishiyoyi da kuma gayayyakin tsirrai da aka yayyanke.
- **Ruwa:** Danshi yakan agaza wa ƙananan halittu wajen samun sauƙin bayar da gudummuwar samar da takin gargajiya.
- **Iskar Oxygen:** Samun yalwatacciyar iskar da ta kamata kan bayar da dama wa ƙwayoyin cututtuka da wasu ƙananan halittu kutsawa domin dagargaza sinadarai kamar yadda ya dace.
- **Ƙananan Halittu:** Samar da taki ya dogara ne bisa adadin ƙananan halittu daban-daban waɗanda suka ƙunshi da hunhuna da sauran ruɓaɓɓu abubuwa, domin su kacancala ganyayyaki su kuma samar sinadaran da takin ya kunsa.

Matakan Samar da Taki

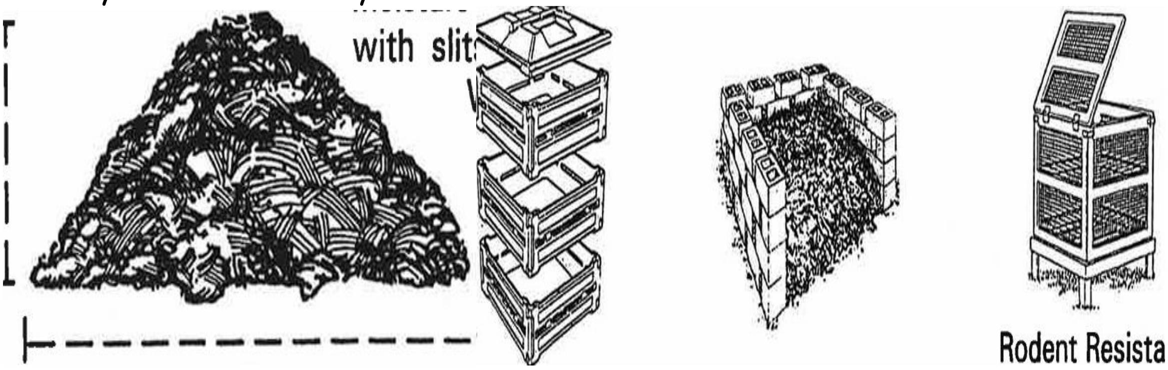
- **Tattarawa**: tattara yamutsattsun, mafi yawancin kan kasance daga kayan amfanin gona ne kamar ɓawo, zangarniya, duddugan ice, dusa 'ya'yan itatuwa da ruɓaɓɓun ganyayyaki da ciyayi da ɗanye har da busassun ganyayyaki sannan da takin kashin dabbobi.
- **Shiryawa:** Daddatsa su zuwa ƙananan zuwa domin sauƙaƙa samar da taki.
- Jerantawa: An fi son jerin layin ɗanyun ganyayyaki da kuma abubuwa musu launin ƙasa a cikin dalar sinadaran haɗa taki. Ya kamata kowane layi ya kasance na da kaurin 'yan ƙalilan inci.
- **Tattalin Danshi:** A kiyaye da kimar danshin dalar kwatankwacin yadda jiƙaƙƙen soso yake.
- **Yalwar Iska:** Jujjuyawa tare da caccakuɗa dalar sinadaran takin bayan 'yan kwanaki kan taimaka wajen rarratsawar iska a cikinta, tare da samar da iskar oxygen wa ƙananan halittu da kan agaza wurin ruɓarwa.
- **Ruɓarwa:** A bayan wasu lokutan, ƙananan halittun kan kacaccala karikitan sinadaran takin, tare kuma da samar da ɗumamar da kan samar da taki. Irin

ɗumamar da ke cikin dalar kan yi tasirin da kan kacaccala abubuwan da ke da tsauri tare da da kashe jijiyoyi da kuma ƙwayoyin cututtuka.

- **Kammalallen Taki:** Dalar kan zamo kammalalliyar taki idan ta koma baƙa-baƙa ko kuma baƙa ƙirin, takan zama wara-wara, kuma takan sauya daga kamanninta na asali.

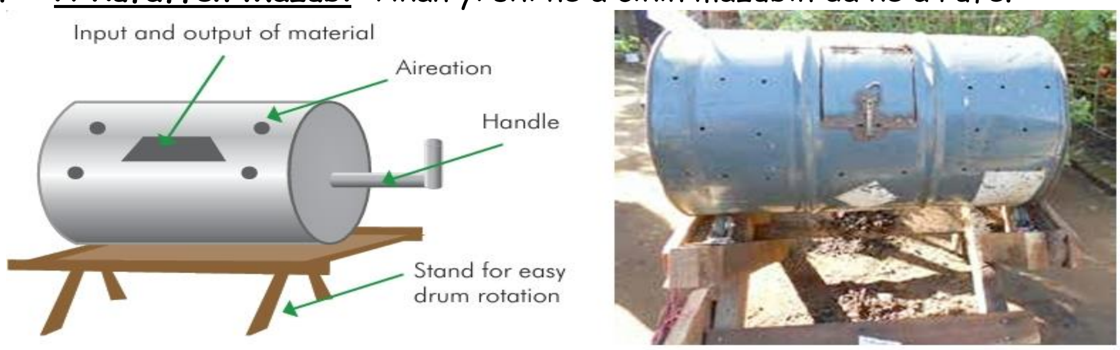
Ire-iren Hanyoyin Samar da Takin Gargajiya

i. **<u>Ta sarari</u>:** Akan yi irin wannan dalar ce a fili ko a cikin buɗaɗɗen mazubi yadda iska za ta iya rarratsawa.



Taswira Ta 3. Hanyoyi daban-daban na samar da taki a sarari.

ii. **<u>A Rufaffen Mazubi</u>:** Akan yi shi ne a cikin mazubin da ke a rufe.



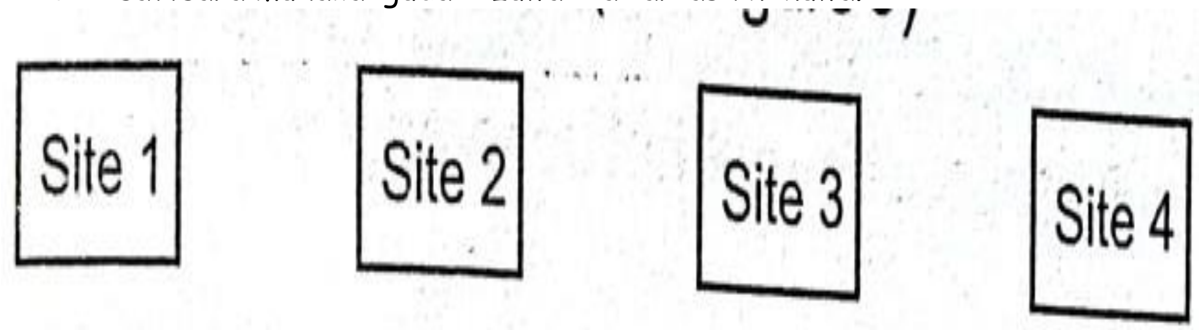
Taswira Ta 4. Ire-iren hanyoyin samar da taki ta rifaffen mazubi.

iii. **<u>Tsarin vermicomposting</u>:** Wannan ya shafi yadda akan yi rainon <u>Tana</u> a cikin mazubi mai duhu da kuma yin amfani da ita tanar ta samar da takin gargajiya.

Taswira Ta 5. Samar da sinadaran taki ta hanyar amfani da Tana.

iv. **<u>Tsubin ko Dalar Taki</u>**: Wannan ya ƙunshi yadda akan yi dala, sannan a shirya ta yadda ta dace domin ta yi tudu bisa doron ƙasa.

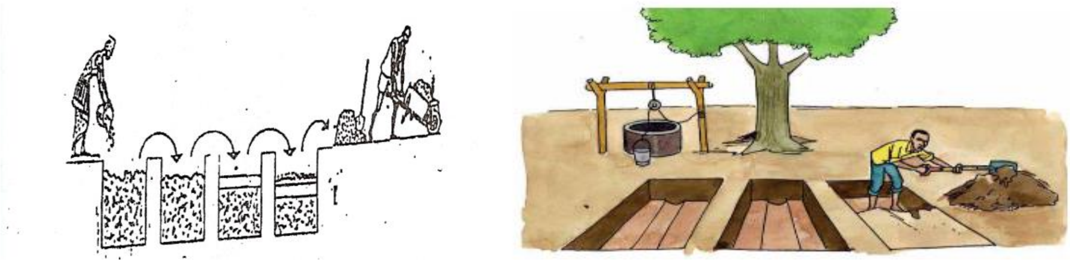
- Tsattsara muhallai guda 2 zuwa 4 a ƙarƙashin inuwa.



Taswita Ta 6. Samar da tarkacen juji ta hanyar tattara karikitan tsirrai na yin taki.

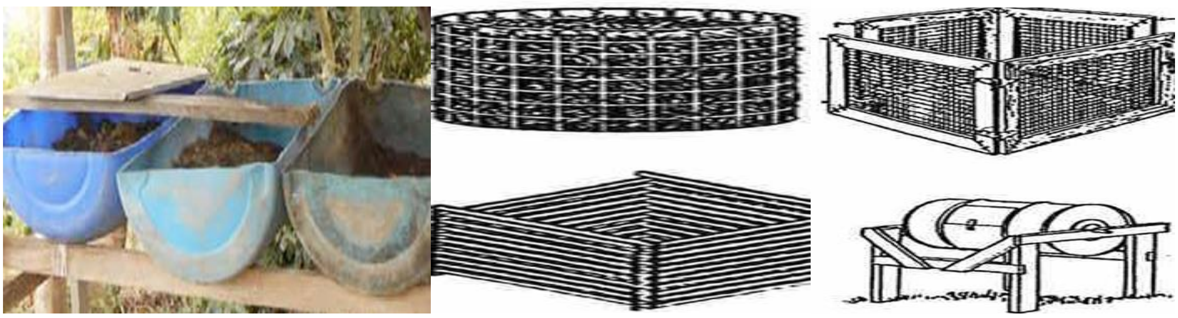
v. **<u>Samar da Taki a Ƙududdufi ko Ramuka</u>**: Wannan ya ƙunshi yadda akan haƙa rami sannan a shisshirya karikitan tsirran yin taki layi-layi kuma bisa ƙa'ida.

- Haƙa ramuka guda 2 zuwa 4, mai mita 1.2 x 1.2 zuwa mita 3 x 3 da kuma mai bisan 1.2 zuwa 1.5.



Taswira Ta 7. Tsara karikitai a cikin rami domin mayar da su taki.

vi. **<u>Samar da Taki Cikin Mazubi</u>**: Wannan ya shafi yin amfani da mazubi na katako ko roba ko kuma na ƙarfe.



Taswira Ta 8. Samar da takin gargajiya ta yin amfani da nau'o'in mazubi daban-daban.

Tsari Da Matakan Samar Da Taki Daki-Daki.

Mataki Na 1: Zaɓin muhallin da ya dace wa samar da taki.

Mataki Na 2: Tattara tarkace domin samar da taki (takin kashin dabbobi da na ɗanyu haɗe da ɓurɓusan hatsi masu launin ruwan ƙasa).

Mataki Na 3: daddatsa ɗanyu da kuma busassun ciyayi zuwa 'yan ƙanƙanana.

Mataki Na 4: Daidaita layuka guda uku na ɗanyu, kashin shanu da kuma abubuwa tarkace masu launin ruwan ƙasa a cikin mazubinka bisa rubu'i 1:1:1. Kowane layi ya kasance mai ɗauke da inci ƙalilan.

Mataki Na 5 A cusa sanda a ciki domin lura da kasancewa akwai ɗumi da kuma danshi a ciki.

Mataki Na 6: A watsa ruwa domin samar da dausayi wa dalar.

Mataki Na 7: A lulluɓe dalar da ganyayen ayaba ko leda ko kuma tampol.

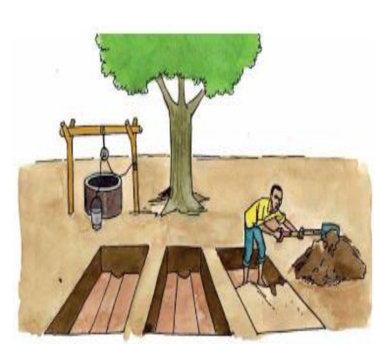
Mataki Na 8: A binciki can cikin dalar bayan kwanaki 3 ko 4 domin tabbatar da ta ɗumama (zafi). Idan ba ta yi ɗumi ba, sai a ƙara sinadarin kashin shanu tare da kiyayewa da bisanta sannan a sake lulluɓewa.

Mataki Na 9: Idan kuwa dalar ta yi ɗumi, to a hautsina dalar da cebur ta yadda sama za ta koma ƙasa a cikin kwana ta 3 da ta 4. A tabbatar da ta hautsinu sosai.

Mataki Na 10: Daga wannan rana, za a ci gaba da hautsinawa bayan kwanaki 2 zuwa 3.

Mataki Na 11: A tabbatar da cewa dalar na kasancewa cikin dausayi ta hanyar zuba mata ruwa.

Mataki Na 12: Takin zai kammalu a cikin kwanaki na 14 zuwa 18.


Step 1, Construction of pits.

Step 2. Gathering of organic materials.

Step 3. Chopping of organic matter into small pieces.

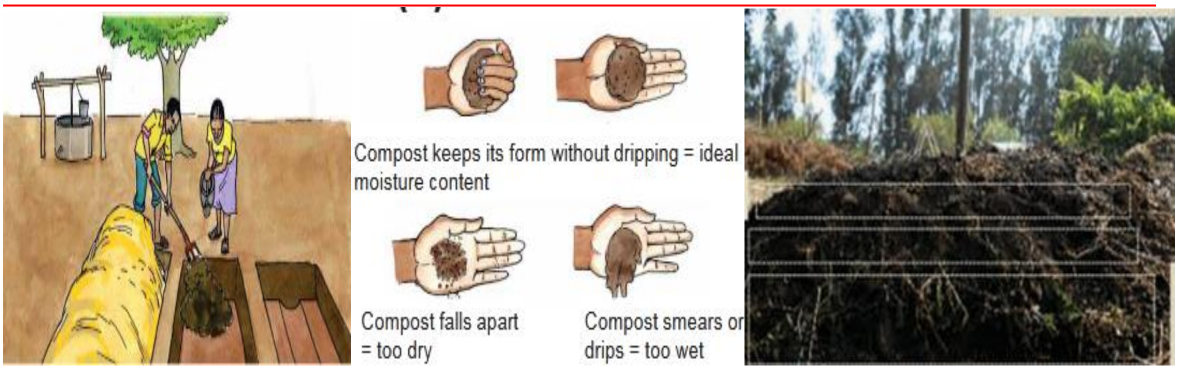
Step 4. Layering of green materials

Step 5. Layering of brown materials.

Step 6. Layering of brown materials

Step 7. Inserting a stick to monitor heat

Step 8. Apply water to moist the heap Step 9. Cover the heap with tarpaulin Step 10. Monitor heat using the inserted stick



Step 11. Keep on turning every 2 -3 day. Step 12.Ensure there is adequate moisture. Step 13. By 14 to 16 days the compost is mature.

Taswira ta 9: Matakan samar da taki daki-daki da tarkacen tsirrai da kashin shanu.

Wasu Dabarun Samar Da Taki.

1. A watsa ƙananan gutsurarrun ganyayyakin tsirrai mai kama da harawar wake ko gyada. Sannan a watsa takin kashin dabbobi daidai-wa-daita mai kaurin kimanin santimita 10 zuwa 15. Sai kuma a kara jeranta layi na tsirrar mai kama da harawa. A watsa gutsurarrun ganyen darbejiya daidai-wa-daita sai kuma a watsa ruwa domin tabbatar da ko'ina ya jiƙu. A sake jaddada hakan har sai dalar ta yi toroƙo. Sannan a lulluɓe ta da ganyen ayaba ko leda ko kuma tampol.
2. Ana iya cakuɗawa da ɓurɓushin hatsai mai ruwan ƙasa tare da takin kashin dabbobi irin su kashin shanu ko na kaji da kuma gurɓatattun abincin gida. A riƙa zuba ruwa domin kasancewa cikin danshi sannan a riƙa hautsinawa bayan kwana 7 har sai tarkacen sun ruɓe.

Samar da Sinadari da zai Gaggauta Samar da Takin Gargajiya

Wani ruwa ne da ake kintsa wa na musamman domin ya samar da dausayi, wanda zai gaggauta samar da taki a cikin karamin lokaci. Wannan irin ruwan kan hanzarta ruɓar da tarkace shara. Akwai dabaru daban-daban da akan yi amfani da su don samar da irin wannan shiryayyen ruwan, su ne kamar haka.

1. A zubi shinkafa cikin gwangwanin madarar peak guda 4 a cikin mazubi sannan a zuba ruwa 2 lita a ciki.
2. A murmurza shinkafar da ke cikin ruwan da tafin hannuwa biyu har sai ruwan ya sauya zuwa launin madara ko kuma fari-fari.
3. A rairaye shinkafar da rariya ko kuma a rege.
4. A zuba shuga (sukari) ko zuma ko kuma maɗi cikin cokali 3.
5. A zuba ƙunshin garin madara guda 3.
6. A cacckuɗa su tare da ruwa cikin jarka lita 4.
7. A cika jarkar har bakinta.
8. A rufe murfin jarkar sannan a bar ta na kwanaki 13 zuwa 15 domin ta haifar da ƙwayoyin cututtuka (laptobacteria).
9. A zuba gurɓataccen ruwan a cikin durum ɗin ruwa lita 200 sannan a caccakuɗa gaba ɗaya.
10. A yi amfani da ruwan domin jijjiƙa kowane layi na wannan dalar.

Tsarin Vermicomposting domin yin Takin Gargajiya to Amfani da Tana (Earthworm)

Tsarin vermisomposting a turance, wani mataki ne na tattaro tarkacen samar da taki ta hanyar yi amfani da tana domin samun taki kwatankwacin sauran dabarun samar da taki, sakamakon zai zama kammalalle. Ga misalan yadda akan samar da taki ta hanyar gudummuwar tana, kamar haka.

Mataki Na 1: a samo mazubi tare da murfinsa.

Mataki Na 2: Huda 'yan ramuka kimanin goma sha biyu a gewayen mazubin ta sama domin iska ta rarratsa.

Mataki Na 3: Zuba ƙasan mazubin da busasshen ɓurɓushin hatsi mai launin ruwan ƙasa a matsayin bedi.

Mataki Na 4: A ɗan jijjiƙa bedin kafin a zuba tanayen a ciki mazubin.

Mataki Na 5: A haƙa rami a bedin, a zuzzuba tanayen, sannan a binne su.

Mataki Na 6: A rufe karikitan cikin mazubin tare da jiƙaƙƙun jaridu ko takarda mai launin ruwan ƙasa.

Mataki Na 8: A karkaɗa tare da kakkaɓe mazubin dukkan mazuban tanar domin ba wa iska damar ratsa ko'ina.

Mataki Na 9: A ci gaba da zuba ɓurɓushin launin ƙasa a kan bedin a duk lokacin da aka zubaƙarin abinci.

Mataki Na 10: Kaɗan daga ciki takin zai kammaluhar a ɗebe a bayan wata guda.

Taswira Ta 10: Matakan samar da taki ta yin amfani da tanaye.

Samar Da Ruwa Taki na Compost Tea

Ruwan taki shi ne ruwan da ke tsatsubowa daga ingantaccen takin gargajiya da aka kamala shi ta kowane daya daga cikin hanyoyin da muka ambata a baya. Wannan wani fasali ne da ya shafi yadda akan tsatsibo ruwa daga takin gargajia da aka yamutsa shi da ruwa. Wannan fasali daidai yake da yadda za a yi ruwan takin saiwowi ko ruwan takin gama-gari, amma akan yi su ne da tsaftataccen ruwa amma ba dole ne sai ruwan famfo.

- A zuba cikin cebur na takin gargajiya takin a cikin bokitin ruwa kimanin lita 5.
- A zuba ruwa wanda bab gauraya shi da sinadarin chlorine ba, sannan a gauraya har sai sun game.
- A cika bokitin da ruwa sai a gauraya sosai.
- A gaggauraya haɗin sau ɗaya ko sau biyu a rana guda na tsawon mako guda.
- A tace ruwan ta hanyar amfani da rariya domin samar da zallar ruwan takin.
- A fasa ruwan wa shuka ko a kasa domin shuka ta amfana.
- Amma idan ruwan ya yi kauri ko baƙin-ƙirin ne, to, a surka da ruwa na 1:1
- A yayyarfa wa shuka ko a zuba a tushen shukoki.

Taswira Ta 11: Matakan samar ta ruwan taki na compost tea daga kammalallun takin gargajiya

Fasahar (Biochar) ta Amfani da Ɓuntun Shinkafa.

- A samar da dalar ɓuntun shinkafa yadda ake buƙata.
- A yi amfani da ciyayi, a kunna wuta a gewayen dalan ɓuntun.
- A bar shi ya riƙa ƙonewa har na tsawon awanni.
- A dakushe kaifin wutar da ruwa domin hana ɓuntun ƙonewa zuwa toka.
- A cakuɗa burɓushin tare da kashin shanu na rubu'i 1:1 domin inganta karsashin ɓuntun ya zamanto takin gargajiya.
- Ana iya inganta da karsashin ɓuntun ta amfani da fitsari ko kashin shanu ko na wata dabba da kuma ganyayyaki a cakuɗa su, sai a bar shin a tsawon makwanni biyu kafin yin amfani da shi a gona.

- A zuba a cikin ƙasa sannan a jiƙa wurin na tsawon makwanni 7 zuwa 10 kafin yin shuka.
- Akan iya amfani da wannan fasahar ta sarrafa ɓawon gyaɗa ko na agushi da makamantan su..

Taswira Ta 12: Matakan fasahar samar da taki daga ɓuntun shinkafa (Biochar).

Fasahar Haɗin Gambizar Ɓuntu da kuma Takin Kashin Dabba.

- A yamutsa ɓuntun tare da kashin dabba na kimanin awon rubu'i 3:1.
- An fi buƙatar danyen kashin shanu, amma bushashshe ma zai yi idan aka gama shi da ruwa.
- A jiƙa a hankali-a hankali sannan a cakuɗa shi sosai.
- A zuba ruwa ko kuma wasu tarkace a gewayen dalar domin yawaita tasirin ƙananan ƙwari.
- A lulluɓe dalar da leda ko tampol.
- A kula da yanayin ɗumama da kuma danshi, sannan bayan kwanaki 5, a yi amfani da dabarar caka sanda har sai takin ya kammalu.

Siffofin Ingantaccen Kammalallan Taki.

i. **Launi**: Ingantaccen taki na da launin ruwan makuba ne (baki baki).
ii. **Sura**: Ingantaccen taki a cuccure yake kuma yakan rarrabu da kyau.
iii. **Kamshi**: Ingantaccen taki yana da ƙanshin ƙasa kuma ba ya tsami ko ɗoyi.
iv. **Danshi**: Ingantaccen taki yana da dausayi.
v. **Kammaluwa**: Ingantaccen taki kaɗai ya wadaci shuka ta hanzarta girma.
vi. **Sinadarin Organic Matter**: Ingantaccen taki na ƙunshe da sinadarin organic matter tsakanin kaso 30 zuwa 70 a cikin ɗari.
vii. **Girman Ɓurɓushi**: Ingantaccen taki na da ƙananan ɓurɓushi, hakan na nuna cewa takin ya kammala.

viii. **Guba**: Ingantaccen taki bai ɗauke da guba ko cututtuka ga shuka ko dan adam.

ix. **Doyi**: Kammalallen taki bashi da wari, tsami ko doyi.

x. **pH**: Ingantaccen taki na da sanannen matakin pH.

xi. **Sinadaran sa shuka girma**: Ingantaccen taki na ɗauke da wadataccen sinadarin bunkasa girman shuka da kuma yabanya.

Gabatarwa Dangane Da Yin Taki Gargajiya Don Kasuwanci

Yin taki domin sayarwa kan sauya tarkacen da aka samo su daga ganyayyaki ko dabbobi da ba a bukarsu zuwa ga samar da ingantaccen taki domin gyara ƙasar noma da kuma samun hatsi mai yawa. Hakan kan kasance muhimmiyar dama wa kasuwanci tare da samar da gwaggwaɓar riba wa 'yankasuwa sakamakon tsananin buƙatar taki da manoma ke da ita. Abubuwan da akan haɗa daga tarkacen don kasuwanci su ne kamar kayan cimaka waɗanda suka ƙunshi gurɓatattun abinci da tarkacen muhalli da kashin dabbobi da kuma sauran ɓuraɓuzan kayayyakin amfanin gona. waɗannan abubuwan na cike da sinadaran carbon da kuma nitrogen.

Taswira Ta 13. Jibga-jibgan dalar tarkacen haɗa taki don samar da takin gargajiya domin kasuwanci.

Samar Da Sauƙaƙan Tarkacen Takin Kasuwanci

1. **Takin Kashin Dabbobi:** Kashin dabbobi na samuwa a ciki-da-bai na dukkan kasuwannin dabbobi da akan iya sarrafawa zuwa takin gargajiya domin kasuwanci.
2. **Ɓutun Shinkafa:** Akan sami ɓuntun shinkafa da yawan gaske a masan'antar casar shinkafar wadda za a iya sarrafawa a matsayin tarkacen samar da taki domin kasuwanci.
3. **Dusar Katako ko Gutsattsarunsa:** Akan sami wadatattun dusa ko kuma gutsuttsurarrun katako a ciki-da-bai na masana'antar sarrafa katako da akan sarrafa don samar da taki domin kasuwanci.
4. **Ƙwanson Gyaɗa da Ɓawon Agwushi:** Akwai masana'antun casar gyaɗa da agushi sa dama waɗanda kan samar da adadin ɓawon gyaɗa masu yawan gaske da yi amfani da su domin samar da takin kasuwanci.

5. **Lalatattun Ganyayyaki da kuma 'Ya'yan Itatuwa:** Akan iya sarrafa tarkacen **ruɓaɓɓun** kayan lambu da kuma 'ya'yan itatuwa da akan samu a cikin yankunan kasuwanin kayan gwari wadanda ke kewaye da manyan garuruwa da birane domin samar da takin gargajiya.

Muhimman Matakan Samar Da Takin Don Kasuwanci

1. **Tattarawa da Shisshiryawa:** Akan tattara tarkacen a yi ƙwaya-ƙwaryar ciccire abubuwan da ba a buƙata tare da tumurmushe tarkacen zuwa ƙanana domin hanzarta samar da wanzuwar kananan halittu a ciki do rubar da shi.
2. **Ingantaccen Haɗi:** A cakuɗa tarkace daban-daban domin samar da kyakkywan yanayin da kan ƙarfafa wa halittun samun damar ruɓarwa.
3. **Ƙalailaicewa:** Bayan gudanar da ingantaccen haɗi, tarkacen kan shiga matakin ƙalailaicewa a inda daga nan tasirin halittun kan dakata sannan tarkacen takin zai daidaitu.
4. **Tantancewa da Killacewa:** Akan tantance takin ta hanyar ciccire duk wasu abubuwa marasa kyau ko abubuwa marasa nasaba da taki irin su robobi sannan a killace a cikin buhuna domin sayarwa.

Tsare tsare Dabam Dabam don Samar Da Taki ta hanyar Kasuwanci

Dalar Tarkacen yin Taki: Samar da takin ta hanyar tarin tsubin tarkace ya jiɓanci yadda akan tara abubuwa masu ɗumbin yawan, haka tarkacen za su kasance a jibge wuri guda har na tsawon lokacin ruɓewarsu. Ana saka bututu a ƙarƙashin tarin tsubin tarkacen domin a tabbatar da samuwar cikakkiyar iska mai amfanarwa ga tarkacen. Wannan bututun kan ba wa iska damar kutsawa zuwa cikin wannan tarin, hakan kan sauƙaƙa yawan hautsina tarin tarkacen.

Taswira Ta 14. Dabarar Samar Da Taki Ta dalar Tarkace.

Samar Da Taki Ta Sunduƙi: Samar da taki ta cikin sunduƙi na kasancewa hanyar samar da taki don kasuwanci mafi karɓuwa, tarkacen samar da takin kan ruɓe ne a cikin rufaffen sunduƙi. Wannan dabarar kan tabbatar da damar kulawa da yanayi da kuma tabbatar da hanzarta ruɓewar tarkacen samar da taki.

Taswira Ta 15. Dabaran samar da Taki Ta Sunduƙi.

Tsarin Dogayen Kunyayyaki: Wannan tsarin shi ne irin wanda akan shisshirya dogayen layikan tarkacen samar da taki. Wannan dabarar kan dace da tarkacen samar da taki iri daban-daban tare da samar da daidaito. Daga bisani sai a jirkita jerin tarkacen domin iskar oxygen ta rarratsa ko'ina, wannan na da tasirin gaske wajen ruɓar da tarkacen.

Taswira Ta 16. Dabarar Samar Da Taki Ta Jerin Kuyayyakin Tarkace.

Samar Da Takin Ruwa Domin Kasuwanci

Akan zuba ruwa galan 250 na ruwa wa kammalallan takin gargajiya ko kuma na tataccen takin da aka surka da ruwa. Ana iya zuba wasu ƙwayoyin halittu domin su agaza wajen lausasa tare da kyautata samuwar ruwan taki.

Taswira Ta 17. Dabarar Samar Da Takin Ruwa Domin Kasuwanci.

Fa'idar Samar Da Taki Domin Kasuwanci.

- Samar da taki kan rage yaɗuwar cututtuka da kuma daidaita ɗumamar yanayi.
- Samar da taki kan yi tasiri wa harkar noma da kuma taskace ruwa.
- Hakan kan rage buƙatar sinadaran takin zamani ta hanyar maye gurbin su da ingantacciyar ƙasar da aka kyautata da takin gargajiya.
- Samar da taki domin kasuwanci kan sauya tarkacen juji zuwa ga hanyar samar da kuɗin shiga sakamakon sayar da muhimman abubuwan da aka samo daga tarkacen.
- Takin kan inganta yanayin ƙasar noma.
- Hakan kan inganta gudanuwar ruwa da kuma samar da muhimman nutrients wa shukoki.
- Hakan kan ƙarfafa ayyukan noma tare da inganta yanayin gona to tsarin noma.

Kayayyakin Aikin Da Ake Bukata to Yin Taki Don Kasuwanci

Injin Daddatsawa Da Na Nika: Kan daddatsa tarkacen juji zuwa ƙanana wanda kan sauƙaƙa wa ƙanana halittu karsashi wajen samar da taki.

Injin Hautsina Jerin Kunyayyakin Tarkace: Hautsinawa na samar da iska wa tsubin tarkace kan tabbatar da yiwuwar ratsuwar iska daidai-wa-daita a ciki tsubin tarkacen kuma ɗumi zai bazu domin daidaita yanayin wurin.

Abin Tantancewa: Ana amfani da wannan abin ne wajen tace kammalallen taki da kuma manyan ɓuraɓuzai sannan da abubuwan da ba sa sarrafuwa domin tabbatar da inganci da daidaito.

Abin rarrabewa: Wannan kan rarrabe abubuwa cutarwa marasa nauyi kamar su, guntattakin robobi da ke cikin taki tare da tabbatar tsaftataccen kammalallan taki.

Na'urar Gano Yanayin Ɗumama: Wannan kan iya lura da yanayin ɗumi da kuma danshin tarkacen a yayin samar da taki.

Kalubale da kuma Mafita Ga Samar Da Takin Kasuwanci

1. **Sarrafa Doyi**: Rashin daidaiton ɗanyen ganyayyaki da kuma ganyayaki launin ruwan ƙasa kan haifar da ɗoyi.
2. **Sarrafa Ƙwari**: Rashin daidaita tsarin samar da taki kan jawo hankali ƙwari kamar su ƙudaje da kuma ɓeraye.
3. **Bin Tsarin Gudanarwa**: Dole ne a kiyayewa da tsarin gudanarwa bisa yadda aka tanadar.
4. **Tarkacen Da Ba a Buƙata**: Wasu tarkacen irin su, nama da madara da 'yarbebi kan cututtuka irin su, guba da kuma tsirrai.
5. **Matsatsi**: A cikin alƙaryu, matsatsin muhalli kan haifar da wahalhalu a yayin tsara shirin samar da taki.
6. **Sufuri da kuma Tattarawa**: Yakan zama da matuƙar wahala a iya tattarawa da kuma safarar tarkacen yin taki zuwa ga masarfafa.

Mafita Ga Ƙalubalan samar Da Takin Gargajiya domin Kasuwanci

i. **Ɗanyun Ganyaye Da Masu Ruwan Ƙasa**: A kula da daidaiton sinadarandake samar da carbon da kuma masu samar da nitrogen wa tarkacen taki.

ii. **Hautsina Jerin Tarkace A Kan Kari**: A daidaita yanayin kutsawar iska lokaci bayan lokaci ta hanyar yamutsa jerin tarkacen.

iii. **Yi amfani da sauƙaƙan tarkacen da za iya sarrafa su**: A Binciki matsayi da kuma salsalar tarkacen samar da taki kafin a gauraya su a cikin tarkacen samar da takin.

iv. **A Yamutsa ko A Hautsina Tarkacen Bayan Lokaci**: A killace tsubin tarkacen takin daga tsananin ɗumama da kuma yiwuwar tsirar ciyayi masu haɗari.

v. **Haɗin kan Hukumomin Kula Da Tsaftace Muhalli**: A nemi goyon bayan hukumomar kula da tsaftar muhalli a yayin kwasa da kuma sufurin tarkacen samar da taki.

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