

Tikugashirei Ku Biogas Network ye Murimi Mukuru



**Chechi
tatu**
Chinyorwa

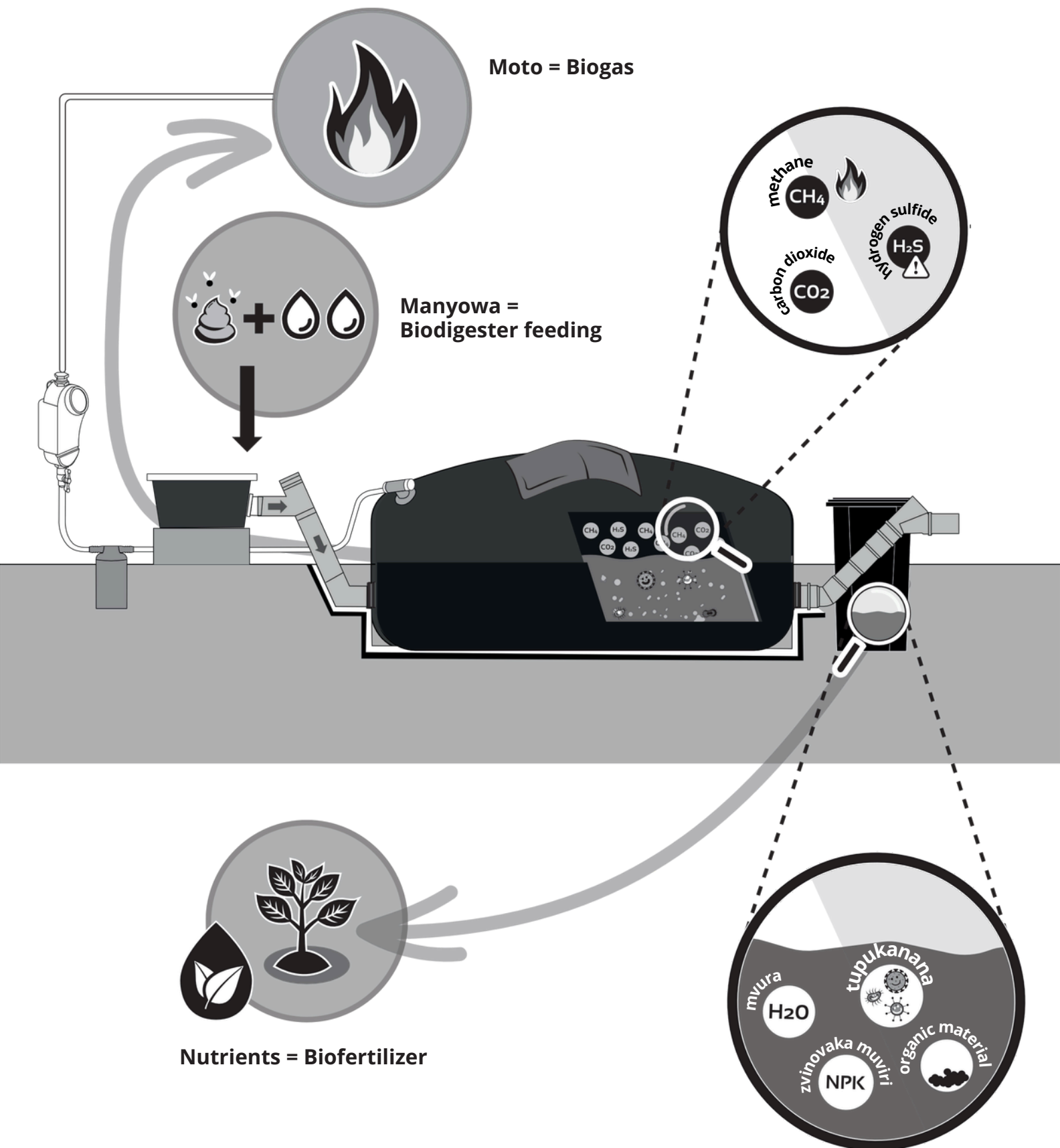
*Inosanganisira
Regenerative
Agriculture*

Wana Zvakanyanya Kubva Pa
Biodigester!

Bhuku reMushandisi 3.0

 **SISTEMA.bio®**

Kunzwisisa Biodigester Rako

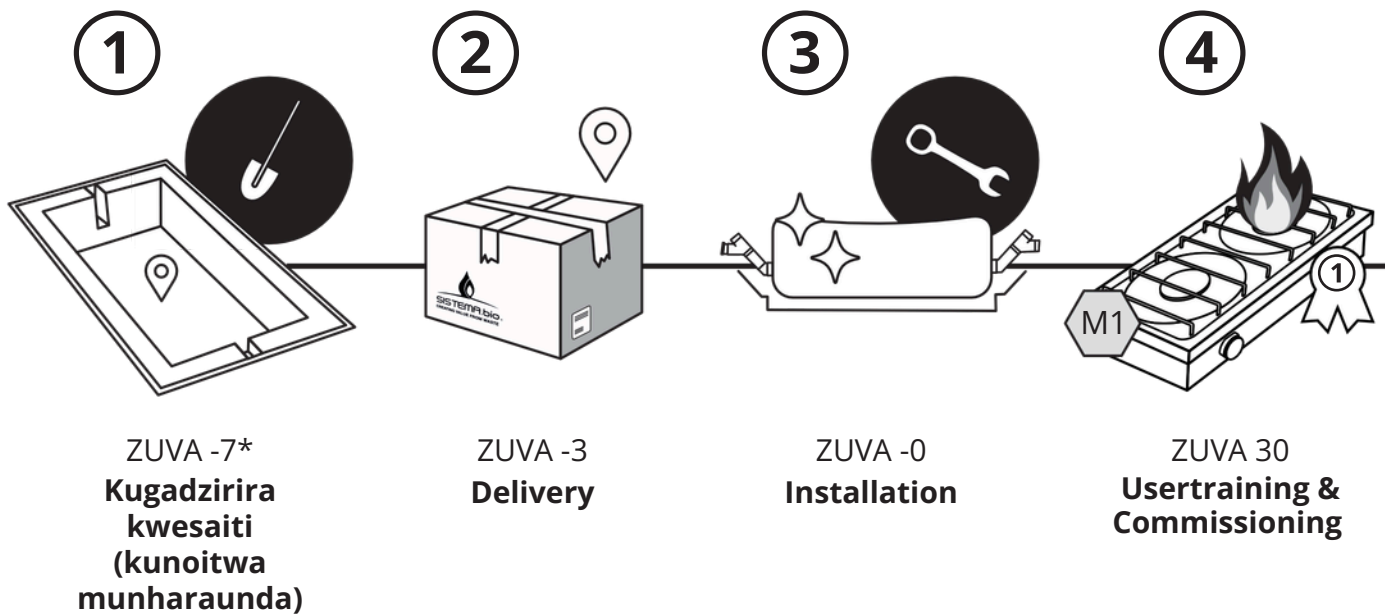
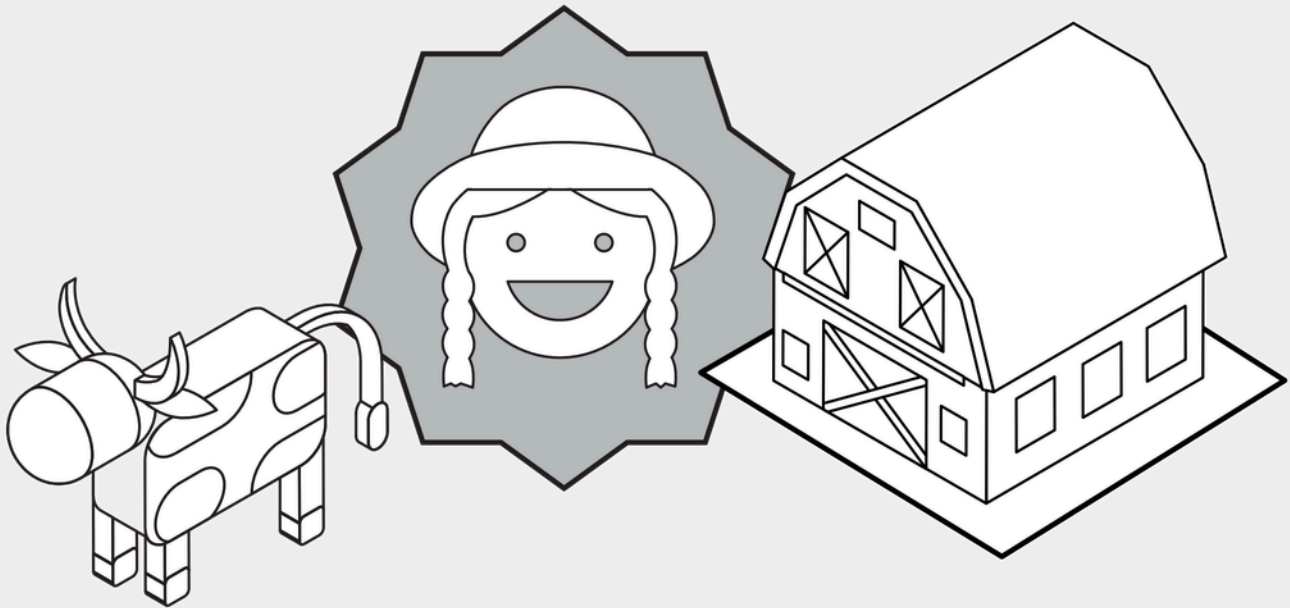


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Rwendo Rwako NeSistema.bio

Iwe urikukwira rwendo rweSistema.bio digester!



Monitoring



kushanya kwe
Monitoring

*Mazuva ese anofungidzirwa uye ane ruzivo.

**Zvinoteverwa neSMS kana runhare rusina kupindurwa.

Ndezvipi zvakanakira rwendo rwevatengi?



Waranti yegore rimwe chete yemuchina wegesi nemidziyo, uye makore gumi ekusashanda zvakanaka kweganda dema remuchina wekugadzira mafuta.



Kushanya katatu pachiso nepaso kunofukidza kuiswa, kudzidziswa kwevashandisi vako uye kuteverwa kwekuisa.



Rutsigiro rweVatengi ruripo kuti rupindure chero kusava nechokwadi kwaungave nako kana kugadzirisa pakuisa kwako kana zvichidikanwa!

5



M2

ZUVA 90

**Adoption call
& sarudzo
yekushanya**

6



M3

ZUVA 180

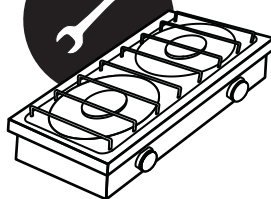
**Impact kuyerwa &
Kudzidziswa**

7



GORE 5

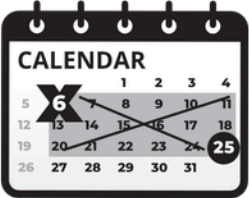
**ProactiveInstallation
kugadzirisa ****



KANA
ZVICHIDIWA

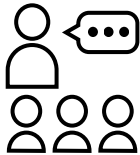
**Kushanya
kwesevhi****

Glossary Yezviratidzo uye Icons

General Icons	
	USA
	ITA
	Frequency
	Counterweight
	Ivhu
	Mutengi asina kufara
	Favourite/ Zvisizvo mhedzisiro yezvakatipoterredza
	Reuse/recycle

Safety Icons	
	Kuvhinza kwe Biogas
	Ngozi yemoto
	Kuchen jerera
	Inou raya

Zve USER



Unganidza vese vanoshandisa biodigesters nemhuri yako pamwe chete, nyatsoteerera uye tora chikamu! Tekinizheni wako achapa kudzidziswa mukati mezhvikamu izvi:

- Kuiswa: 30 min
- Kutarisa 1: 45 min
- Kutarisa 3: 30 min



Kana mukasangana nematambudziko paunenge uchishandisa sisitimu yenyu, tarisai matanho ekugadzirisa matambudziko ari pamapeji 36 kusvika 41 mubhuku rino. Kana dambudziko rikaramba riripo, musazeza kubata customer care kuti muwane rutsigiro (ona peji 48).



Youtube vhidhiyo uye nhamba yereferensi kubva pane youtube runyorwa.

Zve TECHNICIAN

00 • Visit

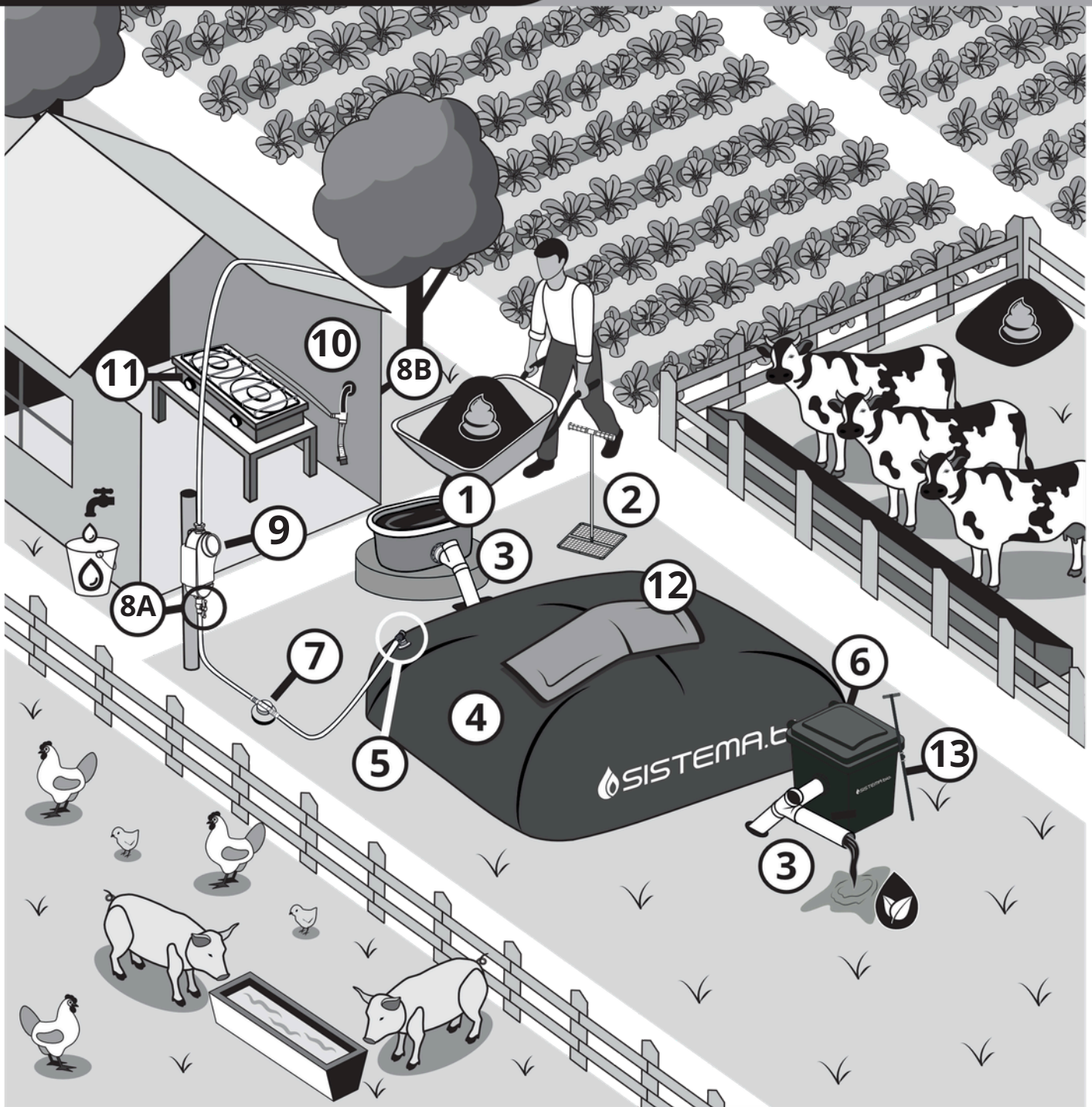
Nepeni, denderedzwa/simbisa wozadza zvakadzama pamapeji 20, 40, 41, 42, 43 nemamwe mapeji akakodzera.



Nepeni, tenderedza/simbisa uye zadza ruzivo rwakakodzera pamapeji 42 kusvika 46 nemamwe mapeji akakodzera.



Skena iyi QR kodhi kuti uwane iyo master playlist nemavhidhiyo ese akaiswa mubhuku rino. Mukati mebhuku rese, iwe zvakare unowana maitiro-chaiwo playlists akarongeka kwaunoda iwo.



Ziva zvinhu zvekuisa kwako

- | | | |
|---|--|----------------------------|
| 1. Tangi rekufidha | 6. Tangi rekubuditsa mvura muBioslurry | 10. Musungu wemvura |
| 2. Musanganiswa wemanyowa | 7. Vharuvhu yekurerutsira kumanikidzwa | 11. BioStove |
| 3. Mapaipi ekupinda nekubuditsa reactor | 8. Mavharuvhu ekuparadzanisa | 12. Kurema kwakakosha |
| 4. Biodigester | 9. Sefa yeBiogas | 13. Chishandiso chekuvhura |
| 5. Nzvimbo yekubuditsa gasi | | |

Cherechedza: Zvikamu zvinogona kusiyana zvichienderana nenharaunda uye mamiriro emunharaunda yeprojekti.

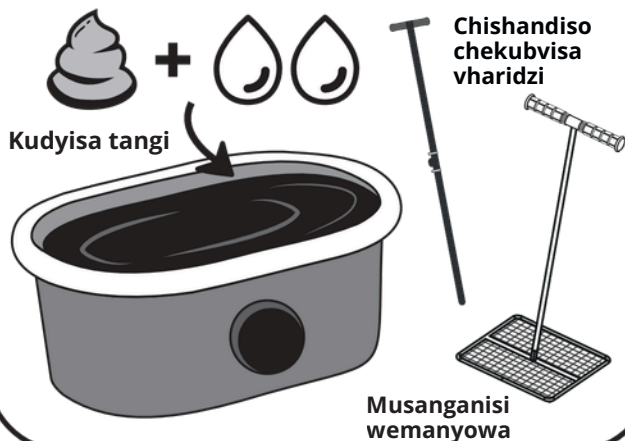


Zvikamu zvinoshanda pa Biodigester

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1

Tangi rekudyisa: Rinokubvumira kusanganisa ndove nemvura uchishandisa muchina wekusanganisa ndove. Rinokubatsirawo kuona nekubvisa zvinhu zvisingadiwe.



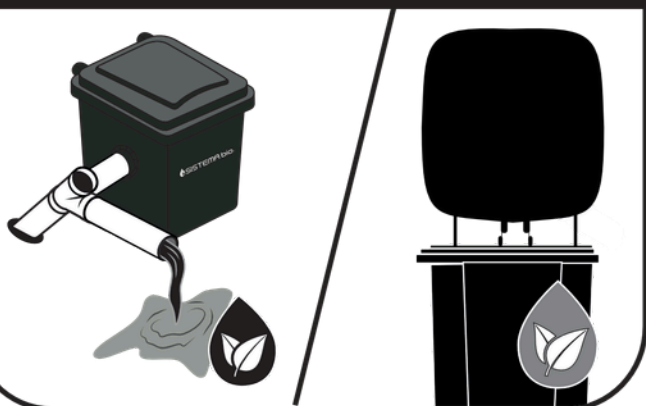
7

Pressure relief valve (PRV): Inodzora kudzvanywa mu biodigester uchishandisa mvura yekupikisa-kumanikidza.



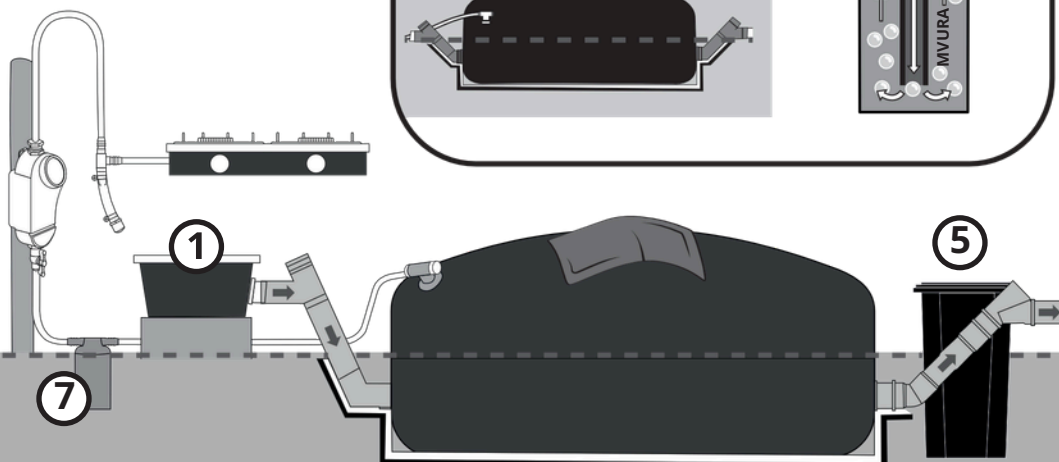
6

Tangi rekubuditsa zvinhu zveBioslurry: Rinokutendera kuti uchengetedze uye uwane zvinhu zvebioslurry.

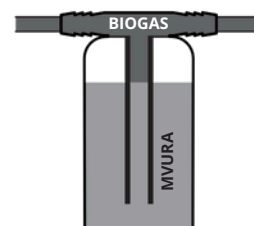


CHERECHEDZA: Zvese izvi zvikamu zvinoda nguva dzose kushanda uye kugadzirisa zviito sezvakatsanangurwa gare gare mubhuku rekushandisa!

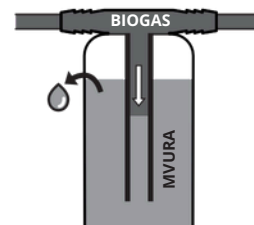
Zvikamu zvinogona kusiyana zvichienderana nedunhu uye mamiriro enzvimbo yeprojekiti.



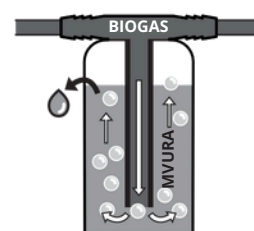
a. KUDIKIRWA KWAKADZIKA



b. KUDIKIRWA KUNOWEDZERA



c. KUDIKIRWA KWAKURU



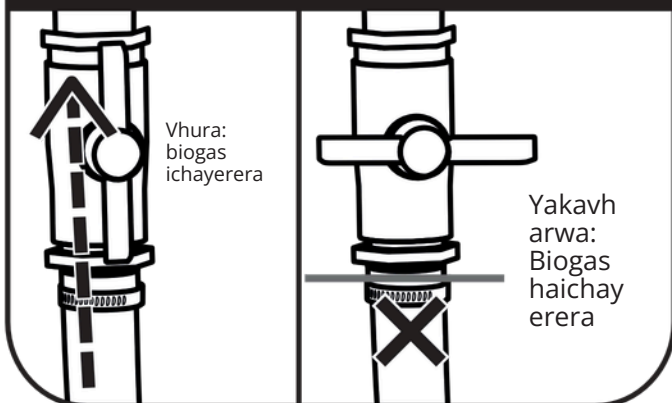


Zvikamu zvinoshanda pa Biodigester

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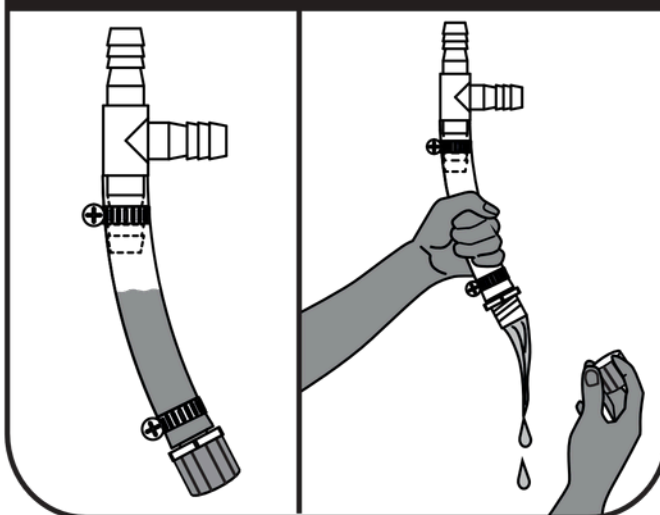
8

Isolation valve: Inokubvumira kuvhara uye kumisa kuyerera kwebiogas.



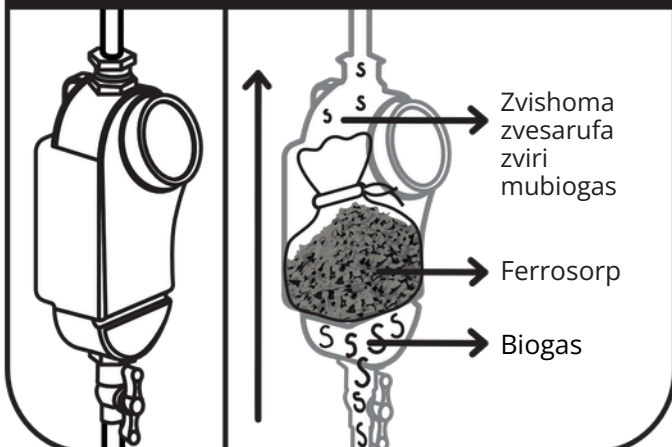
10

Musungu wemvura: Kana tembiricha yadonha, mvura iri mubiogas inodonhedza uye inounganidzwa nemisungo yemvura.



9

Biogas filter: Inobvisa H₂S kubva kubiogas, zvichiita kuti sisitimu ive yakachengeteka uye kuwedzera hupenyu hwemidziyo yesimbi.

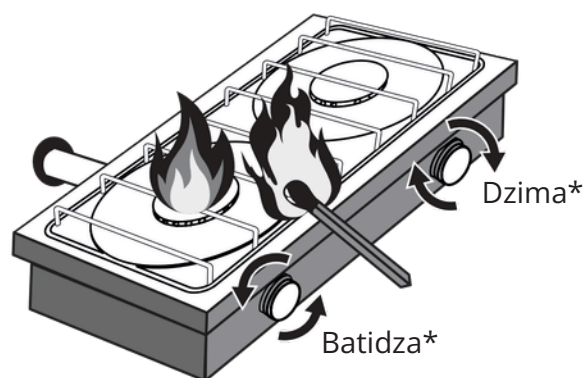


CHERECHEDZA: Zvese izvi zvikamu zvinoda nguva dzose kushanda uye kugadzirisa zviito sezvatsanangurwa gare gare mubhuku rekushandisa!

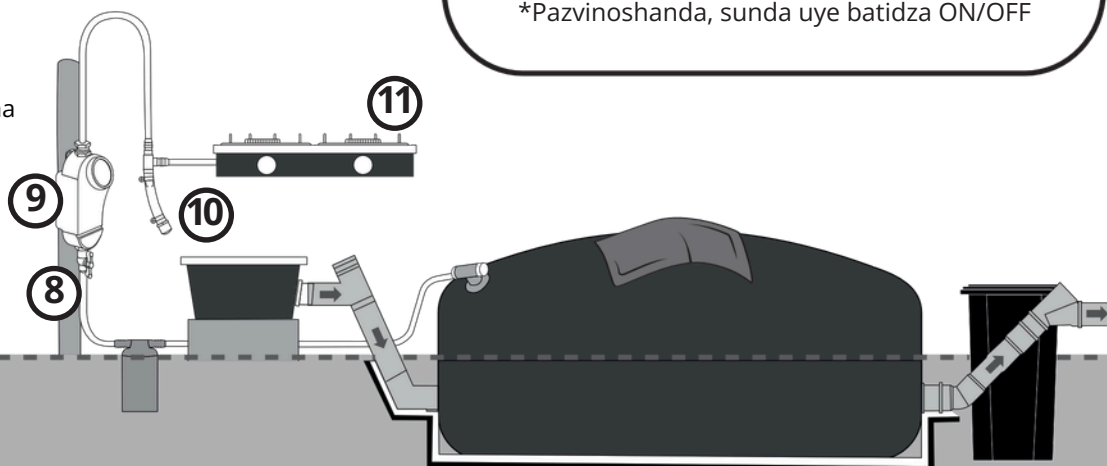
Zvikamu zvinogona kusiyana zvichienderana nedunhu uye mamiro enzvimbo yeprojekiti.

11

BioStove: Chishandiso chinanganisirwa mune yakajairika kit.



*Pazvinoshanda, sunda uye batidza ON/OFF





Safety

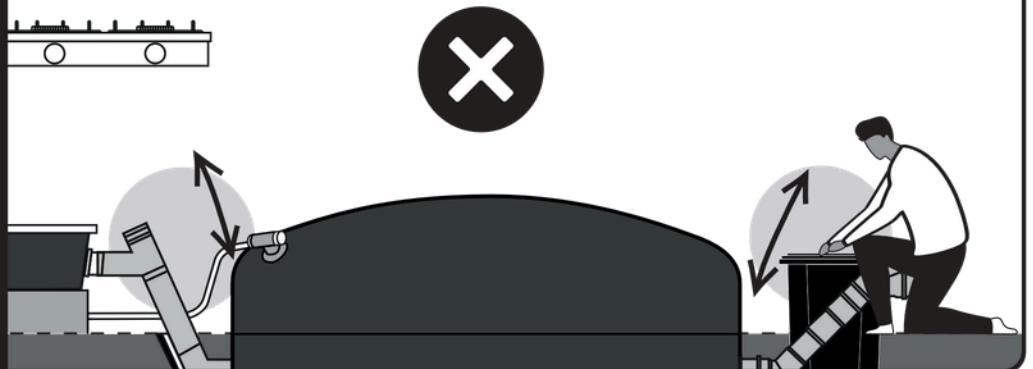
Biodigester

SISTEMA.bio®

USA
bvumira vana
vasina kutarisirwa
vakatenderedza
digester,
USASvetukira
pamusoro kana
kumhanya pane
digester.



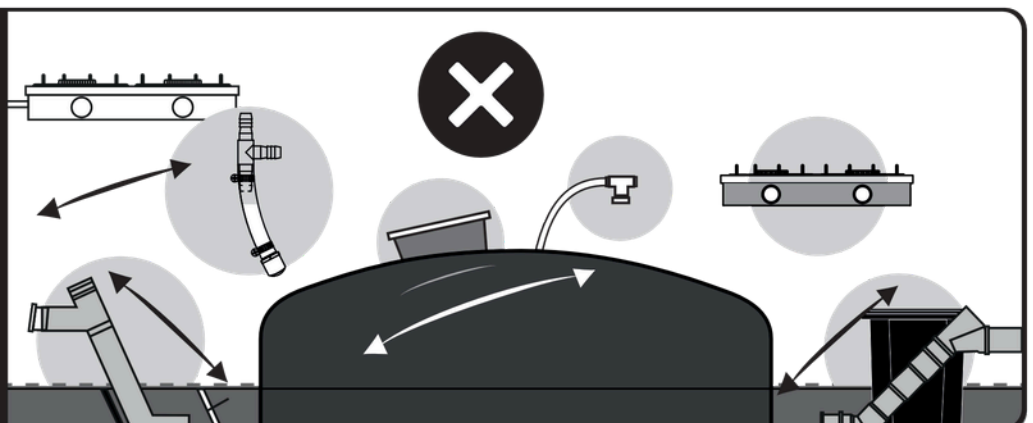
USA
kudhonza,
kusimudza kana
kusimudza mwero
wepombi
dzinopinda kana
kubuda
the digester.



USA
utsi, shandisa
zvinhu zvinopinza
kana kugadzira
mirazvo pedyo
biodigester
nzvimbo.



USA
kuchinja the
nzvimbo
yebogas
components.





Safety



Bioslurry

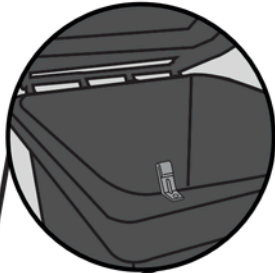
SISTEMA.bio®

YEDIGESTER 3.0 (TANKI YEBIOSLURRY INE CHIVHIKIDZO CHEKUDYA)

Chivharo chetangi reBioslurry chinofanira kugara chakavharwa uye chakakiyiwa nguva dzese. Chinofanira kuvhurwa chete kuti chiunganidze bioslurry uchishandisa bhaketi kana pombi.

Chivharo chinozovhara chega kana chavharwa. Ita shuwa kuti chakakiyiwa.

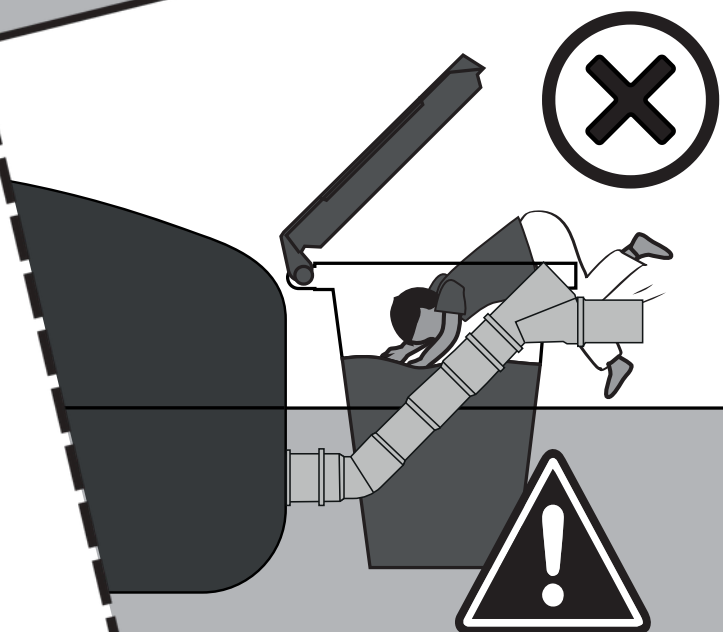
Sundidzirai chinhu chinokiya mberi kuti muvhure chivharo.



Chengeta chivharo chakakiyiwa uye shandisa bioslurry kudzivirira kuzara kwemvura.



Hapana murazvo wakavhurika usina njodzi.



Njodzi yekunyura.



Safety



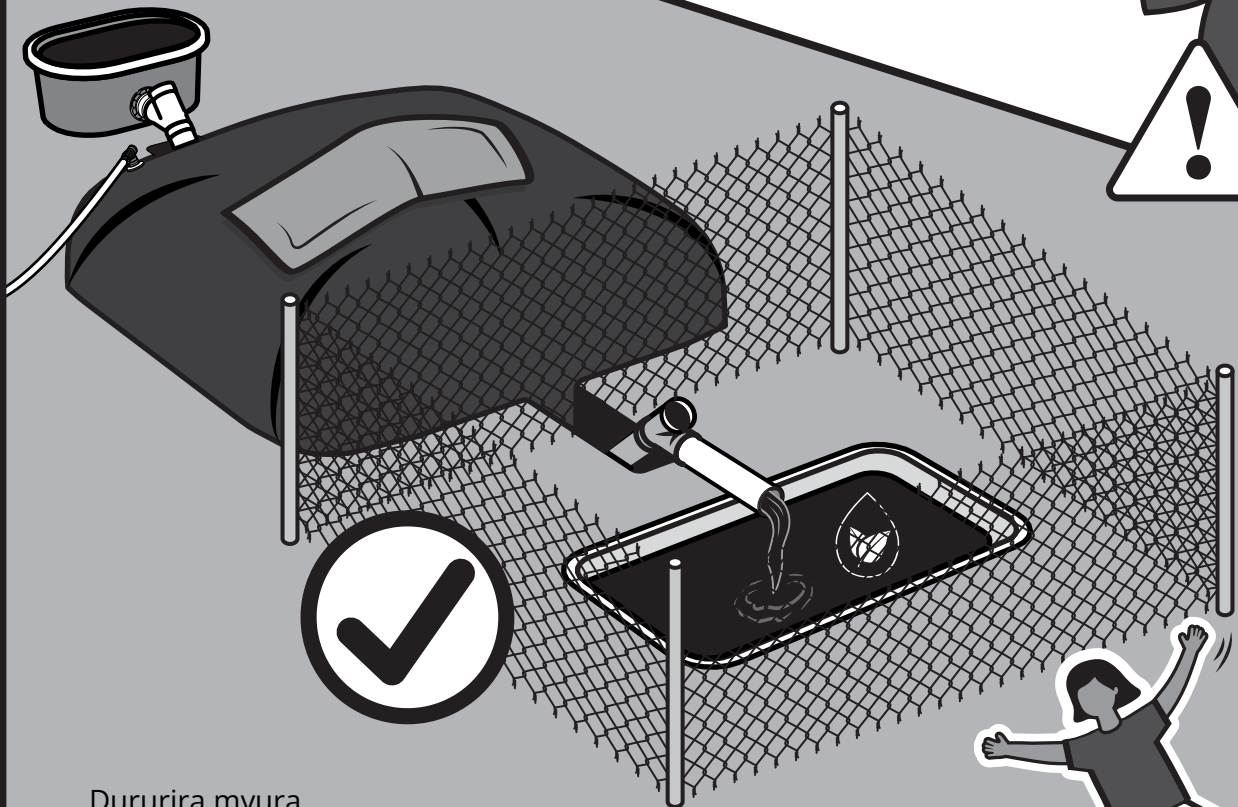
Bioslurry

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Kana ukazvigadzirira tangi rako reBIOSLURRY OUTLET

Dzivirira kupinda kwayo kudzivirira tsaona. Fenzi inofanira kunge isingapindi vana, yakasimba zvakanakwana kuti igare nehuremu hwe30 kg, inogara kwenguva refu, uye isina nzvimbo dzakavhurika dzekudzivirira mhuka nevana kuti vasawire mukati. ITA KUTI UWANIKEZE FENZI YAKO KAZHINJI UYE ICHENGETEDZE PAUNONZWA KUVAKA KUTI TANGI RAKO RIVE RAKANAKA.

USANWE bioslurry, dzivisa kusangana zvakanangana nemaziso neganda.



Dururira mvura inoyerera pamusoro pevhu kubva kumudziyo wekugaya kuti ivhu risakukurwa uye madziro emugero aputsike.



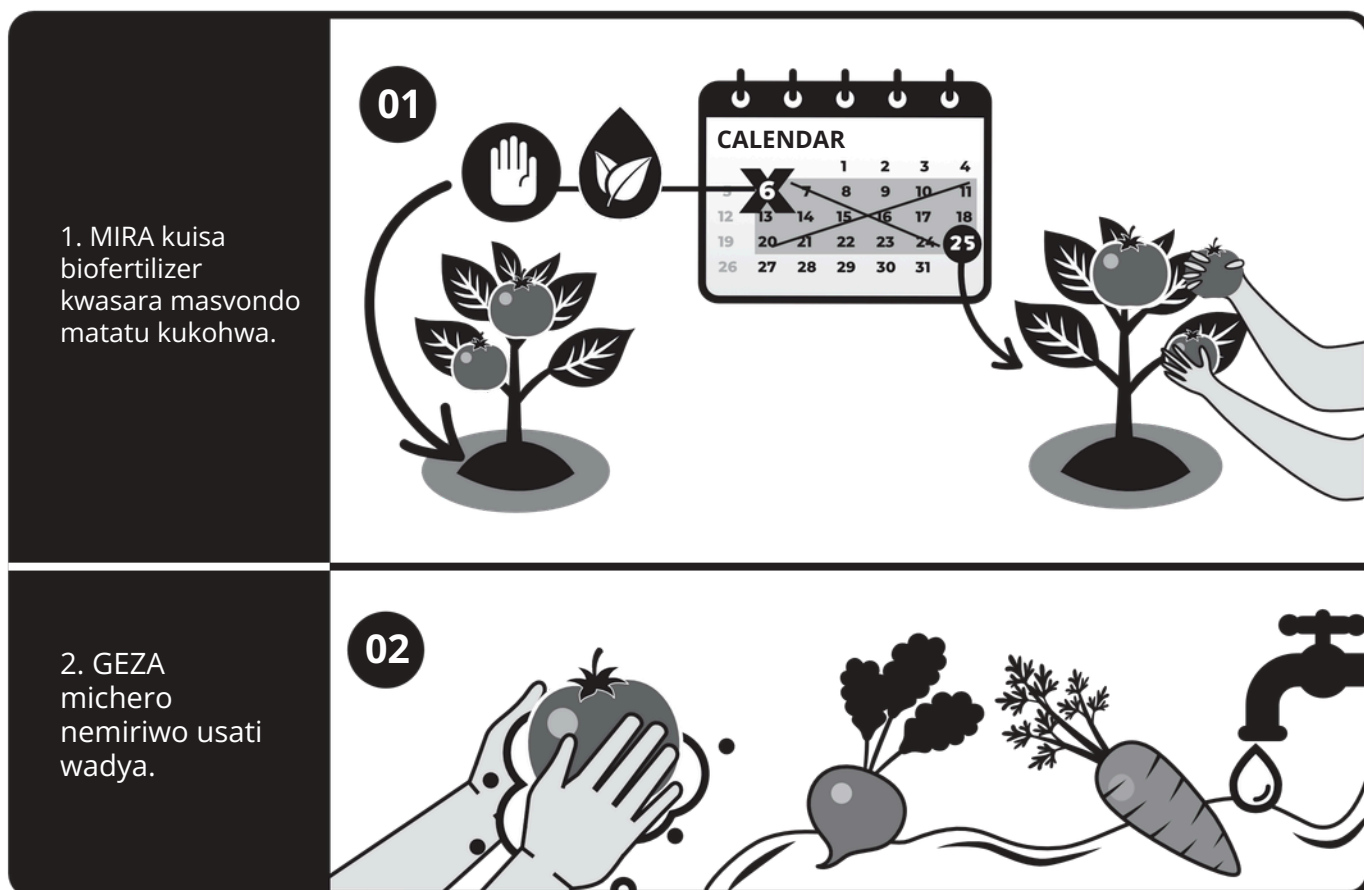


Safety



Bioslurry

SISTEMA.bio®





Safety



Biogas

SISTEMA.bio®

Usafemesa biogas
zvakananga chero
mamiriro ezvinhu.

Biogas ine chepfu.
Kuifema kunogona
kuuraya.



Kunze / mukati

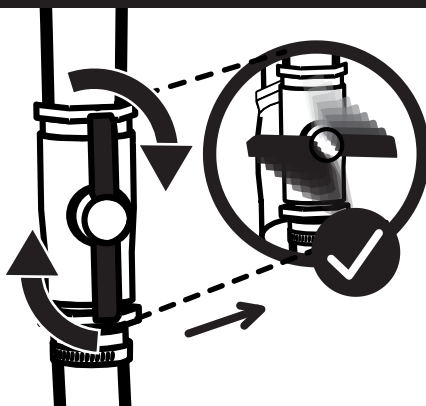
1. Kubuda kwebiogas
kunogona kunhuwa
kunge MAZAI AKAora.



2. Kana pakange pabuda mvura
mumba, ibva paimba sezvo paine
njodzi yemoto uye chepfu.



3. VHARA vharafu
yekuzviparadzanisa nevamwe
kuti UMISE kuyerera kwebiogas.



4. VENTILATE mumba kuti
gasi ripere.



5. ONA uye
GADZIRA panobuda.



6. FONERAI sevhisti yenyu yekutarisira
vatengi kuti mugadzirise dambudziko
kwenguva refu. Ndapota tarisai peji 48.





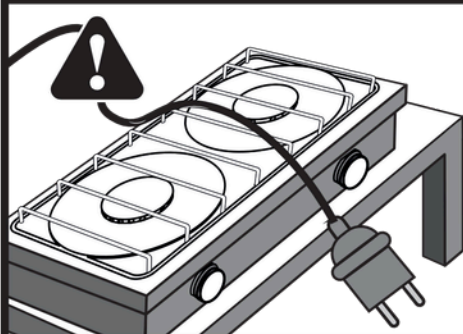
Safety



Biogas

SISTEMA.bio®

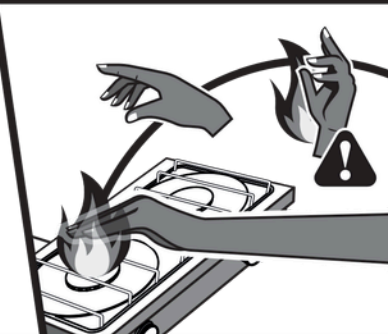
USArega chero waya kana zvinongedzo zvichienda pamusoro pechitofu. Isa iyo BioStove panzvimbo yakasimba uye yakatsiga.



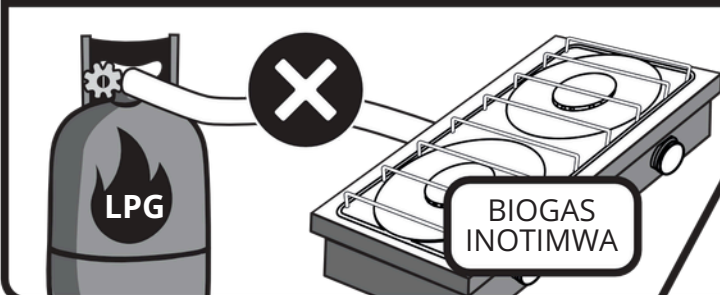
USAisa maketeni kana chimwe chinhu chinopisa pedyo nerimi remoto.



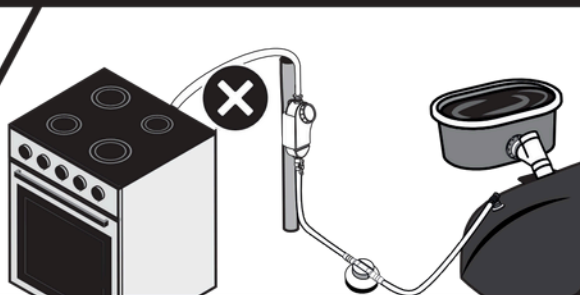
CHENJERA paunenge uchishandisa BioStove sezvo uchigona kuzvipisa.



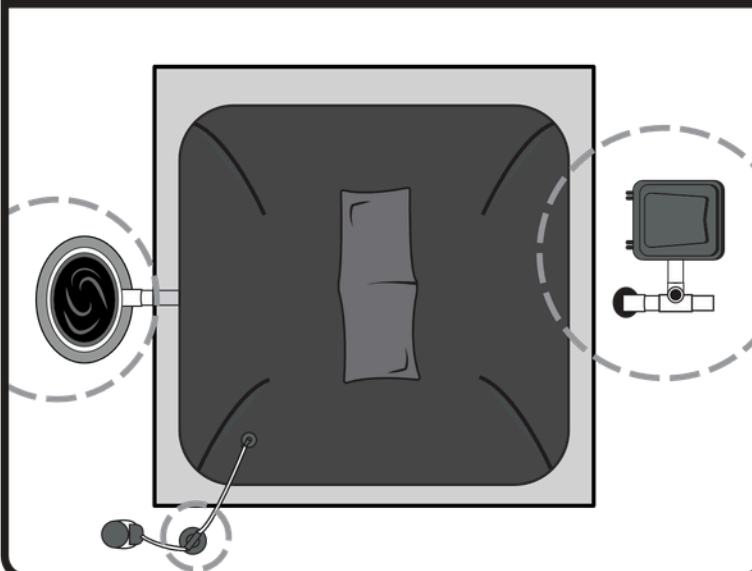
USAbatanidza iyo BioStove kune chero gasi kunobva kunze kweiyu biodigester.



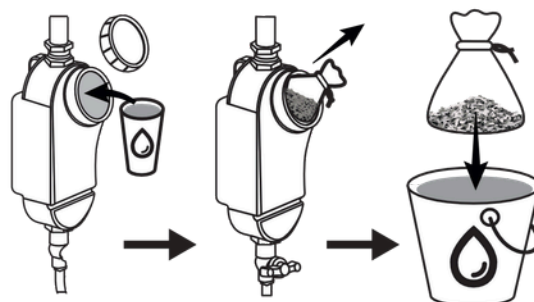
USAbatanidza mutsetse webiogas nechitofu chegasi chaiwo.



KANA BIODIGESTER RIKAITWA MUGREENHOUSE, vharuvhu rekubvisa kumanikidzwa uye tangi rebioslurry zvinofanirwa kuiswa kunze kwegreenhouse. Greenhouse inofanira kunge ine mhengo yakakwana isati yapinda.



Kuchengeteka Panguva Yekuzvarwa patsva



YAMBIRO: firita inogona kutsva kana yakabatana nemhengo. Mushure mekuvhara vharuvhu uye kusunungura chivharo, dururirai litre yemvura mufirita. Zvadarwo, kuti idzokezve, mushure mekubvisa bhagi kubva mufirita yebiogas, rinyike mubhaketu remvura kuti risapise uye rikonzere moto.



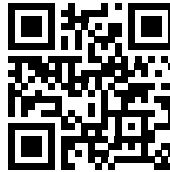


Biodigester Kutanga

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Skena kana kudzvanya paQR macode padivi pe document.

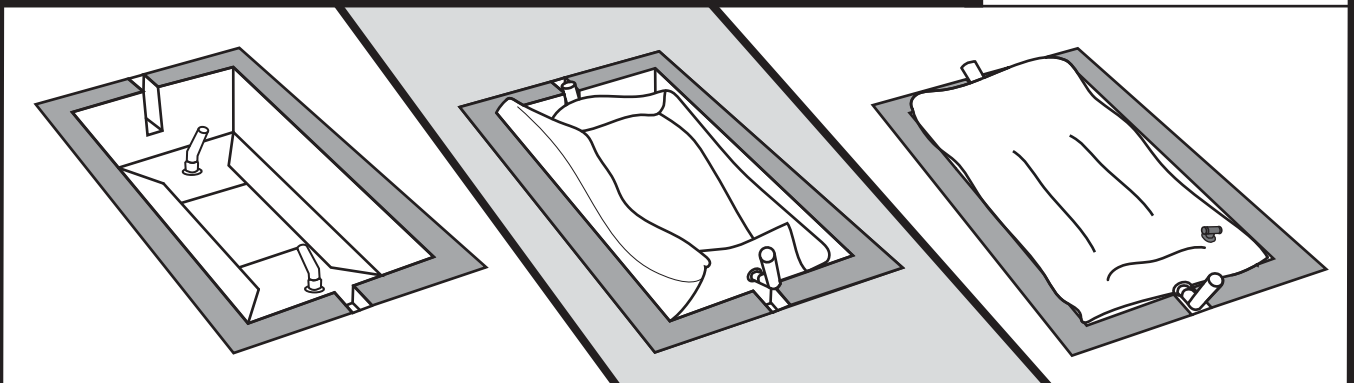


Skena kana kudzvanya pane iyi QR kodhi kuti uwane mavhidhiyo anotsigira chikamu "Biodigester kutanga".

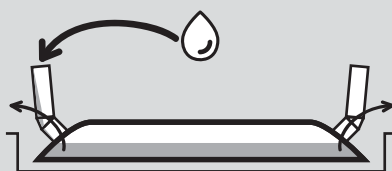
STEP 1 Zadza reactor nemvura kusvika mvura yasvika panopinzwa nepamagokora.



(i5)



Kuzadza = 0%



Kuzadza = IN PROGRESS



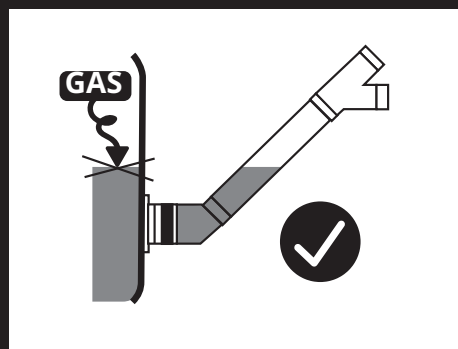
Kuzadza = 100%



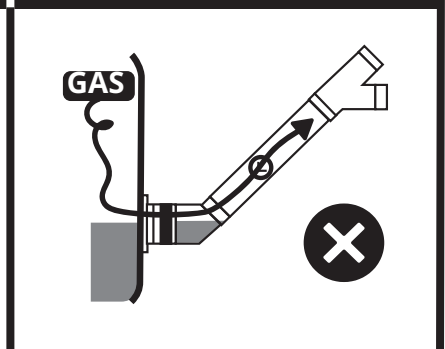
Mvura inodiwa kuzadza biodigester

	m3	liters
Sisitimu 6	3	3,000
Sisitimu 8	4	4,000
Sisitimu 12	6	6,000
Sisitimu 16	8	8,000
Sisitimu 20	10	10,000
Sisitimu 30	15	15,000
Sisitimu 40	20	20,000

Yakanaka hydraulic seal: gasi iri yakavharirwa mukati me reactor.

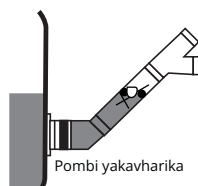


Hapana hydraulic seal: gasi rinogona kupukunyuka.

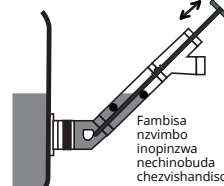


MASHANDISIRO EKUVHUNZA MAITIRO EKUVHUNZA MAPOMBI

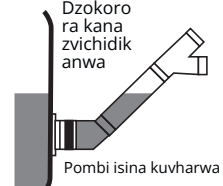
Zvinhu zvakaoma uye zvakaoma zvinogona kuvhara mapaipe ekupinda neanobuditsa mvura.



Pombi yakavharika



Fambisa nzvimbo inopinzwa nechinobuda chezvishandiso



Dzokoro ra kana zvichidik anwa

Pombi isina kuvharwa



QR KODI yemavhidhiyo ari papeji 15

STEP 2
Zadza PRV nemvura kusvikira yafashukira.

STEP 3 Vhara mutsetse wegesi.

(OM3), (OM3bis), (OM4)

STEP 4 Kutanga kudya.

Tinokurudzira kushandisa ndove yemombe kudya kwekutanga.

Kuchengeta ndove yakaunganidzwa pasi petarp kwemazuva mashanu isati yatanga kudyiswa nembwa kuchavandudzika. kutanga kwemuchina wekugaya.

Wedzera bioslurry yakawanda (inonziwo digestate) sezvinobvira kubva kugayiwa kuri kushanda kuti upfupise nguva yekutanga.

NHANHO YECHINA

Huwandu hwekutanga kudya*

	Ndo ve yemombe kutanga kudya mu kg			Ndo ve yemombe kutanga kudya mumabhaketi e20L		
	Kudziya >25 °C	Dzikama 15 kusvika 25 °C	Kutonhora 10 kusvika 15 °C	Kudziya >25 °C	Dzikama 15 kusvika 25 °C	Kutonhora 10 kusvika 15 °C
Sisitimu 6	500	400	250	25	20	13
Sisitimu 8	650	500	350	33	25	18
Sisitimu 12	900	700	450	45	35	23
Sisitimu 16	1300	1000	650	65	50	33
Sisitimu 20	1800	1350	900	90	68	45
Sisitimu 30	2500	1800	1200	125	90	60
Sisitimu 40	3500	2500	1700	175	125	85

Sanganisa

Chikamu chimwe chete chendove yemombe

Zvikamu zviviri zvemvura

*Kudya kwekutanga kunounza mabhakitiriyi mugayi kuti atange kugaya, zvichiteverwa nenguva yekuzorora kuti awane simba. **Kune chero rudzi rupi zvarwo rwemarara, nyanzvi yako ichanyora mirairo iri papeji 42 yebhuku rino.

Muenzaniso: SYSTEM 6

Mamiriro ekunze anodziya

NDONDO YEMHOMBE: 500 kg kana mabhaketi makumi maviri nemashanu e20L

+

MVURA: 1000L kana mabhaketi makumi mashanu e20L

Bvisa zvinhu zvinotevera kubva mundove usati waisa mudhigester.

BVISA

- Jecha, matombo - Huswa, fiber, mashizha, huni, huni machipisi - Ivhu - Plastiki, simbi, girazi - Citric michero - Mafuta ekubikisa, sezvo anogona kukonzera nyaya dzekushanda.



Ndapota tarisai peji 15 kuti muvhure QR code inoenderana.

MUSAFIDHA nendove yemhuka dzakapihwa mushonga wekurwisa mavhairasi kana mishonga inorwisa mabhakitiriya mumazuva mashanu apfuura.



<5 mazuva
asati adya

▶ Matanho ekudyisa*



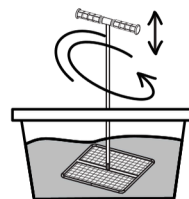
(OM7)



1. Sanganisa ndove.
2. Shandisa muchina wekusanganisa ndove kusanganisa ndove nemvura.
3. Rega musanganiswa (tsvina) uzorore kwemaminitsi mashanu.
4. Bvisa zvinhu zvinoyangarara.
5. Dyisa reactor.
6. Bvisa zvinhu zvinodzika senge matombo nejecha nguva nenguva.



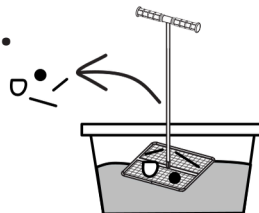
1.



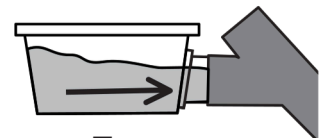
2.



3.



4.



5.



6.

*Inoshanda yekutanga kudya pamwe nekudya kwemazuva ese.



MIRIRA KUTI REACTOR AITE

NGUVA YEKUFIRIRA:*



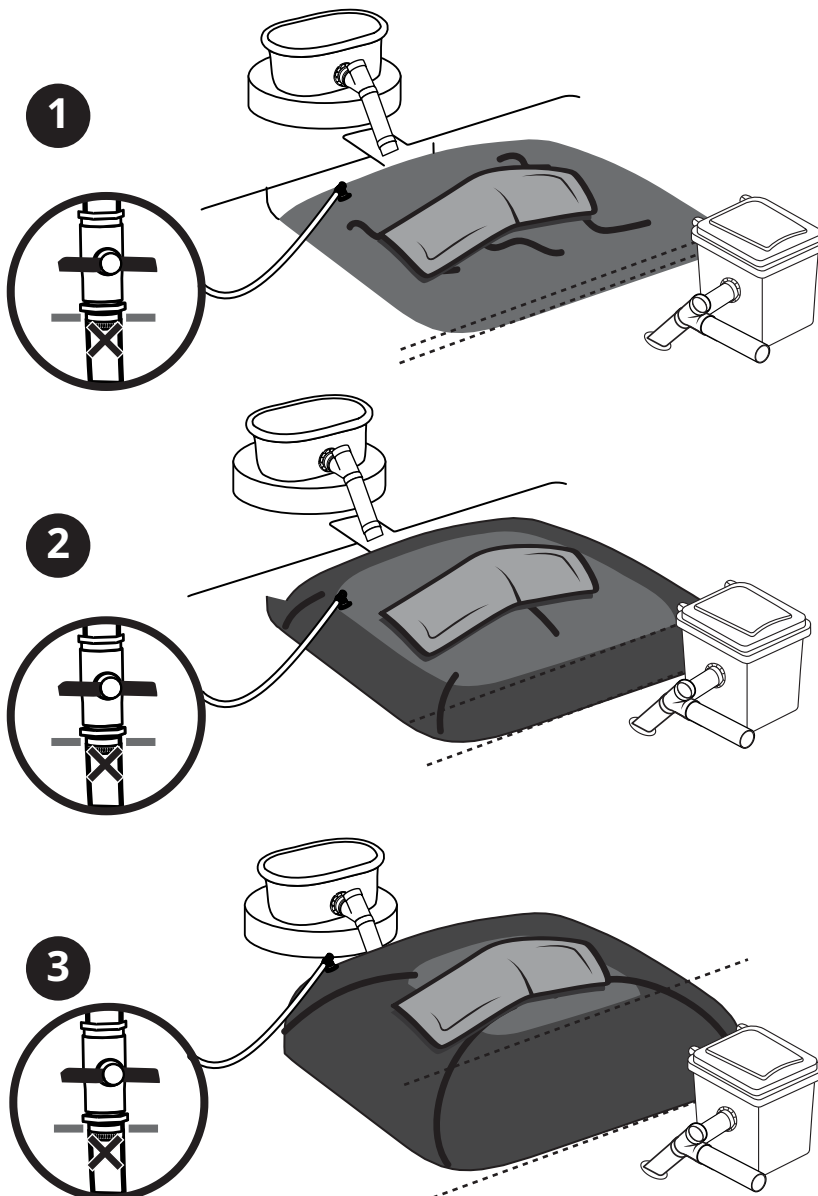
Kusvika mavhiki matatu mukudziya
kwemamiriro ekunze / mwaka



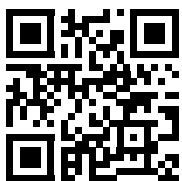
Masvondo matatu kusvika kumwedzi 1.5
mumamiriro ekunze anodziya/mwaka



1.5 kusvika 2.5 mwedzi yekutonhora
kwemamiriro ekunze / mwaka



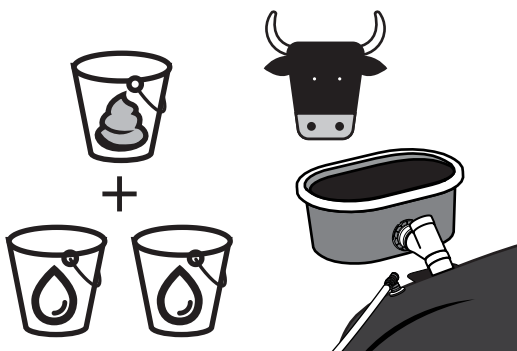
*Zvakajairika uye
zvakaairika kuti
biogas haivheneki
mushure mekutanga
inflation: bvisa gasi
(kunyanya ine CO₂ -
carbon dioxide) kunze
munzvimbo
yakashama
kuburikidza nePRV,
uye rega iwedzere
zvakare.



Chengetedza Digester Rako

KUDYA. Dyisa digester yako MAZUVA ESE ne vhoriyamu imwe yendove yemombe uye mavhoriyamu maviri emvura.

CHERECHEDZA: kune mamwe marudzi emarara, ndapota bvunza nyanzvi yako.



Kudya kwezuya nezuya*

*Ona matanho ekudyisa papeji 17 uye huwandu hwekudyisa hwezuya nezuya papeji 22 ne42.



(OM8)

CALENDAR						
	1	2	3	4		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

KUNYANYA

Gadzirisa kamwe pasvondo

MUSA kudzungudza



Gadzirisa chete
kana digester iripo
DEFLATED

CALENDAR						
	1	2	3	4		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



paINFLATED

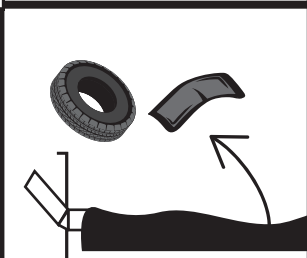
1

Bvisa chero chinhu chakapinza kubva shangu kuti usakuvadza reactor



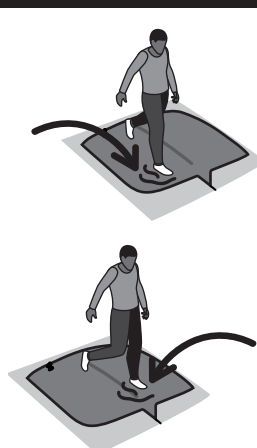
2

Bvisa counterweights usati watanga kubvongodza

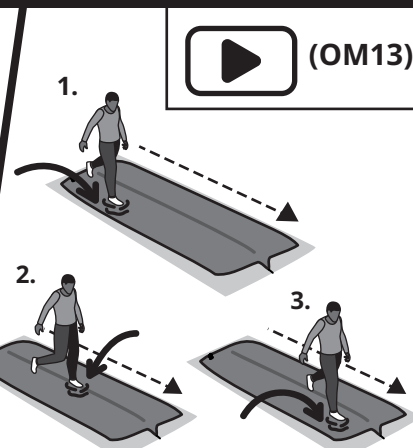


3

Gadzirisa nekufamba zvishoma nezvishoma pamwe nebiodigester yako, uchishandura huremu hwako hwose kubva kune rimwe gumbo kuenda kune rimwe.



System 6 kusvika 12



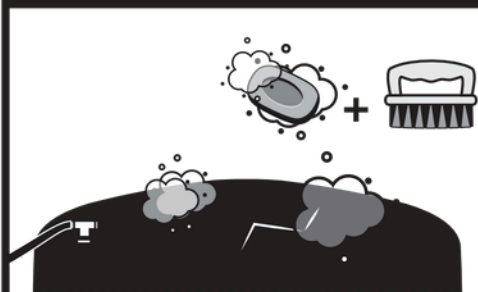
System 16 kusvika 40



Mashandisiro e Sistimu YAKO

SISTEMA.bio®

MEMBRANE DAMAGE REPAIR



2. SIRIDZA nemvura yakachena



3. DRY the membrane



4. ISA chidimbu chidiki chebutyl tepi



5. ISA imwe hombe inovhara chigamba chekutanga



CHERECHEDZA: iyi inguva yepakati kugadzirisa yekubvumidza iwe kushandisa yako reactor! Ndapota fonera vatengi vako kuti vagadzirise kwenguva refu.

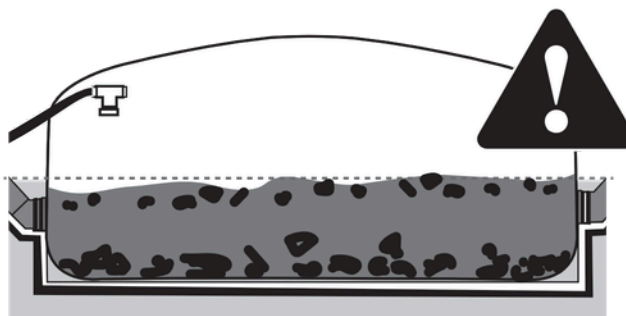
KUTARIRA KWenguva YAREFU

CALENDAR

Ese 5 kusvika 7 YEARS kana chero nguva zvinodiwa.

Inguvai painodiwa kudzorera digester?

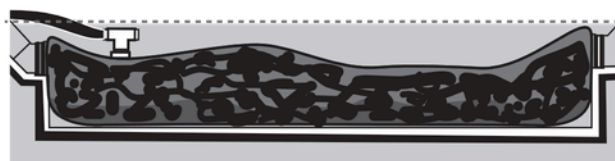
- Kana paine zvinyoro zvakaunganidzwa mukati.



- Kana isina kubvongodzwa kwenguva refu.



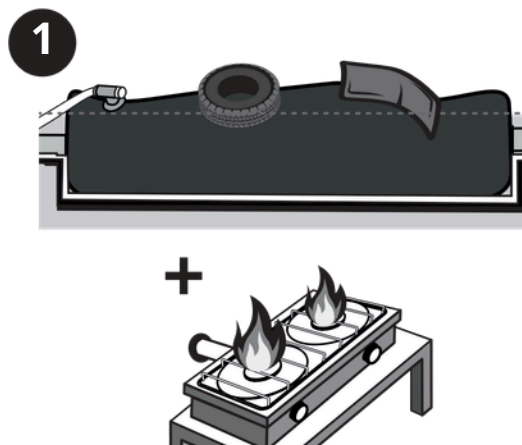
- Kana mvura isina kukwana yawedzerwa. Iyo digester ichave yakanyanya kurema mune undiluted slurry / yakaoma kubvongodza.





Maitiro: Kuita zvakare digester

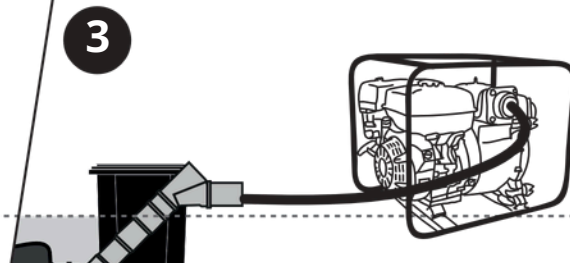
1. Deflater digester nekushandisa counterweights, apo uchishandisa zvose zvinopisa zveBioStove kupisa biogas yasara.
2. Sungunusa digester zvine simba.
3. Bvisa digester ne 3" slurry pombi pasi kusvika pahafu yehurefu hwegoronga.
4. Dzvanya nesimba.



2



3

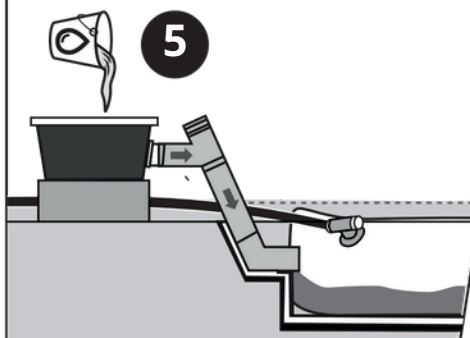


4



5. Zadza nemvura.
6. Dzvanya nesimba.
7. Dhonza digester pasi kusvika hafu yekukwirira kwegoronga.
8. Zadzazve nemvura.
9. Ramba nekudya kwekutanga (tevera matanho ari papeji 15).

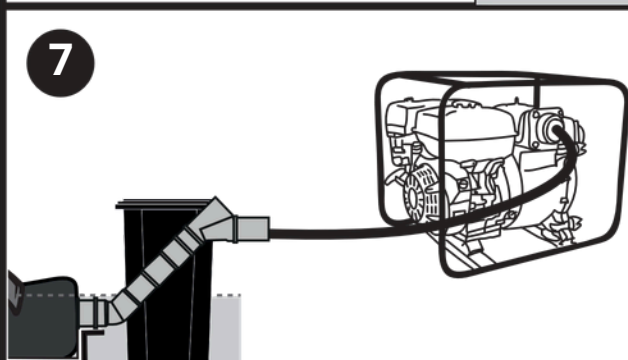
5



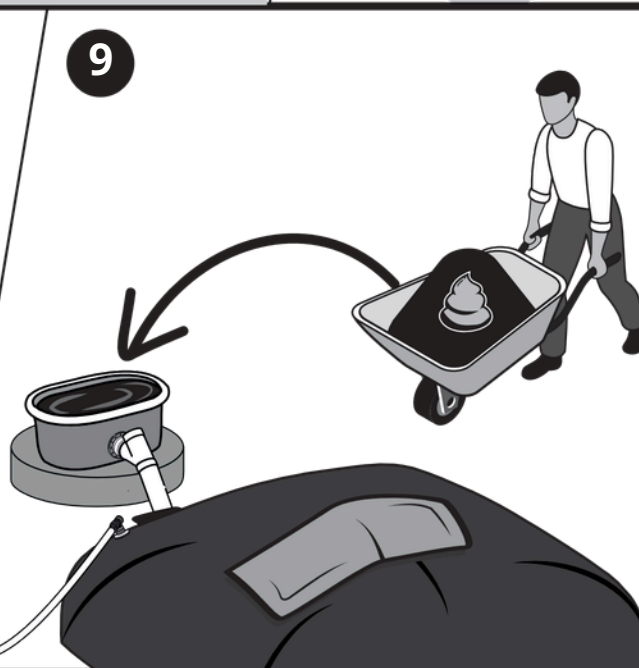
6



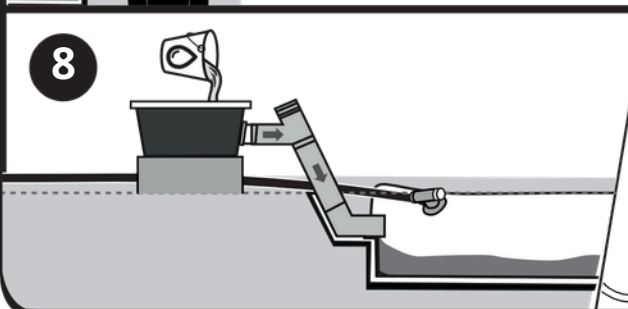
7



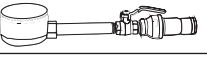
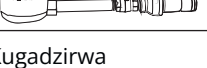
9



8





Saizi yemugayi		SIS 6	SIS 8	SIS 12	SIS 16	SIS 20	SIS 30	SIS 40
								
 Inodziya Mamiro ekunze >25 °C	Kupinza Kwakanyanya Kwemarara Matsva 	50 L kana kg/zuva	65 L kana kg/zuva	90 L kana kg/zuva	130 L kana Kg/zuva	180 L kana Kg/zuva	250 L kana kg/zuva	350 L kana kg/zuva
	Avhareji yekugadzirwa kweBiogas zuva nezuva 	2 m3/zuva	2.5 m3/zuva	3.5 m3/zuva	5 m3/zuva	7 m3/zuva	10 m3/zuva	14 m3/zuva
	Avhareji yemaawa ekubika zuva nezuva 	3 Maawa	4 Maawa	6 Maawa	8 Maawa	12 Maawa	17 Maawa	23 Maawa
	Kugadzirwa kwe bioslurry pamwedzi 	4.5 m3/mwedzi	6 m3/mwedzi	8 m3/mwedzi	12 m3/mwedzi	16 m3/mwedzi	22 m3/mwedzi	31 m3/mwedzi
 Dzikama Mamiro ekunze 15 - 25 °C	Kupinza Kwakanyanya Kwemarara Matsva 	40 L kana kg/zuva	50 L kana kg/zuva	70 L kana kg/zuva	100 L kana Kg/zuva	135 L kana Kg/zuva	180 L kana kg/zuva	250 L kana kg/zuva
	Avhareji yekugadzirwa kweBiogas zuva nezuva 	1.5 m3/zuva	2 m3/zuva	2.5 m3/zuva	3.5 m3/zuva	5 m3/zuva	6.5 m3/zuva	9 m3/zuva
	Avhareji yemaawa ekubika zuva nezuva 	2.5 Maawa	3 Maawa	4 Maawa	6 Maawa	8 Maawa	11 Maawa	15 Maawa
	Kugadzirwa kwe bioslurry pamwedzi 	3.5 m3/mwedzi	4.5 m3/mwedzi	6 m3/mwedzi	9 m3/mwedzi	12 m3/mwedzi	16 m3/mwedzi	22 m3/mwedzi
 Kutonhora Mamiro ekunze 10 - 15 °C	Kupinza Kwakanyanya Kwemarara Matsva 	25 L kana kg/zuva	35 L kana kg/zuva	45 L kana kg/zuva	65 L kana Kg/zuva	90 L kana Kg/zuva	120 L kana kg/zuva	170 L kana kg/zuva
	Avhareji yekugadzirwa kweBiogas zuva nezuva 	0.8 m3/zuva	1.2 m3/zuva	1.5 m3/zuva	2 m3/zuva	3 m3/zuva	4 m3/zuva	5.5 m3/zuva
	Avhareji yemaawa ekubika zuva nezuva 	1.5 Maawa	2 Maawa	2.5 Maawa	3 Maawa	5 Maawa	7 Maawa	9 Maawa
	Kugadzirwa kwe bioslurry pamwedzi 	2 m3/mwedzi	3 m3/mwedzi	4 m3/mwedzi	6 m3/mwedzi	8 m3/mwedzi	11 m3/mwedzi	15 m3/mwedzi



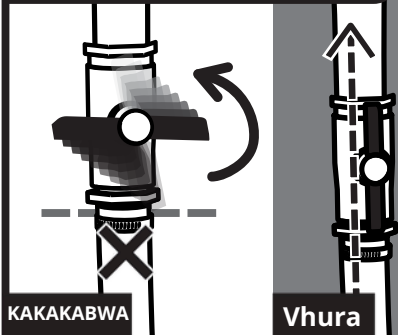
Ndapota tarisai peji 19 kuti muvhure QR code inoenderana.

Shandisa simba raunoburitsa uye chengetedza yako biogas mutsara!



(OM9), (OM11), (OM12),
(OM2), (OM3), (OM4)

YEKUTANGA BIOGAS FLAME



1. Vhura vharuvhu

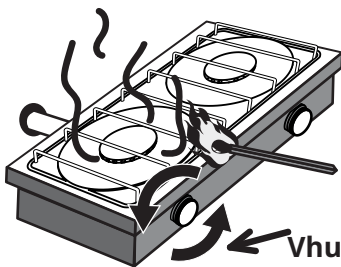
A



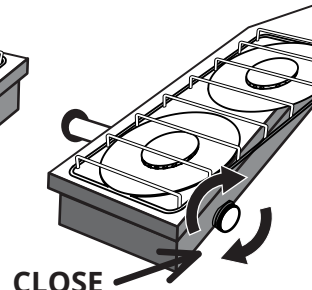
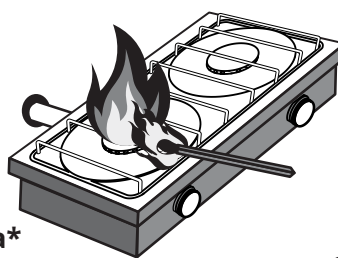
1 MINITI**

B

C



*Pazvinoshanda, sunda uye batidza ON/OFF



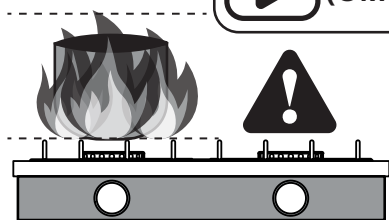
2. TENDENZA mubato worega biogas ichtiza (A) paunenge uchiedza kuvheneka

nayo nemachisi. Kana iyo biogas inopfuta yasvika pamoto, iwe uchaona murazvo (B). **Zvinogona kutora kusvika miniti imwe pamurazvo wekutanga. KUVHARA, tenderera newachi (C).



USA

rega murazvo uwedzere KUKURU sezvo uchizorasa chikamu chekupisa kwebiogas!

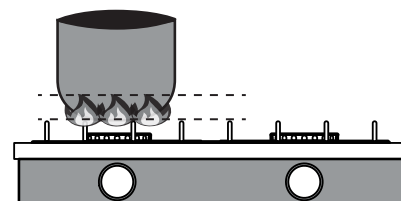


(OM17)



ITA

gadzirisa murazvo nechikamu chepasi chepani.



SIMBISA MURAVI WAKO UCHISHANDISA COUNTERWEIGHTS

Isa counterweight pamusoro pe reactor. Counterweight haifaniri kudarika 30kgs.

USASHANDISE chero zvinhu zvinopinza zvinogona kukuvadza reactor.

CHETE shandisa imwe yeinotevera sarudzo:

a. BioCounterweight

b. Matai

c. Mabhegi ejecha



(TS5)



KUCHENESA CHIBIRI

CALENDAR

Vhiki yega yega kusvika mwedzi woga woga zvichienderana nezvinodiwa.

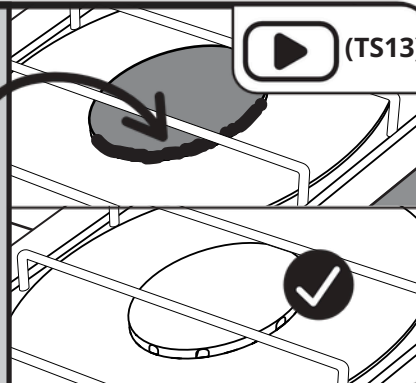
Shandisa

- bhurasho
- mvura ine muto wemonamu
- mvura ine sipo

Chenesa chibatiso chechitofu kuti uvhare maburi.



(TS13)





QR KODI yemavhidhiyo ari papeji 19

PRESSURE RELIEF VALVE (PRV)

CALENDAR

	1	2	3	4		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Zadza vharafu yekuyamura nemvura 2 TIMES A WEEK

(OM2), (OM1)

CHERECHEDZA: Ita shuwa kuti hapana tsvina inoungana mukati mePRV.

Yakazadzwa PRV: Gasi rinochengetwa mune reactor

Empty PRV: Gasi rinogona kutiza

MVURA MUSUNGO CHECK

CALENDAR

	1	2	3	4		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

2 nguva pavhiki

1. Musungo wemvura wakazara
2. Vhara vharafu yebiogas
3. Dhonza musungo wemvura
4. Vhara musungo wemvura
5. Vhurazve vharafu yebiogas

(OM6)

KUWUNGA MVURA MUGAS LINE

CALENDAR

	1	2	3	4		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Mazuva ese

CHERECHEDZA: Usaturike mitoro yakadai sembatya pamutsetse wegese.

(TS1)



Mashandisiro E Sistimu Yako

SISTEMA.bio®

Ndapota tarisai peji 19 kuti muvhure QR code inoenderana.

NZIRA YEKUGADZIRA SEFIRI MEDIA



Tarisa mwedzi wega wega

Zvinoratidza kuti iyo filter media inoda kuvandudzwa:

- Kunhuwa kusingafadzi mubiogas

Biogas ine chepfu uye inogona kuuraya



(OM5)

1

Vhara vharafu yebiogas

2

Vhura chivharo

3

Dururirai rita imwe chete yemvura musati mabvisa bhegi, kuti mutonhorese midziyo yemukati sezvo inogona kutsva.

4

Bvisa bhegi kubva kuH2S sefa

5

Nyura bhegi mumvura

6

Zivisa bhegi kumashure kune H2S sefa

7

Vhara wobva wasimbisa chivharo kusvika chiratidzo chiri pafirita chave pakati pemavharuvhu A neB.

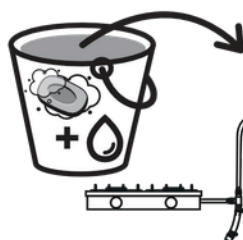
8

Vhura vharafu yebiogas

Chengetedz a bhegi panzvimo yakati sandara

Mirira kudzamara vezvenhau vasvika paruvura rwe grey nemavara mashoma ebrown uye aoma

GAS LEAK ONGORORO



Shandisa mvura ine sipo pagasi rega rega rinobatanidza (mafirita, mavharuvhu, pombi nemidziyo) ukuwo digester ichikwirirwa kuti itarise mabubbles (kudonha). Dana kutarisira kwevatengi kana ukaona chero mabhuru.

Ita shuwa kuti valve yako yekuzviparadzanisa yakavhurika!





Isa marita mashanu e bioslurry pa square mita pagore, uye dosage ye 2.5 pa dandemutande rega rega rekurima uye pa dandemutande rega rega rekugadzirira ivhu.

Kugadzirira kwevhu kusati kwadyarwa

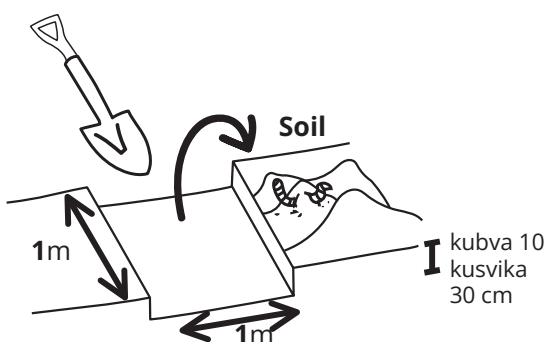


Bhuku
reMishonga
yeBioslurry

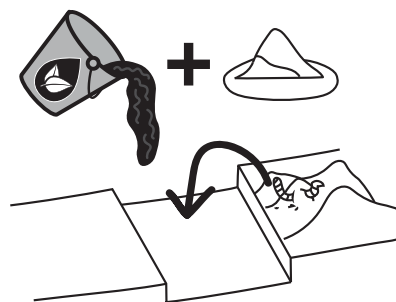


Bioslurry
Protocols

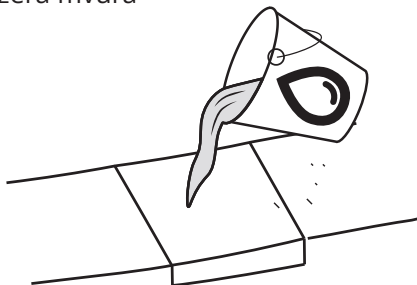
1 Bvisa ivhu



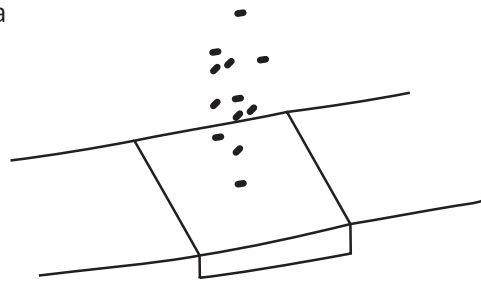
2 Sanganisa wosiya zvizorore. Isa marita maviri kusvika mashanu ebioslurry pa square mita.



3 Usati wadyara: wedzera mvura



4 Dyara: wedzera mbeu kana madzinde



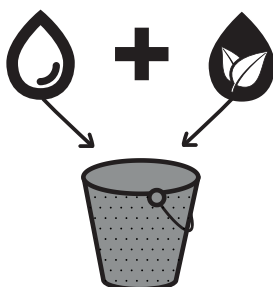
Kuberekesa zvirimwa nemiriwo

Munguva dzemwaka usinganayi mvura, sanganisa chikamu chimwe chete che bioslurry ne
Chikamu chimwe chemvura.

Hapana chikonzero chekudiridza mvura munguva yemvura.

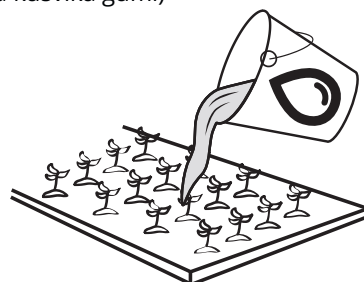
1

Sanganisa mvura imwe chete ye bioslurry imwe chete



2

DURA: Isa marita maviri kusvika mashanu ebioslurry pa square meter (kana bioslurry yaderedzwa: marita mana kusvika gumi)

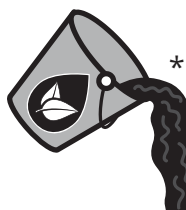
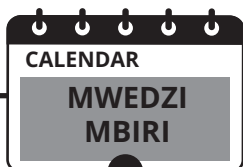
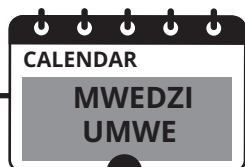


CHERECHEDZA: Rega kuisa bioslurry mavhiki matatu usati wakohwa. Geza michero nemiriwo yese zvakanaka usati wadya.



KUSANGANA KWEMAHARA EBIOSLURRY

Kudya kwezuya nezuva kunoTANGA



Mumwedzi miviri yekutanga, bioslurry:

- ine mvura yakawanda
- inogona kunhuwa
- zvinogona kukwezva umhutu

*Bioslurry icharamba yakakora nekufamba kwenguva

KUCHENGETA NEKUUNGANIDZA BIOSLURRY

Kuti udzivise kuungana kwe bioslurry uye kuwanda kwemvura, tevera Scenario A kana B.



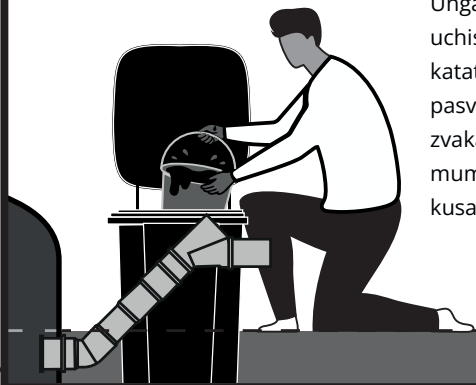
Kugona kwenyu kuchengetedza zvinhu kunoenderana nemamiriro ekunze emuno:

- Mazuva matanhatu (mamiriro ekunze anopisa)
- Mazuva mapfumbamwe (mamiriro ekunze anodzliya)
- Mazuva gumi nematatu (mamiriro ekunze anotonhora)

⚠ Yambiro Yekuchengetedza: Yeuka kuti dziva rakavhurika rine matope kana mvura rinofanira kuchengetedzwa nefenzi.

Chiitiko A

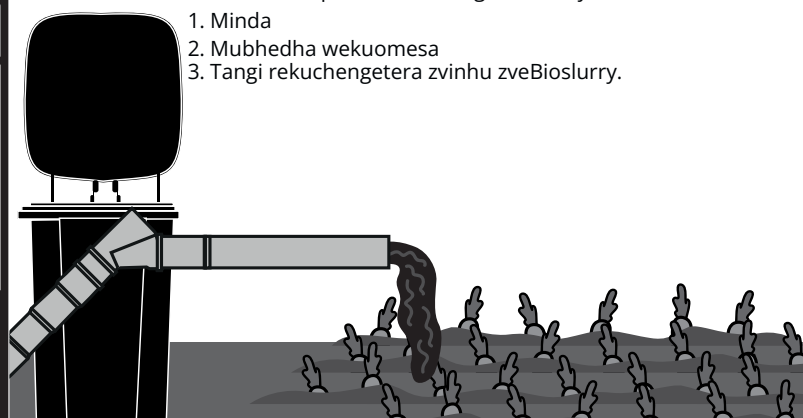
Unganidza tsvina yemubiki uchishandisa bhaketi kana pombi, katatu kusvika kana kana pasvondo, kuti usadururire pasi zvakananyanya. Isa zvakananga mumunda wako kana kusanganisa necompost yakaoma.



Chiitiko B

Kana topography ichibvumira, tungamira bioslurry overflow uchishandisa pombi kana mugero kune yako:

1. Minda
2. Mubhedha wekuomesa
3. Tangi rekuchengetera zvinhu zveBioslurry.





Biofertilizer uye Regenerative Agriculture

SISTEMA.bio



1_Kubatanidzwa kwezvipfuyo

Kufura kunotenderedza kunobvumira varimi kukopa mafambiro emombe dzechisikigo, kuparadzira manyowa zvakaenzana sefotereza uye kudzivirira kufudza zvakananyanya. Izvi zvinowedzera hutano hwevhu, zvinokurudzira kukura kwezvinomera, uye zvinobatsira kubata kabhoni muvhu.



2_Biogas

Mushonga wekubika wakachena unoshandisa tsvina yekurima kugadzira simba rinodzokororwa zvakanaka.



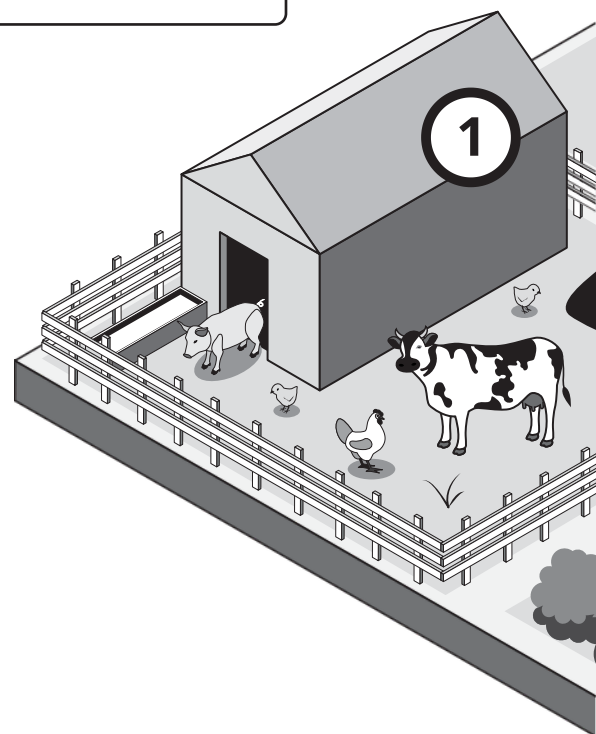
3_Bioslurry

Ifetiraiza inovandudza goho rekurima, chimiro chevhu, kuchengetedza mvura, kuchinja kwezvinovaka muviri uye kusiyana-siyana kwezvipenyu.



Kuderedza Kushandiswa Kwemakemikari: Zvishoma nezvishoma kuderedza kushandiswa kwemakemikari nemishonga yezvipembenene kuchengetedza biology yevhu uye kuvaka ivhu rinosimba.

Muenzaniso:
Gore 1: 10 kusvika 20% kuderedza Gore 2: 20 kusvika 40% kuderedza Gore 3: 40 kusvika 60% kuderedza mumakemikari fetiraiza



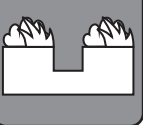
4_Water Management

Shandisa nzira dzekudiridza dzisingashandisi mvura kuchengetedza mvura uye kuderedza kukukurwa kwevhu. semuenzaniso kudiridza, maburi ezai (makomba ekuchengetedza unyoro) uye kukohwa kwemvura inonaya.



5_Kuderedzwa/ Hapana kurima

Kurima kunoputsa chimiro chevhu. Pane kudaro, dyarai mbeu negadziriro duku uye yepasi kuitira kuderedza kukukurwa kwevhu, uye kukanganiswa kwevhu kuchengetedza biology yevhu.



6_Hedges nedivi Trenches

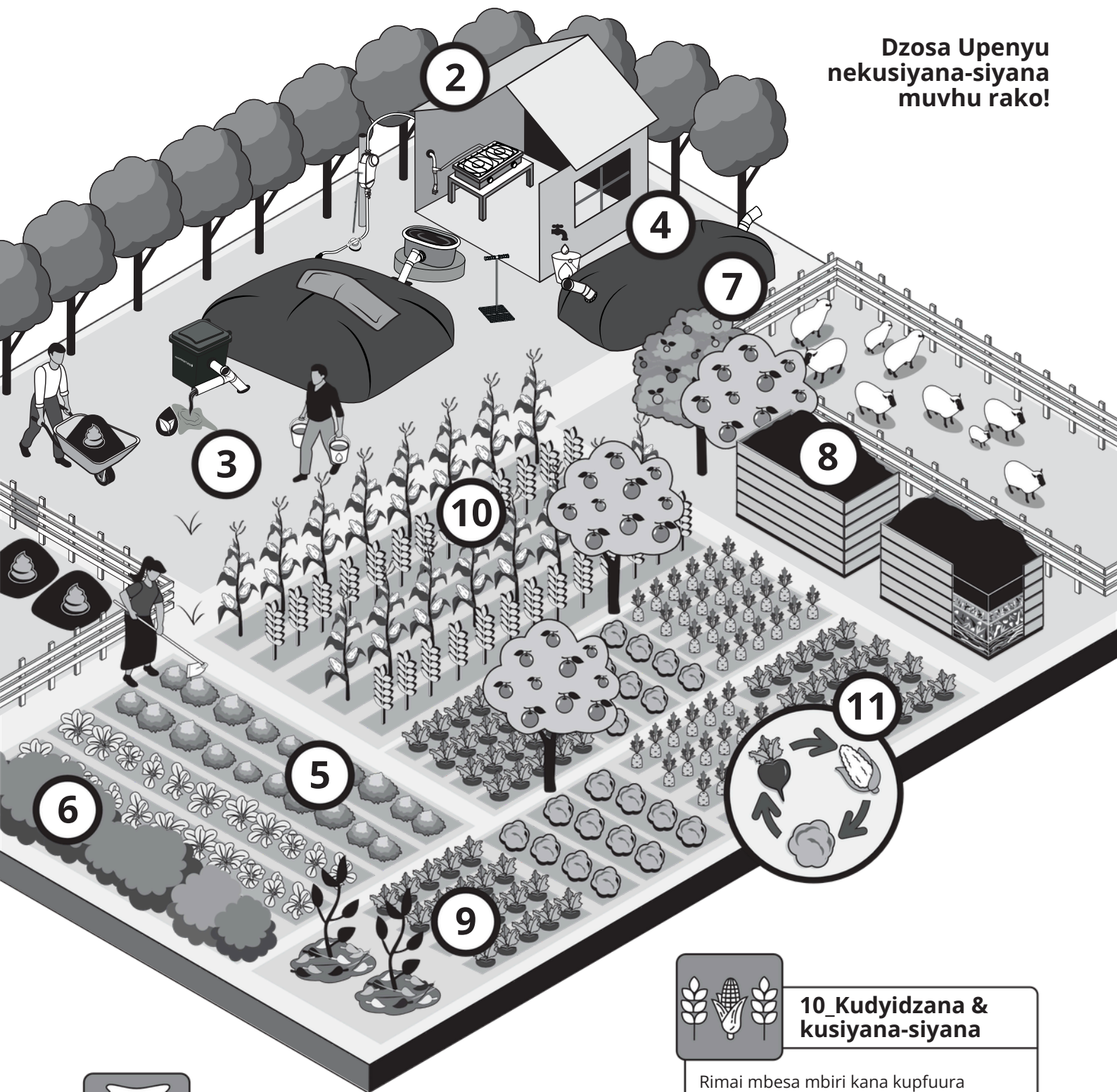
Dyarai maheji uye gadzirai migero yemumativi kuti muvandudze kusiyana-siyana kwezvipenyu & kuchengetedza mvura, uye kudzivirira kukukurwa kwevhu.



7_Agroforestry

Batanidza miti yemiti yemichero & nzungu kuti uvandudze mapurazi akasiyana siyana uye kuti uwane mari. Miti inopa matanda nemumvuri, inoputsa mhepo uye inovandudza kuchengetedza ivhu.

Dzosa Upenyu
nekusiyana-siyana
muvhu rako!



8_Organic Kompositi

Shandisa zvakasara zvekurima uye zvinhu zvakasvibirira zvakasanganiswa nebiofertilizer kugadzira organic compost.



9_Mulching/ Kuchengeta chifukidziro chevhu

Fukidza ivhu rakatenderedza chirimwa chako nemashizha uye zvimwe zvinhu zvakasimukira kuchengetedza mwando wevhu.



10_Kudyidzana & kusiyana-siyana

Rimai mbesa mbiri kana kupfuura panguva imwe chete mumunda mumwechete kuti muwedzere goho nekushandisa zviwanikwa zviri nani uye kudzora tumbuyu.



11_Crop Rotation

Dyarai zvirimwa zvakasiyana munzvimbo imwe panguva dzakasiyana-siyana kuti mudzorere kudya kunovaka muviri uye murime zvokudya zvakanwanda.



Kuwandudza ma Biodigester's Benefits

SISTEMA.bio®

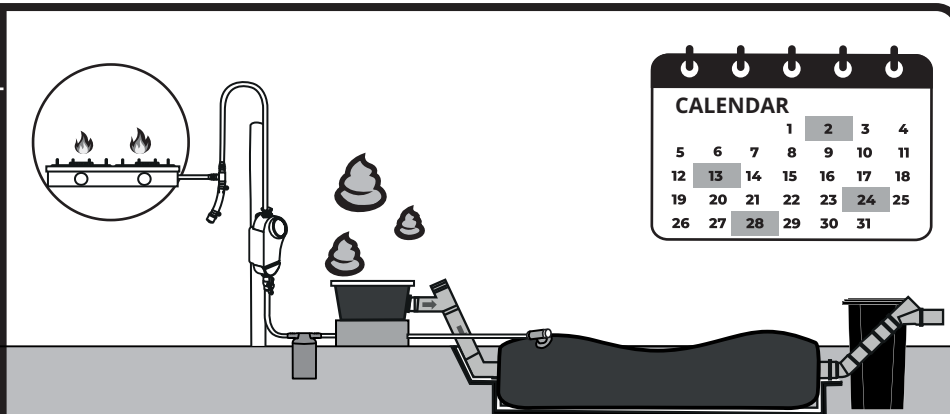
KUDYA NGUVA DZOSE



KUDYA

KUSANGANISWA:

- Digester iri kufa nenzara
- Murazvo muduku

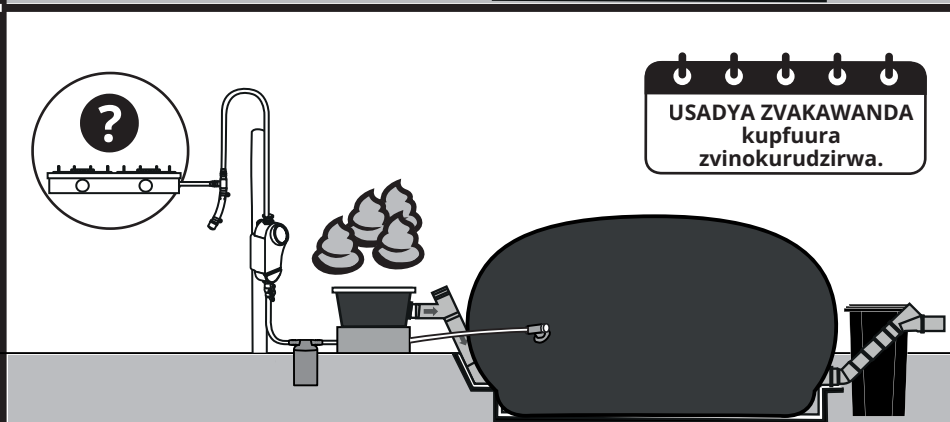


CALENDAR						
		1	2	3	4	
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



KUDYA AKAWANDA:

- Digester yakanyanyisa kuzara neCO₂ uye haina CH₄
- HAPANA murazvo

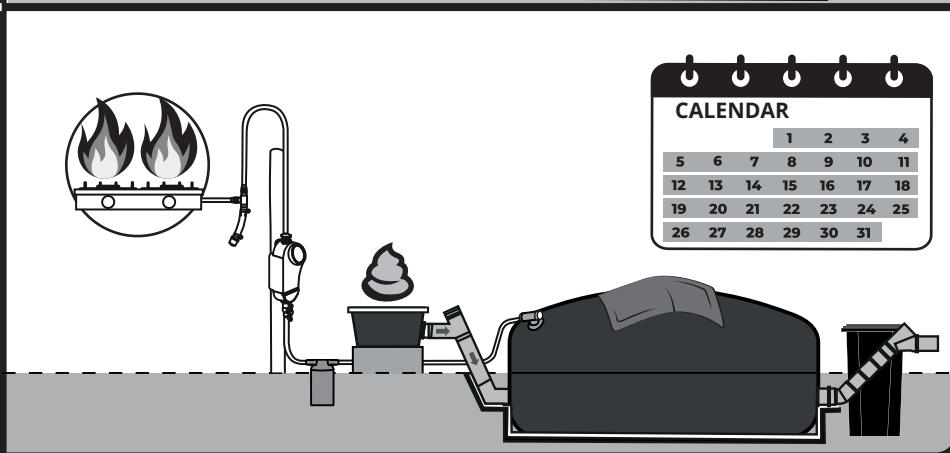


USADYA ZVAKAWANDA kupfuura zvinokurudzirwa.



KUDYA KWAZVO

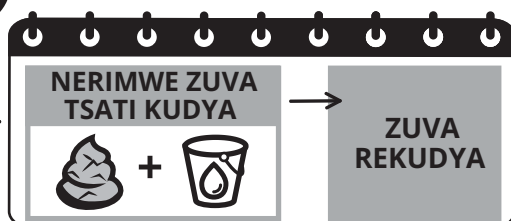
- Happydigester
- Murazvo wakanaka



CALENDAR						
		1	2	3	4	
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NYOVE YAKAoma

KANA UNE DOVE YAKAoma



1. RIMWE zuva musati madyisa: Nyora vhoriyamu ndove yakaoma nemvura inosvika vhoriyamu imwe chete, wozowedzera nemvura kuti iwirirane nendove yemombe nyoro.



2. Panguva yekudyisa, ita dilution yemvura (1 volume yemombe ine 1 volume yemvura).



Wanddza ma Biodigester's Benefits

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TEMPERATURE & BIODIGESTER PRODUCTIVITY

Kutonthora kwemamiro ekunze, kugadzirwa kwebiogas kunonoka nekudzikira.



<15°

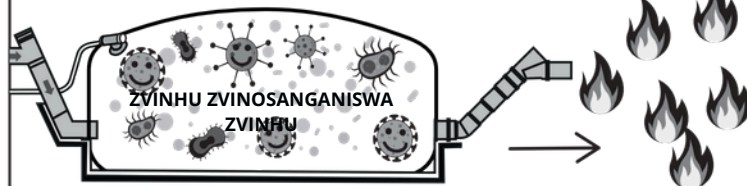


CHINONO uye CHINOGONA kugadzirwa

Kudziya kwemamiro ekunze, ndiko kukurumidza uye nekukwirira mabhakitiriyi anoburitsa biogas yakawanda.



>20°



FAST uye HIGH kugadzirwa

BIOFERTILIZER RECIRCULATION

Izvi zvinovandudza mashandiro ereactor munzvimbo dzinotonhora / mwaka uye zvinobatsira kuderedza kushandiswa kwemvura.

KUNE MAMIRO AKANAKA UYE KUDIKIRA KUSHAYA MVURA

Teerera zuva nezuva:



1 vhoriyamu yebiofertilizer (ine yakaderera yakasimba yemukati)



1 ivhu remupfudze



1 vhoriyamu yemvura



Kana ukadzokorora kutenderera kwe bioslurry nguva dzose, wedzera mvura munguva yekunaya kwemvura uchisanganisa kuti uinyungudise. Shandisa 15% yehuwandu hwe biodigester (semuenzaniso, paS6 ine 6000L, wedzera 1000L).

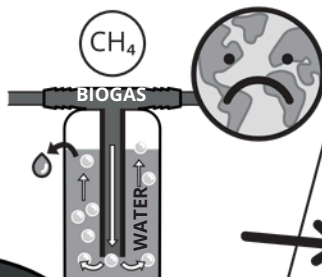
USAREGA BIOGAS YAKO IRI KUPIYA



(TS10)



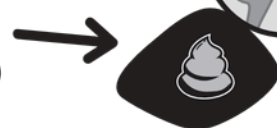
Kana biodigester yako yakafukidzwa zvakananya uye iyo PRV iri kuputika:



• PISA gasi rako kuitira kuti PRV irege kubhuroka zvakare
OR



• DERERERA kudyisa





Wandudza ma Biodigester's Benefits

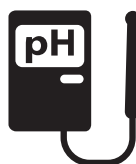
SISTEMA.bio®

KUDYA KWEMHUKA

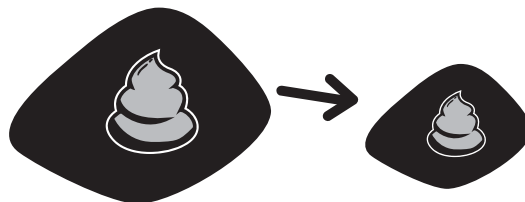
Kana mhou dzako dzikawana chikafu chakapfuma chekuwedzera, ndove ichave yakapfuma, izvo zvinotungamira kune acidity mugayi. Zvishoma kuderedza kudyana kana kuwedzera kwakadaro kuri kuitika!

Kana chikafu chako chemombe chikapfuma (chikafu chemukaka semuenzaniso), izvi zvichawedzera huwandu hweH₂S mubiogas rako. Bata isu kuti ugadzirise kurapwa kwako kwebiogas.

LOW



Deredza kudyana kwemazuva ose



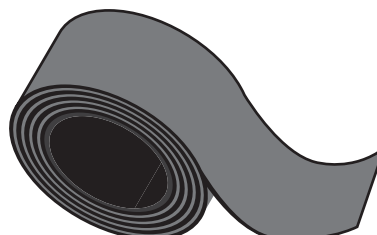
Spare parts

TRANSPARENT FLEXIBLE PIPE kutsiva:

ega ega maviri kusvika kumakore matatu approx. Bata Sistema.bio kana iwe uchida kutsiviwa.



BUTYL TAPE yekugadzirisa kwekanguva membrane kana kukuvara kwekunze kuchiitika.





Biodigester Specifications

CHINHU	ZVINHU	ZVINHU ZVINOKOSHA
Tangi rekudyisa	HDPE	110L
Musanganiswa wendove	HDPE	76 cm x 26 cm x 20.5 cm (h x l x w)
Chishandiso chekuvhura	Pombi yeMS yakaputirwa negalvanized/zinc	1.7 m
Reactor	LLDPE	Tarisa muenzaniso we digester unoenderana nawo
Tangi reBioslurry	HDPE	240L
Vharuvhu yekurerutsira kumanikidzwa	HDPE neUPVC	dhayamita ye6", 20 mbar kumashure kumanikidzwa
Vharuvhu yebhora rekuparadzanisa	UPVC	dhayamita ye1"
Sefa yeBiogas	HDPE	48 mm x 18.5 mm x 20 mm (h x l x w)
Zviri pachena / tambo yegesi inochinjika	PVC	dhayamita ye1"
Mutsetse wepeturu	HDPE	dhayamita ye1"
Musungo wemvura	ABS neUPVC	dhayamita ye1"
Chitofu chimwe chete (kana zvichibvira)	Kanda aruminiyamu	7 x 45 x 10 cm (h x l x w)
Chitofu cheBio	Maumbirwo: simbi isina ngura kana simbi yakaputirwa. Burner: Cast aruminiyamu	Chitofu cheBio-2: 19 x 58 x 36 cm (h x l x w) Chitofu cheBio-3 SS: 10 x 57.5 x 27 cm (h x l x w)

Cherechedza: Zvikamu zvinogona kusiyana zvichienderana nenharaunda uye mamiriro emunharaunda yeprojekti.

Saizi yeDigester 3.0							
Mugayi wezvokudya Kurema (kg)	Sisitimu 6	Sisitimu 8	Sisitimu 12	Sisitimu 16	Sisitimu 20	Sisitimu 30	Sisitimu 40
	30	36	49	65	85	114	155



Maintenance And Care Plan

Kuti muwane rutsigiro rwevatengi ndapota tarisai peji 48.

MUFANANIDZO	ACTIVITY	VHIDHIYO QR		
	Kudyisa (uye kubviswa kwezvinhu zvakagadzika uye zvinoyangarara)			
	Shandisa biogas yako! Saka hazviiti putika kuburikidza nePRV!			
	Shandisa tsvina yako yemhuka! (Kana uine imwe, funga kuiendesa kuminda yako kunopa kana kuitengesha kuvavakidzani). Bvisa woisa tsvina yemhuka katatu kusvika kana kana pasvondo kana zvakananga kunzvimbo yekushandisa/yekushandisa kana yekuchengetera.			
	Kudzungudza kwe digester yako kusanganisa iyo inoyangarara layer ne slurry mukati the digester			
	Tarisa Kuunganidza Mvura muGasi Line			
	Kuchenesa Burner (pane zvinodiwa)			
	PRV Kuzadza neMvura			
	Mvura Musungo Tarisa			
	H2S Filter Media Regeneration (Tarisa kuti ivandudzwe mwedzi woga woga. Gadzirisa kana nhepfenyuro yakasviba)			
	Media kutsiva (Bata Mutengi Sevhis kuodha nyowani)			
	Gas Line Leak Inspection			

O&M pfupiso mutafura

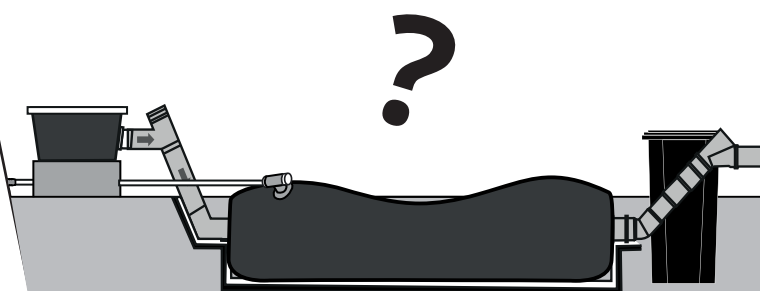
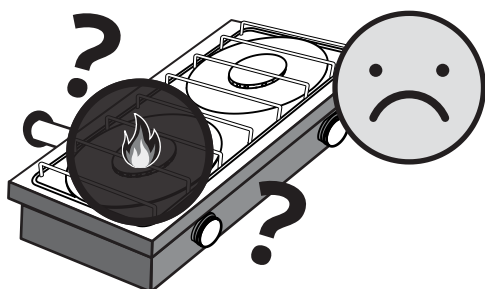
VIDEO NAME	PEJI RIMWE	DAILY	2X VHIKI	ZVESE 2 VHIKI	KAVIRI PAGORE	PAGORE
OM8	14 & 15					
OM13, OM9, OM11, OM12, OM2, OM3, OM4, OM17, TS5 & TS13	21 & 29					
Biofertilizer Manual (1), Bioslurry Protocols (2) & Sistema.bio fetereza Inoshandisa Series (3)	24					
OM13	17					
TS1	17					
TS13	21					
OM1	22					
OM6	22					
OM5	23	Pane chinodiwa - kana media ikaita dema				
Bata Customer Service kuhodha itsva						
N/A	23					



Basic Troubleshooting

NYAYA:

- Handina biogas yakakwana yekubika
- Ini handina biogas muBioStove yangu, uye digester yangu yakati sandara!



• Mvura yakakwana here mugomba rekupinda uye mapaipe ekubudisira mvura? Iva nechokwadi chekuti azere zvakanaka. Kuti biogas haigone kubuda. Tarisa chikamu "Chigadzirwa cheBiodigester" "Zadza reactor ne mvura kusvika mvura yasvika pamagokora ekupinda nepakubuda." papeji 15. Mavhidhiyo: I3, I5.

• Wapedza here kudyisa mwana wako kekutanga? Tarisa chikamu chinoti "Kutanga kweBiodigester", "Kudya kwekutanga" papeji 16 ne17. Vhidhiyo: OM7.

• Nguva yakakwana yapfuura kubva pakutanga Kudyisa? Tarisa chikamu chinoti "Biodigester startup", "MIRIRA KUTI REAKTOR IPINDE FUTA" papeji 18.

• Uri kutevera here kudyisa? mirairo? Tarisa chikamu chinoti "Mashandiso aungaita system yako", "Gadzirisa digester yako" pa peji 14 uye "Wedzera zvakananyanya biodigester's mabhenefiti", "KUDYA ZVINOGARA PAMUSORO PEJI" papeji 30. Mavhidhiyo: OM7, OM8.

• Vharuvhu yako yekurerutsira kumanikidzwa yakabhururuka here mvura? Tarisa chikamu chinoti "Mashandiso esystem yako", "VHARU YEKUDZORERA PRESSURE" chiri papeji 24. Mavhidhiyo: OM2, OM1.

• Mavharuvhu eBioStove, musungo wemvura kana kuti biogas filter akasiyiwa akavhurika here? Vhara! Tarisa chikamu chinoti "Mashandiso esystem yako", "MUTO WOKUTANGA WEBIOGAS" papeji 23, "KUTARISIRA MUSUNGO WEMVURA" papeji 24 uye "MAITIRO EKUGADZIRISA MEDIA YEFIRITA" papeji 25. Mavhidhiyo: OM6, TS12, OM5.

• Pane kubuda kwemvura here? Tarisa chikamu chinoti "Mashandiso emuchina wako", "KUONGORORA KUBVISA KWEMAHARA EGASI" papeji 25.

?Kutonhora, mwaka wekunaya kwemvura • Unogona kutenderera bioslurry yako kuti uwedzere kubereka biodigester munguva yekutonhora. Tarisa chikamu chinoti "Wedzera mabhenefiti ebiodigester" KUTENHERA & KUBEREKWA" .KWEBIODIGESTTER" papeji 31

Chitofu neBioStove zviri mumakamuri • akasiyana here? Tarisa kana mumwe !munhu ari kushandisa biogas

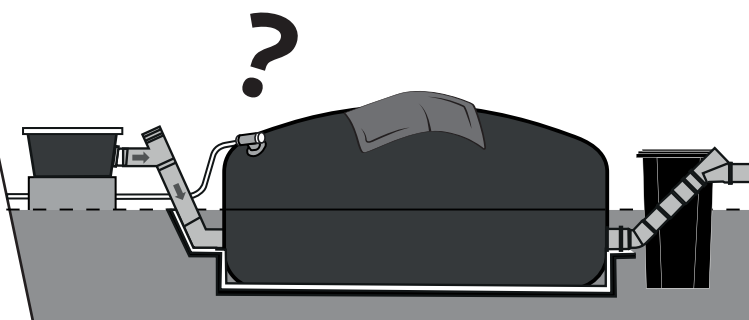
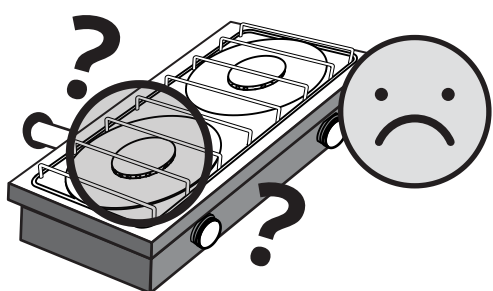
Kana kugadzirwa kwegasi rako kuchiri kuderera: BATA NeVATENGESI - ONA PEJI 48.



Basic Troubleshooting

NYAYA: • Ini handina biogas muBioStove yangu

haina chiedza, uye chigayo changu chiri mu- flated!



• **Wakaisa chinhu chinotsiva uremu padigester yako here? Tarisa chikamu chinoti “Mashandisiro aungaita sisitimu yako”, “VANDISA MUTO WAKO UCHISHANDISA ZVINHU ZVINODZIVIRIRA” papeji 23. Vhidhiyo: TS5.**

?Mavharuvhu egasi akasiyiwa akavharwa here • Vhura! Tarisa chikamu chinoti “Mashandisiro esystem yako” “Shandisa simba raunogadzira uye .chengetedza tambo yako yebiogas!” papeji 23 .Mavhidhiyo: OM3, OM3bis, OM4

Muri kuburitsa mvura nguva dzose here? Tarisai • chikamu chinoti “Mashandisiro emuchina wenyu”, “KUTARISIRWA KWEMUSUNGO .WEMVURA” chiri papeji 24. Vhidhiyo: TS3 & OM6

?Mutsetse wegasi rako uri kudzikira here • Mumutsetse wegasi uri kudzikira, mvura inogona kuungana yovhara biogas kuti isayerera! Simudza mugero wegasi kuti mvura yakaungana iendeswe ku musungo wemvura kana kuti PRV. Tarisa chikamu chinoti “Mashandisiro emuchina wako”, “KUWANIKWA KWEMVURA MUGAZI” papeji 24. Mavhidhiyo: TS1, TS6.

Ko nzira yekusefa iri mu biogas filter inovhara • kufamba kwe biogas here? Tevedzerai

protocol iri papeji 23 “Maitiro ekugadzirazve firita, kana kuitsiva neimwe itsva. Edza kupisa gasi paBioStove yako! Tarisa chikamu chinoti “Mashandisiro esystem yako”, “MAITIRO EKUGADZIRISA FILTER MEDIA” papeji 25. Vhidhiyo: OM5.

• Mutsetse wepeturu wakapetwa chero papi zvapo here? Tarisa mutsetse wepeturu yako woona kuti hapana pokuvharira.

• Kana chimwe chete pazvipfukuto zviviri zveBioStove chisina murazvo, vharuvhu yemupfukuto inogona kuvharika. Bata Customer Care.

• Uri kudyisa chigayi chako zvakanyanya here? **Tarisa chikamu chinoti “Wedzera mabheneffiti ebiodigester”, “KUDYA NGUVA DZOSE” papeji 30. Yera pH yebioslurry kubva papombi yako yekubuditsa uchishandisa pH meter yakaganhurirwa (ndapota tevera mirairo ye pH meter calibration). Kana pH yebioslurry yakaderera uye ukaramba uchidyisa kugaya kwako, zvinogona kumisa mabhakitiriya kugadzira biogas. Izvi zvinotungamira kucarbon dioxide yakawandisa uye kusakwana kwemethane.**

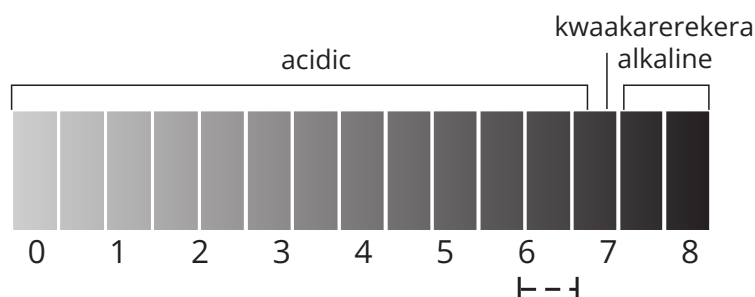
Kana kugadzirwa kwegasi rako kuchiri kuderera: BATA NEVATENGESI - ONA PEJI 48.



Basic Troubleshooting

NYAYA:

- Acidification zvisvoma: **pH 6 kusvika 6.5 & biogas haitsva**



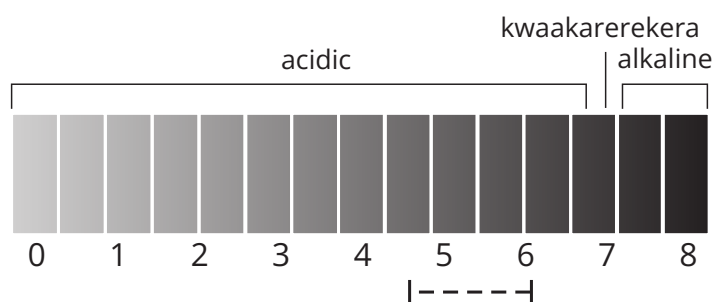
1. Rega kudyisa reactor & dururira mugasi webiogas kuburikidza nesefa yebiogas uye gara kure. 2. Gadzirisa digester zvakanwana. Vhidhiyo: OM13.

3. Rega imbozorora kwemazuva matatu kana kusvika yatundira. 4. Edza kubatidza chitofu chebiogas. 5. Kana gasi rikasapisa, dzokorora kubva padanho rekutanga.

Kana biogas yako isati yatanga: **BATANA NEVATENGI - ONA PEJI 48.**

NYAYA:

- Acidification zvisvoma: **pH 4.5 kusvika 6 & biogas haitsva**



1. Rega kudyisa reactor & bvisa biogas yese nemusefa yebiogas uye ugare kure.

2. Gadzirisa digester zvakanwana.

Vhidhiyo: OM13.

3. Bvisa kanenge hafu ye digester.

4. Zadzazve digester ne:

A) mvura yakasanganiswa nebiofertilizer yakawanda sezvinobvira B) mvura yakasanganiswa ne5-10kg ye limestone powder yeSistema 6 (inowedzera

zvakaenzana nekukura kwe digester).

5. Rega igare kwemavhiki 1-3 kana kusvika inoputika.

6. Edza kuvhenekera BioStove.

7. Kana gasi rikasapisa, durura mugasi webiogas kuburikidza nesefa yebiogas uye usaende kure. Wozorega ichizorora kwemavhiki 1-3 kana kusvika yatundira uye yaburitsa gasi rinobvira moto.

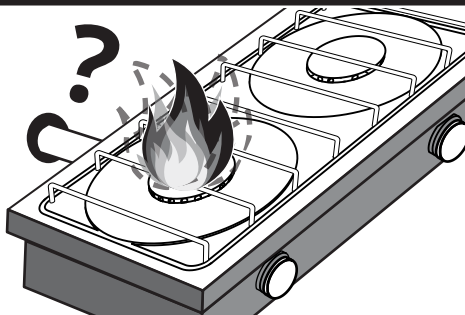
Kana biogas yako isingatshi: **BATANA NEVATENGESI - ONA PEJI 48.**



Basic Troubleshooting

NYAYA:

- Murazvo weBioStove yangu unombomira/kutamba



Panogona kunge paine mvura yakaunganidzwa pane imwe nzvimbo mumutsetse wegasi.

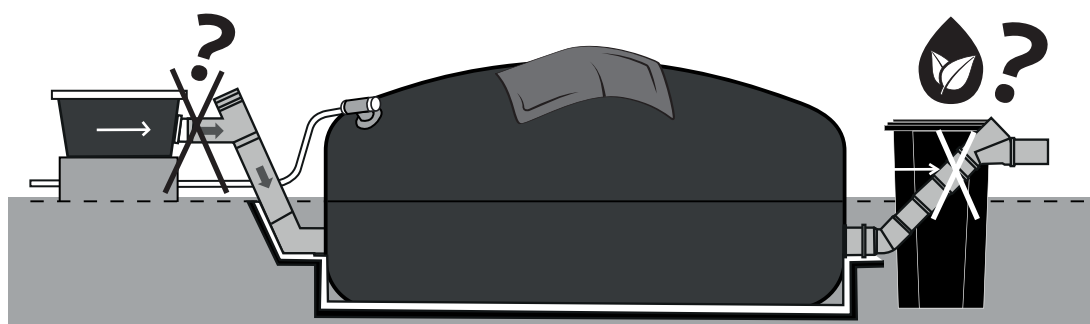
- Mutsetse wegasi rako uri kudzikira here? Mumutsetse wegasi uri kudzikira, mvura inogona kuungana yovhara biogas kuti isayerera! Simudza mugero wegasi kuti utungamirire mvura yakaungana kuenda kunzvimbo inoteyiwa mvura kana kuPRV. Tarisa chikamu chinoti "Mashandisirwo emuchina wako", "KUWANIKWA KWEMVURA MUMUTSVA WEGAS" papeji 24. Mavhidhiyo: TS1, TS6.

- Muri kuburitsa mvura nguva dzose here? Tarisai chikamu chinoti "Mashandisirwo emuchina wenyu", "KUTARISIRA MUSUNGO WEMVURA" chiri papeji 24. Mavhidhiyo: TS3, OM6.

Kana biogas yako isati yatanga: BATANA NEVATENGI - ONA PEJI 48.

NYAYA:

- Iyo slurry haisi kupinda mugayi
- Iyo biofertilizer haibude mugayi



- Kana tsvina yako yemudumbu ichingobuda chete **kana gayinari yazara mweya, pane hapana dambudziko!** Kukwana kweY. Vhidhiyo: TS11.

- Bvisa mapaipi ako ekupinda kana ekubuditsa mvura kubva pazvinhu zvakaoma kana zvakasimba zvinogona kunge zvichivhara kuyerera kwemvura. Shandisa chishandiso chekuvhura kana kamuti katete, kanochinjika (senge mushenjere) kuti uvhure mapaipi anopinda nepakati.

- Pombi yekupinda yakaderera pane **pombi yekubuditsira mvura? Simudza tangi rekudyira zvishoma nekuisa matombo kana ivhu pasi paro.** **Kana slurry yako ichiri kuyerera: BATANA NEVATENGI - ONA PEJI 48.**

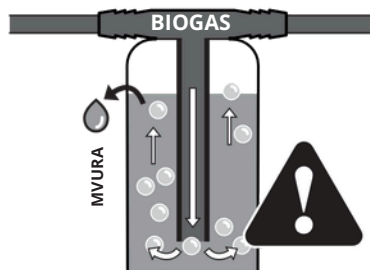


Basic Troubleshooting

SISTEMA.bio®

NYAYA:

- Mafuro evharuvhu ekuyambutsa moyo wangu anoputika kakawanda!

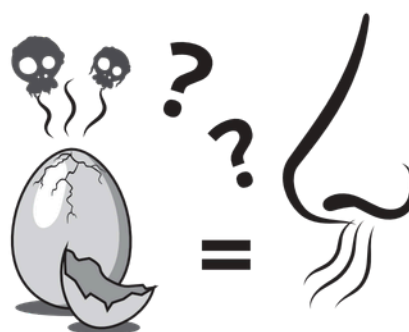
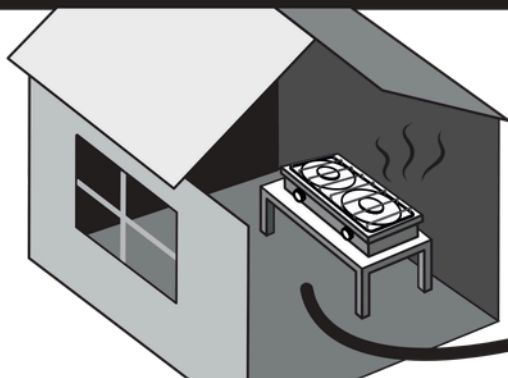


- Uri kukanda vharuvhu yako yekurerutsira kumanikidzwa nguva dzose here? Tarisa chikamu chinoti "Mashandisirwo esystem yako", "Vharuvhu Yokudzora Kumanikidzwa" papeji 24. Mavhidhiyo: OM2, OM1.
- Ungangove uchigadzira biogas yakawandisa! Ndapota pisa gasi rako rakawandisa kana kurishandisa kudziya mvura mupoto! Kana richiramba richiburitsa matumbu nguva dzose,

- kuderedza kudya zvishoma nezvishoma. Tarisa chikamu chinoti "Wedzera mabhenefiti ebiogas", "USAREGA BIOGAS YAKO INOTIZA" papeji 31. Vhidhiyo: TS10. Kana gasi rako richiri kugadzira biogas yakawandisa: BATANA NEVATENGI - ONA PEJI 48.

NYAYA:

- Mukicheni mune gasi/mazai akaora



- Inonhuhwirira here paunenge uchibatidza BioStove yako? Usamirira kwenguva yakareba usati waisa machisi kuchoto kuti udzivise kuburitswa kwebiogas isina kupiswa. Tarisa chikamu chinoti "Mashandisirwo esystem yako", "VANHUDZA MUTO WAKO UCHISHANDISA ZVINHU ZVINOPINDA" papeji 23. Mavhidhiyo: OM11, OM12.

- Unogara uchigadzira media iri mufirita yako here? Tarisa chikamu chinoti "Mashandisirwo esystem yako", "Maitiro Ekugadzira FILTER MEDIA" papeji 25. Vhidhiyo: OM5.

- Mavharuvhu eBioStove, musungo wemvura kana sefa yebiogas akasiyiwa akavhurika here kana kuti haana kuvharwa zvakanaka? Vhara! Tarisa chikamu chinoti "Mashandisirwo esystem yako", "MUTO WOKUTANGA WEBIOGAS" papeji 23, "KUTARISIRA MUSUNGO WEMVURA" papeji 24 uye "MAITIRO EKUGADZIRISA MEDIA YEFILTER" papeji 25 Mavhidhiyo: OM6, TS12, OM5.

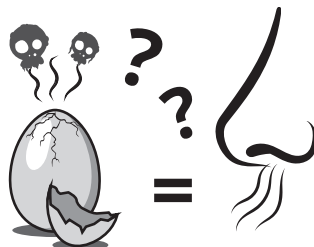
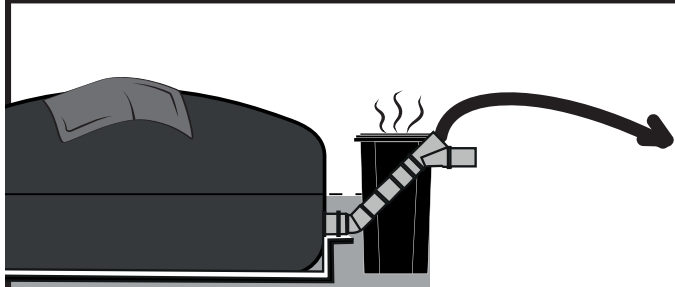
- Pane kubuda kwemvura here? Tarisa zvikamu zvinoti "Mashandisirwo emuchina wako", "KUONGORORA KUBVISA KWEMAHARA EGASI" papeji 25 uye "Kuchengetedzwa", "Biogas" papeji 13.

Kana uchiri kuona kunhuwa kwebiogas mukicheni yako: BATANA NEVATENGESI - ONA PEJI 48.



Basic Troubleshooting

NYAYA: • Pane gasi/mazai akaora ari kunhuwa pedyo nemugayi



• Unogona kuona mvura here mupipi rinopinda nekubuda? Ita shuwa kuti razara kuitira kuti biogas isabude. Tarisa chikamu chinoti "Biodigester startup" "Zadza reactor nemvura kusvika mvura yasvika pamagokora anopinza nekubuda." papeji 15. Vhidhiyo: i3.

• Vharuvhu yako yekurerutsira kumanikidzwa yakazadzwa nemvura here? Tarisa chikamu chinoti "Mashandisirwo esystem yako", "Vharuvhu Yokudzora Kumanikidzwa" papeji 24. Mavhidhiyo: OM1, OM2.

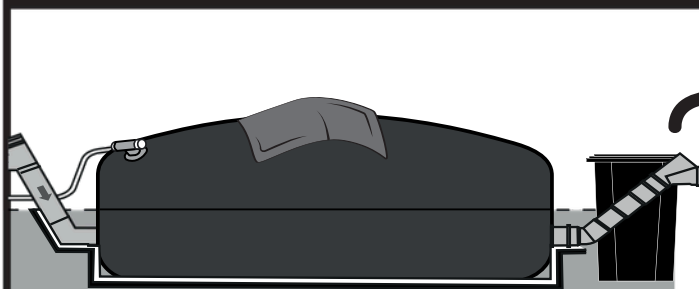
• Pane kubuda kwemvura here? Tarisa chikamu chinoti "Sei

kushandisa sisitimu yako", "KUONGORORA KUBVISA KWEMHARAUNDA YEGASI" papeji 25.

• Sefa yako yebiogas yakasimbiswa zvakanaka uye ine gasket yefirita here? Tarisa chikamu chinoti "Mashandisirwo esystem yako", "MAITIRO EKUGADZIRISA FILTER MEDIA" papeji 25. Vhidhiyo: OM5.

Pombi inoonekera iri pakati pemuchina wekugaya nefirita yakatsemuka here? BATA KUCHENGETEDZA VATENGESI - ONA PEJI 48.

ISSUE: • My bioslurry stinks!



• Uri kudyisa chigayi chako zvakananya here? Tarisa chikamu chinoti "Wedzera mabhenefiti ebiodigester", "KUDYA NGUVA DZOSE" papeji 30, uye tevera mirairo papeji 40 nepeji 20. Yera pH yebioslurry kubva papombi yako yekubuditsa uchishandisa pH meter yakaganzhurirwa (ndapota tevera mirairo ye pH meter calibration). Kana pH yebioslurry yakaderera uye ukaramba uchidyisa kugaya kwako, zvinogona kudzivirira mabhakitiriya kuti asabereke.

biogas: carbon dioxide yakawandisa uye haina methane yakakwana.

Uri kupa dhigester yako chikafu here? tsvina yemhuka isiri ndove yemhuka? Mamwe marara akapfuma zvakananya zvekuti haagayiwe zvakanaka uye anoda kudzorwa kwakanangana huwandu hwekudya! BATA NEVATENGESI VANOTARISIRA VATENGESI - ONA PEJI 48.



- Kurongedzerwa kwekiti yako yebiodigester inogona kushandiswazve. Isu tinokukurudzira kuti uende nayo kunzvimbo iri pedyo yekudzokorodza kana yakaenzana nayo*.

- Ferrosorp yakashandiswa kubva musefa media inogona kuraswa mubhini kana kuwedzerwa kune manyowa kuti ipfume nesimbi nesarufa - shred kutanga!

- Kana makore makumi maviri ehupenyu hwechigayo chako chapera uye chisisashandiswe, tora zvikamu zvaro uende nazvo kunzvimbo yemunharaunda yekudzokorodza.

- Kana uchida ruzivo pamusoro penzvimbo dzekudhindisa, sununguka kutifonera.



*Sefa yakabviswa inofanira kubatwa nekungwarira sezvo inogona kutonhora. Chengetwa kure nezvinhu zvinobvira moto uye inoiswa nekukurumidza muvhu kuderedza njodzi yekubvira moto. Tevedzera mirairo iri papeji 25.



Details Kuchengeta Mupfungwa

Technician zita:

Kuiswa zuva:

Rudzi rwezvikaфу zvinopihwa kune chinogaya:

Huwandu hwezvikaфу zvinopihwa muchina wekugaya chikafu zuva nezuva:

Dilution:

Siriyero nhamba:

CLIENT SIGNATURE
inobvuma
kugamuchira
kudzidziswa:

[illegible]

[illegible]



Kuongorora UyeChirongwa Che Sevhi Yekushanya

KUTARIRA KUSHANYA	
MONTORING 1 (M1)	
Zuva Rekushanya	
Technician Name	
Mirayiridzo Inopiwa Kumutengi	
Client Signature	
MONTORING 2 (M2) ZVICHAITIKA KUREMO/ PAFONI	
Zuva reKufona	
Mutengi Mumiririri Zita	
Mirayiridzo Inopiwa Kumutengi	
Client Signature	
MONTORING 3 (M3)	
Zuva Rekushanya	
Technician Name	
Mirayiridzo Inopiwa Kumutengi	
Client Signature	

Kuti muwane rutsigiro rwevatengi ndapota tarisai peji 48.

KUTARIRA KUSHANYA	
MONTORING 1 (M1)	
Zuva Rekushanya	
Technician Name	
Mirayiridzo Inopiwa Kumutengi	
Client Signature	
MONTORING 2 (M2) ZVICHAIKA KUREMO/ PAFONI	
Zuva reKufona	
Mutengi Mumiririri Zita	
Mirayiridzo Inopiwa Kumutengi	
Client Signature	
MONTORING 3 (M3)	
Zuva Rekushanya	
Technician Name	
Mirayiridzo Inopiwa Kumutengi	
Client Signature	



Nezve chikamu ichi.

*Ichi chikamu chinopa pfupiso yewaranti.
Detailed zvirevo uye mamiriro
anotsanangurwa mushandisi uye mubatsiri
zvibvumirano, izvo zvinotora pamberi.*

WARRANTY PERIOD

Mutengesesi anopa waranti yegore rimwe chete (1) kutanga pazuva rekuiswa, rinoshanda kana paine kukuvadzwa kwezvinhu uye kugadzira kweSistema.bio zvikamu. Kupfuurirazve, Mutengesesi anopa waranti yemakore gumi (10) chete ye geomembrane ye digester kutanga zvakare pazuva rekuiswa.



Zvemutsetse
wegasi &
midziyo



Kune dema
membrane
yebiodigester!

CHII CHINOFUDZWA NEWARRANTY?

Zvakakosha kuziva kuti mawaranti haafukidze chero kukanganisa kunokonzerwa nechero kuregeredza kweMutengi, tsaona, kuparadza, kuchinjwa kweSistema.bio zvikamu neMutengi kana kusachengetedzwa zvisina kujairika uye kana kusateedzera, kune chikamu cheMutengi, nenjodzi nekudzivirira mirairo uye nebhuku rekushandisa.

Mawaranti ari pamusoro apa anongogumira pakugadzirisa, kutsiviwa kana shanduko yechigadzirwa uye/kana mbishi zvinhu zvakazara, mari yevashandi neyekufambisa. Chikwereti cheMutengesesi kune Mutengi hachipfuure mutengo weSistema.bio. Mutengesesi haazovi nemhosva yekurasikirwa kwemhedzisiro mune chero fomu.

ZVINHU ZVINHU ZVAKAITWA KUSATI KUISA

Mukati manguva iri pakati pekutumira nekuisa (Pre-Installation), murimi kana mubatsiri wekushandisa achave ane mutoro wekuchengetwa kwakachengeteka kweyuniti uye zvese zvikamu zvayo.

Chero kukuvadzwa kunoitika panguva ino kunosanganisira asi kusingagumiri pakurumwa nemakonzo, kuputsika kwemuviri, kuratidzwa kwezvakatipoteredza, kana njodzi dzinongoitika dzoga hazvifukidzwe pasi pewartanti. Kana chinhu chipi zvacho chikaonekwa chakuvara kana kushaikwa, kusabatwa zvakanaka, kurasika, kubiwa, kana kukanganiswa chisati chaiswa, mari yekuchigadzirisa kana kuchitsiva ichabhadharwa nemurimi kana mubatsiri.

Sistema.bio inochengetedza kodzero yekuongorora uye kuona chikumbiro usati wabvumidza chero kutsiva kana kugadzirisa. Sarudzo yeSistema.bio ichave yekupedzisira uye inosunga mune zvese zvine chekuita newaranti.



PaSistema.bio, kuchengetedzeka kwako uye kugara zvakanaka ndizvo zvatinyanya kukoshesa Kuchengetedza Kwako uye Feedback Matter. Kana iwe ukambosangana kana kuona dambudziko rekuchengetedza, njodzi

kune hutano hwako, kubatwa zvisina kunaka, kana chero imwe nyaya ine chekuita neiyo biodigester system kana mashandisiro anoita timu yedu newe, ndapota tizivise. Ndokumbira utaure zvirikunetsa*.

Chakakosha Chengetedzo Chiziviso

Kuchengetedzeka kwako kwakakosha zvikuru kwatiri. Isu tinokurudzira zvakasimba kuti iwe uverenge uye uteedzere mirairo yese yekuchengetedza mune ino bhuku revashandisi uye shandisa iyo biodigester system sekutsanangurwa kwazvino. Kana ukasarudza kusatevedzera mirairo iyi, kambani haigone kubvuma mutoro kana mutoro kune chero tsaona, kukuvara, kukanganisa kwemidziyo, kana kumwe kukuvadza kungaitika.



Matauriro Anoita Zvirikunetsa*



Isu tiri pano kuti titeerere, tiite, uye tive nechokwadi chekuti munhu wese anogara akachengeteka. Usazeza kunyorera!

1. TIRIDZAI PA:

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• Mutengi Care, LATAM

Email: atencionalcliente@sistema.bio

Runhare rweMexico: +52 1 55 9199

2411 Runhare rweColombia:

+57 310 3482 564

• Fomu Rokukumbira Webhusaiti
Unogonawo kutumira chikumbiro
zvakananga pawebhusaiti yedu.



2. ANONYMOUS REPORTING

Iwe unogona zvakare kutumira mushumo usingazivikanwe kuburikidza nefomu redu repamhepo.





KUCHENGETEKA MUKICHENI



NGOZI YEKUTOXUKANA NERUFU NOKUDA KWEHydrogen Sulphide (H₂S) Kana ikafemeswa mukati menguva refu, inogona kutungamirira pakufema.
Kuomerwa, zvirwere nerufu.

KUDZIVIRIRA

- Gara uchigadzira patsva kana kutsiva sefa musefa yebiogas sezvakarairwa muBhuku reMushandisi.
- USAbvisa gasi rakawandisa risati ratsva kuti riyerere kwenguva refu usati wabatidza moto.
- Isa chinobatidza moto pachitofu wobatidza knob kuti gasi rifambe
- Kuongorora tambo dzebiogas kakawanda.
- Kudonha kwebiogas kunopa kunhuwa kusingafadzi sekunge chinhu chiri kuora kana mazai akaora.
- Kana paonekwa kuti pabuda mukati memba, lbva mumba sezvo paine njodzi yekuva nehuturu wovhara vharuvhu kuti UMISE kuyerera kwebiogas.



KANA Ukaona HWEMA HWEMA (MAZAI AKAora)

- Vhura mahwindo nemagonhi uye ubude mumba.
- Kana kusvotwa kweziso, kukosora, kutadza kufema zvakanaka, kuda kurutsa, nemusoro zvakanyanya, fonera ve emergency.

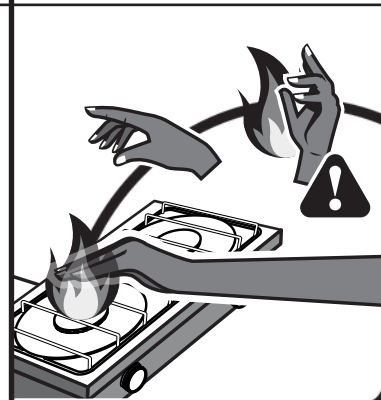
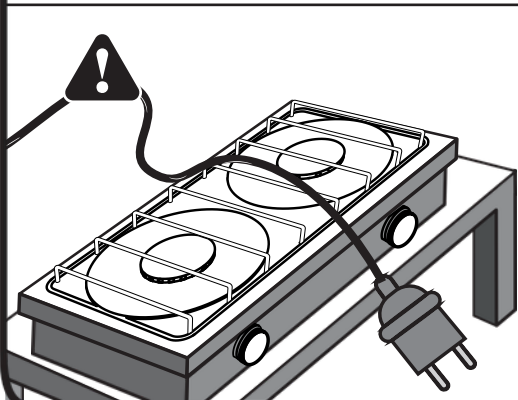


NGOZI YEMOTO NEKUTSVA

USArega chero waya kana zvinongedzo zvichienda pamusoro pechitofu. Isa iyo BioStove panzvimbo yakasimba uye yakatsiga.

USAisa maketeni kana chimwe chinhu chisingabatike pedyo nemoto.

CHENJERA paunenge uchishandisa BioStove sezvo uchigona kuzvipisa.



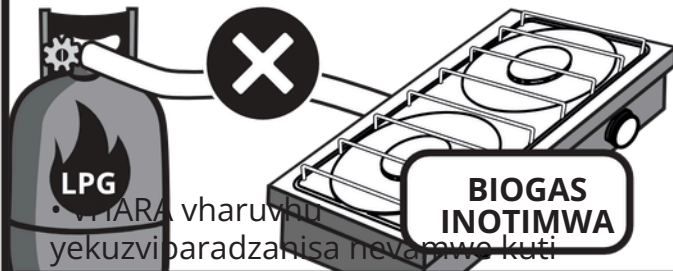


Mazano Ekuchengetedza Kune Varimi

SISTEMA.bio®

USabatanidza iyo BioStove kune chero gasi kunobva kunze kweiyi biodigester.

USabatanidza mutsetse webiogas nechitofu chegasi chaiwo.



• **VHARA** vharuvhu yekuzviparadzahisa nevamwe kuti UMISE kuyerera kwebiogas.

- Bvisa nzvimbo yacho.
- **PANE MOTO** kana zvisina njodzi, bvisa moto mudiki uchishandisa mvura kana chokudzimisa moto kana chiripo.

KANA KUSVIRA

Isai mvura inotonhora panzvimbo yatsva.

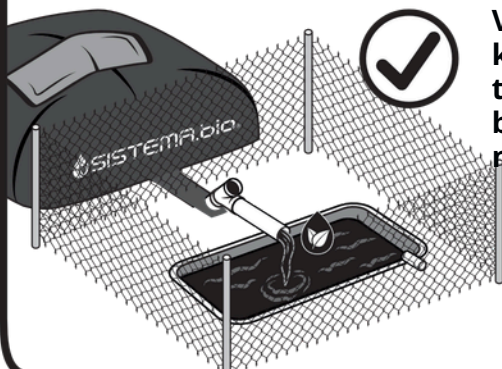
Dana Rubatsiro: Fonera emergency masevhisi kana zviratidzo zvakanyanya.



KUCHENGETEKA PABIODIGESTER



NGOZI YEKUNYURA



Vhara kana kufukidza tangi re bioslurry nguva dzese.



MUSASIYA vana vasina anovatarisira vakatenderedza biogas system netangi rebioslurry.

KUDZIVIRIRA



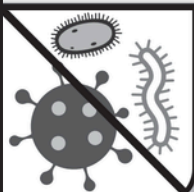
Mazano Ekuchengetedza Kune Varimi

SISTEMA.bio®

MUKAITA NJODZI



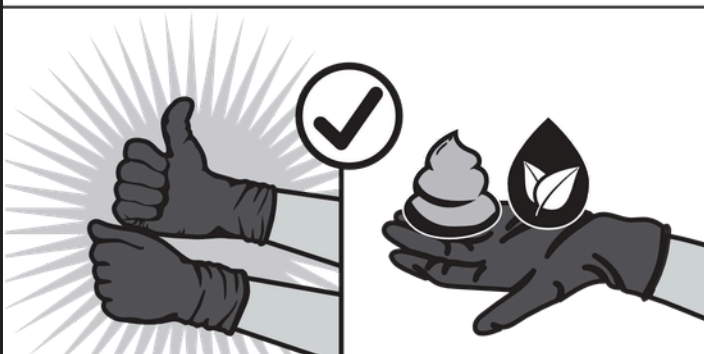
Kana chikawira mutangi re bioslurry, batsirai kuburitsa mhuka/munhu kubva mugomba uye kupa rubatsiro rwekutanga, mobva matsvaga rubatsiro rwechiremba nekukasika.



Njodzi yekutapukirwa nehutachiona nekuda kwekuvapo kwebhakitiriyi muBioslurry nemanure

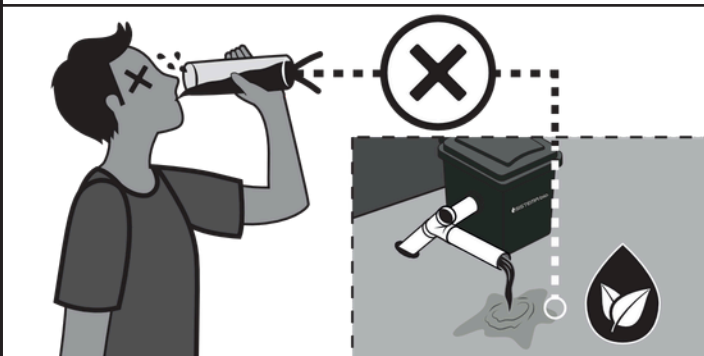
Shandisa magirovhosi pakubata ndove ne bioslurry

Geza maoko ako nesipo nemvura



USANWA bioslurry

Geza muriwo wako



Kana wasangana neBIOSLURRY



General Safety Tips

- Pfeka Zvidziviro: Shandisa magirovhosi nguva dzose paunenge uchibata ndove ne bioslurry.
- Vanhu Vanogona Kubatwa Nenjodzi: Chengeta runyoro rwenhamba dzenjodzi dzemuno munzvimbo iri nyore kusvika semuenzaniso kuchipatara, kiriniki, nzvimbo dzekuchengetera mishonga uye mamota emoto kana zvichibvira.
- Kana ganda rakabatana: Geza nzvimbo yacho nesipo nemvura kwemaminitsi matatu.

- Kuona MAZISO: Shandisa mvura yakachena wogeza kwemaminitsi mashanu.
- Kana ukamwiwa kana kufemerwa: Tsvaka rubatsiro rwekuchipatara nekukasika.

Kana zvikaitika zvakadaro, ndapota taurai neSistema.bio muchishandisa nhamba yekubatsira vatengi iri paPeji 48.



ZVINOKOSHA!

Ndapota yeuka kutifonera kana:

- Paunochinja nhamba yefoni, kuti tigone kugadzirisa nhamba yako yerunhare uye tirambe tichikurukurirana newe padhuze!
- Kana chimiro chemugayi wako chachinja, semuenzaniso: kana digester yako isingachashande uye ichida kushandirwa, kana iwe usingachashandisi yako!



NDINOTENDA NEKUCHENGETA
KUTAURA PEDYO NESU!



Local Sitema.bio Mutengi Kuchengeta

Ndapota tarisai peji 48 kuti muwane nhamba dzenhare dzekutarisira vatengi dzedunhu nedzepasi rose pamwe nekero dzeemail.



Kana uine chero nyaya, ndapota taura neSistema.bio Mutengi Kuchengeta. Skena iyo QR kodhi kuti uone iyo-yezvino runyorwa rwenhamba dzenhare dzedunhu uye maemail pawebhusaiti yedu.

sistema.bio/for-farmers/#contact-customer-care

Bhuku reVashandisi veSistema.bio 3.0

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Av. 213, Rome Nte., Cuauhtemoc, 06700 Mexico
City, CDMX.

www.systema.bio

Basa iri, chinyorwa charo, uye hunhu hwaro zvinhu
zveBuen Manejo del Campo, S.A. de C.V.

*Kukopa, zvizere kana kuti chikamu, zvakananga kana
zvisina kunanga, muchiSpanish kana chero mumwe
mutauro, hakubvumidzwe pasina mvumo
yakanyorwa yakanyorwa yemuridzi wekodzero
dzepfungwa, sezvinopihwa neFederal Copyright Law.
Yakagadzirwa muMexico.*



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