



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

c



**AMASOMO Y'INGENZI KU BOROZI BATO
NDETSE N'ABATANGIZI MU BWOROZI
BW'INGURUBE**

IGICE CYA MBERE: KUNOZA UBWOROZI

Rwanda, 2021





Yateguwe na:

Rwanda Council of Veterinary Doctors(RCVD) hamwe na
Feed the Future Rwanda Orora Wihaze

Iki gitabo cy'amahugurwa cyanditswe ku nkunga y'Abanyamerika inyujijwe mu kigo cya Amerika gishinzwe iterambere mpuzamahanga (USAID). Ibitekerezo bikubiye muri iki gitabo ni ibya RCVD kandi ntaho bihuriye n'ibitekerezo bya Leta y'Amerika cyangwa USAID

IBIRIMO

1.	INTANGIRIRO	4
2.	AMAKURU Y'IBANZE KU BWOROZI BW'INGURUBE	5
3.	UBWOKO BW'INGURUBE BUBONEKA MU RWANDA	9
4.	IBIGENDERWAHO MUGUHITAMO UBWOKO BWO KORORA	11
5.	KUBAKA IKIRARO	15
6.	IBIKORESHO BY'IBANZE MU BWOROZI BW'INGURUBE	19
7.	KWITA KU NGURUBE	21
8.	KUGABURIRA INGURUBE	25
9.	INDWARA Z'INGURUBE N'UBURYO BWO KUZIRINDA	29
10.	UMUSOZO	37
11.	AHO TWABIKUYE:	38

1. INTANGIRIRO

Ubworozi bw'amatungo magufi, harimo n'ingurube ni kimwe mubitanga umusaruro ushimishije ku mworozu bityo akabasha kwiteza imbere mu gihe kitarambiranye.

Kubaka urwego rw'iyamamazabworozi no guhuza ubumenyi mugutanga iyo serivise ku borozi b'ingurube ni inkingi ikomeye mukugera ku ntego y'umushinga "Orora Wihaze". Mu bufatanye n'urugaga rw'abaganga b'amatungo mu Rwanda (RCVD), umushinga wateguye imfashanyigisho y'amahugurwa ikubiyemo ingingo z'ingenzi zafasha aborozi bato n'abatangizi kubona ubumenyi mu bworozi bwabo bw'ingurube.

Iyi mfashanyigisho izifashishwa n'abajyanama b'ubuzima bw'amatungo (CAHWS) bateguwe n'umushinga Orora Wihaze bo mu Turere umunani (8) ukoreramo. Abaganga n'amatungo bigenga batoranyijwe n'urugaga rw'abaganga b'amatungo bazahabwa amahugurwa abategura kugirango nabo bazahugure abo bajyanama.

Amahugurwa azatangwa mu buryo bwo kwiga mu ishuri n'imyitozo ngiro kugira ngo abahugurwe bagire ubumenyi bw'ibanze bwuzuye ku bworozi bw'ingurube.



2. AMAKURU Y'IBANZE KU BWOROZI BW'INGURUBE

2.1. Akamaro n'uburyo bwo korora ingurube

Ingurube ni amatungo magufi yororwa hagamijwe umusaruro w'inyama zayo. Ubworozi bw'ingurube bufite umwihariko kubera ko:

- Ingurube ni itungo ritanga umusaruro utubutse kurusha andi matungo yose ugereranyije n'ibyo iba yariye. Ingurube ishobora kurya ibiryo bitandukanye biboneka henshi mu gihugu ;
- Ingurube ni itungo ryororoka cyane (*ibyara inshuro ebyiri mu mwaka kandi ikaba yacutsa nibura 8*) ;
- Ingurube ni itungo ryororerwa ku butaka ;
- Ingurube yihanganira indwara kandi ikaba yaba ahantu hose (ahashyuka cg ahakonja) ;
- Ingurube itanga ifumbire ikoreshwa mu buhinzi, nziza kandi nyinshi.



2.2. Iyipimo by'imyororokere y'ingurube

INGURUBE IBYARA	ISEKURUME	UTWANA TW'INGURUBE
Ishashi igeza igihe cyo kwima kuva ku mezi arindwi (7)	Itangira gukoreshwa nk'isekurume yimya kuva ku mezi umunani (8)	Akana k'ingurube gashobora kuvuka gapima ikilo 1-2
Ihaka iminsi 115 (amezi atatu, ibyumweru bitatu n'iminsi itatu)	Isekurume igomba kuba ifitiwe amakuru y'ubwiganze bw'amaraso y'ubwoko uyitirira (50%, 75%, ..)	Akana k'ingurube gacuka gapima ibilo biri hagati ya 15-20
Yonsa ikanacutsa ku mezi abiri (mu gihe zifashwe neza, wacutsa kuva ku kwezi kugeza kuri abiri)	Ikurwa mu bworozi vuba ku rwego rwo kwirinda amacugane (<i>iyozahavugiye zigejeje igihe cyo kwima</i>)	Utwana tw'ingurube tumenyera neza ubuzima busanzwe mu mezi atatu tuvutse.
Yongera kwima kuva ku minsi 5-10 nyuma yo gucutsa (iyozashwe neza), ishobora no kugeza n'ukwezi iyozari yarazahaye.	Ni byiza ko isekurume yimya inyagazi ebyiri mu cyumweru.	Ku mezi arindwi ingurube ivutse ishobora kugeza ku bilo ijana (100) iyozari icyororo cyiza kandi kigaburirwa neza.
Ingurube ishobora kubyara inshuro ebyiri mu mwaka.		
Ingurube y'inzungu ishobora kubyara utwana kuva ku 10-14; mu gihe iyozakondo ibyara hagati ya 4-8.		
Ingurube y'imbyeyi ishobora gukurwa mu bworozi nyuma y'imbyaro 5		

2.3. Kubika amakuru y'ubworozi no kwirinda amacugane

Kubika inyandiko z'ubworozi ni igikorwa gihoraho mu bworozi kandi gikoranwa ubushishozi kugira ngo amakuru abe ay'ukuri. Kubika inyandiko z'ubworozi bireba buri mworozi yaba ufite ingurube nkeya cyangwa ufite nyinshi cyane. Kubika inyandiko z'ubworozi bifite akamaro kanini mu micungire y'ubworozi muri rusange, kwirinda amacugane no kuba wavugurura icyororo cyangwa umushinga ugendeye ku makuru y'ibyakoze byose. Ingurube zose zigomba kuba zambaye amaherena.

Umworozi wese agomba **kwirinda amacugane** kuko ari imwe mu nzitizi zisubiza ubworozi inyuma. Umworozi agomba kumenya ko ari bibi cyane kwimisha ingurube zifitanye isano kugeza ku gisekuruza cya gatanu aribwo buvivi.

Ingurube zagize amacugane zirangwa no kudindira mu mikurire, kubyara utwana twinshi dufite ibibazo, inyinshi zipfa zitaracuka.

Zimwe mu nyandiko z'ubworozi akora n'ingeri zazo:

i. Ifishi y'inyagazi/ishashi y'icyororo

Në y'ihereza: Aho yaturutse: Ubwoko: (% y'amaraso:)												
Se: Nyina:												
KWIMA			KUBYARA					GUCUKA			ICYITONDERWA	
Itariki yimiyeho	Inshuro ibyaye	No. y'isekuru me yayimije	Itariki ibyariyeho	Utwana twavutse twose		Utwana twavutse dupfuye/ubusembwa	Iburo by'ibyana byavutse (kg)	Utwana twapfuye mu cyumweru cya 1	Itariki yacukirijeho	Umubare w'izacutse		Biro zicutse zifite (kg)
				Gabo	Gore					Gabo	Gore	

ii. Fishe yo gukurikirana imikurire y'utwana ducukutse

Block No.....

Icyumba No.....

Itariki bikoreweho:.....

Itariki yo kupima					*** **	*** **	*** **	*** **	*** **	*** **	*** **
Ubukure (Age)					Amezi 2	Amezi 3	Amezi 4	Amezi 5	Amezi 6	Amezi 7	Amezi 8
Ikigero cyo gukura gisanzwe/Kg					16-20	20-35	35-65	65-85	85-95	95-110	110+
Iherena	Igit-sina	Ubwoko	Ihere-na rya Nyina	Itariki y'am-avuko							

iii. Ifishi y'ubuzima

Itariki	Icyiciro cy'In-gurube	No. y'Iher-ena	Ikibazo ya-gize	Uburyo yavuwemo	Amafaranga byatwaye	Icyitonderwa

3. UBWOKO BW'INGURUBE BUBONEKA MU RWANDA

Icyiciro	Ubwoko	Ibiburanga
Ingurube ya gakondo	Inyarwanda 	Ingurube y'inyarwanda igira uruhu rw'umukara. Ifite agahanga kagufi, ikinwa ni kirekire, amatwi akaba ar-yamye (ari hagati). Ubu bwoko bugira umubyimba/uruti muto, igikuriro gito n'inyama zifite ibinure. Ubu bwoko bwihanganira indwara n'indyo iyo ari yo yose. Iyi ngurube ishobora kubyara bwa mbere ifite umwaka n'igice kugeza kuri ibiri kandi ikabyara utwana 4-8.
Ingurube z'Imvamahanga (inzungu)	Large White (Larije Waviti) 	Ni ingurube igira amatwi ashinze (inshingamatwi), ibara ry'umweru kandi ikaba imbyeyi nziza, yonsa neza ntitakaze ibiro. Ni ubwoko bwihanganira indwara n'ihungabana. Ni ingurube ibyibuha, ikagira ibinure byinshi bituma itanga umusaruro muke w'inyama. Iyi ngurube ishobora kubyara bwa mbere ifite amezi 12 kandi ikabyara utwana hagati ya 10-12.
	Landrace (Landirasi) 	Ni ingurube y'umweru, ndende ifite amatwi atendera mu maso, ndende ifite umurambararo muremure. Ni imbyeyi nziza, ibyara byinshi kandi igacutsa byinshi ariko igatakaza ibiro vuba mu gihe cyo konsa iyo itagaburiwe neza. Iyi ngurube ishobora kubyara bwa mbere ifite amezi 12 kandi ikunze kubyara utwana hejuru ya 12 ku ibyaro. Itanga umusaruro w'inyama mwinshi kandi mwiza.

	<p>Pietrain (Piyetire)</p> 	<p>Ni ingurube ifite amabara y'umukara n'umeru (iki-bamba), Ni ingurube ikura neza, igaragaza umubyimba mwiza, izwiho kugira inyama nyinshi, ibinure bike. Kuko igira ihungabana biba byiza kuyivanga n'andi moko. Iyi ngurube ishobora kubyara bwa mbere ifite amezi 12 kandi ikabyara utwana kuva 8 kuzamura.</p>
	<p>Duroc (Diroke)</p> 	<p>Ni ingurube ifite ibara ry'ikigina, igira inyama nyinshi n'ibinure bike, yihanganira ubushyuhe n'ubukonje ndetse n'indwara. Igira igikuriro cyiza ugereranyije n'andi moko.</p> <p>Ikoreshwa nk'isekurume yongera igikuriro n'ubwiza bw'inyama ku zizavuka (terminal boar) Aborozi bakunze kuyivanga n'andi moko.</p>
<p>Ibyimanyi</p>	<p>Imvange</p> 	<p>Ni icyimanyi gishobora gukomoka ku bwoko bubiri cyangwa burenze bitewe n'icyo umworozi yifuza kugeraho (umusaruro w'inyama, kwihanganira ibihe bibi/indwara, ...). Imvange ni zo ziganje mu gihugu. Kugira ngo umenye ubwiganze bw'ubwoko runaka mu mvange urebera ku biranga buri bwoko (imiterere y'umubiri, ibara, amatwi, umutwe) byavuzwe haruguru.</p>

4. IBIGENDERWAHO MU GUHITAMO UBWOKO BWO KORORA

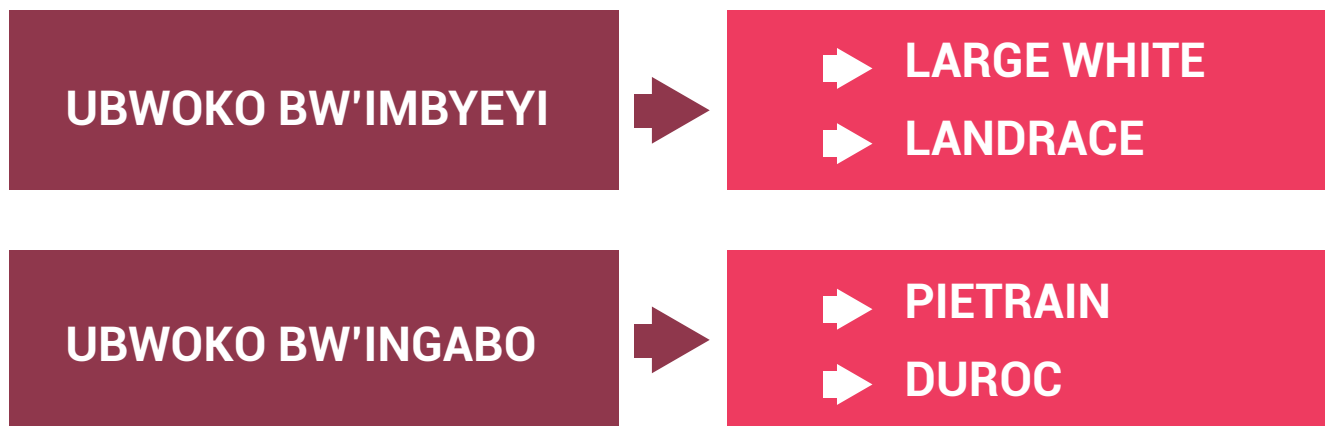
4.1. Guhitamo icyororo

Buri mworozzi w'ingurube ugiye korora agomba guhitamo uburyo agiye kororamo bitewe n'isoko ateganya zizamwungukira. Mu buryo yahitamo harimo:

- Korora imbyeyi agamije kuvukisha no kugurisha ibibwana,
- Korora abyibushya gusa agamije isoko ry'inyama,
- Kubyaza no kubyibushya icyarimwe,

Muri rusange aborozi bato borora bagamije kubyaza cyangwa kubyibushya. Ubwoko bw'ingurube z'Imvamahanga (inzungu) uko ari bune buvangwa hagamijwe kugera ku musaruro w'inyama nyinshi kandi nziza (zikunzwe ku isoko). Hakurikijwe ibiranga buri bwoko bw'itungo, hari izifatwa nk'imbyeyi nziza, izindi zigafatwa nk'ingabo zitanga icyororo cy'inyama nziza.

Urugero:



Umworozi ahitamo ubwoko bw'ingurube yorora ashingiye kuri ibi bikurikira:

Ingurube izaba imbyeyi nziza (Urugero: Landrace)

- Umubare w'utwana nyina ijya ibyara n'umubare icutsa.
- Igikuriro yagize igereranyije n'amezi ifite
- Kureba niba nta busembwa ifite bw'inyuma cyangwa indi mico bibi.

Ingurube izaba isekurume itanga icyororo cyiza (urugero: Pietrain)

- Kumenya ubwiganze bw'amaraso ifite ya bwa bwoko ukeneye (urugero: 50%, 75%)
- Kumenya ko nta sano ifitanye n'izindi ngurube z'ibyeyi
- Igikuriro yagize igereranyije n'amezi ifite
- Kureba niba nta busembwa ifite bw'inyuma cyangwa indi mico bibi.

Muri rusange, umworozi ukeneye umusaruro uhagije w'inyama mu bworozi bwe agomba kumenya guhitamo neza icyororo kandi akorora ibyimanyi by'ayo moko twavuze hejuru ariko isekurume ni byiza ko yagira amaraso yuzuye cg asatira kuba 100% (cyangwa ugateza itanga).

4.2. Kubangurira ingurube

Kugeza ubu, mu Rwanda dushobora gukoresha uburyo bubiri bwo kubangurira ingurube:

- Kubangurura ku isekurume,
- Gutara intanga ingurube.

Ubusanzwe ingurube igejeje igihe cy'uburumbuke irarinda ubwayo ntacyo umworozi akoze. Mu gihe umworozi ashaka ko ingurube ze zirinda ari nyinshi mu gihe cyegeranye, ashobora gukoresha bumwe mu buryo bukurikira:

UBURYO	URUGERO
<p>Bitewe n'imiterere y'ikiraro, yajya anyuza isekurume imbere y'inyagazi/ishashi (muri corridor) ku buryo zikoza nyaho amazuru buri gitondo.</p>	
<p>Bitewe n'imiterere y'ikiraro (imbaho/ibyuma), yashyira inyagazi/ishashi akeneye ko zirinda mu biraro bikikije ikiraro cy'isekurume bityo zikajya zikozanyaho ibizuru.</p>	
<p>Mu gihe ubu buryo bwombi budashoboka, umworozi ashobora gushyira isaso mu kiraro cy'isekurume hanyuma akajya ayimurira mu biraro by'inyagazi/ishashi akeneye ko zirinda. Iyo bishoboka, ishashi zigeze igihe cyo kurinda cg zacukije zihurizwa mu byumba, bityo ifasha: Kumenya izatangiye kurinda (kurirana); Bituma izarinze mbere, zitera n'izindi kurinda vuba.</p>	

4.3. Ibimenyetso by'umurindo w'ingurube

Kugira ubumenyi ku bijyanye n'umurindo w'ingurube ni ingenzi kubera ko aribyo bihatse amahirwe yo gufata kw'ingurube yimye. Ubwo ubumenyi bufasha mu guteza intanga mu ngurube kugira ngo wizere ko izafata.

Ubusanzwe ingurube ni itungo rigira ibimenyetso by'umurindo bimara iminsi myinshi ugereranyije n'andi matungo yororwa.

- **Ishashi (itarabyara):** ibimenyetso by'umurindo bishobora kumara iminsi ine
- **Inyagazi (iyabayeho):** ibimenyetso by'umurindo bishobora kumara iminsi itatu.

Icyitonderwa: Umunsi wa mbere ntabwo aborozi bakunze kuwumenya kuko ibimenyetso bigaragara n'amaso biba bitaraza neza.

a. Uko wamenya ingurube yarinze

IBIMENYETSO	URUGERO
Inda y'amaganga irabyimba, igatukura	
Ingurube itangira kubura amahoro, igashaka kumena ikiraro	
Iyo zirenze imwe mu kiraro zitangira kurirana no gusakuza	
<p>Ingurube yemera guhagarara iyo:</p> <ul style="list-style-type: none"> ✓ Isekurume iyuriye ✓ Uyikanze ku mugogo ✓ Uyicaye ku mugongo <p>Ushobora kubona ururenda mu nda y'amagan-ga</p> <p>Ni cyo kimenyetso simusiga cy'umurindo n'igi-he nyacyo cyo gutera intanga cg kwimisha.</p>	

Umworozi agomba gutandukanya kubyimba inda y'amaganga ku ishashi igiye kurinda bwa mbere bita <kumenagura> no kurinda nyako. **Kumenagura** ku ishashi gushobora no kumara icyumweru, inda y'amaganga ibyimbye, itukura ariko ntiyemera guhagarara iyo uyikanze umugongo . Ni byiza ko umworozi **ategereza ko irinda bwa kabiri**.

4.4. Serivise yo gutera intanga mu ngurube

Ni byiza ko umworozi amenya akamaro ko guteza intanga mu ngurube, muri make dore inyungu wabona mu kwitabira iyi serivise:

- Gukoresha icyororo gitoranyijwe cy'umwimerere, kandi cyizewe,
- Kwirinda amacugana mu bworozi,
- Kurinda ingurube indwara zandurira mu kubanguriza ndetse n'impanuka mu rugendo,
- Bifasha umworozi ushaka kurindishiriza icyarimwe ingurube nyinshi bitamusabye kugira isekurume nyinshi,
- Kugabanya amafaranga asohoka mu kugaburira isekurume,
- Ni uburyo bworoshye bwo gukwirakwiza icyororo cyiza.

Intanga z'ingurube ziraboneka mu gihugu kand hari n'abatekinisiye bahuguriwe gutera mu ngurube.




5. KUBAKA IKIRARO




Ikiraro cy'ingurube ni inzu yo kubaka hagamijwe kororera ingurube kugirango habungwabungwe umutekano n'ubuzima bwiza bw'amatungo. Ikiraro cy'ingurube kigomba kuba kisanzuye kandi cyubatse ku buryo ingurube ijyamo kandi ikisanzura (itihatamo). Mukubaka ikiraro witomdera icyerekezo cy'imiya-ga n'amashahi n'uburyo hazashyirwaho ingamba z'ubwirinzi (gukinga, umuti wo gukandagiramo, ...).


Hari ubwoko 2 bw'ibyumba byubakwa mu kiraro cy'ingurube :

- Icyumba cy'imbyeyi kirimo n'agace kagenewe utwana (Materinite & beriso)
- Ibyumba bigenewe imbyeyi zihaka, imbyeyi zicukije, ingurube zigikura n'izibyibushywa.

Imbonerahamwe ikurikira iragaragaza amakuru y'ingenzi ku nyubako y'ikiraro cy'ingurube:

IBICE BY'IKI-RARO	UKO BIBA BITEYE/ IBISABWA	IBIPIMO	URUGERO
Ikibanza	Kure y'ingo z'abantu	Muri metero 800 uvuye aho bantu bayuye	
Inyagazi n'utwana twayo	Hatagera imiyaga myinshi, humutse	icyumba gifite metero kare: 6-8m ²	
Inyagazi idahaka	Ikiraro gisanzwe	Hakenewe metero kare 1.5-2 m ² /imwe	
Ishashi / inkone	Ikiraro gisanzwe	Hakenerwa metero kare 0.5-1m ² /imwe	

<p>Utwana tw'ingurube ducutse</p>	<p>Icyumba gisanzwe, cyumutse</p>	<p>Hakenewe metero kare: 0.3– 0.5 m²/imwe</p>	
<p>Isekurume</p>	<p>Icyumba gisanzwe, kisanzuye</p>	<p>Hakenerwa metero kare 6-8 m²</p>	
<p>Ikiraro cy'ingurube nyinshi</p>	<ul style="list-style-type: none"> ➤ Kugira koridori imbere mu nzu ➤ ➤ Sima igomba kugira ubuhaname 	<p>Hakawe guhera kuri metero 1.20m</p>	

<p>Ikiraro gi-ciriritse</p>	<p>Kugira nibura isima, uburiro n'ubunywero</p>		
<p>Uburiro n'ubunywero</p>	<p>Buri cyumba bi-jyanye n'umubare w'ingurube zijyamo</p>	<p>Kutarenza ubuhagarike bwa 15cm, n'ubugari bwa 40cm.</p>	


6. IBIKORESHO BY'IBANZE MU BWOROZI BW'INGURUBE

Mu bworozi bw'ingurube hakoreshwa ibikoresho byo mu buryo bubiri:

6.1. Ibikoresho bisanzwe umworozi wese yabona aho atuye no kubaka ukoresheje sima

Aborozi benshi mu Rwanda bakoresha ibikoresho bisanzwe biboneka mu gihugu.

Ibikoresho	Uko bimeze/Umumaro	Urugero
Uburiro n'ubunywero	<ul style="list-style-type: none"> ✓ Mu biraro bya sima, nabyo babyubaka hasi bakoresheje sima 	
	<ul style="list-style-type: none"> ✓ Ku biraro by'imbaho cyangwa nta sima irimo, hakoreshwa: <ul style="list-style-type: none"> ○ Ibice by'amajerikani ○ Akavuro 	
Ingorofani	Yifashishwa mu gutwara ibiryo, izindi zigakoreshwa mu gutwara imyanda	

Ibitiyo	Kifashishwa mukuvanga ibiryo, ibindi mugukora amasuku	
Imyeyo	Ikoreshwa mugukora amasuku	
Umunzani	Ikoreshwa mugupima ibiryo ndetse n'amatungo	
Ijerikani/ingunguru/arozwari	Ahanini byifashashwa ku bijyanye n'amazi	
Ipompe	Ni igikoresho gikoreshwa gake ariko gikenewe mugufuhera umuti wica udukoko.	

6.2. Ibikoresho bikorerwa mu nganda zabugenewe ndetse harimo n'ibikoresha amashanyarazi

Ni aborozi bake cyane batangiye gukoresha ibikoresho bigenzwe (kunywa amazi).

Urugero

Uburiri bugezweho



Ubunywero bugezweho



7. KWITA KU NGURUBE

Umworozi ashobora kwirinda ibihombo mu bworozi bwe yitaye ku micungire y'ubworozi muri rusange kuva ku nyubako, ingurube, imirire n'ubumenyi bw'abakozi mukwita ku isuku n'ibindi bikorwa biri tekinike.

Hari ibyiciro by'ingenzi mu buzima bw'ingurube umworozi agomba kwitaho cyane:



- Gutegura imbyeyi igiye kubyara no mu gihe cyo kubyara
- Kwita ku twana twavutse mu minsi 4 ya mbere
- Gutegura utwana tugiye gucuka no gucutsa
- Kugaburira utwana ducutse (ukwezi kwa mbere ducutse)

Muri ibyo byiciro byose hari ibintu bigomba gukorwa mu buryo buhoraho ku ngurube zinyuze muri buri cyiciro:

- **Koza ibiraro n'umuti wica udukoko (disinfectant)**
- **Guhorana isuku n'ibiraro byumutse**
- **Guhoza ijisho kuri icyo cyiciro**

7.1. Imbonerahamwe igaragahaza iby'ingenzi byakorwa kuri buri cyiciro :

ICYICIRO	IBIKORWA	ICYITONDERWA
Imbyeyi	<ul style="list-style-type: none"> - Ingurube ibura iminsi 3 ngo ibyare ikorerwa isuku, ikiraro kikoze, cyatewemo umuti wica udukoko. - Habaho gutunganya ikibuti cy'utwana (berceau) tw'ingurube no gushyiramo isaso yumutse. - Ingurube yegereje kubyara atangira gusa n'usasa neza isaso (umuenya ko yegereje). - Mu gihe iri kubyara, umworozi agomba kuyiba hafi ngo ayifashe iyo bibaye ngombwa, afashe n'utwana tuvuka kutaryamirwa na nyina no konka ku dufite intege nke. - Imaze kubyara, ingurube yitabwaho, ukagenzura ko irya neza, yonsa neza, n'ibindi 	Imyeyi iba mu cyumba cyayo yonyine n'utwana twayo.
Utwana tw'ingurube: <ul style="list-style-type: none"> o Gutera umuti wa Intrafer (Bikorwa ku munsi wa kabiri zivutse)	Kuva tukivuka, utwana tugomba kurindwa kuryamirwa na nyina, imbeho. <ul style="list-style-type: none"> o Utwana twose duterwa Intrafer ifasha umubiri gukora amaraso ahagije umubiri. 	

<ul style="list-style-type: none"> o Guca amenyo y'imikaka n'imirizo (Bikorwa ku munsi wa kabiri zivutse) 	<ul style="list-style-type: none"> o Ubusanzwe akagurube kavukana amenyo umunani asongoye, rero ni byiza kuyakata umutwe wayo usongoye kugira ngo ntizizakomere-tse nyina ndetse nazo ubwazo. Hakoreshwa Pince yabugenewe, ugakata neza $\frac{1}{4}$ cy'iryinyo. o Ingurube hari igihe zirumana imirizo, mu gihe havuye amaraso zitangira kuyakurikirana bityo zikarushaho kuyikomere-tsanya, bikazivuramo kuryana. <p>Guca imirizo ukoresha Pince yabugenewe kandi ugakata utegereye cyane akabuno nka $\frac{3}{4}$ by'umurizo ni cyo ukuraho.</p>	<p>Akuma (Pince) gakoreshwa muri ibi bikorwa</p> 
<ul style="list-style-type: none"> o Gukona udusekurume 	<ul style="list-style-type: none"> o Guhera ku munsi 17, utangira gukona udusekurume turimo nubwo bishoboka no guzikona guhera ku munsi wa 7 zivutse kandi n'igikorwa gishobora no gukorwa n'umworozi wabihuguriwe mu kiraro cye gusa. 	
<ul style="list-style-type: none"> o Tekinike yo gucutsa (Kuzirinda indwara y'impiswi n'izindi stress) 	<ul style="list-style-type: none"> o Kugabura ibiryo bike bike ariko inshuro nyinshi (3-4), bibaye byiza watanga ibiryo by'ifu bitavanze n'amazi. o Gutanga amazi meza ariko make make inshuro nyinshi ku munsi. o Umworozi agomba gusukura buri gihe aho ziba; agakuramo vuba ibiryo zitariye ku buryo ikiraro gikomeza kuba cyumutse. o Kuzihozaho ijisho/kuziba hafi ku buryo ikibazo cyose cyabamo wakibona vuba, kigakemurwa (iyarwaye). o Hari n'aborozi batanga imiti ya antibiotique na multivitamines. 	<p>Buri mworozi ku rwego rwe yabikora, bigatuma utwana tuzamuka neza mu gikuriro.</p>

<ul style="list-style-type: none"> o Ibindi wakorera utwana tw'ingurube 	<ul style="list-style-type: none"> o Guhera ku munsu wa 21 utangira kwigisha utwana kurya ibiryo by'amafu. o Iminsi 2 nyuma yo gucuka, kuziha umuti w'inzoka bwa mbere. Nyuma y'iminsi 14, kuziha umuti w'inzoka ubwa kabiri no gusukura ibiraro. o Umworozi agomba kwambika amaherena utwana twacutse twose mbere yo kuzazihuza mu byumba byo gukurizamo. 	<p>Utwana tw'ingurube ducutse dushobora guhurizwa hamwe. Hubahirizwa ibipimo byavuzwe muri iyi mfashanyigisho.</p>
<p>Ibindi byiciro (ingurube nkuru)</p>	<p>Ingurube nkuru n'izibyibushywa nta mwariko zigira uretse amahame y'isuku no kuzitaho bisanzwe.</p>	<p>Isekurume igira ikiraro cyayo yihariye kandi inyagazi niyo iyisanga mu muraro.</p>

7.2. Ingamba z'ubwirinzi mu bworozi bw'ingurube (biosecurity)

Ingamba z'ibanze umworozi yakwitaho mu bworozi bwe ariko ntibikuraho ko yagira izindi zihariye bitewe n'urwego umushinga we uriho ndetse n'aho yororeye, ni izi zikurikira:



Kubaka aho bakandagira (pediluve) no gushyiramo umuti ku buryo buteganyijwe:

- Ku bwinjiriro bw'urwuri
- Ku bwinjiriro bwa buri block
- Ku bwinjiriro bw'ibiraro aho bafite izindi nyubako mu rwuri.

- Kuzitira urwuri rwose mukugenzura urujya n'uruza rw'abantu ndetse n'ibyonnyi
- Kubaka ibiraro mu buryo bwa blocks kugira ngo byorohe gutandukanya ibyiciro by'ingurube
- Kugira botesse n'umwambaro ku bantu bose binjiye mu bworozi
- Koza ibiraro n'umuti wica udukoko mu buryo ugenwe, mu gihe runaka bihoraho.

Ku mworozu muto, nibura akwiriye kugira umuti wo gukandagiramo ndetse no kwirinda guzereza ingurube ye cg kujya kubangurira ku iskurume rusange (yateza intanga).

8. KUGABURIRA INGURUBE

Imirire y'ingurube ni kimwe mu bituma umusaruro ushobora kuba mucye nubwo waba ufite icyororo cyiza. Kugira ngo ingurube ibashe kubona umusaruro wifuza mu gihe giteganyijwe, igomba kubona indyo yuzuye (ibyubaka umubiri, ibitera imbaraga, ibinyamavuta, ibirinda indwara, ibikomeza amagufa) ndetse n'amazi ahagije.

8.1. Ibiryo mvaruganda n'amazi

Imbonerahamwe igaragaza ibyo ingurube ikenera ku munsi

Igihe cy'ubukure	Ibyo zirya ku munsi (Kg)	Amazi akenewe (L)
Utwana tw'ingurube	0.5	1
Ingurube ifite ibiro 20-60	0.7-1.5	2-5
Ingurube ibyibushywa, ifite ibiro 65-100 kg	2-2.5	5-6
Ingurube nkuru y'imbyeyi	2.5	5-8
Ingurube yonsa	3-6 (0.5 kg ku kana + 1 kg ya nyina).	15-30
Isekurume nkuru y'ingurube	2-2.5	5-8

Icyitonderwa: Ibiryo bitagwa kuri izi ngano n'imvange yujuje ibisabwa.

8.2. Uburyo byo kugaburamo ibiryo by'ingurube

a) Ibiryo by'amafu

Muri rusange, indyo igaburwa kabiri ku munsu (mugitondo igahabwa byinshi nka 60% hanyuma nka 40% nyuma ya saa sita.

Ku mbyeyi zonsa n'utwana ducutse, indyo igaburwa inshuro eshatu ku munsu; mugitondo hatangwa igice cya mbere, ku manywa saa sita hatangwa igice cya kabiri, hanyuma igice cya gatatu gitangwa bitarenga saa kumi n'imwe. Imbyeyi yonsa ihabwa ibiryo byose ishobora kumara ku munsu ukaba aribyo uganyamo izo nshuro eshatu (*ubusanzwe ingano y'ibiryo irya ibarwa gutya: 1kg+0.5kg*umubare w'utwana yonsa*).

b) Kugabura ibindi biryo bitari amafu

- Ibijumba, imyumbati, ibirayi, ibitoki,nabyo biri mu binyabijumba bigaburirwa ingurube ariko ni byiza kubigabura ubanje kubiteka kugirango byorohera ingurube kubigogora kandi ntibigire ingaruka. Imyumbati bisaba kubanza kuyinika nibura iminsi itatu, ikumishwa, nyuma ikajya itekwaho igiye kugaburwa.
- Amababi y'uduti tugaburirwa ingurube agomba kuba akiri matoto. Muri rusange, igifu cy'ingurube kiroroshye ntabwo gikomeye nk'icy'amatungo yuza. Amoko y'ubwatsi (alfalfa, Calliandra, Leucaena, Clitoria,...) akoreshwa neza mu gihe yumye, ifu yayo ikavangwa mu biryo by'amafu bigaburwa.

- Ibisigazwa byo mu gikoni (nkibishishwa by'ibirayi, ibijumba, ibitoki,...) n'ibisigazwa byo muri resitora, ingurube zirabirya ariko hagomba bibanza gutunganywa havanwamo ibyagira ingaruka ku ngurube (amashashi, amacupa, kirida,.....). Amata cyangwa ibisigara nyuma y'uko uruganda rwarangije gutegura no kubika imbuto cyangwa amata byagenewe abantu, kimwe n'ibyo muri resitora, ntibigomba kubikwa igihe kirekire ngo bigere aho bigaga. Ntibirenga iminsi itatu.
- Mu gihe umworozi akoresheje ibisigazwa bya buraseri, ashobora kubivangisha n'ibindi biryo by'amafu. Ibisigazwa bya braseri na branda iyo bibitswe nabi bishobora kuzamo uruhumbu, bikaba byatera indwara (gukumanya ingurube).

8.3. Urugero rwa forumile y'ibiryo by'ingurube

Muri rusange hashingirwa ku biryo by'ibanze (ingredients) biboneka kandi bihendutse mugukora imvange yuzuye (ibitera imbaraga, ibyubaka umubiri, ibirinda umubiri). **Forumile zikorwa bitewe n'uburyo umworozi yifuza kororamo n'intego afite (habaho forumile y'izicutse, izikura/growers, izikuze/finishers, izihaka n'izonsa).**

a) Imvange y'ibibwana by'ingurube (Starter-Growers)

No.	Ingredients	Ingano yabyo mu bilo 100
1	Branda y'ibigori	20
2	Ibigori (ifu)	50
3	Soja	18
4	Igihwagari	2
5	Indagara	2
6	Concentre ya KLC/ifu y'amaraso	5
7	Ishwagara	2
8	Premix	0.25
9	Umunyu	0.5
Total		100

b) Imvange y'ingurube zibyibushwa (finishers)

No.	Ingredients	Ingano yabyo mu bilo 100
1	Branda y'ibigori	42.5
2	Ibigori (ifu)	20
3	Igiheri cy'umuceri/ingano	20
4	Soja	10
5	Igihwagari	5
6	Ishwagara	2
7	Premix	0.25
8	Umunyu	0.5
Total		100

8.4. Inkomoko y'intungamubiri ziri mu ndyo yuzuye

Muri rusange intungamubiri ziba mu ndyo yuzuye y'ibiryo by'ingurube zikomoka muri ibi bikurikira:

Ibiribwa bikungahaye mu gutanga ingufu/imbaraga mu mubiri:

1. Ifu y'Ibigori,
2. Igihari cy'ibigori (branda),
3. Igihari cy'ingano (branda y'ingano na poladi),
4. Igihari cy'umuceri,
5. Dreche, ikivuzo, amafu yo ku cyuma,
6. Imyumbati yumye, ibijumba, ibitoki,

Ibiribwa bikungahaye mu byubaka umubiri:

1. Ifu ya Soya,
2. Ifu y'ibisigazwa by'ibihwagari,
3. Ifu y'ibisigazwa by'ipamba,
4. Ifu y'amaraso,
5. Ifu y'indagara,
6. Ifu ya calliandra, leucena, moringa, alfalfa,....
7. Utwatsi nk'intēja,

Ibigenewe gutanga ibirinda umubiri indwara:

1. Vitamine
2. Ibiringwa nk'imigozi, kimari,

Ibigenewe gutanga ibikomeza amagufa (imyunyu ngugu dusanga):

1. Ifu y'amagupfa,
2. Ishwagara cg , DCP,
3. Ifu y'ibishishwa by'amagi cg coquille,

Amafuru yabigenewe mu gutanga intungamubiri zihariye (kongera igikuriko)

1. Premix
2. KLC,

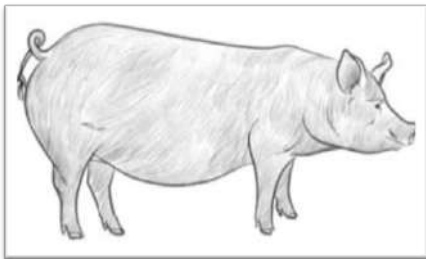
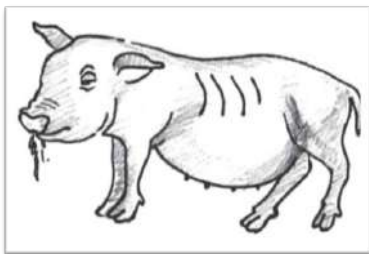
Mu bihugu biri mu nzira y'amajyambere nk'u Rwanda, aborozi bato bakoresha nanone ibyo bashoboye kubona iwabo ariko ntibamenya neza intungamubiri zikubiyemo:

1. Ibisigazwa byo mu gikoni,
2. Amarwa (ibisigazwa bya buraseri, ibivuzo,),
3. Ibyakatsi n'ibinyabijumba bakura mu bisigazwa by'ubuhinzi (ibijumba, ibitoki, ibihatiro, inteja, ibigozi, ...)

9. INDWARA Z'INGURUBE N'UBURYO BWO KUZIRINDA

9.1. Uburyo bwo kumenya ingurube nzima

Umworozi asabwa kumenya ubuzima bw'ingurube ze mu myitwarire yazo kugira ngo atandukanye ingurube nzima n'ingurube yarwaye cyangwa yagize ikibazo runaka.

ICYICIRO	IBIYIRANGA	URUGERO
Uko wamenya ingurube nziza/itarwaye	<ul style="list-style-type: none"> • Iba ifite umubaduko muri yo, • Ikurikira/yita ku muntu uje ku kiraro, • Iba isa neza ku kabuno n'inda y'amaganaga, • Amaso yayo aba afite imbaraga, • Ubona ihagaze neza (amaguru ashinze neza), • Nta bara ridasanze ku ruhu. 	
Uko wamenya ingurube irwaye	<ul style="list-style-type: none"> • Kugaragaza ubushake buke bwo kurya no kunywa ndetse ikaba yabireka burundu, • Guhumeka nabi, • Kuba yagira umuriro mwinshi, • Kugaragaza umunaniro mwinshi ndetse no kwigunga, • Ku ngurube z'uruho rwera, zishobora kugaragaza ibizinga by'amabara atukura ku ruhu, • Guhitwa ibisanze cyangwa se ibivanze n'amaraso, • Amatwi yari asanzwe ashinze ashobora kugwa (akareba hasi), • Umurizo uragwa. 	

9.2. Impamvu y'indwara

Indwara z'ingurube zishobora guturuka ku bintu bitatu by'ingenzi aribyo: **ubwandu buva kuri microbe, aho yororewe no mubyo igaburirwa.** Umworozi afata ingamba zo kurinda no kubungabunga ubuzima bw'ingurube ze yita kuri izo nkomoko z'indwara zikunze kugaragara mu bworozi. Zimwe mu ngamba afata ni izi zikurikira:

- Kubahiriza ibirebana n'imibanire n'ubwisanzure bw'ingurube mu biraro (ibyiciro by'ingurube),
- Kwita ku byerekeye isuku n'isukura bigenewe ibikoresho byo mu bworozi ndetse n'ingurube muri rusange, ibi bikiyongeraho guteganya imiti yabugenewe iterwa mu biraro nyuma yo kubisukura,
- Kugabura ibiryo bidahumanye no kwita ku byiciro by'ingurube,
- Kwita ku byangombwa byose bikorerwa ingurube guhera zikivuka no guteganya imiti y'ibanze yifashishwa mu gukingira no kuvura indwara zisanzwe (imiti y'inzoka, vitamine, ...).

9.3. Indwara z'ingenzi mu ngurube (Indwara, ikiyitera no kuyirinda)

9.3.1. Indwara zifata ngurube nkuru n'intoya

INDWARA N'IKITERA	IBIMENYETSO	UKO WAYIRINDA
<p>Inzoka zo munda</p> <p>Inzoka ni ibiryi biba mu mubiri w'amatungo cyane cyane mu gifu no mu mara, bikaba bitungwa n'intungamubiri zakagombye gutunga itungo. Inzoka zifata ingurube zirimo amoko menshi, kandi ziteza ibihombo mu bworozi.</p> <p><u>Urugero rw'amoko y'inzoko:</u> (Runwa, Sitoronji-loyidoze Tirishinoze, Strongile)</p>	<p>Itungo rigenda rinanuka bikaba byagera ku kunanuka bikabije kubera ko inzoka ziba zirya intungamubiri zakagombye gutunga ingurube cyangwa kunywa amaraso.</p> <p>Guhitwa cyane cyangwa no guta umwanda ukomeye</p> <p>Kugira urwoya rushinze n'intege nkeya z'umubiri.</p> <p>Kugwingira ku ngurube zigicuka n'intege nkeya z'umubiri</p> <p>Ingurube yazonzwe n'inzoka iba ifite intege nke z'ubwirinzi ku buryo ishobora kwandura n'izindi ndwara ziterwa na mikorobi.</p>	<p>Kugira isuku rusange mu bworozi no kuzirinda kujya ku gasozi</p> <p>Gutanga imiti y'inzoka ku gihe nibura hagati y'amezi 3-4 udategereje ko zigaragaza ibimenyetso byo kurwara (wakoresha: <i>Albendazole</i>, <i>Ivermectine</i>, <i>piperazine</i> n'indi miti ugirwaho inama n'umuganga w'amatungo).</p>

<p>Rushe “sisiterikoze”</p> <p>Ni inyo z'inzoka ya Teniya zigaragara mu ishusho y'agasabo k'umweru kabonerana usanga mu mihore y'inyama, ku rurimi no mu mutima w'ingurube yabazwe.</p>	<p>Nta bimenyetso byihariye ku ngurube wabona.</p> <p>Umuntu yandura teniya iyo ariye inyama z'ingurube iyirwaye zidatetse neza.</p>	<p>Kugira umusarani ufite isuku kandi upfundikirwa;</p> <p>Gukaraba intoki igihe cyose ugize aho uhurira n'ingurube igaragaza uburwayi;</p> <p>Kororera ingurube mu biraro;</p> <p>Kuteka inyama neza kandi ukazihisha.</p>
<p>Uruheri rw'ingurube</p> <p>Ni indwara ifata ku ruhu rw'ingurube rukagira imvuvu nyinshi n'uburyaryate buyitera kwikuba ku bintu iterwa n'udukoko tugaragara kuri mikorosikopi. Iyo ndwara nubwo idakanganye, ntibura gutera igihombo kigaragara mu bworozi.</p>	<p>Igira uburyaryate, ingurube yikuba ku biti no ku bibambasi, irishima mu buryo bwose bushoboka,</p> <p>Ku ruhu hazaho umwera n'imvuvu, bikagaragara cyane ku matwi, kw'ijosi hejuru no ku mugongo. Amaherezo uruhu rurakomera cyane ndetse rukanasaduka.</p> 	<p>Mu buryo busanzwe, Ingurube zagaragaje ibimenyetso by'iyi ndwara, umuganga w'amatungo atera umuti witwa Ivermectine mu ruhu (S/C) hubahirizwa ibipimo.</p> <p>Mu gihe iyi ndwara yakwirakwiye mu kiraro, ingurube nyinshi zirwaye, wifashisha umuganga w'amatungo agakoresha uburyo burambuye bwo kuyirwanya mu kiraro cyose.</p>

Indwara ya ruje y'ingurube

Ni indwara iterwa na mikrobe za bakitari ikunze gufata ingurube ziri hejuru y'amezi 3. Iyo mikorobi ndetse iba no mu ngurube ubwayo itagaragaza ibimenyetso by'uburwayi, igasemburwa n'ibihe bituma umubiri igira intege nke zo kurwanya indwara (Ubushyuhe bwinshi mu mpeshi, Indyo mbi, Urugendo,..)

Igira umuriro mwinshi 40-41.5°C,

Ingurube ihagarika kurya, igatitira, ikubika umutwe hasi,

Ubundi ikananirwa kugenda, ingurube zimwe zigira ibibazo byo mu ngingo z'amaguru ku buryo zigenda zicumbagira.

Ingurube ipfa mu gihe kingana n'iminsi 2-4.

Iyo indwara yaje ari igikatu ingurube ipfa hagati y'amasaha 12 na 24.

Ingurube izana ibibara bitukura ku mubiri ahari uruhu rworoshye (amatwi, imbere mu matako, ku nda no ku mubiri ahandi),

Aborozi benshi bakunze kuyitiranya na muryamo y'ingurube kubera ko hari ibimenyetso zigenda zihuza.

Muri rusange ni ugufata neza ingurube no kororera mu biraro.

Iyo ingurube igaragaye ko yarwaye, umworozi agomba kwifashisha umuganga w'amatungo bagatera ingurube zose imiti yica mikorobi. Hakunze gukore-shwa Penistreptomycine.



Muryamo y'ingurube

Kuva 2021, Indwara ya muryamo yagaragaye mu ngurube zo mu Rwanda, Muryamo y'ingurube ni indwara iterwa na virusi ikaba ifata ingurube zorowe ndetse n'ingurube zo mu gasozi.

Igira umuriro mwinshi uri hejuru ya dogere Celcius mirongo ine (41⁰),

Kunanirwa kurya, hari niziruka ibyo zariye,

Intege nkeya cyane no kunanirwa kugenda,

Ishobora no kugira igitego/gutitira,

Gutukura ku bice by'umutwe, ku nda no ku maboko n'amaguru.

Iyi ndwara ya Muryamo ntabwo ivurwa ndetse nta rukingo, ahubwo iyo uketse ko ari muryamo, ugomba kumenyesha inzego z'ubuvuzi bw'amatungo cg inzego za Leta zikwegereye.



Guhagarika kuzerereza ingurube ku gasozi, ingurube zikaguma mu biraro,

Gukaza isuku n'ubwirinzi mu bworozi bwe (biosecurity)

wirinda kubaga no kurya ingurube yipfishije cg irwaye.

Indwara zibasira utwana tw'ingurube

Indwara n'ikitera/im-pamvu	Ibimenyetso/impamvu	Uko wayirinda
<p>Uguhita kw'ubwana bw'ingurube</p> <p>Ikibazo cyo guhitwa gishobora giterwa n'impamvu nyinshi ariko izingenzi ni isuku nkeya, ibiryo bibi cg microbe.</p>	<p>Isuku nkeya itera ubwiyongere bwa microbe. Ni ngombwa kwita kuri nyina igiye kubyara ikozwa, koza ikiraro n'umuti, gusasira ikiraro, n'isuku rusange ya buri muni.</p> <p>Ibiryo bibi cg bitanzwe nabi: utugurube duhawe ibiryo byinshi kandi tutamenyereye bishobora gutera guhitwa kubera ko igifu kiba kitarabimenyera. Ibiryo byanduye cyane biba bifitemo za mikorobe nyinshi, nabo byayitera.</p> <p>Mikorobi ziyongera bitewe n'isuku nteye, imiterere y'ibiraro, ibiryo zirya.</p>	<p>Umworozi yihutira gukemura icyabiteye (isuku, ibiryo) hanyuma akifashije umuganga w'amatungo bagatanga imiti yo guhagarika impiswi (Sulfadimidine, Intertrim, Enrosol).</p>
<p>Kubura amaraso ku bibwana</p> <p>Ni uburwayi buterwa nuko bitatewe fer hagati y'iminsi 3-8 bimaze kuvuka (kirinze y'ibyumweru 3).</p>	<p>Iyo ndwara ikunze kugaragazwa no guhagarara gukura nyuma y'ibyumweru 3 bivutse, umunwa wo hasi ukeruruka cyane, uruhu rukazana iminkanyari, hakurikizazaho gupfa.</p>	<p>Umworozi agomba guhita atera umuti wa Intrafer.</p>

Indwara y'utugurube ducutse (Piglet edema disease)

Ni indwara iterwa na microbe za bakiteri. Izo microbes ziba mu biraro byo gucukirizamo, utwana tuhura nazo nyuma yo kucuka.

Hakunze kugaragara ibimenyetso bifata mu bwonko:

- Kugenda isa n'iyizengurukaho
- Gucika umugongo,
- Guhengama mu gihagararo cyayo.
- Gukumeka nabi n'igitengo cyinshi
- Kubyimba mu maso.
- kuhindura ijwi rijya hejuru.

Utwana twafashwe dushobora gupfa hagati y'iminsi 1-3 y'uburwayi kandi iyo uburwayi bwayiganje igira ibibazo byo guhumeka, kwitura hasi (nk'unyagicuri).



- Kogesha umuti wica udukoko mu biraro byo gucukirizamo,
- Guhorana isuku n'ibiraro byumutse ku twana byacukijwe byongera amahirwe yo kutarwaza.
- Iyo warwaje, umworozi yifashisha umuganga w'amatungo agatera utwana twose antibiotike z'ubwoko bubiri: Gentamycine na Biocilline (nizo kugeza ubu zikoreshwa mu Rwanda) no kogesha umuti wica udukoko mu biraro byose (Virocide cg D4).

Kokisidiyoze

Ni indwara iterwa na mikorobe, ikunda kugaragaza ibimenyetso ku twana tw'ingurube hagati y'iminsi 6 n'ibyumweru 3 tuvutse.

- ✓ Impiswi imara iminsi 5 kugeza 6 igaragaramo (umuhondo wererutse, ifatira).
- ✓ Utubwana tw'ingurube ducika intege cyane kandi bidusubiza inyuma mu mikurire.
- ✓ Iyi ndwara irandura cyane mu twana



- Kugira isuku y'ibiraro no gutera umuti wica udukoko;
- Gukora ibishoboka ibiraro bigahora byumutse.
- Ni indwara ivurwa igakira, umworozi yifashisha umuganga w'amatungo (*ashobora gukoresha umuti wa Aprolium, ...*).

10. UMUSOZO

Muri rusange iyo umworozi yoroye ubwoko bwiza bw'ingurube, akaba agabura neza akurikije ibyiciro, ndetse akongera imicungire myiza ituma adapfusha utwana twavutse cy indwara, nta kabuza arunguka mu bworozi bwe. Umuganga w'amatungo n'umujyanama ku buzima bw'amatungo bazaba wahuguwe baazafasha umworozi muto ufasha n'umushinga kwakira ubu bumenyi buzamufasha kwirinda ibihombo mu bworozi bwe.

11. AHO TWABIKUYE

FEED THE FUTURE RWANDA - ORORA WIHAZE (2021). Imfashanyisho ku bworozi bw'ingurube mu buryo bukomatanyije.

RAB (2020). Piggery Training Material

Dr. Shyaka Innocent (2021). Pig Heat detection techniques. Lesson 1

Gilles Laverdière et al., (2011). La coupe des dents des porcelets, est-ce vraiment nécessaire?

WELFARM (20216). La castration des porcelets.

Dr Muhoza Olivier (2015), Imfashanyigisho ku bworozi bw'ingurube, KOICA- SAEMAUL UNDONG GASHARU/RARO.

FAO et al. (2007): Elevage porcin, Fiches techniques de base destinees aux techniciens agricoles

Pig nutrition and feeding: <http://www.ag.auburn.edu/~lchiba/swineproduction.html>;

FAO (2009): Farmer's handbook on pig production (for the small holders at village level), Nepal;

Internet explorer.



