



FEED THE FUTURE

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

UBURYO BWO GUKOresha IMITI MBERE YO GUSARURA. PREHARVEST INTERVAL (PHI)

WARUZIKO BURI MUTI UTERWA IGIHINGWA UGIRA IGIHE UMARA UTARASHIRA MUMABABI CYANGWA MU RUBUTO RW'IGIHINGWA WAWUTEYE? NI IGIHE UTEGEREZAMBERE YUKO USARURANYUMA GUTERA UMUTI.

Did you know THAT pesticides and fungicides have Pre-harvest Interval (PHI) ? It is the wait time between a pesticide application and when a crop can be harvested.

UMUHINZI AGOMBA KUBAHIRIZA IGIHE CYATEGANYIJWE CYO GUSARURA NYUMA YOGUTERA UMUTI

Imiti iterwa ibihingwa wa hagamijwe kurwanya indwara no kwica udukoko twangiza umusaruro ni ibinyabutabire bikoreshwa hagamijwe kwica mikorobe zangiza imyaka n'ubukoko burya imyaka. Ibyo binyabutabire bishobora no kugira ingaruka ku buzima bw'umuntu. Nubwo akenshi bitaba bigaragarira amaso inyuma ku gice kiribwa cy'igihingwa ntibisobanura ko bitaba byinjiye imbere mu rubuto cyangwa amababi agiye kuribwa. Niyo mpamvu buri muti ugira igihe giteganyijwe hagati yo kuwutera no gusarura kugirango ube warangije gushira mu gice kiribwa cy'igihingwa.

Gutera inyana umuti wa Dithane zigahita zisarurwa ntibyemewe



Ntibyemewe gutera umuti umusaruro w'imboga cyangwa imbuto zageze mu bubiko



ZIMWE MU NGARURA ZO KUTUBARIHIRIZA IGIHE CYAGENWE HAGATI YO GUTERWA UMUTI NO GUSARURA

Iyo utubahiriza igihe cyagenwe hagati yo gutera umuti no gusarura bigabanya ingano y'ibisigazwa by'umuti (ibinyabutabire) bisigare mu gice kiribwa cy'igihingwa bikaribwa na buri wese uriye kuri cya gice (high quantity of pesticide residues)

Gusarura ibihingwa igihe cyagenwe hagati yo gutera umuti no gusarura kituzuye bishyira ubuzi bw'ababirya mu kaga ko kurwara indwara nka kanseri, kwangiza ubuzima bw'imyorokere, gutera indwara z'ubuhumekero n'indwara zo mu mutwe (health risks)

REFERENCES:

The WHO recommended classification of pesticides by hazard Publication, 2010 Preharvest Intervals; DATE: SEPTEMBER 1, 2016 - INCLUDED IN ISSUE: 620; BY: DAN EGEL, Purdue University.

Igihe cyo gusarura nyuma yogutera imiti kuri bimwe mu bihingwa

N	Imiti (Pesticides/Fungicides)	Igihingwa (Crop)	Igihe Ukwiyeye Gusarura umaze kuwutera (PHI)
1	IMIDOR-20 Imidacloprid 20%SL	Amarongi, Indimu, (citrus)	Iminsi 15
		Imyembe (Mango)	Iminsi 30
		Okra (Gombo)	Iminsi 3
		Inyanya (Tomatoes)	Iminsi 14
2	Roket Profenofos 40% Cypermethrin 4%	Imboga n'imbuto (fruits and Vegetables)	Iminsi 14
3	Cyperscope 5EC Cypermethrin 5%	Amashu (Cabbage)	Iminsi 7
		Izindi Mboga	Iminsi 3
4	DITHANE M45	Inyanya	Iminsi 5
		Ibirayi	Iminsi 3

Reducing Postharvest Losses in Rwanda Project





FEED THE FUTURE

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

IBYZA BYO GUSARURA IMBOGA N'IMBUTO BIGEJEJE IGIHE CYABYO GIKWIYE NGO BISARURWE

BENEFITS OF HARVESTING FRUITS AND VEGETABLES AT THEIR PROPER MATURITY

UMUHINZI W' IMBOGA N'IMBUTO AKWIYE KUBISARURA BIGEJEJE IGIHE CYABYO GIKWIYE NGO BISARURWE

Gusarura imboga n'imbuto bigejeje igihe cyabyo gikwiye ngo bisarurwe bituma umusaruro utangirika ukamara igihe kandi ukanabikika neza. Bituma nanone umusaruro utwarika neza ukagumana ubwiza bityo abahinzi n' abongerera umusaruro agaciro bakabona inyungu bikazamura imibereho yabo.

Impiduka ziba mugihe cyokwera: ibara, gukomera cg kworoha, kuryohereza, umuhumuro, ubunini, umumero, urugero rw'isukuri iri murubuto.

Changes of the plant occurs when it matures, Signs include: color, firmness, taste, flavour, size, shape, sugar & acid.

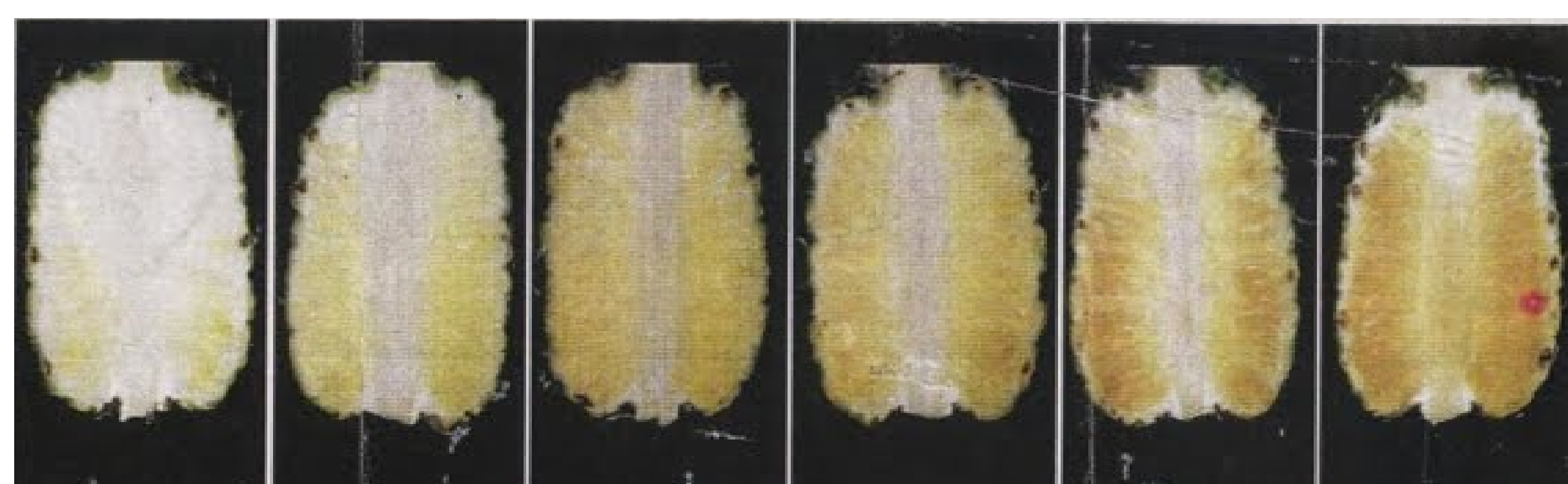
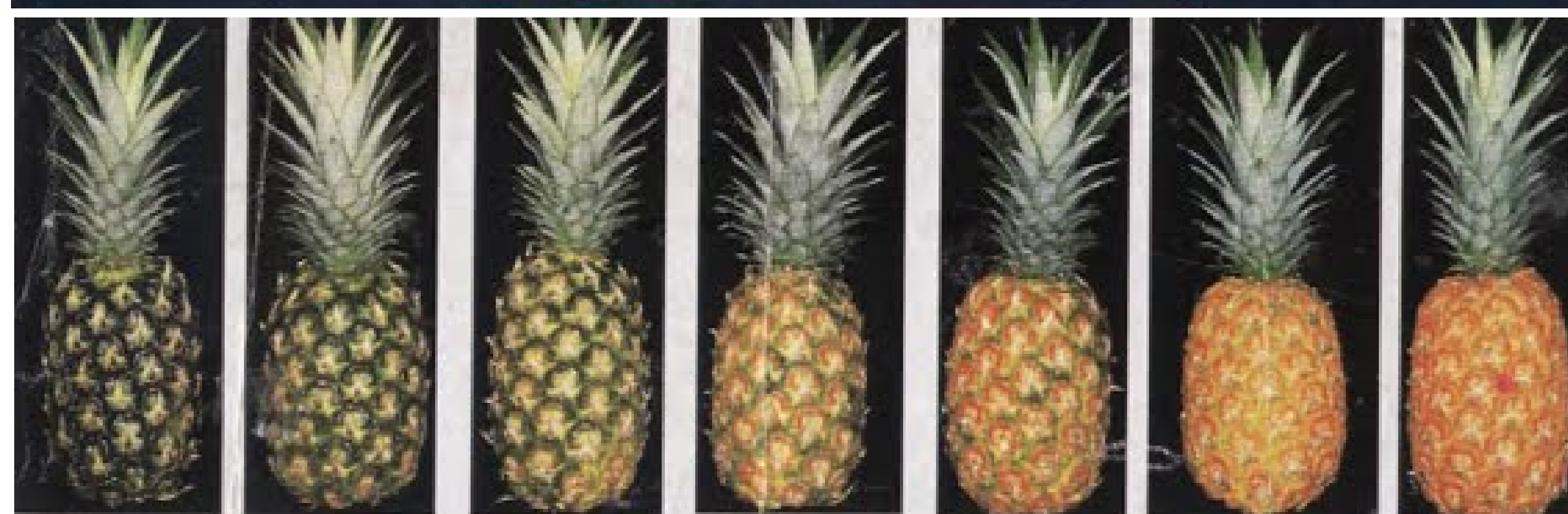
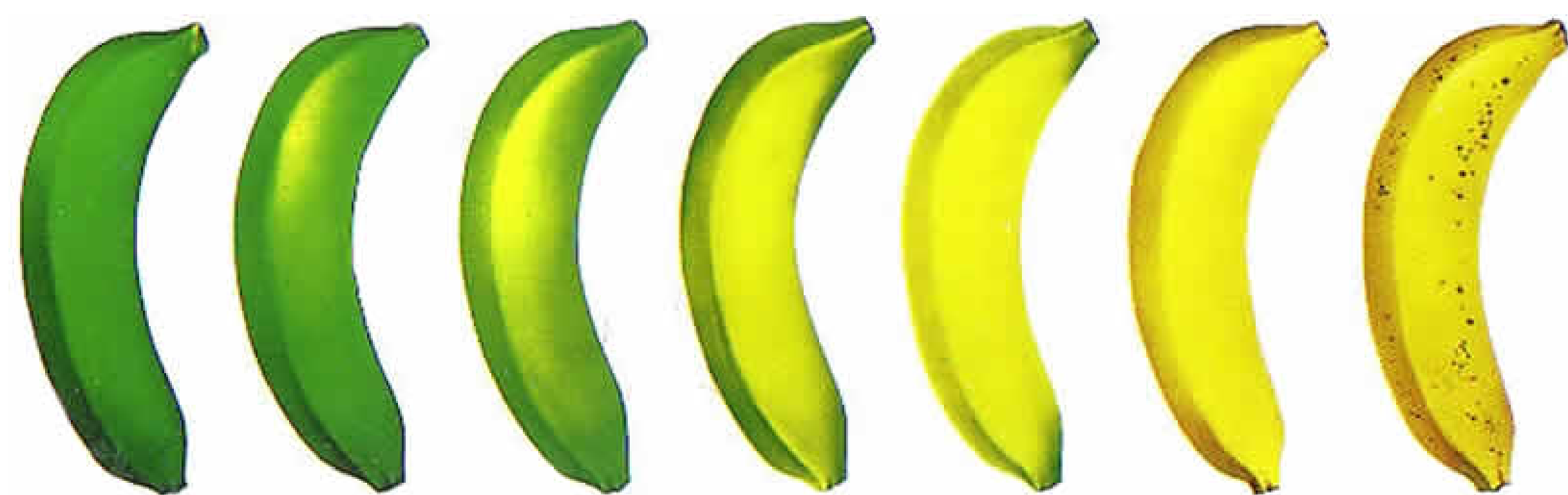
Gukomera ningenzi kugirango ugumane ubwiza bwawo umaze gusarwa.

Harvesting has to adhere to the correct level of maturity to maintain quality at all the time after the crop has been harvested.

Bimwe mubyagufasha kumenya ko imbuto cyangwa imboga byeze harimo gukoresha ibishushanyo, kureba, gufataho, kwihumuriza, refractometer cg penetrometer, nibindi,.....

IBIMENYETSO BYEREKANA KO IGIHINGWA CYEZE/MATURITY INDICES

IGIHINGWA	IBIMETSO BYEREKANA KO IGIHINGWA CYAMEZE/MATURITY INDICES
INYANYA/TOMATOES	<i>Inyanya zisarurwa zitangiye kuzana umutobe n'akabara gato k'umutuku Tomato is harvested mature green (full size, shiny, seed not cut when sliced) or less red ut firm</i>
KAROTI/ CARROTS	<i>Iyo Karoti iri nini kandi yoroshe/when carrots are of good size, but still tender</i>
AMASHU/CABBAGES	<i>Umutwe ukomeye kandi wegeranye/ When heads are firm and compact</i>
IMYEMBE/MANGO	<i>Imbuto zambere nini kugiti zitangiye kwerekana ibara ry'umuhondo/ when the first large fruits start showing a yellow pink color on the tree.</i>



Cost Benefit Analysis: Use of maturity indices for tomato harvesting

Start with 1000kg	Current Practice	New Practice
	Harvest at light-red to full red ripe, soft fruits	Harvest at turning stage, firm fruits, turning to red within 3 or 4 days
COST		
Color charts for training on maturity indices		4000 Rwf (\$5)
BENEFITS		
% Loss	30%	10%
Amount to sell	700 kg	900kg
Value per kg	400 Rwf	400 Rwf
Total market value	140,000 Rwf	360,000 Rwf
Market value - costs	140.000 Rwf	356.000Rwf
Relative profits		+ 216.000Rwf
ROI		Generates an immediate increased profit of \$270 for each 1000 kg load.





FEED THE FUTURE

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

IBYIZA BYO GUSARURA IMBOGA N'IMBUTO HAKORESHEJWE IBIKORESHO BYABUGENEWE

BENEFITS USING APPROPRIATE TOOLS DURING HARVESTING

ABAHINZI B'IMBOGA N'IMBUTO BAKWIYE GUKORESHA

IBIKORESHO BYABUGENEWE MU GUSARURA

IYO HAKORESHEJWE KANDI NEZA IBIKORESHO BYABUGENEWE MU GUSARURA UMUSARURO NTIWANGIRIKA KANDI UMARA IGIHE, UGUMANA UBUZIRANENGE, ABAHINZI N' ABONGERA AGACIRO BABONA INYUNGU BIKAZAMURA IMIBEREHO YABO KANDI ABAGUZI BAKABONA IBYO BIFUZA KU ISOKO.

FARMERS ENGAGED IN FRUITS AND VEGETABLES PRODUCTION SHOULD USE APPROPRIATE TOOLS DURING HARVESTING

USE OF APPROPRIATE TOOLS DURING HARVESTING, REDUCES POSTHARVEST LOSSES AND INCREASES SHELF LIFE, THE PRODUCE REMAINS WITH ITS QUALITY AND ALL PEOPLE IN AGRICULTURAL VALUES CHAIN INCREASE THEIR INCOME WHICH LEADS TO GOOD WEALTH AND HEALTH.



NIBYIZA KO HAKORESHA IBIKORESHO BYABUGENEWE MUGUSARURA IMBUTO NIMBOGA NK' IBYUMA BITYAYE, IMAKASI, SIKATERI, N'IBINDI BIKORESHO BYIFASHISHWA MUGUSARURA IMBUTO N'IMBOGA.

IYO USARUYE URUBUTO UGAKURAHOKO INKONDO BIRUTERA GUKOMEREKA BIGATUMA RUFATWA N' UBURWAYI BUTANDUKANYE

IYO URUBUTO RUSARUWE RUKAGUMANA INKONDO YARWO RUKOMEZA GUKOMERA BIKARWONGERERA IGIHE RUMARA RUTARANGIRIKA

IMBOGA NAZO IYO ZISARUWE NEZA ZIKATANYWE N' INKONDO YAZO BITUMA ZIMARA IGIHE ZITANGIRITSE

IT IS ADVISABLE TO USE APPROPRIATE TOOLS DURING HARVESTING OF FRUITS AND VEGETABLES SUCH AS SCISSORS, KNIVES, SECATEUR.





FEED THE FUTURE

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

Harvesting time, use of shades and Temperature management

Igihe basarurira, gukorera ahantu hatwikiriye no kugenzura ubushyuhe



Kutagenzura ubushyuhe bituma umusaruro unamba, ugatakaza amazi, uguhinduka umuhondo kandi ukuma

Temperature abuse leads to water loss, and yellowing of the produce even wilting

Muhinzi, Mucuruzi nawe Mwikorezi, Waba wari uzi ko? Farmer and traders did you know?

Gusarura, gucuruza no gutwara imboga n'imbuto bikorwa wirinda ko umusaruro uhura n'ubushyuhe. Menya gukorera ahantu hatwikiriye kandi hari amafu ugabanye iyangirika ry'umusaruro.

Pre-cooling remove the field heat of harvested produce, which is detrimental to keeping the quality of fruits and vegetables and extends their storage



Inyungu iboneka mu gusarurira Inyanya ahari Igicucu/Use of shade for harvested tomatoes in Rwanda

Start with 100kg of Tomato	Uburyo Busanzwe	Uburyo Bushya muni y'igicucu
	Gusarurira Inyanya ku izuba/Leaving piles or containers of tomatoes in the direct sun	Gusarurira Inyanya ahari Igicucu/Use of shade to provide lower temperature for produce during delays or marketing
IBICIRO/COST		
Akazu kazana Igicucu/ Simple Shade Structure, Portable	No cost	10000 Rwf
INYUNGU/ BENEFITS		
% Igiombo/ % Loss	30%	10%
Izigurishwa/ Qty to Sell	70 kg	90 kg
Igiciro kuri kg/ value per kg	500 Rwf	500 Rwf
Ingano y'amafaranga/ Total Value Market	35,000 rwf	45,000 Rwf
Inyungu yaboneka		10.000 Rwf
Inyungu ku gishoro/ ROI		Gusarura inshuro 1 byishura akazu kazana igicucu maze nyuma ukabona inyungu ya 11,000 Frw kuri 100kg/1 use fully pays for the shade structure, each subsequent use generates an additional \$13.9 per load of 100kg.

