Reducing Postharvest Losses in Rwanda Project

Reducing Postharvest Losses in Rwanda project is a three-year project (2016 – 2019), which is facilitating systemic changes in the horticultural sector with a focus on postharvest practices. Postharvest management is a systems-based challenge and requires an integrated innovation strategy that incorporates technological and financial innovations, capacity building, enhanced market access and other elements to achieve impact at scale.

Funded by Feed the Future Horticultural Innovation Lab, the Reducing Postharvest Losses in Rwanda project is working under the guidance of the Ministry of Agriculture and Animal Resources in Rwanda with implementing partners, Agribusiness Associates, Rwanda Agricultural Board, National Agriculture Export Development Board and University of Rwanda – College of Agriculture and Veterinary Medicine. The project's postharvest technical assistance partner is Postharvest Education Foundation.

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Pineapples: Maturity Indices and Quality

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Maturity Indices

Maturity Stage	Class	Description	Photo
1	Glossy bluish dark green	All eyes are glossy bluish dark green with reddish bractea.	
2	Glossy dark green	All eyes are glossy dark green with traces of yellow between eyes at base.	
3	Dark green	Eyes are dark green with 1- 2 eyes yellowish green at base.	
	Start harvest ➤		
4	Breaker	About 25% of eyes from the base are yellow.	
5	orange yellow	About 50% eyes are orange yellow	
		More 75% of eyes are orange yellow	
		Full orange yellow	

Weight, Size, Color, and Firmness in Maturity Stage

Maturity Stage	Weight (Average of 3 pcs in kg)	Size (Average of 3 pcs)	Shape	Color	Firmness (Average of 3 pcs in kgf)	Soluble Solids (Average of 3 pcs in brix)
1	2.8	15.7 cm length, 34.3 cm circumference	Pine-cone shaped fruit	Glossy bluish dark green	1.6	11
2	3.1	16 cm length, 35 cm circumference		Glossy dark green	1.5	12
3	3.2	17 cm length, 37 cm circumference		Dark green	1.2	14
4	3.6	19 cm length, 41 cm circumference,		Breaker	0.9	15
5	Were not in the experiment!					

High quality

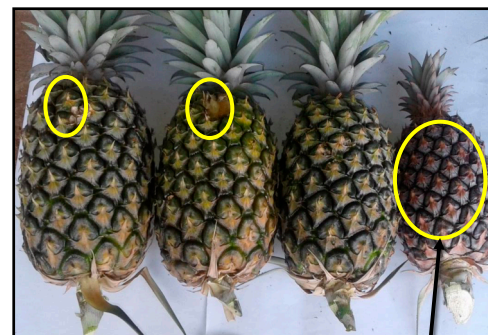They are juicy, sweet and fragrant with very minimum defects.

Suitable for long distance transportation

Suitable for close distance transportation

Rejects

The damaged part may harbor microorganisms

Pineapple once immature harvested, it never ripens further

Quality Defects

Decay
Microorganisms such as bacteria, yeasts and fungi feed on the fruit and break it down.
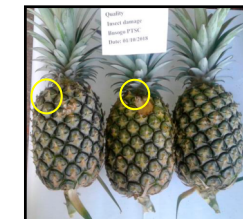
Cracks
It is a disorder resulting in peel thickness and hardness. There is insufficient mineral nutrients in the peel of the fruit.

Sunburn
It is a loss of pigmentation resulting in a yellow, bronze, or brown spot on the sun exposed side of the fruit. The sunburnt fruit looses the capacity to prevent oxidative stress as the pool of soluble antioxidants is reduced.

Insect damage
It is injury done to the plant by the feeding insect, which eats leaves or burrows in fruit. Insects leaves microorganisms into injured parts.

Pineapple Harvesting

Fruit should be harvested when firm and mature. Harvesting should be done with garden shears or sharp knife severing the fruit stalk with clean cut and retaining5-7 cm of the stalk. One should also wear gloves during harvesting