



# FEED THE FUTURE

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

## **LARGE HARVEST CRATE**

Harvest Crates are the best way to improve your produce quality and reduce losses. Produce travels better, minimizing bruising and crush damage. Plus, the plastic containers don't break or absorb moisture so your produce stays fresher.

### **Features**

- Lightweight, durable container will handle years of use
- Smooth interior protects produce
- Vented sides for optimal cooling
- Stacks easily and quickly
- Easy to efficiently load onto trucks
- Best for big growers and coops
- Suitable for crops like tomatoes, onion and cabbage



### **SPECIFICATIONS**

Weight kg	Ext. Dimensions (cm)			Int. Dimensions (cm)			Crate Capacity		Truck Capacity*	
	Length	Width	Height	Length	Width	Height	cm <sup>3</sup>	kg	N <sup>o</sup> Crates	kg
3.3	67	47	42.5	64.5	45	41.0	119,003	59	187	10,033

*Crate capacity estimate is for tomatoes only*

*\* For a Fuso truck. Indicated total capacity excludes the weight of the crates.*

## **MEDIUM HARVEST CRATE**

### **Features**

- Lightweight, durable container will handle years of use
- Smooth interior protects produce
- Vented sides for optimal cooling
- Stacks easily and quickly
- Easy to efficiently load onto trucks



### **SPECIFICATIONS**

Weight kg	Ext. Dimensions (cm)			Int. Dimensions (cm)			Crate Capacity		Truck Capacity*	
	Length	Width	Height	Length	Width	Height	cm <sup>3</sup>	kg	N <sup>o</sup> Crates	kg
2.3	60.2	40.2	32.9	57	37	32.0	67,488	37-40	313	12,000

*Crate capacity estimate is for tomatoes only*

*\* For a Fuso truck. Indicated total capacity excludes the weight of the crates.*

## **SMALLER HARVEST CRATE**

### **Features**

- Lightweight, durable container will handle years of use •
- Smooth interior protects produce
- Vented sides for optimal cooling
- Stacks easily and quickly
- Easy to efficiently load onto trucks
- Best to transport tomatoes on a truck
- Intended to small holders and medium growers

### **SPECIFICATIONS - Smaller Crate 1**

Weight	Ext. Dimensions (cm)			Int. Dimensions (cm)			Crate Capacity		Truck Capacity*	
	kg	Length	Width	Height	Length	Width	Height	cm <sup>3</sup>	kg	N° Crates
1.8	54	36	28	50	32	25	40,000	22-25	458	10,094

*Crate capacity estimate is for tomatoes only*

*\* For a Fuso truck. Indicated total capacity excludes the weight of the crates.*

### **SPECIFICATIONS - Smaller Crate 2**

Weight	Ext. Dimensions (cm)			Int. Dimensions (cm)			Crate Capacity		Truck Capacity*	
	kg	Length	Width	Height	Length	Width	Height	cm <sup>3</sup>	kg	N° Crates
2	58.4	40	24	56	37.5	22.5	47,250	25-27	528	13,206

## **Nestable and Stackable Harvest Crates**

### **Features**

- Lightweight, durable container will handle years of use
- Smooth interior protects produce
- Vented sides for optimal cooling
- Stacks easily and quickly
- Easy to efficiently load onto trucks
- Economy space on warehouse (storage space)
- Many crates on truck when not loaded with produce

### **SPECIFICATIONS**

Weight	Ext. Dimensions (cm)			Int. Dimensions (cm)			Crate Capacity		Truck Capacity*	
	kg	Length	Width	Height	Length	Width	Height	cm <sup>3</sup>	kg	N° Crates
2.4	68.6	37.6	29.8	66	35.6	27	63439.2	29-32	344	10,000

*Crate capacity estimate is for tomatoes only*

*\* For a Fuso truck. Indicated total capacity excludes the weight of the crates.*



This type of crate can be stakable when it full of products and nestable when empty to save space on truck



**Smaller Crate 1**



**Smaller Crate 2**



## Cost Benefit Analysis: Use of traditional baskets versus plastic crates

with 100kg of tomatoes	Current Practice	New Practice
	Large 100kg baskets used in transport of tomatoes to market: bruised and damaged during packaging, transportation, marketing suffer from decay	Plastic crates smooth inside surfaces and vented sides prevent damage and allow tomatoes to have good ventilation capacity of 25 kg of Tomato
<b>COST</b>		
5 plastic crates shallow size for delicate crops (7,500 Frws per piece)	No cost (reuse enormous, old baskets many times)	Cost for 4 crates 30,000 Frw
<b>BENEFITS</b>		
% Loss	30%*	5%*
Amount to sell	70 kg	95kg
Value per kg (excellent quality)	500 Frws	500 Frws
Total market value	35,000 Frws	47,500 Frws
Relative profits		47,500 Rwf - 30,000 Frws= 17,500 Frws**
ROI		The investment in crates will be fully repaid with only one use, and generate an additional 17,500 Rwf per load of 100kg.

\*Transport of tomatoes to market with plastic crates (with smooth surfaces and vented) will prevent damage. This simple reduce the losses from 30% to 5%.

\*\*The investment in crates will be fully repaid with only one use, and subsequent uses will generate an additional 17,500 Rwf per load of 100 kg.

## Cost Benefit Analysis: Use of woven sacks versus plastic crates

Start with 1,200kg of Tomatoes	Current Practice	New Practice
	Huge woven sacks used in transport: tomatoes are bruised and damaged during packaging, transportation, marketing, suffer from decay	Plastic crates smooth inside surfaces and vented sides prevent damage and allow tomatoes to have good ventilation capacity of 40 Kg
<b>COST</b>		
Large sacks (40 at 200 Frws)	8,000 Frws	
25 plastic crates medium size for delicate crops (9,000 Frws per each)		225,000 Frws
<b>BENEFITS</b>		
% Loss	40%	5%
Amount to sell	720 kg	1,140 kg
Value per kg	200 Frws (poor quality)	500 Frws (very good quality)
Total market value	144,000 Frws	570,000 -225,000=345,000 Frws
Relative profits	144,000-8,000 = 136,000 Frws	+ 345,000 Frws **
ROI		1 use of plastic crates, fully pays the investment in crates and subsequent generate an additional 345,000 Frws per load of 1,200kg.

\* Woven sacks are only used almost 2 times... meaning that after 2 load its require to buy new one

\*\* Use of Plastic Crates bring down tomato losses from 40% to 5% , and generate an Relative profit of 345,000 Frws per load of 1,200 kgs tomato bought once it could be used at least for 100 times

**Disclaimer:** This simulation may vary depending on the season. The purpose is to present the advantage of the use of crates for reducing postharvest losses for vegetables and fruits.

