

# Onion



## Care During Handling

Proper cured and dried material should be packed before making shipment. Packing should be done in a thin jute bag or nylon bag.

Cold stored onion is not suitable for prolonged use once it comes out as temperature variation increases sprouting and bulb rotting and loss of pressure inside layers.

**Onion Storage is done in an ambient storage structure with proper aeration and room temperature.**

**Onions cold storage requirements: 0-2°C with 65-70% relative humidity. Onion storage below the freezing point of -1 to -2°C (28 to 30°F) is recommended in Europe.**

**Bunched green onions are stored 3 to 4 weeks at 0°C (32°F) with 95 to 98%RH.**

**Sprouting issue post cold storage can be controlled by using irradiation technique: 60-90 Gray average dose.**

## Freshness Facts



**OPTIMUM CARRYING TEMPERATURE**  
0°C (dry/green)



**HIGHEST FREEZING POINT**  
Approx. -0,8°C



**ACCEPTABLE PRODUCT TEMP. AT LOADING INTO CONTAINERS**  
Max. 2°C above carrying temperature



**OPTIMUM HUMIDITY**  
65%-75% (dry)  
>95% (green)

Ventilation setting for containers	10 m <sup>3</sup> /hr
Storage life	6-9 months (dry) 3-4 weeks (green)
Climacteric / non-climacteric	Non-climacteric
Ethylene production	Very low
Ethylene sensitivity	Low
Modified / controlled atmosphere	2% O <sub>2</sub> ; 5% CO <sub>2</sub>



## Packaging

### **Onion's Capacity: 1 kg / 5 kg.**

(Specifications developed by IIP for APEDA)

#### **Jute Bag with Hessian fabric**

(213 g/m<sup>2</sup> Grammage)

#### **Leno Bag of Polypropylene 600 Denier**

(Weight of the tape in grams of 9000 meters of tape length)

### **Onion's Capacity: 15 kg to 25 kg**

(Specifications developed by IIP for APEDA)

#### **Jute Bag with Hessian fabric**

(270 g/m<sup>2</sup> Grammage)

#### **Leno Bag of Polypropylene 700 Denier**

(Weight of the tape in grams of 9000 meters of tape length)

**Packing size depends entirely on the importing country requirement. Some of the netted jute bag sizes have been given below for different countries. Generally, there are 60 fills per 10kg bag of onion.**

<b>Importing nation</b>	<b>Pack size</b>
Malaysia and Indonesia	10 kg
Srilanka	25 Kg
Singapore	8 Kg
Philippines	20 Kg
Gulf countries	5 Kg, 10 Kg, 15 Kg and 20 Kg

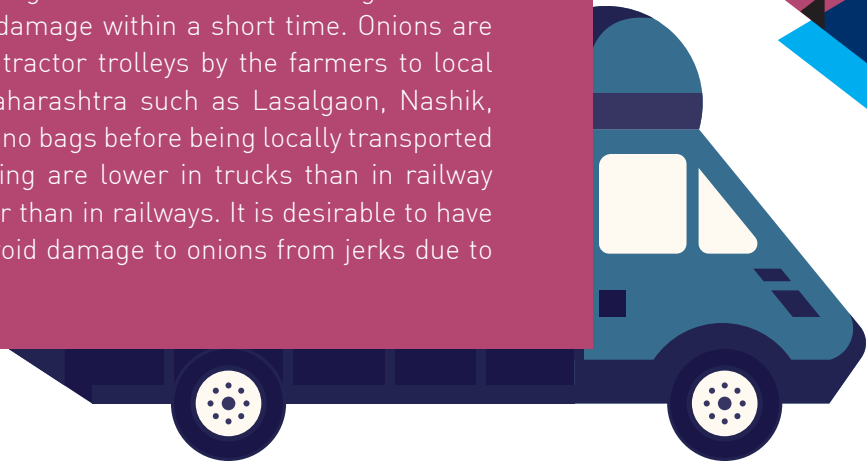
Source: NIAM, Jaipur

### **Size of Onion required by different countries**

<b>Country</b>	<b>Size(mm)</b>
Middle East and Gulf (Dubai, Sharjah, Doha, Muscat, Bahrain, Dammam, Saudi Arabia, Kuwait)	40-60
Malaysia, Singapore, Port Kelang & African Ports	25 – 30
Sri Lanka	25 – 30
Bangladesh, Pakistan & Nepal	25 – 30
Europe	60 – 70
Japan	60 – 70

## Surface Transport

Transportation plays an important role in marketing of onion. It is necessary to have quick movement from onion producing areas to onion consuming areas so that the produce reaches without much damage within a short time. Onions are mostly transported in bullock carts and tractor trolleys by the farmers to local APMC Mandis in prominent areas in Maharashtra such as Lasalgaon, Nashik, Dhule and Sholapur. They are packed in leno bags before being locally transported in trucks. The losses on account of rotting are lower in trucks than in railway wagons, but transport by trucks is costlier than in railways. It is desirable to have cushioning material below the bags to avoid damage to onions from jerks due to poor roads or due to pressure exertion.



## Rail Transport

Transportation in Railway Wagon by traders for transporting to distant (Long range) markets within the country is prominent. Railways offer cost effective and cheap means of transportation for long distances. From Maharashtra, onions are mostly transported to Sitapur, Raniputra, Dankuni and Malda in Bengal and Fatuha in Bihar. While from Gujarat, onions are transported to Jalandhar, Delhi, and Kanpur and other cities in the north via railways.



## Water Transport

For exports, onions are transported in ventilated ships by using 40 feet containers for loading on ships. Onions are also transported in ventilated ships as well as sailing vessels/ motorboats for export to Gulf and Southeast Asian countries from Maharashtra. Russia, Europe and South American are also important destinations for transport via ships. However, due to increased freight costs the transportation via ship is very limited.

