

# Model Curriculum

## Ripening Chamber Operator

**SECTOR: AGRICULTURE & ALLIED**

**SUB-SECTOR: Agriculture Industries**

**OCCUPATION: Post-harvest Supply Chain Management**

**REF ID: AGR/Q7504, v1.0**

**NSQF LEVEL: 4**



## Certificate

### **CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS**

is hereby issued by the

**AGRICULTURE SKILL COUNCIL OF INDIA**

for the

**MODEL CURRICULUM**

Complying to National Occupational Standards of  
Job Role/Qualification Pack: **'Ripening Chamber Operator'** OP No. **'AGR/Q7504 NSQF Level 4'**

Date of Issuance: June 30<sup>th</sup>, 2015

Valid up to: March 31<sup>st</sup>, 2017

\* Valid up to the next review date of the Qualification Pack



Authorised Signatory  
(Agriculture Skill Council of India)

## TABLE OF CONTENTS

1. Curriculum	04
2. Trainer Prerequisites	07
3. Annexure: Assessment Criteria	08

# Ripening Chamber Operator

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Ripening Chamber Operator”, in the “Agriculture & Allied” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	<b>Ripening Chamber Operator</b>		
<b>Qualification Pack Name &amp; Reference ID. ID</b>	AGR/Q7504, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	
<b>Pre-requisites to Training</b>	12 <sup>th</sup> passed		
<b>Training Outcomes</b>	<p><b>After completing this programme, participants will be able to:</b></p> <ul style="list-style-type: none"> <li>• <b>Supervise the Ripening Chamber:</b> Introduction to Ripening Chamber, check and maintenance, handling of fruits</li> <li>• <b>Monitor and Operate the Ripening chamber:</b> regular check-up of the operation, data sheet, documentation, etc.</li> <li>• <b>Become well versed with Environment Health &amp; Safety:</b> Well versed with health and safety measures in terms of personal safety and others as well.</li> </ul>		

This course encompasses 3 out of 3 National Occupational Standards (NOS) of “Ripening Chamber Operator” Qualification Pack issued by “Agriculture Skill Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<b>Introduction</b>  <b>Theory Duration</b> (hh:mm) 5:00  <b>Practical Duration</b> (hh:mm) 0:00  <b>Corresponding NOS Code</b>	<ul style="list-style-type: none"> <li>Understand the General Discipline in the class room (Do’s &amp; Don’ts)</li> <li>Understand the Role of a Ripening Chamber Operator</li> <li>Understand and study the operation of the ripening chamber</li> <li>Learn and practice Basic skills of communication</li> <li>Learn and Practice Basic reading capabilities to enable reading of signs, notices and/or cautions at site.</li> </ul>	White Board, Marker, Laptop, projector
2	<b>Check &amp; maintain the ripening chamber</b>  <b>Theory Duration</b> (hh:mm) 15:00  <b>Practical Duration</b> (hh:mm) 35:00  <b>Corresponding NOS Code</b> AGR/N7517	<ul style="list-style-type: none"> <li>Gain knowledge about the characteristics of fruits, respiration in fruits, chemical properties of fruits, moisture content etc.</li> <li>Understand the perish ability/ shelf life of the fruits</li> <li>Differentiate between climacteric and non-climacteric fruits</li> <li>Understand the use of ripening hormones/chemical in ripening chamber</li> <li>Understand and practice the maintenance of air temperature, humidity, air circulation, ventilation ratios in ripening chamber</li> <li>Manage and supervise the Loading and unloading process</li> <li>Understand the fruits ripening cycle</li> <li>Supervise the sorting process</li> <li>Understand the Quality standards which have to be maintained</li> <li>Understand the process of setting of boxes for ripening of fruits</li> <li>Gain knowledge about the method of setting of boxes</li> <li>Gain knowledge about the space utilization in ripening chamber</li> <li>Update about the market price</li> <li>Understanding the ill-effects of carbide ripening</li> <li>Basic knowledge of material handling &amp; stacking practices</li> </ul>	White Board, Marker, Laptop, projector
3	<b>Monitor and Operate the Ripening Chamber</b>  <b>Theory Duration</b> (hh:mm)	<ul style="list-style-type: none"> <li>Regular check up of the ripening chamber</li> <li>Check the ethylene dosage</li> <li>Check the electronic device, sensors, temperature controller etc.</li> <li>Check the weighing and packing process</li> </ul>	White Board, Marker, Laptop, projector

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	40:00 <b>Practical Duration</b> (hh:mm) 80:00 <b>Corresponding NOS Code</b> AGR/ N7518	<ul style="list-style-type: none"> <li>Understand the importance of data sheet</li> <li>Maintain the Data Sheet - Ripening schedule</li> <li>Documentation of batches ( includes all the processes from receiving of goods to dispatching)</li> </ul>	
4	<b>Maintain safe work environment</b> <b>Theory Duration</b> (hh:mm) 10:00 <b>Practical Duration</b> (hh:mm) 15:00 <b>Corresponding NOS Code</b> AGR/N9906	<ul style="list-style-type: none"> <li>Perform General safety Rules</li> <li>Gain Knowledge of various health hazards relevant to workplace and basic first aid training.</li> <li>Understand the basic safety checks and other common reported hazards during operation</li> <li>Understand, identify and study the use of different equipments</li> <li>Understand and handle the emergency situation in workplace</li> <li>Maintaining the tobacco and all kind of nicotine free environment</li> <li>Basic knowledge of disaster management</li> </ul>	White Board, Marker, Laptop, projector, Nose masks, gloves, first aid kit
	<b>Total Duration:</b> <b>Theory Duration</b> (hh:mm) <b>70:00</b> <b>Practical Duration</b> (hh:mm) <b>130:00</b>	<b>Unique Equipment Required:</b> White Board, Marker, Laptop, projector, Record Keeping Book, gloves, nose masks, first aid kit	

Grand Total Course Duration: **200 Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by [Agriculture Skill Council of India](#))

## Trainer Prerequisites for Job role: "Ripening Chamber Operator" mapped to Qualification Pack: "AGR/Q7504, v1.0"

Sr. No.	Area	Details
1	<b>Description</b>	Trainer is responsible for educating the trainees- planning of ripening fruits, manage packaging, overseeing housekeeping of ripening chamber, adhering to the quality norms/standards and reporting to the management etc
2	<b>Personal Attributes</b>	Trainer should be Subject Matter Expert. He/ she should have excellent communication, organizational and administrative skills with high attention to detail, leadership skills, observation skills
3	<b>Minimum Educational Qualifications</b>	Graduate
4a	<b>Domain Certification</b>	Certified for Job Role: <u>"Ripening Chamber Operator"</u> mapped to QP: <u>"AGR/Q7504, v1.0"</u> . Minimum accepted score is 80%.
4b	<b>Platform Certification</b>	Certified for the Job Role: "Trainer", mapped to the Qualification Pack: "SSC/Q1402". Minimum accepted score is 70%
5	<b>Experience</b>	<ul style="list-style-type: none"> <li>2-3 Years of work experience in relevant field</li> </ul>

### Annexure: Assessment Criteria

<b>Assessment Criteria</b>	
<b>Job Role</b>	Ripening Chamber Operator
<b>Qualification Pack</b>	AGR/Q7504, v1.0
<b>Sector Skill Council</b>	Agriculture

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below)
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5	To pass the Qualification Pack, every trainee should score a minimum of 70% in aggregate
6	The marks are allocated PC wise; however, every NOS will carry a weight age in the total marks allocated to the specific QP



Assessable Outcome	Assessment Criteria	Total Mark (400)	Out Of	Marks Allocation	
				Theory	Skills Practical
1.AGR/N751 7 Check & Maintain the Ripening Chamber	PC1.check rooms are air tight and walls are insulated properly.	<b>180</b>	10	5	5
	PC2.check the air-circulation and ventilation system		10	5	5
	PC3.check the Ripening chamber environment as per standard		10	5	5
	PC4.check ethylene gas injection system		10	5	5
	PC5.check air temperature and humidity controlled system.		10	5	5
	PC6.check electrical controlling system is working properly		10	5	5
	PC7.do visual inspection of unloaded horticulture fruits from truck or loader.		10	5	5
	PC8.give order to remove unwanted waste from horticulture produce		10	5	5
	PC9.give order to sort out the fruits as per order of customer		10	5	5
	PC10.make air pocket in packing box so air circulation in the box happen.		10	5	5
	PC11.decide the ripening procedure required as per quality and marketers specification.		15	8	7
	PC12.arrange the fruits boxes in pallets by workers.		10	5	5
	PC13.load the fruits boxes by hauler to ripening chamber		10	5	5
	PC14.check the horticulture fruits quality		10	5	5
	PC15.check the ripening stage of horticulture fruits.		10	5	5
	PC16.set the horticulture fruits boxes on pallet in such a way ethylene gas pass from periphery of fruits		10	5	5
	PC17.ensure optimum utilization of space in ripening chamber.		10	5	5
	PC18.stay update with market price of produce		5	2	3
			<b>180</b>	<b>90</b>	<b>90</b>

2.AGR/N751 8 Monitor and Operate the Ripening Chamber	PC1.check the civil structure for cracks in walls	<b>180</b>	10	5	5
	PC2.check ripening chamber door sealing		10	5	5
	PC3.circulate recommended dosage of ethylene gas in ripening chamber		20	10	10
	PC4.check the electronic device and sensors and temperature controllers are working properly		15	6	9
	PC5.check the packers are weighing the horticulture fruits accurately and as per given weights		15	7	8
	PC6.check leakage for ethylene gas circulation in ripening chamber.		20	10	10
	PC7.check ventilation system for ethylene gas are working properly		15	6	9
	PC8.ensure that when doors are opening no one should be in front of chamber.		10	10	0
	PC9.check whether the ethylene gas is ventilated for the chamber and then open		15	6	9
	PC10.prepare data sheet for current horticulture fruits.		10	5	5
	PC11.maintain data sheet till fruits are ripened and ready to dispatch		20	10	10
	PC12.prepare reports and data sheet for schedule of ripening of fruits		20	10	10
		<b>180</b>	<b>90</b>	<b>90</b>	
3.AGR/N990 6 Maintain safe work environment	PC1.comply with general safety procedures of the company	<b>40</b>	2	1	1
	PC2.follow standard safety procedures while handling equipment, hazardous material or tool		2	1	1
	PC3.check parts of the workplace and take preventive actions like spraying and other steps to protect from leakages, water logging, pests, fire, pollution, etc.		2	1	1
	PC4.ensure no accidents and damages at the workplace, reporting of any breach of company safety procedure		3	2	1
	PC5.keep the workplace organized, swept, clean and hazard free		3	1	2
	PC6.attend fire drills and other safety related workshops organised at the workplace		3	1	2

PC7.be aware of first aid, evacuation and emergency procedures		2	1	1
PC8.be alert of any events and do not be negligent of any safety procedures to be followed		3	2	1
PC9.avoid accidents while using hazardous chemicals, machines, sharp tools and equipment's		5	2	3
PC10.use safety materials such as protective gear, goggles, caps, shoes, etc. (as applicable with workplace)		4	2	2
PC11.handle heavy and hazardous materials with care and using appropriate tools and handling equipment such as trolleys, ladders		2	1	1
PC12. Maintains clean environment in Pack house workplace.		3	2	1
PC13.Regular preventive health check-up of Pack house worker		3	1	2
PC14. Maintain personal Hygiene in workplace		3	2	1
		40	20	20
	400	<b>400</b>	<b>200</b>	<b>200</b>
<b>Percentage Weightage:</b>			<b>50%</b>	<b>50%</b>
<b>Minimum Pass% to qualify (aggregate):</b>			<b>60%</b>	