

# Model Curriculum

## Cold Storage Manager

**SECTOR: AGRICULTURE & ALLIED**

**SUB-SECTOR: Agriculture Industries**

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

**REF ID: AGR/Q7506, v1.0**

**NSQF LEVEL: 7**



## 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: **'Cold Storage Manager'** OP No. **'AGR/Q7506 NSQF Level 7'**

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)

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# Cold Storage Manager

## CURRICULUM / SYLLABUS

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

<b>Program Name</b>	<b>Cold Storage Manager</b>		
<b>Qualification Pack Name &amp; Reference ID. ID</b>	AGR/Q7506, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	
<b>Pre-requisites to Training</b>	Graduation		
<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>Plan &amp; manage the Cold storage operations:</b> Cold Storage work environment, budget preparation</li> <li>• <b>Manage the Cold Storage Operations:</b> cost planning, managing packaging, storing</li> <li>• <b>Inventory management:</b> Product inventory, targeted customers, potential suppliers, purchase, sales prediction</li> <li>• <b>Motivate the workers:</b> motivate and enhance team performance, guide the employees</li> <li>• <b>Maintain health and safety at the cold storage:</b> Hazard analysis, safety measures implementation</li> </ul>		

This course encompasses 6 out of 6 National Occupational Standards (NOS) of “Cold Storage Manager” 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 General Discipline in the class room (Do’s &amp; Don’ts)</li> <li>Study the Scope of preservation/storage of packed fruits and vegetables</li> <li>Understand the Role of a Cold Storage Manager</li> </ul>	Laptop, white board, marker, projector
2	<b>Plan &amp; Manage the cost according to the allocated budget</b>  <b>Theory Duration</b> (hh:mm) 16:00  <b>Practical Duration</b> (hh:mm) 20:00  <b>Corresponding NOS Code</b> AGR/N7523	<ul style="list-style-type: none"> <li>Understand the budget required for the cold storage management</li> <li>Estimate the site operating budget</li> <li>Understand and estimate the production cost</li> <li>Estimate the Site Labour Cost</li> <li>Understand the Marketers Specification</li> </ul>	Laptop, white board, marker, projector,
3	<b>Meet the Marketers Specification</b>  <b>Theory Duration</b> (hh:mm) 06:00  <b>Practical Duration</b> (hh:mm) 10:00  <b>Corresponding NOS Code</b> AGR/N7524	<ul style="list-style-type: none"> <li>Update knowledge about the marketer needs and specification</li> <li>Ensure storage of fruits as per marketers specifications</li> <li>Maintain good working relationship with marketers</li> <li>Stay update with market price of produce</li> </ul>	Laptop, white board, marker, projector,
4	<b>Manage Cold Storage Operations</b>  <b>Theory Duration</b> (hh:mm) 15:00  <b>Practical Duration</b>	<ul style="list-style-type: none"> <li>Understand the storage and transportation losses</li> <li>Understand the operations of all the machinery installed in the Cold storage</li> <li>Understand the fruit ripening method and ripening hormones for different fruits</li> <li>Manage and supervise the cold storage operations</li> </ul>	Laptop, white board, marker, projector,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 25:00  <b>Corresponding NOS Code</b> AGR/N7525	<ul style="list-style-type: none"> <li>Co-ordinate with colleagues</li> </ul>	
5	<b>Manage inventory of the cold storage</b>  <b>Theory Duration</b> (hh:mm) 10:00  <b>Practical Duration</b> (hh:mm) 20:00  <b>Corresponding NOS Code</b> AGR/N7526	<ul style="list-style-type: none"> <li>Understand the Capacity of the cold storage and plan for the capacity utilization</li> <li>Understand and maintain the quality standards</li> <li>Perform the sales prediction</li> <li>Understand the inventory turnover ratio</li> <li>Practice the waste minimization</li> <li>Understand the logistics management</li> <li>Understand and operate the Inventory Management Software</li> </ul>	Laptop, white board, marker, projector,
6	<b>Promote excellence &amp; team work among the employees</b>  <b>Theory duration</b> (hh:mm) 10:00  <b>Practical duration</b> (hh:mm) 14:00  <b>Corresponding NOS code</b> AGR/N7527	<ul style="list-style-type: none"> <li>Understand the work environment</li> <li>Analyse the employees involvement in the cold storage operations</li> <li>Review employees formally and informally</li> <li>Maintain the employees performance by training, coaching and counseling</li> <li>Update professional and technical knowledge through educational workshops</li> <li>Motivate the employees and enhance team performance</li> </ul>	Laptop, white board, marker, projector,
7	<b>Maintain Health and Safety at Cold Storage premises</b>  <b>Theory duration</b> (hh:mm) 8:00  <b>Practical duration</b> (hh:mm) 16:00  <b>Corresponding NOS code</b> AGR/N7522	<ul style="list-style-type: none"> <li>Understand the safety measures at work place</li> <li>Maintain general safety measures of Cold Storage</li> <li>Maintain a clean &amp; efficient work environment</li> <li>Render appropriate emergency procedures</li> <li>Basic knowledge of Disaster Management</li> </ul>	Laptop, white board, marker, projector,
	<b>Total Duration:</b>  <b>Theory Duration</b>	<b>Unique Equipment Required:</b> Laptop, white board, marker, projector, Cold Storage, Apron	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) <b>70:00</b>  <b>Practical Duration</b> (hh:mm) <b>110:00</b>		

Grand Total Course Duration: **180 Hours, 0 Minutes**

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

## Trainer Prerequisites for Job role: "Cold Storage Manager" mapped to Qualification Pack: "AGR/Q7506, v1.0"

Sr. No.	Area	Details
1	<b>Description</b>	Trainer is responsible for educating the trainees – weekly cost planning, managing packaging, storing, overseeing maintenance and housekeeping of Cold Storages, quality norms/standards and procedure of reporting to the management.
2	<b>Personal Attributes</b>	Trainer should be Subject Matter Expert, he/ she should have good communication skills, leadership skills, observation skills, practical oriented skills
3	<b>Minimum Educational Qualifications</b>	Msc Agriculture/ Horticulture
4a	<b>Domain Certification</b>	Certified for Job Role: <u>"Cold Storage Manager"</u> mapped to QP: <u>"AGR/Q7506, 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 experience in relevant field</li> </ul>



### Annexure: Assessment Criteria

<b>Assessment Criteria</b>	
<b>Job Role</b>	Cold Storage Manager
<b>Qualification Pack</b>	AGR/Q7506, 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 (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
1.AGR/N7523 Plan & manage cost according to the allocated budget	PC1. plan and manage financial budgeting of Pack house	<b>120</b>	30	15	15
	PC2.understand detailed site operating budget		20	10	10
	PC3.communicate production cost to the management team of pack house		20	10	10
	PC4.update regularly site labour cost against the budgeted cost of pack house		15	7	8
	PC5.manage the production team to achieve the financial objective		20	10	10
	PC6.Understand marketers' specification		15	8	7
			<b>120</b>	<b>60</b>	<b>60</b>
2.AGR/N7524 Meet the marketers' specifications	PC1.communicate about the cost of the pack house	<b>60</b>	15	8	7
	PC2.communicate about pack house operations		5	3	2
	PC3.co-ordinate with the new technologies and market specifications to the partners		10	5	5
	PC4.update knowledge about the marketer needs and specification		10	5	5
	PC5.do packaging of fruits as per marketers specifications		10	5	5
	PC6.maintain good working relationship with marketers		5	2	3
	PC7.stay update with market price of produce		5	2	3
			<b>60</b>	<b>30</b>	<b>30</b>
3.AGR/N7525 Manage Packhouse Operations	PC1.take responsibility for the effectiveness of pack house function system	<b>150</b>	20	10	10
	PC2.do best practices to enable the company shareholder and grower clients to meet financial objectives though maintaining the quality standards required by marketers		20	10	10
	PC3.understand all fruits, vegetables are to be handle effectively to reduce the storage & transportation losses		20	10	10
	PC4.understand the operations of all the machinery installed in the pack house		10	5	5
	PC5.take Responsibility for cost saving in the pack house process by using innovative ideas		15	7	8
	PC6.understand methods for ripening of fruits in ethical ways		15	7	8
	PC7.understand the fruit market situation to identify measures to earn profit in to pack house account		15	8	7

	PC8. Identify the training needs & assign the supervisor for different workshops organized by institute for upgrad the pack house operations.		10	5	5
	PC9. give training to supervisors and worker for increasing the work efficiency		15	8	7
	PC10. co-ordinate with workers and supervisors in local language		10	5	5
			<b>150</b>	<b>75</b>	<b>75</b>
4.AGR/N7526 Manage inventory of the Packhouse/ Cold Storage	PC1. ensure the inward inventory of fruits and vegetables as per order in Pack house	90	10	5	5
	PC2. ensure rework and fruit loss are minimized.		10	5	5
	PC3. understand of current polices for growers as well as marketers		10	5	5
	PC4. focus on the management of -inventory of packhouse according to the defined protocol -quality & standards -pest and chemical free produce -type of packing		20	10	10
	PC5. have clear picture of pack house both inward and outward inventory		10	5	5
	PC6. use inventory management software for pack house.		10	5	5
	PC7. ensure the produce meet out quality control standards of fruits and vegetables as per standard		10	5	5
	PC8. check daily report on both received and sorted goods inventory from the packhouse keeper.		5	2	3
	PC9. check daily report of logistic department for supply of goods		5	3	2
					<b>90</b>
5.AGR/N7527 Promote excellence & teamwork among the employees	PC1. analyse performance measures implemented and keep up to date	90	10	5	5
	PC2. improve processes & minimize waste		5	3	2
	PC3. follow the new and advanced technologies		5	2	3
	PC4. utilize 6S principles.		10	5	5
	PC6. motivate and enhance team performance		5	2	3
	PC7. Review employees formally & informally		5	2	3
	PC8. manage teams and other employees		3	2	1
	PC9. maintain team sprit among the workers		3	1	2
	PC10. guide the employees		3	2	1
	PC11. maintain the work culture in the pack house		3	2	1

	PC12.monitor staff performance monthly.		3	1	2
	PC13.maintain packhouse staff by recruiting, selecting, orienting, and training workers		10	5	5
	PC14.establish personal networks		5	3	2
	PC15.identify skill gaps & give feedback to the employees		10	5	5
	PC16.maintain the pack house performance by training, coaching and counseling		5	3	2
	PC17.update professional and technical knowledge through educational workshops		5	2	3
			<b>90</b>	<b>45</b>	<b>45</b>
6.AGR/N7522 Maintain Health and Safety at Packhouse/Cold storage premises	PC1.identify accidental risks to pack house workers and bystanders and actions to be taken to reduce these risks	<b>90</b>	3	2	1
	PC2.identify work for which protective clothing or equipment is required		4	2	2
	PC3.ensure that pack house workers wear appropriate protective clothing or use equipment while performing those duties		3	2	1
	PC4.ensure that all procedures and work instructions for controlling risk are followed closely		4	2	2
	PC5.ensure safety measures when handling the preservative materials.		3	2	1
	PC6.undertake basic safety checks before operation of all equipments and tools.		3	2	1
	PC7.dispose off waste safely and correctly in a designated area as per company's SOP		3	1	2
	PC8.ensure that pack house workers perform their duties in a manner which minimizes environmental damage		5	2	3
	PC9.provide appropriate first aid to pack house workers as per SOP in case of accidents and injuries		4	2	2
	PC10.ensure that medical waste is disposed of in accordance with company's SOP and local regulations		2	1	1
	PC11.report any accidents, incidents or problems without delay to pack house manager and take necessary immediate action to reduce further danger		4	2	2
	PC12.implement the company's Health and Safety Policy, ensuring safe working conditions and practices within the pack house		5	2	3
	PC13. represent the department on the Health & Safety Committee as required.		3	1	2
	PC14.implement the company's Health and Safety Policy, ensuring safe working Conditions and practices within the pack house		4	2	2

PC15. identify health risks to packhouse workers and bystanders and actions to be taken to reduce these risks			3	2	1
PC16.ensure that all procedures and work instructions for controlling health risk are followed closely			3	1	2
PC17.ensure clean and chlorinated water for daily use of workers			5	2	3
PC18.ensure regular preventive health checkup of pack house workers by doctor			4	2	2
PC19.ensure prompt treatment of pack house workers in case of illness noticed by the qualified doctor			4	2	2
PC20.follow SOPs for dealing with accidents, fires or any other type of emergencies to prevent human lives			3	2	1
PC21.ensure odorless and clean environment to pack house workers			4	2	2
PC22.ensure no accidental injury to pack house workers			4	2	2
PC23.ensure no productivity loss or absenteeism form work of pack house workers due to illness			2	1	1
PC24.ensure no occupational health hazard to pack house workers			4	2	2
PC25.overall responsibility for all aspects of the effective supervision training & development and health, safety & welfare of the pack house Workers			4	2	2
			<b>90</b>	<b>45</b>	<b>45</b>
	<b>Total</b>	<b>600</b>	<b>600</b>	<b>300</b>	<b>300</b>
	<b>Percentage Weightage:</b>			<b>50%</b>	<b>50%</b>
	<b>Minimum Pass% to qualify (aggregate):</b>			<b>60%</b>	