

Model Curriculum

Coriander Cultivator

SECTOR: AGRICULTURE & ALLIED
SUB-SECTOR: AGRICULTURE CROP PRODUCTION
OCCUPATION: SPICE CROP CULTIVATION
REF ID: AGR/Qo6o2, 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: 'Coriander Cultivator' QP No. 'AGR/ Qo6o2 NSQF Level 4'

Date of Issuance: October 20th, 2016

Valid up to: March 31st, 2019

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



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Authorised Signatory
(Agriculture Skill Council of India)

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Coriander Cultivator

CURRICULUM / SYLLABUS

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

Program Name	Coriander Cultivator		
Qualification Pack Name & Reference ID. ID	AGR/Qo6o2, v1.0		
Version No.	1.0	Version Update Date	
Pre-requisites to Training	No entry barrier, 5 th standard passed preferable		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Select & Procure the coriander crop variety from authentic source: Analyse the geographical conditions, resources available, select the crop variety, high yielding variety, pest and disease tolerant variety, hybrid varieties • Grow and manage coriander crop: Inputs requirement, Nursery management, Preparation of field, sowing, soil testing, application of fertilizer & nutrients, pest & disease management, irrigation management, harvesting of crop • Maintain the quality of the produce: Time of Harvesting, moisture level of the produce, post harvest practices, storage & transportation • Undertake Basic Farm Management: Crop planning, maintaining crop calendar, financial management, analyze market demand & supply • Become well versed with Environment Health & Safety: Well versed with health and safety measures in terms of personal safety and others as well. 		

This course encompasses 10 out of 10 National Occupational Standards (NOS) of “Coriander Crop Cultivator” Qualification Pack issued by “Agriculture Skill Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	Introduction Theory Duration (hh:mm) 5:00 Practical Duration (hh:mm) 5:00 Corresponding NOS Code	<ul style="list-style-type: none"> Understand the General Discipline in the class room (Do’s & Don’ts) Understand and study the Scopes and Opportunities of Spice Crops cultivation Understand the Role of a Coriander crop cultivator Get acquainted with the agro-climatic conditions required for coriander cultivation Understand State farmers’ right under PPV & FRA act 2001 (9 rights) 	Laptop, white board, marker, projector,
2	Seed selection in coriander Theory Duration (hh:mm) 5:00 Practical Duration (hh:mm) 10:00 Corresponding NOS Code AGR/No6o8	<ul style="list-style-type: none"> Identify and select the appropriate variety (high yielding variety, Pest & disease resistant, draught tolerant etc) based on the agro climatic conditions, climate, soil type and required yield Understand the Seed requirement for Coriander Cultivation Identify & procure quality seeds from authentic sources Undertake seed treatment using appropriate method Get acquainted with tools/equipments for Nursery preparation Undertake soil nursery or container method for growing seedlings Prepare & manage nursery- fine soil tilth, pre-sowing irrigation, sowing at appropriate depth & spacing, seedling care etc 	White Board, Marker, Laptop, projector, nursery bed, potting material, watering equipment
3	Soil preparation and sowing of coriander Theory Duration (hh:mm) 8:00 Practical Duration (hh:mm) 10:00 Corresponding NOS Code AGR/ No6o9	<ul style="list-style-type: none"> Study the suitable soil condition required for coriander crop Understand the importance of soil testing and application of recommended doses of fertilizer & manure Undertake land preparation <ul style="list-style-type: none"> Ploughing Levelling Ridges and Furrow preparation Application of FYM and Fertilizers Understand the quality of seed and ensure proper handling to save sprouting portion Undertake timely sowing using appropriate method at appropriate depth 	Marker, Laptop, projector, plough, harrow, leveler, spade, shovel, trowel

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		& spacing <ul style="list-style-type: none"> Identify & select crops that can be used as an intercrop Practice intercropping to ensure higher yields and manage weeds 	
4	Soil Nutrient Management in spice Crops (hh:mm) 07:00 Practical Duration (hh:mm) 12:00 Corresponding NOS Code AGR/No601	<ul style="list-style-type: none"> Understand the Nutrient requirement for the coriander cultivation Understand and perform the soil sampling for soil test Understand the Micro and Macro Nutrients in soil Understand the required fertilizer dosage for the nutrient enrichment in soil as per the soil health card Understand the various soil microorganisms beneficial for the nutrient enrichment in soil Understand the method of nitrogen fixation in soil Use the bio fertilizer/organic manure/vermicompost in the cultivation of coriander crop Understand different methods of fertilizer application Estimate the quantity & apply fertilizer & micro-nutrients at various stages in appropriate dosage Maintain the record of application of fertilizers and intervals 	White Board, Marker, Laptop, projector, Sprayer, fertilizers, bio fertilizers, polythene/ cloth bags for soil samples, khurpa
5	Weed management in Spice crops Theory Duration (hh:mm) 07:00 Practical Duration (hh:mm) 12:00 Corresponding NOS Code AGR/No602	<ul style="list-style-type: none"> Understand the common weeds in coriander crop cultivation Understand the hazards of weed in coriander crop cultivation Adopt different weed control methods-mechanical, chemical, biological Understand the use of chemical herbicides and bio- herbicides Apply herbicides in appropriate dosage Understand and perform the Manual/mechanized weeding Identify and use the tools/equipments required for the Weed Management Perform mulching 	White Board, Marker, Laptop, projector, Chemicals, Sprayer, sickle, Mechanical Weeder
6	Integrated Pest and Diseases Management in Spice Crops Theory Duration	<ul style="list-style-type: none"> Understand the major pests and disease in coriander crop Understand the character & life cycle of different insect pests Understand the life stages of plants at 	White Board, Marker, Laptop, projector, chemicals, traps, sprayer, safety mask

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 07:00 Practical Duration (hh:mm) 12:00 Corresponding NOS Code AGR/No603	which it is vulnerable to pests & diseases, symptoms of and precautionary measures to be adopted <ul style="list-style-type: none"> Follow the Package of Practice for the coriander crop Understand the suitable chemical for the insect pest and diseases attack Identify, select and place the different insect traps in the field Understand the importance of Integrated Pest and Disease Management Practice Integrated Pest and Disease Management- Mechanical, Biological & chemical methods Understand National and International standards on pesticide residues 	& gloves
7	Irrigation Management in Spice Crops Theory Duration (hh:mm) 05:00 Practical Duration (hh:mm) 12:00 Corresponding NOS Code AGR/No604	<ul style="list-style-type: none"> Understand the Water requirement for the cultivation of coriander crop Understand the soil texture, porosity etc Understand the effects of water clogging & poor drainage in the field Understand the required optimum moisture level in the field for coriander cultivation Ascertain appropriate method of irrigation- irrigation channels, hose bucket, drip system etc Ascertain critical growth stages of pulse crops Prepare Irrigation Schedule as per the crop stage and ensure timely irrigation Undertake suitable irrigation method depending on the soil type, variety of pulse crop & water availability Understand water use efficiency concept 	White Board, Marker, Laptop, projector, irrigation equipments, spade
8	Harvest and post- harvest management in Coriander Theory Duration (hh:mm) 10:00 Practical Duration (hh:mm) 12:00 Corresponding NOS Code AGR/No610	<ul style="list-style-type: none"> Understand Do's and Don'ts during crop harvesting Harvest the crop at appropriate stage & time keeping in consideration crop maturity, moisture content, climatic conditions etc Understand and practice the proper method of harvesting (picking or pulling of coriander in case of leaves as well as fruits seed) and handling of harvested crop Understand the importance of Post harvest Management Perform cleaning, drying, grading & packing of the harvested produce 	White Board, Marker, Laptop, projector, harvester, sprayer, fumigants, storage bags, bag sealing machine/tools, weighing machine

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> Understand various methods of storage and their influence on coriander quality & cost dynamics Store the produce and ensure safety from storage pests Identify market & buyers for the produce Make arrangements for transportation of the produce 	
9	Basic farm management Theory Duration (hh:mm) 6:00 Practical Duration (hh:mm) 10:00 Corresponding NOS Code AGR/N9901	<ul style="list-style-type: none"> Estimate the cost of production of coriander Estimate the required investment Practice Farm management- Soil testing, selection of crop variety, Crop Calendar, Crop rotation, intercrops, schedule for fertilizer, pesticide/chemical application, irrigation schedule, harvesting schedule etc Undertake Integrated Farming for diversified income Identify the near market area and keep update on the market prices Keep record on the investment and expenditures Calculate B:C ratio 	White Board, Marker, Laptop, projector, record keeping book,
10	Assimilating market information Theory Duration (hh:mm) 5:00 Practical Duration (hh:mm) 5:00 Corresponding NOS Code AGR/N9902	<ul style="list-style-type: none"> Understand the suitable market platform for coriander including e-procurement platform Collect the Market information from the reliable sources Understand the right time, place for the market of the produce Analyze the market information Get acquainted with Agro advisory services facility available through SMS mobile, Radio, TV, etc. 	White Board, Marker, Laptop, projector,
11	Maintain Health & Safety at the work place Theory Duration (hh:mm) 5:00 Practical Duration (hh:mm) 10:00	<ul style="list-style-type: none"> Perform General safety Rules Gain Knowledge of various health hazards relevant to workplace and basic first aid training. Understand the basic safety checks and other common reported hazards before all farm operation Understand, identify and study the use of equipment ,processing machine and materials safely and correctly Understand and handle the emergency 	White Board, Marker, Laptop, projector, Safety masks & gloves, safety boots, first aid kit,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code AGR/N9903	situation in workplace and during any farm operation	
	Total Duration: Theory Duration (hh:mm) 70:00 Practical Duration (hh:mm) 110:00	Unique Equipment Required: White Board, Marker, Laptop, projector, Record Keeping Book, chemicals, plough, land leveller, spade, mulching materials, insect traps, sprayer, safety mask, safety gloves & boots, irrigation equipments, polythene/ cloth bags for soil samples, khurpa, weeder, sickle, harvester, fumigants, storage bags, bag sealing machine/ tools, weighing machine	

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: “Coriander Cultivator” mapped to Qualification Pack: “AGR/Qo6o2, v1.0”

Sr. No.	Area	Details
1	Description	Trainer is responsible for providing the education and skills development training on cultivation of coriander as per the package of practices recommended for a particular agronomic climate zone, type of soil, rainfall pattern and climatic condition to achieve the yield as per the genetic potential of given variety and sell the produce as per the competitive market prices without distress sale.
2	Personal Attributes	Trainer should be Subject Matter Specialist. He/ She should have good communication and observation skill, leadership skill, practical oriented skill
3	Minimum Educational Qualifications	Diploma, Bachelor’s Degree in Agriculture Science Preferably
4a	Domain Certification	Certified for Job Role: <u>“Coriander Cultivator”</u> mapped to QP: <u>“AGR/Qo6o2, v1.0”</u> . Minimum accepted score is 80%.
4b	Platform Certification	Certified for the Job Role: “Trainer”, mapped to the Qualification Pack: <u>“SSC/Q14o2”</u> . Minimum accepted score is 70%
5	Experience	<ul style="list-style-type: none"> • M.Sc. (Agri) with an experience of 1 Year, • B.Sc. (Agri) with an experience of 2 Years • Graduate with relevant experience of 3 + Years, • Diploma with relevant experience of 5+ Years.

Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Coriander Cultivator
Qualification Pack	AGR/Qo6o2, v1.0
Sector Skill Council	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	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

Assessable Outcome	Assessment Criteria	Total marks (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
1.AGR/No608 Seed selection in coriander	PC1. identify various and appropriate varieties of coriander	60	5	2	3
	PC2. consider the appropriate climate i.e. cool or dry at different stages		5	2	3
	PC3. identify various vendors / suppliers (including government nurseries /department) of the seed that are certified		5	2	3
	PC4. procure seeds in appropriate quantity		4	2	2
	PC5. treat the seeds prior to sowing		8	4	4
	PC6. identify market rates for coriander seeds		3	2	1
	PC7. prepare nursery area to be smooth and to a fine tilth		8	4	4
	PC8. remove the broken parts of the previous crop		4	2	2
	PC9. give pre-sowing irrigation before land preparation		4	2	2
	PC10. plant the seed at correct depth and appropriate spacing		5	3	2
	PC11. water the seedling at appropriate time with appropriate method		4	2	2
	PC12. interact with agricultural experts for their guidance		5	3	2
			60	30	30
2.AGR/No609 Soil preparation and sowing of coriander	PC1. select appropriate soil type for cultivation	60	5	2	3
	PC2. undertake soil-testing at authorized centers		8	4	4
	PC3. plough the land to get appropriate tilth		5	2	3
	PC4. prepare a smooth land		5	2	3
	PC5. apply farm yard manure and fertilizers		10	5	5
	PC6. ensure to cultivate at appropriate season		5	3	2
	PC7. rub the seed to split into two halves		3	2	1
	PC8. take proper care to save the sprouting portion		10	5	5
	PC9. ensure timely sowing		5	3	2
	PC10. sow in rows with proper spacing		4	2	2
			60	30	30
3.AGR/No601 Soil fertility management in spice crops	PC1. understand the basic macro & micro nutrients with their functions	90	25	13	12
	PC2. undertake testing of soil to determine its nutrient status and fertilizer needs from authorized laboratory		15	7	8
	PC3. collect soil testing report		5	0	5

	hoses buckets etc				
	PC3. incorporate micro-irrigation techniques such as drip irrigation using appropriate equipments		10	5	5
	PC4. interact with micro-irrigation expert for effective usage		5	3	2
	PC5. ensure appropriate water supply to the crop at various life cycles (from seeding to entire duration of the crop)		5	3	2
	PC6. place main and sub pipes and lateral pipes for drip irrigation (if applicable)		10	5	5
	PC7. ensure spread of water in the entire field		5	2	3
	PC8. ensure proper water drainage		5	2	3
	PC9. identify disease due to increase in moisture and take corrective actions		10	6	4
			60	30	30
7.AGR/No610 Harvest and post harvest management in coriander	PC1. harvest the crop at appropriate stage (colour of the seed)	90	10	5	5
	PC2. harvest the crop at right time (usually first picking after 75 days of sowing)		10	5	5
	PC3. undertake picking or pulling of coriander in case of leaves as well as fruits seeds		10	5	5
	PC4. undertake drying of coriander		10	5	5
	PC5. undertake grading of the coriander		10	5	5
	PC6. undertake packing of the coriander		10	5	5
	PC7. maintain ideal storage condition		10	5	5
	PC8. identify the right market for sale of produce		5	2	3
	PC9. analyze the right time for sale considering the periodical demand for the produce		5	3	2
	PC10. coordinate and negotiate with procurement assistant of the buyer for best price		10	5	5
			90	45	45
8.AGR/N9901 Basic Farm Management	PC1. choose the crop based on agro-climatic condition of the region	30	2	1	1
	PC2. take sample of the soil for testing		1	0	1
	PC3. perform intercropping with suitable and recommended crops (as per the main crop cultivated)		2	1	1
	PC4. perform crop rotation with suitable crops		2	1	1
	PC5. interact with agriculture / extension expert for crop planning		1	1	0
	PC6. choose crop based on the economic advantage		2	1	1
	PC7. maintain crop production activity record		1	1	0
	PC8. maintain crop calendars		1	1	0

	PC9. maintain calendars of weed		1	1	0
	PC10. maintain insect and pest calendar		2	1	1
	PC11. ascertain total cost of production (land, production practices, labour, equipment , fuel, administrative cost etc.)		2	1	1
	PC12. maintain records of investment and expenditure		2	1	1
	PC13. maintain necessary books of accounts		2	1	1
	PC14. identify government schemes and their eligibility for availing themselves of the same		2	1	1
	PC15. identify the nearest market		2	1	1
	PC16. identify local traders, mandis in the villages and nearby and compare the rates		2	1	1
	PC17. identify market rates of the produce season wise		2	1	1
	PC18. arrange cost-effective transportation of produce to the market		1	0	1
			30	16	14
9.AGR/N9902 Assimilating Market Information	PC1. understand the different sources of information at village-level through other farmers, neighbors, relatives, agricultural extension workers, agriculture specialists, concerned government and private departments like gram panchayat, co-operative societies and SHGs etc.	30	1	1	0
	PC2. identify different sources of information at market level through commission agents, mandisamitis and input dealers		1	1	0
	PC3. identify different sources of information through media sources like radio, newspapers, television, magazine internet, SMS in mobile phones etc.		1	0	1
	PC4. identify the appropriate sources of specific market information and proper ways to collect the required information		1	0	1
	PC5. identify the reliable source of information		1	0	1
	PC6. ascertain methods of collecting information through personal visit, telephone, internet and published reports, magazines and articles, workshops, attending seminars and training by agriculture extension service providers		2	1	1
	PC7. ascertain periodicity and cost of assessing market information		2	1	1
	PC8. ascertain availability and non-availability of specific market information		1	0	1
	PC9. perform documentation for analyzing market information		1	0	1
	PC10. evaluate the authenticity of information received		2	1	1

	PC11. analyze the information for taking decision		2	1	1
	PC12. utilize market information for taking cost effective production decisions		2	1	1
	PC13. understand quality-wise and variety-wise prices of different products such as seeds, pest, fertilizer, etc		2	1	1
	PC14. use market information and decide on crop and area to be sown which could result in better productivity for the season		2	1	1
	PC15. utilize market information for taking effective pre-harvesting decisions like seed preparation, land preparation, nutrition management, weed management, pest and diseases management and irrigation management		2	1	1
	PC16. utilize market information for appropriate post-harvesting decision like drying, grading, bagging, transportation, processing and storage		2	1	1
	PC17. decide on marketing parameters like where to sell, when to sell, to whom to sell and what quantity to sell etc. which leads to profit		2	1	1
	PC18. understand benefits derived from market information		1	0	1
	PC19. make projections/future price movements through information sources		1	1	0
	PC20. understand price fluctuations in markets and take appropriate decision		1	1	0
			30	14	16
10.AGR/N9903 Maintain health & safety at the work place	PC1. undertake basic safety checks before operation of all machinery and vehicles and hazards are reported to the appropriate supervisor	30	2	1	1
	PC2. Work for which protective clothing or equipment is required is identified and the appropriate protective clothing or equipment is used in performing these duties in accordance with workplace policy.		2	1	1
	PC3. read and understand the hazards of use and contamination mentioned on the labels of pesticides/fumigants etc		2	1	1
	PC4. Assess risks prior to performing manual handling jobs, and work according to currently recommended safe practice.		2	1	1
	PC5. use equipment and materials safely and correctly and return the same to designated storage when not in use		2	1	1
	PC6. dispose of waste safely and correctly in a designated area		2	1	1
	PC7. recognize risks to bystanders and take action to reduce risk associated with jobs in		3	2	1

	the workplace				
	PC8. Perform your work in a manner which minimizes environmental damage all procedures and work instructions for controlling risk are followed closely.		2	1	1
	PC9. Report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger.		1	0	1
	PC10. Follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to emergency.		2	1	1
	PC11. follow emergency procedures to company standard / workplace requirements		2	1	1
	PC12. use emergency equipment in accordance with manufacturers' specifications and workplace requirements		2	1	1
	PC13. provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques		2	1	1
	PC14. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate		2	1	1
	PC15. Report details of first aid administered in accordance with workplace procedures.		2	1	1
			30	15	15
	TOTAL	600	600	300	300
	Percentage Weightage:			50%	50%
	Minimum Pass% to qualify (aggregate):			60%	