

Qualification Pack



Solanaceous Crop Cultivator

QP Code: AGR/Q0402

Version: 3.0

NSQF Level: 3

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Qualification Pack

Contents

AGR/Q0402: Solanaceous Crop Cultivator	3
<i>Brief Job Description</i>	3
Applicable National Occupational Standards (NOS)	3
<i>Compulsory NOS</i>	3
<i>Qualification Pack (QP) Parameters</i>	3
AGR/N0408: Seed selection and seedling production	5
AGR/N0409: Soil preparation and transplanting in solanaceous crops	9
AGR/N0401: Soil nutrient management in vegetable crops	13
AGR/N0402: Weed control and management in vegetable crops	17
AGR/N0403: Integrated pest and disease management in vegetable crops	21
AGR/N0404: Irrigation management in vegetable crops	27
AGR/N0410: Harvest and post harvest management in solanaceous crop	31
AGR/N9901: Basic farm management	35
AGR/N9902: Assimilating market information	41
AGR/N9903: Maintain health and safety at the workplace	47
DGT/VSQ/N0101: Employability Skills (30 Hours)	53
Assessment Guidelines and Weightage	58
<i>Assessment Guidelines</i>	58
<i>Assessment Weightage</i>	59
Acronyms	61
Glossary	62

Qualification Pack

AGR/Q0402: Solanaceous Crop Cultivator

Brief Job Description

The job of the Solanaceous Crop Cultivator involves cultivation of solanaceous crop 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.

Personal Attributes

The job requires the individual to have: Ability to work independently, bearing risks and must have ability to work hard and take decisions pertaining to his area of work. The individual should be result oriented and should be responsible for his/her own learning and working. Individual should be able to comprehend basic arithmetic and algebraic principle. Should be able to access and analyze various opportunities and threats pertaining to climatic and market conditions.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [AGR/N0408: Seed selection and seedling production](#)
2. [AGR/N0409: Soil preparation and transplanting in solanaceous crops](#)
3. [AGR/N0401: Soil nutrient management in vegetable crops](#)
4. [AGR/N0402: Weed control and management in vegetable crops](#)
5. [AGR/N0403: Integrated pest and disease management in vegetable crops](#)
6. [AGR/N0404: Irrigation management in vegetable crops](#)
7. [AGR/N0410: Harvest and post harvest management in solanaceous crop](#)
8. [AGR/N9901: Basic farm management](#)
9. [AGR/N9902: Assimilating market information](#)
10. [AGR/N9903: Maintain health and safety at the workplace](#)
11. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

Qualification Pack (QP) Parameters

Qualification Pack

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Vegetable Crops Cultivation
Country	India
NSQF Level	3
Credits	9
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6111.1501
Minimum Educational Qualification & Experience	10th Class OR 8th Class (with two years of (NTC/ NAC) after 8th) OR 8th grade pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 Years of experience relevant experience OR 5th grade pass with 5 Years of experience relevant experience OR Previous relevant Qualification of NSQF Level (Level 2) with 1 Year of experience relevant experience OR Previous relevant Qualification of NSQF Level (Level 2.5) with 6 Months of experience relevant experience
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	17 Years
Last Reviewed On	NA
Next Review Date	30/04/2025
NSQF Approval Date	27/01/2022
Version	3.0
Reference code on NQR	QG-03-AG-00336-2023-V1.1-ASCI
NQR Version	1.1

Qualification Pack

AGR/N0408: Seed selection and seedling production

Description

This OS is for Solanaceous Crop Cultivator who is responsible for field selection and seedling production

Scope

The scope covers the following :

- Selection of seed and procurement
- Managing nursery for solanaceous crop cultivation

Elements and Performance Criteria

Selection of seed and procurement

To be competent, the user/individual on the job must be able to:

- PC1.** identify various and appropriate variety (including hybrid) of solanaceous crops
- PC2.** identify various vendors / suppliers (including government nurseries /department) of the seed that are certified
- PC3.** procure seeds in appropriate quantity
- PC4.** identify market rates for solanaceous crop seeds (such as tomato, capsicum, etc)

Managing nursery for solanaceous crop cultivation

To be competent, the user/individual on the job must be able to:

- PC5.** identify nursery or tray method for growing seedlings
- PC6.** plant the seed at correct depth and appropriate spacing
- PC7.** water the seedling at appropriate time with appropriate method
- PC8.** interact with agricultural experts for their guidance

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures in work
- KU2.** relevant health and safety requirements applicable in the work environment
- KU3.** own job role and responsibilities and sources for information pertaining to work
- KU4.** who to approach for support in order to obtain work related information, clarifications and support
- KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- KU6.** documentation and related procedures applicable in the context of work
- KU7.** various characteristics of seed with their suitability to the location
- KU8.** characteristics of healthy varieties
- KU9.** demand of various varieties in the market

Qualification Pack

- KU10.** advantages and disadvantages of soil nursery or tray method
- KU11.** depth and spacing of planting seedlings in case of soil nursery & tray
- KU12.** characteristics of appropriate tray (hole size, depth, rate, etc.)
- KU13.** use of mesh net house and net tunnels
- KU14.** ideal temperature, moisture & water content for seedlings to sprout

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** get information and update on the latest variety of solanaceous crop by reading newspapers and magazines
- GS2.** should track latest development in solanaceous crop cultivation by reading brochures, pamphlets and product information sheets
- GS3.** maintain effective working relationships
- GS4.** communicate clearly and effectively with others like farmers, concerned officer/stakeholders
- GS5.** comprehend information shared by senior people and experts
- GS6.** make decisions pertaining to the concerned area of work
- GS7.** identify problems that may arise in carrying out tasks and take preventative action following various filed procedures
- GS8.** take decision to achieve monetary gain
- GS9.** plan and organize field procedures starting from land preparation to nursery management
- GS10.** organize meetings / demonstrations with agricultural departments whenever necessary
- GS11.** participate in solanaceous crop exhibition/seminar/workshop
- GS12.** attend and make use of exposure visit
- GS13.** work with solanaceous crop experts
- GS14.** think through the problem, evaluate the possible solution(s) and adopt an optimum /best possible solution(s)
- GS15.** identify problems immediately and take up solutions quickly to resolve delays
- GS16.** monitor and maintain the material and equipment required for weed management
- GS17.** monitor and maintain the condition of tools and equipment required for land preparation and transplantation / direct sowing.
- GS18.** monitor crop transplantation or direct sowing
- GS19.** apply, analyze, and evaluate the information athered from observation, experience, reasoning, or communication, as a guide to thought and action
- GS20.** take up his own working & learning

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Selection of seed and procurement</i>	9	12	-	9
PC1. identify various and appropriate variety (including hybrid) of solanaceous crops	-	-	-	-
PC2. identify various vendors / suppliers (including government nurseries /department) of the seed that are certified	-	-	-	-
PC3. procure seeds in appropriate quantity	-	-	-	-
PC4. identify market rates for solanaceous crop seeds (such as tomato, capsicum, etc)	-	-	-	-
<i>Managing nursery for solanaceous crop cultivation</i>	9	12	-	9
PC5. identify nursery or tray method for growing seedlings	-	-	-	-
PC6. plant the seed at correct depth and appropriate spacing	-	-	-	-
PC7. water the seedling at appropriate time with appropriate method	-	-	-	-
PC8. interact with agricultural experts for their guidance	-	-	-	-
NOS Total	18	24	-	18

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0408
NOS Name	Seed selection and seedling production
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Vegetable Crops Cultivation
NSQF Level	4
Credits	0.5
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

AGR/N0409: Soil preparation and transplanting in solanaceous crops

Description

This OS is for Solanaceous Crop Cultivator who is responsible for soil preparation and transplanting

Scope

The scope covers the following :

- Soil preparation for transplanting
- Transplanting of seedlings

Elements and Performance Criteria

Soil preparation for transplanting

To be competent, the user/individual on the job must be able to:

- PC1.** undertake soil testing at authorized centres
- PC2.** prepare the land to get appropriate tilth
- PC3.** prepare the land with ridges and furrows
- PC4.** apply farm yard manure and fertilizers
- PC5.** pre irrigate the land prior to transplanting

Transplanting of seedlings

To be competent, the user/individual on the job must be able to:

- PC6.** transplant seedling at appropriate time
- PC7.** transplant seedling at appropriate stage
- PC8.** transplant seedling with appropriate spacing

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures in work
- KU2.** relevant health and safety requirements applicable in the work environment
- KU3.** own job role and responsibilities and sources for information pertaining to work
- KU4.** who to approach for support in order to obtain work related information, clarifications and support
- KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- KU6.** documentation and related procedures applicable in the context of work
- KU7.** various authorized centers of soil testing
- KU8.** level of soil tillage including depth of plugging and appropriate equipments for plugging
- KU9.** distance between ridges and furrows

Qualification Pack

- KU10.** requirement of farm yard manure and fertilizer in appropriate quantity
- KU11.** appropriate time for planting by taking soil, climatic conditions
- KU12.** planting equipments (shovel or trowel)
- KU13.** spacing between rows and plants
- KU14.** advantages and disadvantages of intercropping and types of plant to be intercropped
- KU15.** advantages of crop rotation

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** get information and update on the latest variety of solanaceous crop by reading newspapers and magazines
- GS2.** track latest development in solanaceous crop cultivation by reading brochures, pamphlets and product information sheets
- GS3.** read and understand safety and usage instruction of pesticide
- GS4.** maintain effective working relationships
- GS5.** communicate clearly and effectively with others like farmers, concerned officer/stakeholders
- GS6.** comprehends information shared by senior people and experts
- GS7.** make decisions pertaining to the concerned area of work
- GS8.** identify problems that may arise in carrying out tasks and take preventative action following various filed procedures
- GS9.** take decision on methods to be incorporated for solanaceous crop plantation
- GS10.** take decision to achieve monetary gain
- GS11.** plan and organize field procedures starting from nursery management to harvesting
- GS12.** organize meetings / demonstrations with agricultural departments whenever necessary
- GS13.** participate in solanaceous crop exhibition/seminar/workshop
- GS14.** attend and make use of exposure visit
- GS15.** work with solanaceous crop experts
- GS16.** think through the problem, evaluate the possible solution(s) and adopt an optimum /best possible solution(s)
- GS17.** identify problems immediately and take up solutions quickly to resolve delays
- GS18.** monitor and maintain the material and equipment required for soil preparation
- GS19.** monitor and maintain the condition of tools and equipment required for land preparation and transplantation / direct sowing.
- GS20.** monitor crop transplantation or direct sowing
- GS21.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action
- GS22.** take up his own working & learning

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Soil preparation for transplanting</i>	13	18	-	14
PC1. undertake soil testing at authorized centres	-	-	-	-
PC2. prepare the land to get appropriate tilth	-	-	-	-
PC3. prepare the land with ridges and furrows	-	-	-	-
PC4. apply farm yard manure and fertilizers	-	-	-	-
PC5. pre irrigate the land prior to transplanting	-	-	-	-
<i>Transplanting of seedlings</i>	4	6	-	5
PC6. transplant seedling at appropriate time	-	-	-	-
PC7. transplant seedling at appropriate stage	-	-	-	-
PC8. transplant seedling with appropriate spacing	-	-	-	-
NOS Total	17	24	-	19

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0409
NOS Name	Soil preparation and transplanting in solanaceous crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Vegetable Crops Cultivation
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

AGR/N0401: Soil nutrient management in vegetable crops

Description

This OS deals about the activities carried out to manage soil nutrients.

Scope

The scope covers the following :

- Identification of macro and micro-nutrients in soil and its testing
- Application of organic and chemical fertilizers

Elements and Performance Criteria

Identification of macro & micro-nutrients in soil and its testing

To be competent, the user/individual on the job must be able to:

- PC1.** identify the macro and micro-nutrients required for the plant growth
- PC2.** collect soil samples from the field for testing
- PC3.** coordinate with an authorised lab to get the soil sample tested
- PC4.** interpret the details in the Soil Health Card to determine the nutrient and fertilizer needs of the soil for a particular crop

Application of organic and chemical fertilizers

To be competent, the user/individual on the job must be able to:

- PC5.** select appropriate organic fertilizer including farm yard manure
- PC6.** apply organic and inorganic fertilizer in the recommended dosage at the right time
- PC7.** prepare and apply compost and vermicompost in the recommended quantity
- PC8.** follow soil conservation practices

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures at work
- KU2.** relevant health and safety requirements applicable to the work environment
- KU3.** own job role and responsibilities and sources of information pertaining to work
- KU4.** impact of not following the health, hygiene, safety and quality standards on consumers and the business
- KU5.** basic concepts of plant nutrition
- KU6.** basic concepts of soil fertility
- KU7.** soil sample collection method
- KU8.** soil pH and liming
- KU9.** different types of macro and micro-nutrients

Qualification Pack

- KU10.** function of different macro and micro-nutrients
- KU11.** common symptoms of nutrient deficiency in plants
- KU12.** different types of green manure crops
- KU13.** method of application of farm yard manure in the recommended dose and at suitable time
- KU14.** method of preparation and application of compost and vermicompost
- KU15.** different types of fertilizers and their nutrient content
- KU16.** the recommended dosage and application time of fertilizer for the vegetable crop
- KU17.** different methods of fertilizer application
- KU18.** harmful effects of over-dosage of fertilizers
- KU19.** importance of soil conservation and various soil conservation practices

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** track latest development in vegetable crop nutrient management by reading brochures, pamphlets and product information sheets
- GS2.** read and understand safety and usage instruction of chemical fertilizers
- GS3.** maintain effective working relationships
- GS4.** communicate clearly and effectively with others like farmers, concerned officer/stakeholders
- GS5.** comprehend information shared by senior people and experts
- GS6.** make decisions pertaining to the concerned area of work
- GS7.** identify problems that may arise in carrying out tasks and take preventative action
- GS8.** plan and organize field procedures related to nutrient management
- GS9.** plan procurement of farmyard manure and fertilizer in right quantity and time
- GS10.** organize meetings / demonstrations with agricultural experts, whenever necessary
- GS11.** think through the problem, evaluate the possible solution(s) and adopt an optimum /best possible solution(s)
- GS12.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identification of macro & micro-nutrients in soil and its testing</i>	10	20	-	10
PC1. identify the macro and micro-nutrients required for the plant growth	-	-	-	-
PC2. collect soil samples from the field for testing	-	-	-	-
PC3. coordinate with an authorised lab to get the soil sample tested	-	-	-	-
PC4. interpret the details in the Soil Health Card to determine the nutrient and fertilizer needs of the soil for a particular crop	-	-	-	-
<i>Application of organic and chemical fertilizers</i>	15	30	-	15
PC5. select appropriate organic fertilizer including farm yard manure	-	-	-	-
PC6. apply organic and inorganic fertilizer in the recommended dosage at the right time	-	-	-	-
PC7. prepare and apply compost and vermicompost in the recommended quantity	-	-	-	-
PC8. follow soil conservation practices	-	-	-	-
NOS Total	25	50	-	25

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0401
NOS Name	Soil nutrient management in vegetable crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Vegetable Crops Cultivation
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

Qualification Pack

AGR/N0402: Weed control and management in vegetable crops

Description

This OS deals with management of weeds in a vegetable farm

Scope

The scope covers the following :

- Identification of weeds and record-keeping
- Weed management at various stages of plant cycle

Elements and Performance Criteria

Identification of weeds and record keeping

To be competent, the user/individual on the job must be able to:

- PC1.** inspect the field periodically and assess the weed of importance
- PC2.** identify the types of weed in the vegetable crop as against the growth stage of the crop
- PC3.** maintain records of the weed and share it with experts, if needed

Weed Management at various stages of plant cycle

To be competent, the user/individual on the job must be able to:

- PC4.** follow appropriate preventative methods to prevent weeds
- PC5.** follow suitable cultural and mechanical methods to control weeds
- PC6.** select the recommended herbicide as per the crop need
- PC7.** spray the herbicide including bio-herbicide safely, and as per the recommended dosage
- PC8.** select the combination of different types of weed control methods for effective weed management

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures at work
- KU2.** relevant health and safety requirements applicable to the work environment
- KU3.** own job role and responsibilities and sources of information pertaining to work
- KU4.** impact of not following the health, hygiene, safety and quality standards on consumers and the business
- KU5.** various types of weed of vegetable crops
- KU6.** different weed control methods- preventative, cultural, mechanical, biological and chemical
- KU7.** advantages and disadvantages of different weeding methods
- KU8.** critical period of crop-weed completion
- KU9.** different types of herbicides

Qualification Pack

- KU10.** band and patch application of herbicides
- KU11.** adverse conditions to be avoided at the time of herbicides application
- KU12.** procedures involved in soil solarization & pasteurization
- KU13.** environmental norms to be adhered to during herbicide application
- KU14.** herbicide residue and its effect
- KU15.** ways to minimize pollution caused due to overuse of herbicides
- KU16.** list of banned herbicides

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** track latest development in weed management by reading newspaper, brochures, magazines
- GS2.** read and understand safety and usage instruction of herbicides
- GS3.** communicate clearly and effectively with others like farmers, concerned officer/stakeholders
- GS4.** comprehend information shared by senior people and experts
- GS5.** make decisions pertaining to the concerned area of work
- GS6.** identify problems that may arise in carrying out tasks and take preventative action
- GS7.** organize meetings / demonstrations with agricultural departments, whenever necessary
- GS8.** manage relationships with laborers and other co-farmers
- GS9.** think through the problem, evaluate the possible solution(s) and adopt an optimum /best possible solution(s)
- GS10.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identification of weeds and record keeping</i>	10	15	-	10
PC1. inspect the field periodically and assess the weed of importance	-	-	-	-
PC2. identify the types of weed in the vegetable crop as against the growth stage of the crop	-	-	-	-
PC3. maintain records of the weed and share it with experts, if needed	-	-	-	-
<i>Weed Management at various stages of plant cycle</i>	15	30	-	20
PC4. follow appropriate preventative methods to prevent weeds	-	-	-	-
PC5. follow suitable cultural and mechanical methods to control weeds	-	-	-	-
PC6. select the recommended herbicide as per the crop need	-	-	-	-
PC7. spray the herbicide including bio-herbicide safely, and as per the recommended dosage	-	-	-	-
PC8. select the combination of different types of weed control methods for effective weed management	-	-	-	-
NOS Total	25	45	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0402
NOS Name	Weed control and management in vegetable crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Vegetable Crops Cultivation
NSQF Level	4
Credits	0.5
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	25/02/2024
NSQC Clearance Date	25/02/2021

Qualification Pack

AGR/N0403: Integrated pest and disease management in vegetable crops

Description

This OS deals with various measures to prevent and control insects, pests and diseases in vegetable crops.

Scope

The scope covers the following :

- Identify pests infesting the vegetable crops and their behavior
- Identify diseases prevalent in vegetable crops and their symptoms
- Follow preventive and curative methods to manage pest and disease in vegetable crops

Elements and Performance Criteria

Identify pests infesting the vegetable crops and their behavior

To be competent, the user/individual on the job must be able to:

- PC1.** identify types of pests (cutworm, nematode, leaf miner fly, potato tuber moth, aphid) in vegetable crops
- PC2.** take action on the pest alerts received from diagnostic clinics, state and central agencies, agri universities etc
- PC3.** identify stages of crop and pest incidence
- PC4.** diagnose symptoms and extent of damage
- PC5.** identify natural enemies of the pest such as lady bird, ground beetles, hoverfly and adopt them for pest control

Identify diseases prevalent in vegetable crops and their symptoms

To be competent, the user/individual on the job must be able to:

- PC6.** identify major vegetable crop diseases such as leaf spot, purple blotch, bacterial wilt, common scab, late blight
- PC7.** identify the crop stage and disease incidence
- PC8.** conduct regular field scouting to identify disease symptoms and plant disease vectors
- PC9.** co-ordinate with extension agents and diagnostic clinics to confirm the causal organism for a disease

Follow preventive and curative methods to manage pest and disease in vegetable crops

To be competent, the user/individual on the job must be able to:

- PC10.** restrict entry of pathogens into fields through planting material, irrigation water, workers and tools
- PC11.** use pest and disease resistant varieties of crop
- PC12.** carry out proper irrigation scheduling based on crop needs to prevent high soil moisture
- PC13.** carry out pruning of plant if affected by diseases (if need arises)
- PC14.** carry out crop rotation with suitable crops
- PC15.** use a suitable combination of biological, mechanical and chemical control methods for effective pest and disease management

Qualification Pack

PC16. apply pesticides safely as per the recommendation of the state agricultural university / department / experts / manufacturer

PC17. record the details of the pesticides application to the crops

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures at work
- KU2.** relevant health and safety requirements applicable to the work environment
- KU3.** own job role and responsibilities and sources of information pertaining to work
- KU4.** the impact of not following the health, hygiene, safety and quality standards on consumers and the business
- KU5.** various types of diseases in vegetable crops and their symptoms
- KU6.** different biotic and abiotic factors causing diseases/disorder in plants
- KU7.** various types of pests infecting the vegetable crop
- KU8.** different mode of transmissions of disease such as implements, vectors, water, rain, wind
- KU9.** importance of safe production methods and safe produce
- KU10.** economic threshold level for vegetable crop pests
- KU11.** effect of a disease and yield loss
- KU12.** different types of preventive and control methods for crop pest and diseases
- KU13.** advantages of natural enemies
- KU14.** various mechanical control (traps, sticky plates etc)
- KU15.** bio-pesticides and pheromones used in IPM (Integrated Pest Management)
- KU16.** advantages of biological control of insects, pest & diseases
- KU17.** record keeping system
- KU18.** safety measures to be followed and first aid
- KU19.** spraying tools and equipment
- KU20.** national and international standards on pesticide residues
- KU21.** list of pesticides/pesticides formulation banned in India
- KU22.** ways to minimize pollution caused due to overuse of pesticides

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** report problems to the appropriate personnel in a timely manner viz extension worker, agriculture officer
- GS2.** track latest development in insect /pest / disease management by reading newspaper, brochures, magazines
- GS3.** read and understand safety and usage instruction of pesticide / herbicides
- GS4.** maintain effective working relationships

Qualification Pack

- GS5.** communicate clearly and effectively with others like farmers, concerned officer/stakeholders
- GS6.** comprehend information shared by senior people and experts
- GS7.** identify problems that may arise in carrying out activities for pest and disease management
- GS8.** plan and organize integrated insect/pest/disease management
- GS9.** think through the problem, evaluate the possible solution(s) and adopt an optimum /best possible solution(s) quickly to resolve delays
- GS10.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify pests infesting the vegetable crops and their behavior</i>	10	10	-	5
PC1. identify types of pests (cutworm, nematode, leaf miner fly, potato tuber moth, aphid) in vegetable crops	-	-	-	-
PC2. take action on the pest alerts received from diagnostic clinics, state and central agencies, agri universities etc	-	-	-	-
PC3. identify stages of crop and pest incidence	-	-	-	-
PC4. diagnose symptoms and extent of damage	-	-	-	-
PC5. identify natural enemies of the pest such as lady bird, ground beetles, hoverfly and adopt them for pest control	-	-	-	-
<i>Identify diseases prevalent in vegetable crops and their symptoms</i>	10	5	-	10
PC6. identify major vegetable crop diseases such as leaf spot, purple blotch, bacterial wilt, common scab, late blight	-	-	-	-
PC7. identify the crop stage and disease incidence	-	-	-	-
PC8. conduct regular field scouting to identify disease symptoms and plant disease vectors	-	-	-	-
PC9. co-ordinate with extension agents and diagnostic clinics to confirm the causal organism for a disease	-	-	-	-
<i>Follow preventive and curative methods to manage pest and disease in vegetable crops</i>	10	25	-	15
PC10. restrict entry of pathogens into fields through planting material, irrigation water, workers and tools	-	-	-	-
PC11. use pest and disease resistant varieties of crop	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. carry out proper irrigation scheduling based on crop needs to prevent high soil moisture	-	-	-	-
PC13. carry out pruning of plant if affected by diseases (if need arises)	-	-	-	-
PC14. carry out crop rotation with suitable crops	-	-	-	-
PC15. use a suitable combination of biological, mechanical and chemical control methods for effective pest and disease management	-	-	-	-
PC16. apply pesticides safely as per the recommendation of the state agricultural university / department / experts /manufacturer	-	-	-	-
PC17. record the details of the pesticides application to the crops	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0403
NOS Name	Integrated pest and disease management in vegetable crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Vegetable Crops Cultivation
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQF Clearance Date	22/10/2024

Qualification Pack

AGR/N0404: Irrigation management in vegetable crops

Description

This OS deals with irrigation management during cultivation of vegetable crops

Scope

The scope covers the following :

- Select the appropriate irrigation method
- Irrigate the vegetable crop

Elements and Performance Criteria

Select the appropriate irrigation method

To be competent, the user/individual on the job must be able to:

- PC1.** coordinate with an authorised lab to get the water sample tested
- PC2.** select the suitable irrigation method in consultation with the expert

Irrigate the vegetable crop

To be competent, the user/individual on the job must be able to:

- PC3.** ensure adequate water supply at various life stages of the crop
- PC4.** implement measures to ensure optimum water use efficiency
- PC5.** ensure proper water drainage
- PC6.** employ micro-irrigation techniques (example: drip irrigation using appropriate equipments, sprinklers) based on the requirement of specific crops
- PC7.** carry out fertigation, if required
- PC8.** ensure measures to prevent diseases occurring due to increase in moisture/water content
- PC9.** plug spills/leakages and take support of the experts, if unable to rectify
- PC10.** optimize usage of electricity/energy in various tasks/activities/processes

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures at work
- KU2.** relevant health and safety requirements applicable to the work environment
- KU3.** own job role and responsibilities and sources of information pertaining to work
- KU4.** impact of not following the health, hygiene, safety and quality standards on consumers and the business
- KU5.** timing and method of irrigation appropriate for a given soil type and climatic conditions
- KU6.** quantity of water required for the specific crop and its effect on the yield
- KU7.** basic irrigation principles

Qualification Pack

- KU8.** critical periods of water need for vegetable crops
- KU9.** factors to consider in scheduling irrigation
- KU10.** irrigation practices and strategies
- KU11.** different types of irrigation methods
- KU12.** various types of micro irrigation equipments to be used (mistifiers, drippers, sprinklers, foggers, etc)
- KU13.** relative advantages and disadvantages of different irrigation methods
- KU14.** basic concept of fertigation
- KU15.** methods to improve the irrigation water quality
- KU16.** water use efficiency
- KU17.** advantages of good drainage
- KU18.** harmful effects of excess and deficit irrigation water
- KU19.** basics of electricity and prevalent energy efficient devices
- KU20.** common practices of conserving electricity/energy

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** track latest development in irrigation management by reading newspaper, brochures, magazines
- GS2.** maintain effective working relationships
- GS3.** communicate clearly and effectively with others like farmers, concerned officer/stakeholders
- GS4.** comprehend information shared by senior people and experts
- GS5.** make decisions pertaining to types of irrigation methods to be used
- GS6.** apply basic arithmetic and algebraic principles
- GS7.** plan and organize timely irrigation
- GS8.** organize meeting of farmers and experts, if necessary
- GS9.** think through the problem, evaluate the possible solution(s) and adopt an optimum /best possible solution(s) quickly to resolve delays
- GS10.** decide the strategies for water-efficient and cost-effective irrigation
- GS11.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the appropriate irrigation method</i>	10	5	-	10
PC1. coordinate with an authorised lab to get the water sample tested	-	-	-	-
PC2. select the suitable irrigation method in consultation with the expert	-	-	-	-
<i>Irrigate the vegetable crop</i>	15	40	-	20
PC3. ensure adequate water supply at various life stages of the crop	-	-	-	-
PC4. implement measures to ensure optimum water use efficiency	-	-	-	-
PC5. ensure proper water drainage	-	-	-	-
PC6. employ micro-irrigation techniques (example: drip irrigation using appropriate equipments, sprinklers) based on the requirement of specific crops	-	-	-	-
PC7. carry out fertigation, if required	-	-	-	-
PC8. ensure measures to prevent diseases occurring due to increase in moisture/water content	-	-	-	-
PC9. plug spills/leakages and take support of the experts, if unable to rectify	-	-	-	-
PC10. optimize usage of electricity/energy in various tasks/activities/processes	-	-	-	-
NOS Total	25	45	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0404
NOS Name	Irrigation management in vegetable crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Vegetable Crops Cultivation
NSQF Level	3
Credits	0.5
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	25/02/2024
NSQC Clearance Date	25/02/2021

Qualification Pack

AGR/N0410: Harvest and post harvest management in solanaceous crop

Description

This OS is for Solanaceous Crop Cultivator who is responsible for harvest & Post harvest management in solanaceous crop

Scope

The scope covers the following :

- Managing harvesting, post harvesting and storage
- Marketing the produce

Elements and Performance Criteria

Managing harvesting, post harvesting and storage

To be competent, the user/individual on the job must be able to:

- PC1.** identify the appropriate harvesting method
- PC2.** harvest the crop at appropriate stage
- PC3.** harvest the crop at right time
- PC4.** harvest the crop based on use and distance from the market
- PC5.** undertake grading of the crops
- PC6.** undertake packing of the crops
- PC7.** maintain ideal storage condition

Marketing the produce

To be competent, the user/individual on the job must be able to:

- PC8.** identify the right market for sale of produce
- PC9.** analyze the right time for sale considering the periodical demand for the produce
- PC10.** coordinate and negotiate with procurement assistant of the buyer for best price

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures in work
- KU2.** relevant health and safety requirements applicable in the work environment
- KU3.** own job role and responsibilities and sources for information pertaining to work
- KU4.** who to approach for support in order to obtain work related information, clarifications and support
- KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- KU6.** documentation and related procedures applicable in the context of work
- KU7.** harvesting based on demand of type in the market (in case of tomatoes)

Qualification Pack

- KU8.** ideal time of harvest (climatic conditions, distance from the market)
- KU9.** proper harvesting methods
- KU10.** grading of crop based on size, color and quality
- KU11.** packaging of crop with appropriate material and method
- KU12.** ideal storage condition (temperature, moisture, etc)
- KU13.** market rates of the crop

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** track latest development in solanaceous crop harvesting by reading newspaper, brochures, magazines
- GS2.** keep abreast with the latest knowledge by reading brochures and pamphlets
- GS3.** read relevant newspapers/booklets
- GS4.** read the hazards of use and contamination written on the labels of pesticides
- GS5.** maintain effective working relationships
- GS6.** communicate clearly and effectively with others like farmers, concerned officer/stakeholders
- GS7.** comprehends information shared by senior people and experts
- GS8.** make decisions pertaining to stages of harvesting
- GS9.** identify advantages and disadvantages regarding the same
- GS10.** plan and organize timely harvesting, grading and storage
- GS11.** participate in solanaceous crop exhibition/seminar/workshop
- GS12.** attend and make use of exposure visit
- GS13.** work with solanaceous crop experts
- GS14.** identify problems immediately and take up solutions quickly to resolve delays
- GS15.** think through the problem, evaluate the possible solution(s) and adopt an optimum /best possible solution(s)
- GS16.** monitor and maintain the material and equipment required for harvesting and storage of solanaceous crop
- GS17.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action
- GS18.** take up his own working & learning

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Managing harvesting, post harvesting and storage</i>	22	30	-	23
PC1. identify the appropriate harvesting method	-	-	-	-
PC2. harvest the crop at appropriate stage	-	-	-	-
PC3. harvest the crop at right time	-	-	-	-
PC4. harvest the crop based on use and distance from the market	-	-	-	-
PC5. undertake grading of the crops	-	-	-	-
PC6. undertake packing of the crops	-	-	-	-
PC7. maintain ideal storage condition	-	-	-	-
<i>Marketing the produce</i>	4	6	-	5
PC8. identify the right market for sale of produce	-	-	-	-
PC9. analyze the right time for sale considering the periodical demand for the produce	-	-	-	-
PC10. coordinate and negotiate with procurement assistant of the buyer for best price	-	-	-	-
NOS Total	26	36	-	28

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0410
NOS Name	Harvest and post harvest management in solanaceous crop
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Vegetable Crops Cultivation
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

AGR/N9901: Basic farm management

Description

This unit is about dealing with basic farm management including crop management, record keeping, financial management and interface with the market.

Scope

The scope covers the following :

- Undertaking crop planning
- Record keeping for effective management
- Financial Management
- Understanding market interface

Elements and Performance Criteria

Undertaking crop planning

To be competent, the user/individual on the job must be able to:

- PC1.** choose the crop based on agro-climatic condition of the region
- PC2.** take sample of the soil for testing
- PC3.** perform intercropping with suitable and recommended crops (as per the main crop cultivated)
- PC4.** perform crop rotation with suitable crops
- PC5.** interact with agriculture / extension expert for crop planning
- PC6.** choose crop based on the economic advantage

Record keeping for effective management

To be competent, the user/individual on the job must be able to:

- PC7.** maintain crop production activity record
- PC8.** maintain crop calendars
- PC9.** maintain calendars of weed
- PC10.** maintain insect and pest calendar

Financial Management

To be competent, the user/individual on the job must be able to:

- PC11.** ascertain total cost of production (land, production practices, labour, equipment, fuel, administrative cost etc.)
- PC12.** maintain records of investment and expenditure
- PC13.** maintain necessary books of accounts
- PC14.** identify government schemes and their eligibility for availing themselves of the same

Understanding market interface

To be competent, the user/individual on the job must be able to:

- PC15.** identify the nearest market

Qualification Pack

PC16. identify local traders, mandis in the villages and nearby and compare the rates

PC17. identify market rates of the produce season wise

PC18. arrange cost-effective transportation of produce to the market

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. relevant legislation, standards, policies and procedures at work

KU2. relevant health and safety requirements applicable in the work environment

KU3. own job role and responsibilities and sources for information pertaining to work

KU4. who to approach for support in order to obtain work related information, clarifications and support

KU5. importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business

KU6. documentation and related procedures applicable in the context of work

KU7. soil testing report and its components

KU8. benefits of intercropping and type of crops to be intercropped

KU9. benefits of crop rotation and types of crop to be rotated with

KU10. types of crop suited for given piece of land

KU11. record keeping components and methodologies for various activities

KU12. total cost involved in production of crop viz. from land preparation to marketing

KU13. understand basic accounting principle

KU14. understand basic book-keeping principles

KU15. market demand for the produce

KU16. location of different markets/mandi in the region

KU17. rates of different produce and the fluctuation in the pricing

KU18. transportation requirement for the produce

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. mention the data which are required for record keeping purpose

GS2. write the record in appropriate format

GS3. write descriptions and details about investment, expenditures and sale

GS4. write basic book of accounts

GS5. read instruction manual for crop planning

GS6. communicate clearly and effectively with others like farmers, concerned officer/stakeholders

GS7. comprehend the information shared by senior people and experts

GS8. make decision pertaining to types of crops to be grown

GS9. make decision regarding crop rotation and intercropping

Qualification Pack

- GS10.** schedule daily activities and drawing up priorities; allocate start times, estimation of completion times and materials, equipment and assistance required for completion
- GS11.** manage relationships with co-workers and managers
- GS12.** troubleshooting: determine what is causing an operating error and deciding what to do about it
- GS13.** monitor and maintain the condition of crops, tools and equipment
- GS14.** assess situation & identify appropriate measures
- GS15.** he is responsible for his own working and learning

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Undertaking crop planning</i>	3	4	-	3
PC1. choose the crop based on agro-climatic condition of the region	-	-	-	-
PC2. take sample of the soil for testing	-	-	-	-
PC3. perform intercropping with suitable and recommended crops (as per the main crop cultivated)	-	-	-	-
PC4. perform crop rotation with suitable crops	-	-	-	-
PC5. interact with agriculture / extension expert for crop planning	-	-	-	-
PC6. choose crop based on the economic advantage	-	-	-	-
<i>Record keeping for effective management</i>	2	2	-	2
PC7. maintain crop production activity record	-	-	-	-
PC8. maintain crop calendars	-	-	-	-
PC9. maintain calendars of weed	-	-	-	-
PC10. maintain insect and pest calendar	-	-	-	-
<i>Financial Management</i>	3	4	-	2
PC11. ascertain total cost of production (land, production practices, labour, equipment, fuel, administrative cost etc.)	-	-	-	-
PC12. maintain records of investment and expenditure	-	-	-	-
PC13. maintain necessary books of accounts	-	-	-	-
PC14. identify government schemes and their eligibility for availing themselves of the same	-	-	-	-
<i>Understanding market interface</i>	1	2	-	2
PC15. identify the nearest market	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC16. identify local traders, mandis in the villages and nearby and compare the rates	-	-	-	-
PC17. identify market rates of the produce season wise	-	-	-	-
PC18. arrange cost-effective transportation of produce to the market	-	-	-	-
NOS Total	9	12	-	9

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9901
NOS Name	Basic farm management
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

AGR/N9902: Assimilating market information

Description

This OS is for farmer who is responsible for locating different sources of market information, analyze and implement them in different activities related to farming such as seed selection, seed procurement, planting, weeding, pest management, irrigation, post-harvest activities

Scope

The scope covers the following :

- Locate information sources
- Analyze information
- Utilizing the market information for decision making

Elements and Performance Criteria

Locate information sources

To be competent, the user/individual on the job must be able to:

- PC1.** understand the different sources of information at village-level through other farmers, neighbours, relatives, agricultural extension workers, agriculture specialists, concerned government and private departments like gram panchayat, co-operative societies and self-help groups (shgs) etc.,
- PC2.** identify different sources of information at market level through commission agents, mandi samitis and input dealers
- PC3.** identify different sources of information through media sources like radio, newspapers, television, magazine, internet, sms in mobile phones etc.
- PC4.** identify the appropriate sources of specific market information and proper ways to collect the required information
- PC5.** identify the reliable source of information

Analyze information

To be competent, the user/individual on the job must be able to:

- 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
- PC7.** ascertain periodicity and cost of assessing market information
- PC8.** ascertain availability and non-availability of specific market information
- PC9.** perform documentation for analysing market information
- PC10.** evaluate the authenticity of information received
- PC11.** analyse the information for taking decision

Utilizing the market information for decision making

To be competent, the user/individual on the job must be able to:

- PC12.** utilize market information for taking cost effective production decisions

Qualification Pack

- PC13.** understand quality-wise and variety-wise prices of different products such as seeds, pest, fertilizer, etc
- PC14.** use market information and decide on crop and area to be sown which could result in better productivity for the season
- 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
- PC16.** utilize market information for appropriate post-harvesting decision like drying, grading, bagging, transportation, processing and storage
- 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
- PC18.** understand benefits derived from market information
- PC19.** make projections/future price movements through information sources
- PC20.** understand price fluctuations in markets and take appropriate decision

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies and procedures at work
- KU2.** relevant health and safety requirements applicable in the work environment
- KU3.** own job role and responsibilities and sources for information pertaining to work
- KU4.** who to approach for support in order to obtain work related information, clarifications and support
- KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- KU6.** documentation and related procedures applicable in the context of work
- KU7.** different sources of information to assess and use
- KU8.** organizations, media, individuals involved in providing market information
- KU9.** information provided by different stakeholders for different activities related to farming
- KU10.** price trends of various farm related products such as seed, pest, etc.,
- KU11.** cost-benefit analysis of different sources of information
- KU12.** availability and non-availability of different sources of information

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** get updated on various sources of information available in nearby areas through agriculture extension service providers and experts etc.
- GS2.** get updated on how to use various sources of information through agriculture extension services providers and experts etc
- GS3.** keep abreast with the latest knowledge by reading brochures, pamphlets, product information sheets etc.

Qualification Pack

- GS4.** read relevant newspapers /journals/ booklets etc.
- GS5.** maintain effective working relationships with experts/trainers
- GS6.** communicate precisely, clearly and effectively with others like other farmers, concerned officer/stakeholders
- GS7.** comprehend information shared by senior people and experts
- GS8.** make decisions pertaining to the concerned area of work
- GS9.** identify problems that may arise in carrying out tasks and take preventive measures
- GS10.** take decision based on information analysis
- GS11.** take decisions to achieve monetary gain, increased productivity and quality
- GS12.** proper planning of work identification of information sources
- GS13.** plan and organize assessing of market information
- GS14.** plan and organize effective and efficient utilization of market information sources
- GS15.** participate in exhibition/seminar/workshop
- GS16.** attend and make use of exposure visit and personal visit
- GS17.** work with experts and trainers
- GS18.** troubleshooting: determine what is causing an operating error and deciding what to do about it
- GS19.** analyze market information on the basis on of time, cost and quality
- GS20.** analyze market information on the basis on availability and non-availability
- GS21.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action
- GS22.** take up his own-working & learning

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Locate information sources</i>	1	2	-	2
PC1. understand the different sources of information at village-level through other farmers, neighbours, relatives, agricultural extension workers, agriculture specialists, concerned government and private departments like gram panchayat, co-operative societies and self-help groups (shgs) etc.,	-	-	-	-
PC2. identify different sources of information at market level through commission agents, mandi samitis and input dealers	-	-	-	-
PC3. identify different sources of information through media sources like radio, newspapers, television, magazine, internet, sms in mobile phones etc.	-	-	-	-
PC4. identify the appropriate sources of specific market information and proper ways to collect the required information	-	-	-	-
PC5. identify the reliable source of information	-	-	-	-
<i>Analyze information</i>	3	4	-	3
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	-	-	-	-
PC7. ascertain periodicity and cost of assessing market information	-	-	-	-
PC8. ascertain availability and non-availability of specific market information	-	-	-	-
PC9. perform documentation for analysing market information	-	-	-	-
PC10. evaluate the authenticity of information received	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. analyse the information for taking decision	-	-	-	-
<i>Utilizing the market information for decision making</i>	4	6	5	-
PC12. utilize market information for taking cost effective production decisions	-	-	-	-
PC13. understand quality-wise and variety-wise prices of different products such as seeds, pest, fertilizer, etc	-	-	-	-
PC14. use market information and decide on crop and area to be sown which could result in better productivity for the season	-	-	-	-
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	-	-	-	-
PC16. utilize market information for appropriate post-harvesting decision like drying, grading, bagging, transportation, processing and storage	-	-	-	-
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	-	-	-	-
PC18. understand benefits derived from market information	-	-	-	-
PC19. make projections/future price movements through information sources	-	-	-	-
PC20. understand price fluctuations in markets and take appropriate decision	-	-	-	-
NOS Total	8	12	5	5

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9902
NOS Name	Assimilating market information
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	0.5
Version	2.0
Last Reviewed Date	27/01/2022
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

Qualification Pack

AGR/N9903: Maintain health and safety at the workplace

Description

This OS is about maintaining health and safety of self and other co-workers at the workplace

Scope

The scope covers the following :

- Maintain personal hygiene
- Maintain clean and safe workplace
- Administer appropriate emergency procedures

Elements and Performance Criteria

Maintain personal hygiene

To be competent, the user/individual on the job must be able to:

- PC1.** wash hands, legs and face with soap/alcohol based sanitizer at reasonable intervals
- PC2.** wash the worn clothes with soap and sun dry before use next time
- PC3.** ensure the face is covered with mask or three layers of cloth-piece
- PC4.** follow the workplace sanitization norms including distancing from sick people

Maintain clean and safe workplace

To be competent, the user/individual on the job must be able to:

- PC5.** carry out basic safety checks before operation of all tools, implements, and machinery and report identified hazards to the supervisor
- PC6.** wear appropriate Personal Protective Equipment (PPE) while performing work in accordance with the workplace policy
- PC7.** follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc to avoid hazards
- PC8.** assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices
- PC9.** sanitize equipment, tools and machinery before and after use
- PC10.** use equipment and materials safely and correctly and return the same to designated storage after use
- PC11.** dispose waste safely and correctly in the designated area
- PC12.** recognize risks to bystanders and take required action to reduce the risks
- PC13.** work in a manner which minimizes environmental damage, ensuring all procedures and instructions for controlling risks are followed
- PC14.** report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger
- PC15.** follow government / workplace advisories incase of outbreak of any disease/disaster

Administer appropriate emergency procedures

To be competent, the user/individual on the job must be able to:

Qualification Pack

- PC16.** follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to the location of emergency, as per the workplace requirements
- PC17.** use emergency equipment in accordance with manufacturer's specifications and workplace requirements
- PC18.** provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques
- PC19.** recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate
- PC20.** report details of first aid administered in accordance with workplace procedures

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant legislation, standards, policies, and procedures at work
- KU2.** relevant health and safety requirements applicable to the work environment
- KU3.** own job role and responsibilities and sources of information pertaining to work
- KU4.** who to approach for support in order to obtain work related information, clarifications and support
- KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- KU6.** personal hygiene and fitness requirement
- KU7.** importance of sanitization of the workplace
- KU8.** types of Personal Protective Equipment (PPE) required at the workplace and their importance
- KU9.** the correct and safe way to use materials and equipment required for the work
- KU10.** the importance of good housekeeping at the workplace
- KU11.** safe waste disposal methods
- KU12.** methods for minimizing environmental damage during work
- KU13.** the risks to health and safety including contagious diseases and the measures to be taken to control those risks in the area of work
- KU14.** workplace procedures and requirements for the prevention and treatment of workplace injuries/illnesses.
- KU15.** basic emergency first aid procedure
- KU16.** local emergency services
- KU17.** why accidents, incidents and problems should be reported and the appropriate actions to be taken

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** record the data as per the requirement
- GS2.** report problems to the appropriate personnel in a timely manner

Qualification Pack

- GS3.** read instruction manual for hand tool and equipments
- GS4.** communicate clearly and effectively with co-workers, and other stakeholders
- GS5.** comprehend information shared by senior people and experts
- GS6.** make decisions pertaining to personal hygiene and safety
- GS7.** schedule daily activities and draw up priorities
- GS8.** manage relationships with co-workers, manager and other stakeholders
- GS9.** assess situation and identify appropriate control measures

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Maintain personal hygiene</i>	10	5	-	10
PC1. wash hands, legs and face with soap/alcohol based sanitizer at reasonable intervals	-	-	-	-
PC2. wash the worn clothes with soap and sun dry before use next time	-	-	-	-
PC3. ensure the face is covered with mask or three layers of cloth-piece	-	-	-	-
PC4. follow the workplace sanitization norms including distancing from sick people	-	-	-	-
<i>Maintain clean and safe workplace</i>	15	15	-	15
PC5. carry out basic safety checks before operation of all tools, implements, and machinery and report identified hazards to the supervisor	-	-	-	-
PC6. wear appropriate Personal Protective Equipment (PPE) while performing work in accordance with the workplace policy	-	-	-	-
PC7. follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc to avoid hazards	-	-	-	-
PC8. assess risks prior to performing manual handling jobs, and work according to currently recommended safe practices	-	-	-	-
PC9. sanitize equipment, tools and machinery before and after use	-	-	-	-
PC10. use equipment and materials safely and correctly and return the same to designated storage after use	-	-	-	-
PC11. dispose waste safely and correctly in the designated area	-	-	-	-
PC12. recognize risks to bystanders and take required action to reduce the risks	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. work in a manner which minimizes environmental damage, ensuring all procedures and instructions for controlling risks are followed	-	-	-	-
PC14. report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger	-	-	-	-
PC15. follow government / workplace advisories incase of outbreak of any disease/disaster	-	-	-	-
<i>Administer appropriate emergency procedures</i>	15	5	-	10
PC16. follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to the location of emergency, as per the workplace requirements	-	-	-	-
PC17. use emergency equipment in accordance with manufacturer's specifications and workplace requirements	-	-	-	-
PC18. provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques	-	-	-	-
PC19. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate	-	-	-	-
PC20. report details of first aid administered in accordance with workplace procedures	-	-	-	-
NOS Total	40	25	-	35

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9903
NOS Name	Maintain health and safety at the workplace
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	27/08/2024
Next Review Date	27/08/2027
NSQC Clearance Date	27/08/2024

Qualification Pack

DGT/VSQ/N0101: Employability Skills (30 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the user/individual on the job must be able to:

PC1. understand the significance of employability skills in meeting the job requirements

Constitutional values – Citizenship

To be competent, the user/individual on the job must be able to:

PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

Becoming a Professional in the 21st Century

To be competent, the user/individual on the job must be able to:

PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

Basic English Skills

To be competent, the user/individual on the job must be able to:

PC4. speak with others using some basic English phrases or sentences

Communication Skills

To be competent, the user/individual on the job must be able to:

PC5. follow good manners while communicating with others

PC6. work with others in a team

Qualification Pack

Diversity & Inclusion

To be competent, the user/individual on the job must be able to:

PC7. communicate and behave appropriately with all genders and PwD

PC8. report any issues related to sexual harassment

Financial and Legal Literacy

To be competent, the user/individual on the job must be able to:

PC9. use various financial products and services safely and securely

PC10. calculate income, expenses, savings etc.

PC11. approach the concerned authorities for any exploitation as per legal rights and laws

Essential Digital Skills

To be competent, the user/individual on the job must be able to:

PC12. operate digital devices and use its features and applications securely and safely

PC13. use internet and social media platforms securely and safely

Entrepreneurship

To be competent, the user/individual on the job must be able to:

PC14. identify and assess opportunities for potential business

PC15. identify sources for arranging money and associated financial and legal challenges

Customer Service

To be competent, the user/individual on the job must be able to:

PC16. identify different types of customers

PC17. identify customer needs and address them appropriately

PC18. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

To be competent, the user/individual on the job must be able to:

PC19. create a basic biodata

PC20. search for suitable jobs and apply

PC21. identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use basic spoken English language

KU6. Do and dont of effective communication

KU7. inclusivity and its importance

KU8. different types of disabilities and appropriate communication and behaviour towards PwD

KU9. different types of financial products and services

Qualification Pack

- KU10.** how to compute income and expenses
- KU11.** importance of maintaining safety and security in financial transactions
- KU12.** different legal rights and laws
- KU13.** how to operate digital devices and applications safely and securely
- KU14.** ways to identify business opportunities
- KU15.** types of customers and their needs
- KU16.** how to apply for a job and prepare for an interview
- KU17.** apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** communicate effectively using appropriate language
- GS2.** behave politely and appropriately with all
- GS3.** perform basic calculations
- GS4.** solve problems effectively
- GS5.** be careful and attentive at work
- GS6.** use time effectively
- GS7.** maintain hygiene and sanitisation to avoid infection

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
<i>Constitutional values – Citizenship</i>	1	1	-	-
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	1	3	-	-
PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
<i>Communication Skills</i>	1	1	-	-
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	1	-	-
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	3	4	-	-
PC9. use various financial products and services safely and securely	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	4	6	-	-
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
<i>Entrepreneurship</i>	3	5	-	-
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	2	2	-	-
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	1	3	-	-
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
NOS Total	20	30	-	-

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	29/03/2023
Next Review Date	29/03/2026
NSQC Clearance Date	29/03/2023

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

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 the proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on the knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/optional set of NOS.
4. Individual assessment agencies will create unique question papers for the theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score a minimum of 50% of % aggregate marks to successfully clear the assessment.

Qualification Pack

7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 50

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0408.Seed selection and seedling production	18	24	-	18	60	5
AGR/N0409.Soil prepration and transplanting in solanaceous crops	17	24	-	19	60	10
AGR/N0401.Soil nutrient management in vegetable crops	25	50	-	25	100	15
AGR/N0402.Weed control and management in vegetable crops	25	45	-	30	100	5
AGR/N0403.Integrated pest and disease management in vegetable crops	30	40	-	30	100	15
AGR/N0404.Irrigation management in vegetable crops	25	45	-	30	100	5
AGR/N0410.Harvest and post harvest management in solanaceous crop	26	36	-	28	90	15
AGR/N9901.Basic farm management	9	12	-	9	30	10
AGR/N9902.Assimilating market information	8	12	5	5	30	10

Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N9903.Maintain health and safety at the workplace	40	25	-	35	100	5
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	-	-	50	5
Total	243	343	5	229	820	100

Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
FYM	Farm Yard Manure
IPM	Integrated Pest Management
PwD	Persons with Disabilities
PPE	Personal Protective Equipment
PPE	Personal Protective Equipment
PPE	Personal Protective Equipment

Qualification Pack

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

Qualification Pack

Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.