

Qualification Pack



Oilseed Crop Grower

Electives: Soybean/ Groundnut/ Mustard

QP Code: AGR/Q0201

Version: 3.0

NSQF Level: 4

Agriculture Skill Council of India || 6th Floor, GNG Tower, Plot No. 10, Sector -44, Gurgaon
Haryana-122004 || email:priyanka@asci-india.com

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AGR/Q0201: Oilseed Crop Grower

Brief Job Description

An Oilseed Crop Grower is responsible for cultivating varieties of oilseed and performs macro and micronutrient management along with pest and disease management in the process. The individual is also responsible for harvesting, processing and marketing oilseeds.

Personal Attributes

The individual must be physically fit to work for long durations. The person must have the ability to make decisions independently and work in coordination with others. The individual must know how to read, write and perform basic calculations.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [AGR/N0217: Prepare for oilseed crop cultivation](#)
2. [AGR/N0108: Carry out macro and micronutrient management for field crops](#)
3. [AGR/N0109: Manage weed growth in crop fields](#)
4. [AGR/N0219: Perform integrated pest and disease management in oilseed crops](#)
5. [AGR/N0111: Perform irrigation management for field crops](#)
6. [AGR/N0218: Harvest, process and market the oilseed crop](#)
7. [AGR/N9922: Engage in collective farming/activity](#)
8. [AGR/N9903: Maintain health and safety at the workplace](#)
9. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Electives(mandatory to select at least one):

Elective 1: Soybean

This OS unit is about the cultivation, harvesting, processing and marketing of soybean crop.

1. [AGR/N0216: Carry out soybean cultivation](#)

Elective 2: Groundnut

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This OS unit is about the cultivation, harvesting, processing and marketing of groundnut crop.

1. [AGR/N0215: Carry out groundnut cultivation](#)

Elective 3: Mustard

This OS unit is about the cultivation, harvesting, processing and marketing of mustard crop.

1. [AGR/N0214: Carry out mustard cultivation](#)

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation (Cash Crops)
Country	India
NSQF Level	4
Credits	17
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6111.0501
Minimum Educational Qualification & Experience	10th Class + I.T.I (2 years in the relevant field) OR 10th Class (Pass) with 2 Years of experience relevant experience OR 10th Class (Pass and pursuing continuous regular schooling) OR 8th Class with 4 Years of experience relevant experience OR Certificate-NSQF (Level-4(Field Crop/Vegetable)) with 6 Months of experience relevant experience OR Certificate-NSQF (Level-3 (in Agriculture/Horticulture related Job Roles)) with 2 Years of experience relevant experience
Minimum Level of Education for Training in School	

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Pre-Requisite License or Training	NA
Minimum Job Entry Age	17 Years
Last Reviewed On	NA
Next Review Date	30/04/2025
NSQC Approval Date	24/02/2022
Version	3.0
Reference code on NQR	2022/AGR/ASCI/06518
NQR Version	1.0

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AGR/N0217: Prepare for oilseed crop cultivation

Description

This unit is about preparing for oilseed crop cultivation.

Scope

The scope covers the following :

- Select the site and oilseed variety for cultivation
- Arrange the required resources
- Test and treat the oilseeds
- Prepare the field for oilseed cultivation
- Sow the oilseeds
- Optimise resource utilisation

Elements and Performance Criteria

Select the site and oilseed variety for cultivation

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

- PC1.** select a site with the recommended temperature, relative humidity and precipitation recommended for the optimum growth of oilseed crop variety
- PC2.** ensure the site does not experience, storms drought and waterlogging
- PC3.** check the soil at the site to ensure it is well-drained and rich in organic matters
- PC4.** ensure the site has access to a reliable source of water for irrigation, affordable labour and relevant markets for marketing the produce
- PC5.** select high-yielding, and pest and disease-resistant varieties of oilseed to be cultivated, based on the agro-climatic zone and soil type

Arrange the required resources

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

- PC6.** identify certified vendors for procuring the selected oilseeds
- PC7.** select a vendor based on the quality and price of seeds, and procure seeds, pesticides and fertilisers in the required quantity
- PC8.** arrange the required tools and implements for oilseed cultivation
- PC9.** prepare the storage area by applying the recommended treatment to remove pests, rodents and insects
- PC10.** store the procured seeds and other resources in the storage area, ensuring hygiene and the recommended temperature and humidity

Test and treat the oilseeds

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

- PC11.** carry out seed germination test and sort out the seeds lots that fail the test
- PC12.** select the appropriate organic or inorganic seed treatment method based on the agro-climatic conditions and the possible threats to oilseeds

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PC13. prepare the solution for treating the seeds, maintaining the recommended ratio of required chemicals such as fungicide, pesticide, insecticide, etc.

PC14. treat the oilseeds with the seed treatment solution, using it in the recommended dose

PC15. maintain the record of germination test and seed treatment

Prepare the field for oilseed cultivation

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

PC16. plough the field to fine tilth and level it, using the relevant farm machineries and implements

PC17. apply the recommended organic and inorganic fertilisers in the field in the recommended quantity to prepare the soil for sowing the seeds

PC18. apply lime, gypsum or other recommended treatment to adjust the soil's pH

PC19. arrange for draining excess water from the field to avoid waterlogging

Sow the oilseeds

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

PC20. sow the seeds at the seed rate and depth recommended for the selected oilseed variety

PC21. use the appropriate mechanical seed sowing equipment such as seed drills, tractor-operated planters and precision planters

PC22. maintain the recommended planting depth and density

PC23. carry out intercropping with appropriate crop varieties to achieve higher yields and manage weeds

Optimise resource utilisation

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

PC24. optimise the usage of water and other resources in various tasks and processes

PC25. plug water leakages to prevent its wastage

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the criteria for selecting an oilseed variety to be cultivated such as agro-climatic zone, climate, soil type and required yield

KU2. cultivation duration and yield of different oilseed varieties

KU3. the process of identifying oilseed vendors, procuring and storing oilseeds

KU4. the appropriate treatment to be applied in the storage area to remove pests, rodents and insects

KU5. the recommended temperature and humidity for storing varieties of oilseed

KU6. the process of carrying out seed germination test and sorting out oilseed

KU7. the appropriate organic and inorganic seed treatment methods and the criteria for selecting one

KU8. how to prepare the solution for treating the seeds, and the recommended ratio of various chemicals to be maintained

KU9. the process of treating the oilseeds and the recommended dose of solution to be used for the purpose

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- KU10.** the process of ploughing the field to the required tilth and levelling it, using the relevant farm machineries and implements
- KU11.** the suitable time to plant varieties of oilseed based on temperature, humidity, etc.
- KU12.** the recommended organic and inorganic fertilisers to be applied in the field to prepare the soil for sowing the seeds
- KU13.** use of lime and other recommended treatments to adjust the soil's pH
- KU14.** the importance of draining out excess water from the field
- KU15.** the recommended seed rate, depth and planting density for different varieties of oilseed
- KU16.** the use of mechanical seed sowing equipment such as seed drills, tractor-operated planters and precision planters
- KU17.** the importance of carrying out intercropping with appropriate crop varieties to achieve higher yields and manage weeds
- KU18.** the benefits and ways of using various resources optimally

Generic Skills (GS)

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

- GS1.** write work-related notes
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** communicate politely and professionally
- GS4.** listen attentively to understand the instructions being given
- GS5.** identify appropriate solutions to work-related issues
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** take quick decisions to deal with any emergencies or accidents
- GS8.** plan effective use of time and resources

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and oilseed variety for cultivation</i>	6	8	-	6
PC1. select a site with the recommended temperature, relative humidity and precipitation recommended for the optimum growth of oilseed crop variety	-	-	-	-
PC2. ensure the site does not experience, storms drought and waterlogging	-	-	-	-
PC3. check the soil at the site to ensure it is well-drained and rich in organic matters	-	-	-	-
PC4. ensure the site has access to a reliable source of water for irrigation, affordable labour and relevant markets for marketing the produce	-	-	-	-
PC5. select high-yielding, and pest and disease-resistant varieties of oilseed to be cultivated, based on the agro-climatic zone and soil type	-	-	-	-
<i>Arrange the required resources</i>	6	10	-	8
PC6. identify certified vendors for procuring the selected oilseeds	-	-	-	-
PC7. select a vendor based on the quality and price of seeds, and procure seeds, pesticides and fertilisers in the required quantity	-	-	-	-
PC8. arrange the required tools and implements for oilseed cultivation	-	-	-	-
PC9. prepare the storage area by applying the recommended treatment to remove pests, rodents and insects	-	-	-	-
PC10. store the procured seeds and other resources in the storage area, ensuring hygiene and the recommended temperature and humidity	-	-	-	-
<i>Test and treat the oilseeds</i>	6	8	-	4
PC11. carry out seed germination test and sort out the seeds lots that fail the test	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. select the appropriate organic or inorganic seed treatment method based on the agro-climatic conditions and the possible threats to oilseeds	-	-	-	-
PC13. prepare the solution for treating the seeds, maintaining the recommended ratio of required chemicals such as fungicide, pesticide, insecticide, etc.	-	-	-	-
PC14. treat the oilseeds with the seed treatment solution, using it in the recommended dose	-	-	-	-
PC15. maintain the record of germination test and seed treatment	-	-	-	-
<i>Prepare the field for oilseed cultivation</i>	4	6	-	4
PC16. plough the field to fine tilth and level it, using the relevant farm machineries and implements	-	-	-	-
PC17. apply the recommended organic and inorganic fertilisers in the field in the recommended quantity to prepare the soil for sowing the seeds	-	-	-	-
PC18. apply lime, gypsum or other recommended treatment to adjust the soil's pH	-	-	-	-
PC19. arrange for draining excess water from the field to avoid waterlogging	-	-	-	-
<i>Sow the oilseeds</i>	4	6	-	4
PC20. sow the seeds at the seed rate and depth recommended for the selected oilseed variety	-	-	-	-
PC21. use the appropriate mechanical seed sowing equipment such as seed drills, tractor-operated planters and precision planters	-	-	-	-
PC22. maintain the recommended planting depth and density	-	-	-	-
PC23. carry out intercropping with appropriate crop varieties to achieve higher yields and manage weeds	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Optimise resource utilisation</i>	4	2	-	4
PC24. optimise the usage of water and other resources in various tasks and processes	-	-	-	-
PC25. plug water leakages to prevent its wastage	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0217
NOS Name	Prepare for oilseed crop cultivation
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation (Cash Crops)
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

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AGR/N0108: Carry out macro and micronutrient management for field crops

Description

This OS unit is about managing the macro and micronutrient needs of field crops to ensure their optimum growth

Scope

The scope covers the following :

- Determine the macro and micronutrients requirements
- Apply fertilisers to the soil
- Perform soil conservation

Elements and Performance Criteria

Determine the macro and micronutrients requirements

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

- PC1.** coordinate with an authorised lab to get the soil sample tested, ensuring the sample is collected from the field, packed and labelled as per the applicable procedure
- PC2.** interpret the soil analysis report to determine the micro and macronutrients requirements of the soil based on the planned crop variety or coordinate with an expert for the purpose
- PC3.** select the appropriate organic and inorganic fertilisers, ensuring they contain the required nutrients in the recommended quantity
- PC4.** prepare organic fertilisers such as farmyard manure, vermicompost and inorganic fertiliser solutions, ensuring personal safety

Apply fertilisers to the soil

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

- PC5.** prepare the mixture of liquid fertilisers for application in the field, using them in the recommended quantity
- PC6.** prepare the field for the application of fertilisers
- PC7.** apply organic and inorganic fertilisers containing the required macro and micronutrients to the soil in the recommended dose
- PC8.** regulate the dose of fertiliser according to the crop cycle
- PC9.** maintain the record of fertilisers used in the field

Perform soil conservation

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

- PC10.** prepare a soil nutrition supplementation calendar based on the stages of the crop's growth
- PC11.** follow the recommended practices for soil conservation, such as mulching to conserve soil moisture and application of organic fertilisers

Knowledge and Understanding (KU)

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The individual on the job needs to know and understand:

- KU1.** the basic concepts of plant nutrition and soil fertility
- KU2.** different types of macro and micronutrients, their properties and functions
- KU3.** common symptoms of nutrient deficiency in plants
- KU4.** the use of different types of green manure and nitrogen-fixing crops
- KU5.** the process of soil sampling and testing
- KU6.** how to interpret the soil analysis report to determine the macro and micronutrient requirements of the soil
- KU7.** different soil types, their advantages and disadvantages with reference to the presence of various nutrients
- KU8.** how to prepare the mixture of liquid fertilisers, using them in the recommended quantity
- KU9.** how to prepare the field for the application of fertilisers
- KU10.** the appropriate time, methods and dose for the application of different types of fertilisers for a variety of crops
- KU11.** the importance of regulating the dose of fertiliser according to the crop cycle
- KU12.** importance of soil conservation and various soil conservation practices
- KU13.** the importance of getting the soil tested through a government-approved soil-testing laboratory to determine the macro and micronutrients present in it, and the requirement of adding the nutrients manually
- KU14.** varieties of organic and inorganic fertilisers to be applied to the soil to improve its fertility, and the nutrient content in them
- KU15.** the process of preparing organic fertilisers such as farmyard manure, vermicompost and inorganic fertiliser solutions
- KU16.** how to apply organic and inorganic fertilisers to the soil and the recommended dose to be used
- KU17.** the harmful effects of over-dosage of fertilisers
- KU18.** applicable documentation requirements
- KU19.** the process of preparing a soil nutrition supplementation calendar based on the stages of the crop's growth

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** communicate politely and professionally
- GS3.** read the relevant literature to learn about the latest developments in the field of work
- GS4.** listen attentively to understand the information/ instructions being shared
- GS5.** plan and prioritise tasks to ensure timely completion
- GS6.** co-ordinate with the co-workers to achieve the work objectives
- GS7.** evaluate all possible solutions to a problem to select the best one
- GS8.** identify possible disruptions to work and take appropriate preventive measures

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GS9. take quick decisions to deal with workplace emergencies/ accidents

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Determine the macro and micronutrients requirements</i>	12	10	-	8
PC1. coordinate with an authorised lab to get the soil sample tested, ensuring the sample is collected from the field, packed and labelled as per the applicable procedure	-	-	-	-
PC2. interpret the soil analysis report to determine the micro and macronutrients requirements of the soil based on the planned crop variety or coordinate with an expert for the purpose	-	-	-	-
PC3. select the appropriate organic and inorganic fertilisers, ensuring they contain the required nutrients in the recommended quantity	-	-	-	-
PC4. prepare organic fertilisers such as farmyard manure, vermicompost and inorganic fertiliser solutions, ensuring personal safety	-	-	-	-
<i>Apply fertilisers to the soil</i>	10	16	-	10
PC5. prepare the mixture of liquid fertilisers for application in the field, using them in the recommended quantity	-	-	-	-
PC6. prepare the field for the application of fertilisers	-	-	-	-
PC7. apply organic and inorganic fertilisers containing the required macro and micronutrients to the soil in the recommended dose	-	-	-	-
PC8. regulate the dose of fertiliser according to the crop cycle	-	-	-	-
PC9. maintain the record of fertilisers used in the field	-	-	-	-
<i>Perform soil conservation</i>	8	14	-	12
PC10. prepare a soil nutrition supplementation calendar based on the stages of the crop's growth	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. follow the recommended practices for soil conservation, such as mulching to conserve soil moisture and application of organic fertilisers	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0108
NOS Name	Carry out macro and micronutrient management for field crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

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AGR/N0109: Manage weed growth in crop fields

Description

This OS unit is about managing the growth of weeds in crop fields. It covers both preventive and remedial measures for weed control.

Scope

The scope covers the following :

- Identify weed growth
- Perform weed management

Elements and Performance Criteria

Identify weed growth

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

- PC1.** inspect the field, bunds, thrashing yard, granary, composting area, and irrigation and drainage channels periodically to identify weed growth
- PC2.** maintain the record of observations with respect to weed identification and their growth

Perform weed management

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

- PC3.** select an appropriate combination of different types of intercultural and mechanical methods for effective weed control such as trash mulching, solarisation and pasteurisation
- PC4.** select and prepare the recommended herbicide/ bio-herbicide solution suitable to the crop
- PC5.** spray the herbicide/ bio-herbicide safely in the recommended dose
- PC6.** remove weeds manually using the appropriate hand tools and implements, as required
- PC7.** retain the weeds of importance during the weeding process
- PC8.** maintain the herbicides and herbicide application equipment separately to prevent cross-contamination with other chemicals

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the critical period for organic weed control, reducing the dependence on herbicides and weedicides
- KU2.** the adverse effect of different types of weed on crop growth such as grass, broad leaves, sedges
- KU3.** different weed control methods such as preventative, intercultural, mechanical, biological and chemicals
- KU4.** advantages and disadvantages of different weeding methods
- KU5.** the critical period of crop-weed competition
- KU6.** different manual weeding techniques

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- KU7.** the use of relevant weeding equipment such as hoe and spade
- KU8.** use of pre-emergent and post-emergent herbicides
- KU9.** differences between blanket and spot application of herbicides
- KU10.** the process of soil solarisation and pasteurisation
- KU11.** environmental norms to be adhered to during herbicide application
- KU12.** the effect of herbicide residue on different types of crop
- KU13.** ways to minimise pollution caused by overuse of herbicides
- KU14.** the importance of inspecting the field regularly to identify weed growth
- KU15.** the appropriate combination of different types of intercultural and mechanical methods for effective weed control such as solarisation and pasteurisation
- KU16.** the process of selecting and preparing the recommended herbicide/ bio-herbicide solution suitable to the crop
- KU17.** how to spray herbicide/ bio-herbicide safely on the crop
- KU18.** the importance of retaining the weeds of importance during the weeding process
- KU19.** the importance of maintaining the herbicides and herbicide application equipment separately to prevent cross-contamination with other chemicals

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant guides, manuals and literature to get the latest updates about the field of work
- GS3.** communicate clearly and politely
- GS4.** listen attentively to understand the instructions being given
- GS5.** identify effective solutions to work-related issues
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** take quick decisions in case of an emergency/ accident
- GS8.** plan effective use of time and resources

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify weed growth</i>	10	12	-	14
PC1. inspect the field, bunds, thrashing yard, granary, composting area, and irrigation and drainage channels periodically to identify weed growth	-	-	-	-
PC2. maintain the record of observations with respect to weed identification and their growth	-	-	-	-
<i>Perform weed management</i>	20	28	-	16
PC3. select an appropriate combination of different types of intercultural and mechanical methods for effective weed control such as trash mulching, solarisation and pasteurisation	-	-	-	-
PC4. select and prepare the recommended herbicide/ bio-herbicide solution suitable to the crop	-	-	-	-
PC5. spray the herbicide/ bio-herbicide safely in the recommended dose	-	-	-	-
PC6. remove weeds manually using the appropriate hand tools and implements, as required	-	-	-	-
PC7. retain the weeds of importance during the weeding process	-	-	-	-
PC8. maintain the herbicides and herbicide application equipment separately to prevent cross- contamination with other chemicals	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0109
NOS Name	Manage weed growth in crop fields
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	NA
Next Review Date	27/01/2025
NSQC Clearance Date	27/01/2022

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AGR/N0219: Perform integrated pest and disease management in oilseed crops

Description

This OS unit is about managing pests and diseases in varieties of oilseed crops.

Scope

The scope covers the following :

- Follow preventive measures to control pests and disease
- Identify the pests and diseases in oilseed crops
- Apply the necessary treatment
- Ensure protection of honey bees from pesticides

Elements and Performance Criteria

Follow preventive measures to control pests and disease

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

- PC1.** cultivate pest and disease-resistant varieties of oilseed crop
- PC2.** carry out crop rotation of oilseed crops with the recommended field crops
- PC3.** follow the recommended practices to restrict the entry of pathogens into the oilseed field through planting material, irrigation water, workers, tools and equipment, and vectors such as whitefly
- PC4.** follow the recommended preventive techniques like pheromone traps, light traps, bird perches, sticky traps according to the cultivar
- PC5.** carry out trash mulching and drain out excess water from the field
- PC6.** use the recommended combination of biological, mechanical and chemical control methods recommended for oilseed crops for effective pest and disease prevention

Identify the pests and diseases in oilseed crops

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

- PC7.** check the oilseed crops to identify the symptoms of various pests and diseases that infest them at different stages of their growth
- PC8.** determine the extent of the infestation and its impact on crop growth
- PC9.** determine the mode of pest and disease infestation
- PC10.** identify appropriate organic and inorganic pest prevention and control measures and implement them
- PC11.** identify and remove the diseased oilseed crop to prevent the spread of pests and disease to the healthy crop

Apply the necessary treatment

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

- PC12.** apply the recommended treatment to the oilseed crop as per the prescription

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PC13. follow the recommended safety practices while applying any treatment, such as using the relevant PPE

PC14. maintain the record of the use of any pesticides, insecticides and any other treatment

Ensure protection of honey bees from pesticides

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

PC15. ensure crop production is undertaken at appropriate locations and away at the recommended distance from apiaries to minimise the risk of pesticide poisoning in honey bees from fields being treated with pesticides

PC16. select the recommended less toxic pesticides for field application, ensuring they degrade rapidly and have a faster residual time

PC17. select an appropriate pesticide formulation that does not leave residue, e.g. emulsifiable concentrates and granular formulations

PC18. select an appropriate time to apply pesticides to the crop to protect honey bees from harmful effects, e.g. in the evening hours when bees don't forage

PC19. use an appropriate pesticide application method and equipment to confine the pesticide spray to the intended target and reduce the risk of pesticide drift

PC20. perform cleaning of combs by soaking them in water, washing the pollen from cells and allowing the combs to dry when a bee colony is poisoned

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. various types of diseases found in oilseed crops and their symptoms

KU2. different biotic and abiotic factors causing diseases and disorders in oilseed crop

KU3. different mode of transmissions of disease such as implements, vectors, rain, wind

KU4. the importance of adopting safe production methods for a safe produce

KU5. how to prepare various bio-pesticides such as neem seed kernel extract, cow dung urine solution, etc.

KU6. the advantages of adopting biological control methods such as bio-pesticides and pheromones used in IPM (Integrated Pest Management) for oilseed pests and diseases

KU7. the recommended minimum residue levels and Protected Health Information (PHI) for different types of pesticides

KU8. major oilseed pests and their behaviour

KU9. the use of pesticide spraying tools and equipment

KU10. the national and international standards on pesticide residues

KU11. the benefits of using pest and disease-resistant varieties of crops

KU12. the recommended practices to be followed to restrict the entry of pathogens into the field through planting material, irrigation water, workers, tools and equipment, and vectors such as whitefly

KU13. the benefits and process of crop rotation of oilseed crop with suitable crops

KU14. the importance of identifying and removing the diseased crop to prevent the spread of pests and diseases to the healthy crop

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- KU15.** use of the recommended combination of biological, mechanical and chemical control methods for effective pest and disease prevention such as traps, sticky plates etc.
- KU16.** how to identify different types of pests in oilseed crops such as stem borer, leaf folder, Fall Armyworm, Panicle mites etc.
- KU17.** how to identify plant disease vectors and major oilseed crop diseases such as leaf spot, leaf blight, anthracnose, Powdery mildew, root rot, rust, yellow mosaic, etc.
- KU18.** the process of determining the stage of pest incidence along with the extent of damage and economic threshold levels (ETL) of the pests
- KU19.** use of IPM methods such as light and pheromone traps to detect the presence and population of insects and vectors
- KU20.** the process of determining the causal organism for oilseed diseases and their treatment
- KU21.** the natural enemies of the oilseed pests such as ladybird, ground beetles, hoverfly and the benefits of adopting them for pest control
- KU22.** the importance of applying the recommended treatment as per the prescription and maintaining the record of their use
- KU23.** the importance of using the recommended PPE while applying harmful chemicals
- KU24.** the appropriate methods to be adopted to minimise pollution caused by the overuse of pesticides
- KU25.** the list of banned pesticide formulations
- KU26.** how to deal with chemical poisoning
- KU27.** the benefits of practising nature-based agriculture that reduces dependency on chemical inputs
- KU28.** the importance of following ecological principles for sustainable agro-ecosystems to balance the ecology and economics
- KU29.** the benefits of using sustainable agro-ecology to replace agrochemicals with natural capital and ecosystem functions
- KU30.** the negative impact of pesticides on honey bees and the symptoms of honey bee pesticide kill, such as a large number of dead bees in front of beehives
- KU31.** the effect of honey bee pesticide loss on a bee the colony, e.g. brood diseases and chilled brood
- KU32.** the importance of undertaking crop production at appropriate locations and away at the recommended distance from apiaries to minimise the risk of pesticide poisoning in honey bees
- KU33.** the importance of using less toxic pesticides that degrade rapidly and have a faster residual time
- KU34.** the importance of using pesticide formulations that does not leave residue, e.g. emulsifiable concentrates and granular formulations
- KU35.** the importance of selecting an appropriate time to apply pesticides to the crop to protect honey bees from harmful effects
- KU36.** the appropriate precision pesticide application methods and equipment to be used to confine the pesticide spray to the intended target and reduce the risk of pesticide drift
- KU37.** the appropriate remedial measures to be taken in case of honey bee colony poisoning

Generic Skills (GS)

Qualification Pack

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

- GS1.** write work-related notes
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** perform basic calculations
- GS4.** listen attentively to understand the information/ instructions being shared
- GS5.** communicate clearly and politely with co-workers and clients
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** evaluate all possible solutions to a problem to select the best one
- GS8.** co-ordinate with the co-workers to achieve the work objectives
- GS9.** identify possible disruptions to work and take appropriate preventive measures
- GS10.** take quick decisions to deal with workplace emergencies/ accidents

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow preventive measures to control pests and disease</i>	6	10	-	8
PC1. cultivate pest and disease-resistant varieties of oilseed crop	-	-	-	-
PC2. carry out crop rotation of oilseed crops with the recommended field crops	-	-	-	-
PC3. follow the recommended practices to restrict the entry of pathogens into the oilseed field through planting material, irrigation water, workers, tools and equipment, and vectors such as whitefly	-	-	-	-
PC4. follow the recommended preventive techniques like pheromone traps, light traps, bird perches, sticky traps according to the cultivar	-	-	-	-
PC5. carry out trash mulching and drain out excess water from the field	-	-	-	-
PC6. use the recommended combination of biological, mechanical and chemical control methods recommended for oilseed crops for effective pest and disease prevention	-	-	-	-
<i>Identify the pests and diseases in oilseed crops</i>	12	10	-	8
PC7. check the oilseed crops to identify the symptoms of various pests and diseases that infest them at different stages of their growth	-	-	-	-
PC8. determine the extent of the infestation and its impact on crop growth	-	-	-	-
PC9. determine the mode of pest and disease infestation	-	-	-	-
PC10. identify appropriate organic and inorganic pest prevention and control measures and implement them	-	-	-	-
PC11. identify and remove the diseased oilseed crop to prevent the spread of pests and disease to the healthy crop	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Apply the necessary treatment</i>	6	10	-	6
PC12. apply the recommended treatment to the oilseed crop as per the prescription	-	-	-	-
PC13. follow the recommended safety practices while applying any treatment, such as using the relevant PPE	-	-	-	-
PC14. maintain the record of the use of any pesticides, insecticides and any other treatment	-	-	-	-
<i>Ensure protection of honey bees from pesticides</i>	6	10	-	8
PC15. ensure crop production is undertaken at appropriate locations and away at the recommended distance from apiaries to minimise the risk of pesticide poisoning in honey bees from fields being treated with pesticides	-	-	-	-
PC16. select the recommended less toxic pesticides for field application, ensuring they degrade rapidly and have a faster residual time	-	-	-	-
PC17. select an appropriate pesticide formulation that does not leave residue, e.g. emulsifiable concentrates and granular formulations	-	-	-	-
PC18. select an appropriate time to apply pesticides to the crop to protect honey bees from harmful effects, e.g. in the evening hours when bees don't forage	-	-	-	-
PC19. use an appropriate pesticide application method and equipment to confine the pesticide spray to the intended target and reduce the risk of pesticide drift	-	-	-	-
PC20. perform cleaning of combs by soaking them in water, washing the pollen from cells and allowing the combs to dry when a bee colony is poisoned	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0219
NOS Name	Perform integrated pest and disease management in oilseed crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation (Cash Crops)
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

Qualification Pack

AGR/N0111: Perform irrigation management for field crops

Description

This OS unit is about performing irrigation management of field crops.

Scope

The scope covers the following :

- Prepare for field irrigation
- Irrigate the field
- Manage the water usage

Elements and Performance Criteria

Prepare for field irrigation

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

- PC1.** collect a water sample from the source of irrigation and coordinate with an authorised lab to get it tested
- PC2.** follow the measures recommended by the lab to improve the water quality
- PC3.** set up an appropriate irrigation system such as surface irrigation, drip irrigation, sub-surface irrigation system based on the requirement of the specific field crop

Irrigate the field

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

- PC4.** irrigate the field according to the recommended irrigation schedule for the crop, ensuring there is adequate water supply at various stages of crop's growth
- PC5.** maintain the record of field irrigation to ensure irrigation as per the schedule
- PC6.** follow the recommended practices to prevent over and under-irrigation, ensuring there is no waterlogging at any stage of the crop's growth

Manage the water usage

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

- PC7.** follow the recommended practices for effective drainage of excess water from the field
- PC8.** maintain the recommended level of water in the soil to prevent the harmful effects of inappropriate levels of moisture in it
- PC9.** plug water spills and leakages to prevent its wastage

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the timing and method of irrigation appropriate for a given soil type and climatic conditions
- KU2.** the quantity of water required for different types of crops and its effect on the yield
- KU3.** the importance of sampling and testing irrigation water through an authorised lab to determine its quality

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- KU4.** various measures to be followed to improve the water quality
- KU5.** the process of setting up different types of irrigation systems such as surface irrigation, drip irrigation, sub-surface irrigation system, etc.
- KU6.** the advantages and disadvantages of using different types of irrigation systems
- KU7.** the importance of irrigating the field according to the recommended irrigation schedule for the crop and the factors to be considered in scheduling irrigation
- KU8.** the recommended practices to be followed to prevent over and under-irrigation
- KU9.** the recommended practices to be followed for effective drainage of excess water from the field
- KU10.** the importance of maintaining the recommended level of water in the soil to prevent the harmful effects caused by inappropriate levels of moisture
- KU11.** various practices to be followed to optimise the usage of water and prevent its wastage

Generic Skills (GS)

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

- GS1.** write work-related notes
- GS2.** read the relevant guides, manuals and literature to get the latest information about the field of work
- GS3.** communicate politely and professionally
- GS4.** listen attentively to understand the instructions being given
- GS5.** identify solutions to work-related issues
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** take quick decisions to deal with any emergencies or accidents
- GS8.** plan effective use of time and resources

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare for field irrigation</i>	12	16	-	10
PC1. collect a water sample from the source of irrigation and coordinate with an authorised lab to get it tested	-	-	-	-
PC2. follow the measures recommended by the lab to improve the water quality	-	-	-	-
PC3. set up an appropriate irrigation system such as surface irrigation, drip irrigation, sub-surface irrigation system based on the requirement of the specific field crop	-	-	-	-
<i>Irrigate the field</i>	8	12	-	12
PC4. irrigate the field according to the recommended irrigation schedule for the crop, ensuring there is adequate water supply at various stages of crop's growth	-	-	-	-
PC5. maintain the record of field irrigation to ensure irrigation as per the schedule	-	-	-	-
PC6. follow the recommended practices to prevent over and under-irrigation, ensuring there is no waterlogging at any stage of the crop's growth	-	-	-	-
<i>Manage the water usage</i>	10	12	-	8
PC7. follow the recommended practices for effective drainage of excess water from the field	-	-	-	-
PC8. maintain the recommended level of water in the soil to prevent the harmful effects of inappropriate levels of moisture in it	-	-	-	-
PC9. plug water spills and leakages to prevent its wastage	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0111
NOS Name	Perform irrigation management for field crops
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	1
Version	3.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

Qualification Pack

AGR/N0218: Harvest, process and market the oilseed crop

Description

This OS unit is about harvesting, processing and marketing the oilseed crop.

Scope

The scope covers the following :

- Harvest the oilseed crop
- Process and store the oilseed crop
- Market the oilseed crop
- Perform waste management

Elements and Performance Criteria

Harvest the oilseed crop

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

- PC1.** identify the maturity indicators of the oilseed crop
- PC2.** check the moisture content in the oilseed pods to ensure the required level for harvesting
- PC3.** arrange and prepare the relevant tools and implements for harvesting the oilseed crop
- PC4.** harvest the oilseed crop, ensuring minimum loss during the process

Process and store the oilseed crop

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

- PC5.** thresh the harvested oilseed crop using the threshing equipment
- PC6.** follow the recommended practices to protect the oilseed coating
- PC7.** dry the harvested oilseeds under the sun or mechanically as appropriate
- PC8.** pack oilseeds in the appropriate packing material, ensuring it is air-tight to prevent the absorption of moisture
- PC9.** store the processed and packed oilseeds at the recommended temperature and humidity, ensuring hygienic conditions and good ventilation

Market the oilseed crop

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

- PC10.** select an appropriate time for marketing oilseeds based on the periodical demand of the produce and profitability
- PC11.** identify the appropriate markets and buyers such as eMandi, procurement agencies, local traders, co-operatives, exporters, etc.
- PC12.** coordinate and negotiate with the buyer to secure a profitable price for the produce
- PC13.** arrange an appropriate mode of transport to deliver oilseeds to the buyer in a hygienic and safe condition
- PC14.** process the payments using the buyer-preferred e-payment method
- PC15.** calculate the benefit-cost (B:C) ratio

Qualification Pack

PC16. maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application

Perform waste management

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

PC17. segregate waste into appropriate categories

PC18. recycle the recyclable waste appropriately and dispose the non-recyclable waste in an environment-friendly manner

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the maturity indicators of varieties of oilseed crop

KU2. the level of moisture required in the oilseed pods for harvesting

KU3. the use of relevant tools and implements for harvesting varieties of oilseed

KU4. the process of harvesting oilseed crop, ensuring minimum loss during the process

KU5. how to thresh the harvested oilseed crop using threshing equipment

KU6. the recommended practices to be followed to protect the oilseed coating

KU7. the process of drying varieties of oilseed under the sun and mechanically

KU8. the appropriate packing material to be used for packing varieties of oilseed

KU9. the recommended temperature and humidity for storing the processed oilseeds

KU10. the appropriate time for selling oilseeds based on the periodical demand of the produce and profitability

KU11. the appropriate markets and buyers of oilseeds such as procurement agencies, local traders, co-operatives, exporters, etc.

KU12. the process of negotiating with the buyer and accepting orders

KU13. the appropriate mode of transport to deliver varieties of oilseed to the buyer

KU14. the use of various e-payment methods

KU15. how to calculate the benefit-cost (B:C) ratio

KU16. how to maintain various record manually and electronically using the physical registers and the relevant computer application

KU17. how to recycle and dispose different types of waste

Generic Skills (GS)

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

GS1. write work-related notes

GS2. read the relevant literature to get the latest updates about the field of work

GS3. communicate clearly and politely

GS4. perform basic calculations

GS5. listen attentively to understand the information/ instructions being shared

GS6. identify appropriate solutions to work-related issues

Qualification Pack

- GS7.** plan and prioritise tasks to ensure timely completion
- GS8.** take quick decisions to deal with workplace emergencies/ accidents
- GS9.** plan effective use of time and resources

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Harvest the oilseed crop</i>	10	12	-	8
PC1. identify the maturity indicators of the oilseed crop	-	-	-	-
PC2. check the moisture content in the oilseed pods to ensure the required level for harvesting	-	-	-	-
PC3. arrange and prepare the relevant tools and implements for harvesting the oilseed crop	-	-	-	-
PC4. harvest the oilseed crop, ensuring minimum loss during the process	-	-	-	-
<i>Process and store the oilseed crop</i>	10	14	-	12
PC5. thresh the harvested oilseed crop using the threshing equipment	-	-	-	-
PC6. follow the recommended practices to protect the oilseed coating	-	-	-	-
PC7. dry the harvested oilseeds under the sun or mechanically as appropriate	-	-	-	-
PC8. pack oilseeds in the appropriate packing material, ensuring it is air-tight to prevent the absorption of moisture	-	-	-	-
PC9. store the processed and packed oilseeds at the recommended temperature and humidity, ensuring hygienic conditions and good ventilation	-	-	-	-
<i>Market the oilseed crop</i>	6	8	-	6
PC10. select an appropriate time for marketing oilseeds based on the periodical demand of the produce and profitability	-	-	-	-
PC11. identify the appropriate markets and buyers such as eMandi, procurement agencies, local traders, co-operatives, exporters, etc.	-	-	-	-
PC12. coordinate and negotiate with the buyer to secure a profitable price for the produce	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. arrange an appropriate mode of transport to deliver oilseeds to the buyer in a hygienic and safe condition	-	-	-	-
PC14. process the payments using the buyer-preferred e-payment method	-	-	-	-
PC15. calculate the benefit-cost (B:C) ratio	-	-	-	-
PC16. maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application	-	-	-	-
<i>Perform waste management</i>	4	6	-	4
PC17. segregate waste into appropriate categories	-	-	-	-
PC18. recycle the recyclable waste appropriately and dispose the non-recyclable waste in an environment-friendly manner	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0218
NOS Name	Harvest, process and market the oilseed crop
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation (Cash Crops)
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

Qualification Pack

AGR/N9922: Engage in collective farming/activity

Description

This OS unit is about working collectively in Producer Groups (PGs), Farmers Interest Groups (FIGs), Self-Help Groups (SHGs) and other similar groups to attain a common objective.

Scope

The scope covers the following :

- Create PGs/ FIGs/ SHGs
- Prepare for the PG/ FIG/ SHG operations
- Conduct group meetings and training sessions
- Carry out collective farming/ activities

Elements and Performance Criteria

Create PGs/ FIGs/ SHGs

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

- PC1.** identify farmers/ groups with the common interests in the area
- PC2.** create Producer Groups (PGs)/Farmers Interest Groups (FIGs)/ Self-Help Groups (SHGs), following the applicable rules and regulations

Prepare for the PG/ FIG/ SHG operations

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

- PC3.** organise fundraising activities to support the functioning of the group
- PC4.** establish links with the local government at panchayat level to obtain access to the relevant development programmes and funds
- PC5.** induct subject matter experts (SMEs) in the group
- PC6.** assist in arranging the required Information and Communication Technology (ICT) products for the group
- PC7.** plan the commodity convergence with the relevant developmental programmes
- PC8.** plan optimal production to meet the market and household food security needs

Conduct group meetings and training sessions

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

- PC9.** conduct the initial group meetings to introduce the members, discuss the group objectives, group income-generating enterprises/ activities, methods of operation, etc.
- PC10.** assist in exchanging the domain and technical knowledge such as market or price information, latest technology, and resolving common issues or conflicts through the PG/ FIG/ SHG meetings
- PC11.** organise capacity building exercises such as skill development and training programmes

Carry out collective farming/ activities

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

Qualification Pack

- PC12.** organise field trials to identify and resolve problems encountered by group members in the field operations
- PC13.** procure/hire advanced and expensive farm machineries/tools and equipment using the group fund for collective use of the group members
- PC14.** establish and manage the group-owned bank of quality seeds/ fertilisers/ pesticides/ tools and equipment, etc.
- PC15.** use the group's credit facility as per the applicable terms and conditions
- PC16.** carry out relevant duties as per own role in the PG/FIG/ SHG such as the group leader/ secretary/ book-keeper, etc.
- PC17.** co-ordinate within the group(s) in procuring inputs in bulk/large-scale farming, packing/transportation/marketing of the produce, etc.
- PC18.** assist in forming forward and backward linkages through the PGs/ FIGs/ SHGs
- PC19.** identify and follow the relevant practices to add value to the produce such as processing, packing, upgrading the quality, etc.
- PC20.** arrange for the regular repair and maintenance of the farm machineries/tools, equipment/tube/bore wells/storage/drying platforms/processing units, etc.
- PC21.** connect and partner with other groups to expand the network and address common problems at a large scale

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the process of preparing for the PG/ FIG/ SHG operations such as fundraising, induction of SMEs, investing in ICT products, etc.
- KU2.** how to establish links with the local government at the panchayat level to obtain access to the relevant development programmes and funds
- KU3.** the process of commodity convergence with the relevant developmental programmes
- KU4.** the importance of planning optimal production to meet the market and household food security needs
- KU5.** the importance of setting the group objectives and deciding the group income-generating enterprises/ activities, methods of operation, benefits, etc.
- KU6.** the importance of organising the PG/FIG/ SHG meetings and training sessions to resolve common concerns and get information about the latest developments in the field of work
- KU7.** the benefits of various capacity building exercises such as skill development and training programmes
- KU8.** the importance and process of conducting field trials to identify and resolve problems encountered by farmers in the field operations
- KU9.** the concept of group-owned bank to provide quality seeds, fertilisers, pesticides, tools and equipment to the member farmers
- KU10.** the process of using the group's credit facility
- KU11.** core collective farming activities such as procuring inputs in bulk, large-scale farming, packing, transportation and marketing of the produce, etc.
- KU12.** the concept and benefits of forming forward and backward linkages

Qualification Pack

- KU13.** relevant value addition practices such as processing, packing, upgrading the quality, etc.
KU14. the benefits of connecting with similar groups to address common problems at a large scale

Generic Skills (GS)

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

- GS1.** write relevant notes and reports
GS2. read the relevant literature to get latest updates about the field of work
GS3. communicate politely and professionally
GS4. listen attentively to understand the information being shared
GS5. plan tasks for effective use of time
GS6. identify possible disruptions to work and take appropriate preventive measures
GS7. evaluate all possible solutions to a problem to select the best one

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Create PGs/ FIGs/ SHGs</i>	6	8	-	6
PC1. identify farmers/ groups with the common interests in the area	-	-	-	-
PC2. create Producer Groups (PGs)/Farmers Interest Groups (FIGs)/ Self-Help Groups (SHGs), following the applicable rules and regulations	-	-	-	-
<i>Prepare for the PG/ FIG/ SHG operations</i>	6	10	-	6
PC3. organise fundraising activities to support the functioning of the group	-	-	-	-
PC4. establish links with the local government at panchayat level to obtain access to the relevant development programmes and funds	-	-	-	-
PC5. induct subject matter experts (SMEs) in the group	-	-	-	-
PC6. assist in arranging the required Information and Communication Technology (ICT) products for the group	-	-	-	-
PC7. plan the commodity convergence with the relevant developmental programmes	-	-	-	-
PC8. plan optimal production to meet the market and household food security needs	-	-	-	-
<i>Conduct group meetings and training sessions</i>	8	6	-	8
PC9. conduct the initial group meetings to introduce the members, discuss the group objectives, group income-generating enterprises/ activities, methods of operation, etc.	-	-	-	-
PC10. assist in exchanging the domain and technical knowledge such as market or price information, latest technology, and resolving common issues or conflicts through the PG/ FIG/ SHG meetings	-	-	-	-
PC11. organise capacity building exercises such as skill development and training programmes	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Carry out collective farming/ activities</i>	10	16	-	10
PC12. organise field trials to identify and resolve problems encountered by group members in the field operations	-	-	-	-
PC13. procure/hire advanced and expensive farm machineries/tools and equipment using the group fund for collective use of the group members	-	-	-	-
PC14. establish and manage the group-owned bank of quality seeds/ fertilisers/ pesticides/ tools and equipment, etc.	-	-	-	-
PC15. use the group's credit facility as per the applicable terms and conditions	-	-	-	-
PC16. carry out relevant duties as per own role in the PG/FIG/ SHG such as the group leader/ secretary/ book-keeper, etc.	-	-	-	-
PC17. co-ordinate within the group(s) in procuring inputs in bulk/large-scale farming, packing/transportation/marketing of the produce, etc.	-	-	-	-
PC18. assist in forming forward and backward linkages through the PGs/ FIGs/ SHGs	-	-	-	-
PC19. identify and follow the relevant practices to add value to the produce such as processing, packing, upgrading the quality, etc.	-	-	-	-
PC20. arrange for the regular repair and maintenance of the farm machineries/tools, equipment/tube/bore wells/storage/drying platforms/processing units, etc.	-	-	-	-
PC21. connect and partner with other groups to expand the network and address common problems at a large scale	-	-	-	-
NOS Total	30	40	-	30

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N9922
NOS Name	Engage in collective farming/activity
Sector	Agriculture
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	1
Version	2.0
Last Reviewed Date	NA
Next Review Date	24/02/2025
NSQC Clearance Date	24/02/2022

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

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- 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

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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	-	-	-	-

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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

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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	4.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

Qualification Pack

DGT/VSQ/N0102: Employability Skills (60 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
- Career Development & Goal Setting
- 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.** identify employability skills required for jobs in various industries
- PC2.** identify and explore learning and employability portals

Constitutional values – Citizenship

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

- PC3.** recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices

Becoming a Professional in the 21st Century

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

- PC5.** recognize the significance of 21st Century Skills for employment
- PC6.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

Basic English Skills

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

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- PC7.** use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.** write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

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

- PC10.** understand the difference between job and career
- PC11.** prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

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

- PC12.** follow verbal and non-verbal communication etiquette and active listening techniques in various settings
- PC13.** work collaboratively with others in a team

Diversity & Inclusion

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

- PC14.** communicate and behave appropriately with all genders and PwD
- PC15.** escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

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

- PC16.** select financial institutions, products and services as per requirement
- PC17.** carry out offline and online financial transactions, safely and securely
- PC18.** identify common components of salary and compute income, expenses, taxes, investments etc
- PC19.** identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

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

- PC20.** operate digital devices and carry out basic internet operations securely and safely
- PC21.** use e- mail and social media platforms and virtual collaboration tools to work effectively
- PC22.** use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

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

- PC23.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC24.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC25.** identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

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

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.

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PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

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

PC29. create a professional Curriculum vitae (Résumé)

PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31. apply to identified job openings using offline /online methods as per requirement

PC32. answer questions politely, with clarity and confidence, during recruitment and selection

PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

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 English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

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

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings

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- GS3.** behave politely and appropriately with all
- GS4.** how to work in a virtual mode
- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values – Citizenship</i>	1	1	-	-
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Entrepreneurship</i>	2	3	-	-
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	20	30	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	18/02/2025
Next Review Date	18/02/2028
NSQC Clearance Date	18/02/2025

Qualification Pack

AGR/N0216: Carry out soybean cultivation

Description

This OS unit is about carrying out cultivation, harvesting, post-harvesting processing and marketing of soybean crop.

Scope

The scope covers the following :

- Select the site and soybean variety
- Procure, store and treat the soybean seeds
- Prepare the field for soybean cultivation
- Sow the soybean seeds and maintain the crop
- Perform integrated pest and disease management
- Carry out weed control
- Harvest the soybean crop
- Process and store soybean
- Market the processed soybean

Elements and Performance Criteria

Select the site and soybean variety

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

- PC1.** select a site with conducive temperature, humidity and appropriate rainfall for soybean cultivation
- PC2.** ensure the site doesn't experience storms and waterlogging
- PC3.** select the suitable soybean variety to be cultivated based on the agro-climatic zone, soil type and required yield

Procure, store and treat the soybean seeds

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

- PC4.** procure soybean seeds from a certified vendor in the required quantity, ensuring the seeds meet the applicable quality standards
- PC5.** store the soybean seeds in the storage area, ensuring hygiene, recommended temperature, humidity, and protection from pests and rodents
- PC6.** carry out seed germination test and sort out the seeds lots that fail the test
- PC7.** prepare the seed treatment solution using the appropriate fungicide, pesticide or insecticide in the recommended quantity and treat the seeds appropriately
- PC8.** maintain the record of germination test and seed treatment

Prepare the field for soybean cultivation

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

- PC9.** carry out deep ploughing in the field using the relevant farm machineries and implements to remove residues of previous crop and weeds

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- PC10.** apply the recommended organic and inorganic fertilisers in the field in the recommended quantity
- PC11.** check the soil's pH using a pH meter and apply lime or other recommended treatment in an appropriate quantity to adjust the pH
- PC12.** create drains in the field for effective drainage and ensuring no waterlogging
- PC13.** install an appropriate irrigation or fertigation system in the field

Sow the soybean seeds and maintain the crop

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

- PC14.** sow the soybean seeds in the field using the relevant equipment such as seed drill, tractor-operated planter or precision planter, maintaining the recommended planting depth and density
- PC15.** irrigate the soybean crop with the recommended quantity of water as per the irrigation schedule
- PC16.** apply the recommended organic and inorganic fertilisers to the soil in an appropriate quantity, as per the requirement

Perform integrated pest and disease management

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

- PC17.** adopt the natural enemies of soybean pests to prevent pest infestation biologically
- PC18.** check the soybean crop regularly to identify the signs of pests and diseases
- PC19.** apply the recommended pesticides, insecticides or fungicides in the prescribed dose to control pests and diseases
- PC20.** maintain the record of pesticides, insecticides or fungicides used on the crop

Carry out weed control

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

- PC21.** apply mulch in the soybean field to prevent the growth of weeds
- PC22.** remove weeds from the field using the appropriate tools and implements
- PC23.** dispose the eliminated weeds away from the field safely

Harvest the soybean crop

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

- PC24.** check the maturity of soybean crop along with the moisture content in the pods to ensure the required level for harvesting
- PC25.** harvest the soybean crop using the relevant tools and implements, ensuring minimum loss during the process

Process and store soybean

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

- PC26.** thresh the harvested soybean using the threshing equipment, protecting the soybean seed coating
- PC27.** dry the soybean under the sun or mechanically depending on the quantity and weather conditions
- PC28.** pack soybean in the appropriate packing material, ensuring it is air-tight to prevent the absorption of moisture
- PC29.** store the processed soybean at the recommended temperature and humidity, ensuring hygienic conditions

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Market the processed soybean

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

- PC30.** select an appropriate time for selling soybean based on the periodical demand of the produce and profitability
- PC31.** identify the appropriate markets and buyers such as procurement agencies, eMandi, local traders, cooperatives, exporters, etc.
- PC32.** negotiate with the buyer to secure a profitable price for the produce
- PC33.** arrange an appropriate mode of transport to deliver soybean to the buyer in a hygienic and safe condition
- PC34.** process the payment using an e-payment method preferred by the client
- PC35.** calculate the benefit-cost (B:C) ratio
- PC36.** maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a soybean variety to be cultivated such as agro-climatic zone, climate, soil type and required yield
- KU2.** the cultivation duration and yield of different soybean varieties
- KU3.** the process of identifying soybean vendors, procuring and storing soybean seeds
- KU4.** the appropriate treatment to be applied in the storage area to remove pests, rodents and insects
- KU5.** the recommended temperature and humidity for storing soybean
- KU6.** the process of carrying out seed germination test and sorting out seeds
- KU7.** the appropriate organic and inorganic seed treatment methods to be adopted for soybean seed treatment and the criteria for selecting one
- KU8.** how to prepare the solution for treating the seeds, and the recommended ratio of various chemicals to be maintained
- KU9.** the process of treating the soybean seeds and the recommended dose to be used
- KU10.** the process of ploughing the field to the required tilth and levelling it
- KU11.** the suitable time to plant soybean seeds based on the temperature, humidity, etc.
- KU12.** the recommended organic and inorganic fertilisers to be applied in the soybean field to prepare the soil for sowing the seeds
- KU13.** the use of lime and other recommended treatments to adjust the soil's pH
- KU14.** the importance of ensuring the drainage of excess water from the field
- KU15.** the recommended seed rate and depth to be maintained for different varieties of soybean
- KU16.** the use of mechanical seed sowing equipment such as seed drills, tractor-operated planters and precision planters
- KU17.** the recommended planting density to be maintained while sowing soybean seeds
- KU18.** the importance of carrying out intercropping with appropriate crop varieties to achieve higher yields and manage weeds

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- KU19.** the maturity indicators of the soybean crop
- KU20.** the level of moisture required in soybean pods for harvesting
- KU21.** the use of relevant tools and equipment for harvesting soybean
- KU22.** the process of harvesting the soybean crop, keeping minimum loss
- KU23.** how to thresh harvested soybean using threshing equipment
- KU24.** the recommended practices to be followed to protect the soybean seed coating
- KU25.** the process of drying soybean under the sun and mechanically
- KU26.** the appropriate packing material for packing processed soybean
- KU27.** the recommended temperature and humidity for storing the processed soybean
- KU28.** the appropriate time for selling soybean based on the periodical demand of the produce and profitability
- KU29.** the appropriate markets and buyers of soybean such as procurement agencies, local traders, co-operatives, exporters, etc.
- KU30.** the process of negotiating with the buyer and accepting orders
- KU31.** the appropriate mode of transport to deliver soybean to the buyer
- KU32.** use of various e-payment methods
- KU33.** how to calculate the benefit-cost (B:C) ratio
- KU34.** how to maintain manual and electronic records using the physical registers and the relevant computer application

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** communicate politely and professionally
- GS4.** listen attentively to understand the information/ instructions being shared
- GS5.** identify appropriate solutions to work-related issues
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** take quick decisions to deal with any emergencies or accidents
- GS8.** plan effective use of time and resources

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and soybean variety</i>	4	6	-	4
PC1. select a site with conducive temperature, humidity and appropriate rainfall for soybean cultivation	-	-	-	-
PC2. ensure the site doesn't experience storms and waterlogging	-	-	-	-
PC3. select the suitable soybean variety to be cultivated based on the agro-climatic zone, soil type and required yield	-	-	-	-
<i>Procure, store and treat the soybean seeds</i>	4	6	-	4
PC4. procure soybean seeds from a certified vendor in the required quantity, ensuring the seeds meet the applicable quality standards	-	-	-	-
PC5. store the soybean seeds in the storage area, ensuring hygiene, recommended temperature, humidity, and protection from pests and rodents	-	-	-	-
PC6. carry out seed germination test and sort out the seeds lots that fail the test	-	-	-	-
PC7. prepare the seed treatment solution using the appropriate fungicide, pesticide or insecticide in the recommended quantity and treat the seeds appropriately	-	-	-	-
PC8. maintain the record of germination test and seed treatment	-	-	-	-
<i>Prepare the field for soybean cultivation</i>	4	4	-	4
PC9. carry out deep ploughing in the field using the relevant farm machineries and implements to remove residues of previous crop and weeds	-	-	-	-
PC10. apply the recommended organic and inorganic fertilisers in the field in the recommended quantity	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. check the soil's pH using a pH meter and apply lime or other recommended treatment in an appropriate quantity to adjust the pH	-	-	-	-
PC12. create drains in the field for effective drainage and ensuring no waterlogging	-	-	-	-
PC13. install an appropriate irrigation or fertigation system in the field	-	-	-	-
<i>Sow the soybean seeds and maintain the crop</i>	4	6	-	4
PC14. sow the soybean seeds in the field using the relevant equipment such as seed drill, tractor-operated planter or precision planter, maintaining the recommended planting depth and density	-	-	-	-
PC15. irrigate the soybean crop with the recommended quantity of water as per the irrigation schedule	-	-	-	-
PC16. apply the recommended organic and inorganic fertilisers to the soil in an appropriate quantity, as per the requirement	-	-	-	-
<i>Perform integrated pest and disease management</i>	2	4	-	2
PC17. adopt the natural enemies of soybean pests to prevent pest infestation biologically	-	-	-	-
PC18. check the soybean crop regularly to identify the signs of pests and diseases	-	-	-	-
PC19. apply the recommended pesticides, insecticides or fungicides in the prescribed dose to control pests and diseases	-	-	-	-
PC20. maintain the record of pesticides, insecticides or fungicides used on the crop	-	-	-	-
<i>Carry out weed control</i>	2	2	-	4
PC21. apply mulch in the soybean field to prevent the growth of weeds	-	-	-	-
PC22. remove weeds from the field using the appropriate tools and implements	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC23. dispose the eliminated weeds away from the field safely	-	-	-	-
<i>Harvest the soybean crop</i>	2	4	-	2
PC24. check the maturity of soybean crop along with the moisture content in the pods to ensure the required level for harvesting	-	-	-	-
PC25. harvest the soybean crop using the relevant tools and implements, ensuring minimum loss during the process	-	-	-	-
<i>Process and store soybean</i>	4	2	-	4
PC26. thresh the harvested soybean using the threshing equipment, protecting the soybean seed coating	-	-	-	-
PC27. dry the soybean under the sun or mechanically depending on the quantity and weather conditions	-	-	-	-
PC28. pack soybean in the appropriate packing material, ensuring it is air-tight to prevent the absorption of moisture	-	-	-	-
PC29. store the processed soybean at the recommended temperature and humidity, ensuring hygienic conditions	-	-	-	-
<i>Market the processed soybean</i>	4	6	-	2
PC30. select an appropriate time for selling soybean based on the periodical demand of the produce and profitability	-	-	-	-
PC31. identify the appropriate markets and buyers such as procurement agencies, eMandi, local traders, cooperatives, exporters, etc.	-	-	-	-
PC32. negotiate with the buyer to secure a profitable price for the produce	-	-	-	-
PC33. arrange an appropriate mode of transport to deliver soybean to the buyer in a hygienic and safe condition	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC34. process the payment using an e-payment method preferred by the client	-	-	-	-
PC35. calculate the benefit-cost (B:C) ratio	-	-	-	-
PC36. maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0216
NOS Name	Carry out soybean cultivation
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation (Cash Crops)
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

Qualification Pack

AGR/N0215: Carry out groundnut cultivation

Description

This OS unit is about carrying out cultivation, harvesting, post-harvesting processing and marketing of groundnut crop.

Scope

The scope covers the following :

- Select the site and groundnut variety
- Procure, store and treat the groundnut seeds
- Prepare the field for groundnut cultivation
- Sow the groundnut seeds and maintain the crop
- Perform integrated pest and disease management
- Carry out weed control
- Harvest the groundnut crop
- Process and store groundnuts
- Market the processed groundnuts

Elements and Performance Criteria

Select the site and groundnut variety

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

- PC1.** select a site with the recommended rainfall, temperature and humidity for groundnut cultivation
- PC2.** check the soil at the site to ensure it is well-drained and loamy
- PC3.** ensure the site doesn't experience waterlogging and storms
- PC4.** select a high-yielding and disease-resistant variety of groundnut to be cultivated, ensuring its suitability to the selected agro-climatic zone

Procure, store and treat the groundnut seeds

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

- PC5.** select a certified vendor of groundnut seeds and procure seeds of the selected variety in the required quantity, ensuring the seeds meet the applicable quality standards
- PC6.** prepare the storage area to ensure it is hygienic and free from pests and disease
- PC7.** store the groundnut seeds in the storage area at recommended temperature and humidity
- PC8.** carry out seed germination test and sort out the groundnut seed lots that fail the test
- PC9.** prepare the seed treatment solution using the appropriate fungicide, pesticide or insecticide in the recommended quantity and treat the seeds appropriately
- PC10.** maintain the record of germination test and seed treatment

Prepare the field for groundnut cultivation

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

- PC11.** remove any weeds and waste materials from the field

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- PC12.** • carry out deep ploughing in the field using the relevant farm machineries and implements
• to ensure all the clods are broken and required tilth is achieved
- PC13.** create the seedbed in the field with ridges and furrows at the recommended spacing, depending on the slope of the land and type of soil
- PC14.** apply the recommended organic and inorganic fertilisers in the field in the recommended quantity
- PC15.** check the soil's pH using a pH meter and apply lime or other recommended treatment in an appropriate quantity to adjust the pH
- PC16.** create drains in the field for effective drainage and ensuring no waterlogging
- PC17.** install an appropriate irrigation or fertigation system in the field

Sow the groundnut seeds and maintain the crop

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

- PC18.** sow the groundnut seeds in the field using the relevant equipment such as seed drill or precision planter, maintaining the recommended planting depth and density
- PC19.** water the seeds and apply appropriate fertiliser to the soil immediately after sowing
- PC20.** maintain the recommended temperature in the field to induce the germination of seeds
- PC21.** irrigate the groundnut crop with the recommended quantity of water as per the irrigation schedule, maintaining the recommended moisture level
- PC22.** check the growth of groundnut plants and apply the recommended organic and inorganic fertilisers to the soil uniformly in an appropriate quantity, as per the requirement
- PC23.** carry out earthing up after the recommended duration following seed sowing to facilitate optimum pod development

Perform integrated pest and disease management

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

- PC24.** adopt the natural enemies of groundnut pests to prevent pest infestation biologically
- PC25.** monitor the groundnut crop to identify the signs of pests and diseases
- PC26.** apply the recommended pesticides, insecticides or fungicides in the prescribed dose to control pests and disease
- PC27.** maintain the record of pesticides, insecticides or fungicides used on the crop

Carry out weed control

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

- PC28.** apply mulch in the field to prevent the growth of weeds
- PC29.** remove weeds from the field using the appropriate tools and implements and dispose the eliminated weeds away from the field safely

Harvest the groundnut crop

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

- PC30.** check the groundnut crop to identify the signs of its maturity such as drying and falling of older leaves, yellowing of the top leaves, and brownish-black inner shell of pods
- PC31.** irrigate the groundnut plants as per the requirement before harvesting to loosen the soil
- PC32.** harvest the groundnut crop using the relevant tools and implements, ensuring minimum loss during the process and heaping the pulled out plants to avoid sprouting of pods

Process and store groundnuts

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

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- PC33.** strip off the groundnut pods from the plants using the relevant implement such as the groundnut stripper
- PC34.** dry the groundnut pods under the sun or mechanically depending on the quantity and weather conditions, avoiding drying directly under the sun during periods of high temperature
- PC35.** pack the dry groundnuts in the appropriate packing material, ensuring protection from moisture
- PC36.** store the packed groundnuts at the recommended temperature and humidity, ensuring hygienic conditions and protection from moisture

Market the processed groundnuts

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

- PC37.** identify the appropriate markets and buyers such as procurement agencies, eMandi, local traders, co-operatives, exporters, etc.
- PC38.** negotiate with the buyer to secure a profitable price for the produce
- PC39.** arrange an appropriate mode of transport to deliver groundnut to the buyer in a hygienic and safe condition
- PC40.** process the payment using an e-payment method preferred by the client
- PC41.** calculate the benefit-cost (B:C) ratio
- PC42.** maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a groundnut variety to be cultivated such as agro-climatic zone, climate, soil type and required yield
- KU2.** the cultivation duration and yield of different groundnut varieties
- KU3.** the process of identifying groundnut seed vendors, procuring and storing groundnut seeds
- KU4.** the appropriate treatment to be applied in the storage area to remove pests, rodents and insects
- KU5.** the recommended temperature and humidity for storing groundnut
- KU6.** the process of carrying out seed germination test and sorting out seeds
- KU7.** the appropriate organic and inorganic seed treatment methods to be followed for treating groundnut seeds and the criteria for selecting one
- KU8.** how to prepare the solution for treating the seeds, and the recommended ratio of various chemicals to be maintained
- KU9.** the process of treating the groundnut seeds and the recommended dose to be used
- KU10.** the process of ploughing the field to the required tilth
- KU11.** the suitable time for sowing groundnut seeds based on temperature, humidity, etc.
- KU12.** the recommended organic and inorganic fertilisers to be applied in the field to prepare the soil for sowing the seeds
- KU13.** the use of lime and other recommended treatments to adjust the soil's pH
- KU14.** the importance of ensuring the drainage of excess water from the field

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- KU15.** the recommended seed rate and depth to be maintained for different varieties of groundnut
- KU16.** the use of mechanical seed sowing equipment such as seed drills, tractor-operated planters and precision planters
- KU17.** the recommended planting density to be maintained while sowing groundnut seeds
- KU18.** the maturity indicators of the groundnut crop
- KU19.** use of the relevant tools and implements for harvesting groundnut
- KU20.** the process of splitting off groundnut pods safely from plants
- KU21.** the process of drying groundnut under the sun and mechanically
- KU22.** the appropriate packing material for groundnut
- KU23.** the recommended temperature and humidity for storing dry groundnuts
- KU24.** the appropriate markets and buyers of groundnuts such as eMandi, procurement agencies, traders, co-operatives, exporters, etc.
- KU25.** the process of negotiating with buyers and processing orders
- KU26.** the appropriate mode of transport to be used to deliver groundnuts to the buyer
- KU27.** use of various e-payment methods
- KU28.** how to calculate the benefit-cost (B:C) ratio
- KU29.** how to maintain manual and electronic records using the physical registers and the relevant computer application

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** communicate politely and professionally
- GS4.** listen attentively to understand the information/ instructions being shared
- GS5.** identify appropriate solutions to work-related issues
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** take quick decisions to deal with any emergencies or accidents
- GS8.** plan effective use of time and resources

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the site and groundnut variety</i>	4	6	-	4
PC1. select a site with the recommended rainfall, temperature and humidity for groundnut cultivation	-	-	-	-
PC2. check the soil at the site to ensure it is well-drained and loamy	-	-	-	-
PC3. ensure the site doesn't experience waterlogging and storms	-	-	-	-
PC4. select a high-yielding and disease-resistant variety of groundnut to be cultivated, ensuring its suitability to the selected agro-climatic zone	-	-	-	-
<i>Procure, store and treat the groundnut seeds</i>	4	6	-	4
PC5. select a certified vendor of groundnut seeds and procure seeds of the selected variety in the required quantity, ensuring the seeds meet the applicable quality standards	-	-	-	-
PC6. prepare the storage area to ensure it is hygienic and free from pests and disease	-	-	-	-
PC7. store the groundnut seeds in the storage area at recommended temperature and humidity	-	-	-	-
PC8. carry out seed germination test and sort out the groundnut seed lots that fail the test	-	-	-	-
PC9. prepare the seed treatment solution using the appropriate fungicide, pesticide or insecticide in the recommended quantity and treat the seeds appropriately	-	-	-	-
PC10. maintain the record of germination test and seed treatment	-	-	-	-
<i>Prepare the field for groundnut cultivation</i>	6	4	-	4
PC11. remove any weeds and waste materials from the field	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. <ul style="list-style-type: none"> carry out deep ploughing in the field using the relevant farm machineries and implements to ensure all the clods are broken and required tilth is achieved 	-	-	-	-
PC13. create the seedbed in the field with ridges and furrows at the recommended spacing, depending on the slope of the land and type of soil	-	-	-	-
PC14. apply the recommended organic and inorganic fertilisers in the field in the recommended quantity	-	-	-	-
PC15. check the soil's pH using a pH meter and apply lime or other recommended treatment in an appropriate quantity to adjust the pH	-	-	-	-
PC16. create drains in the field for effective drainage and ensuring no waterlogging	-	-	-	-
PC17. install an appropriate irrigation or fertigation system in the field	-	-	-	-
<i>Sow the groundnut seeds and maintain the crop</i>	4	6	-	4
PC18. sow the groundnut seeds in the field using the relevant equipment such as seed drill or precision planter, maintaining the recommended planting depth and density	-	-	-	-
PC19. water the seeds and apply appropriate fertiliser to the soil immediately after sowing	-	-	-	-
PC20. maintain the recommended temperature in the field to induce the germination of seeds	-	-	-	-
PC21. irrigate the groundnut crop with the recommended quantity of water as per the irrigation schedule, maintaining the recommended moisture level	-	-	-	-
PC22. check the growth of groundnut plants and apply the recommended organic and inorganic fertilisers to the soil uniformly in an appropriate quantity, as per the requirement	-	-	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC23. carry out earthing up after the recommended duration following seed sowing to facilitate optimum pod development	-	-	-	-
<i>Perform integrated pest and disease management</i>	2	4	-	2
PC24. adopt the natural enemies of groundnut pests to prevent pest infestation biologically	-	-	-	-
PC25. monitor the groundnut crop to identify the signs of pests and diseases	-	-	-	-
PC26. apply the recommended pesticides, insecticides or fungicides in the prescribed dose to control pests and disease	-	-	-	-
PC27. maintain the record of pesticides, insecticides or fungicides used on the crop	-	-	-	-
<i>Carry out weed control</i>	2	2	-	2
PC28. apply mulch in the field to prevent the growth of weeds	-	-	-	-
PC29. remove weeds from the field using the appropriate tools and implements and dispose the eliminated weeds away from the field safely	-	-	-	-
<i>Harvest the groundnut crop</i>	2	4	-	2
PC30. check the groundnut crop to identify the signs of its maturity such as drying and falling of older leaves, yellowing of the top leaves, and brownish-black inner shell of pods	-	-	-	-
PC31. irrigate the groundnut plants as per the requirement before harvesting to loosen the soil	-	-	-	-
PC32. harvest the groundnut crop using the relevant tools and implements, ensuring minimum loss during the process and heaping the pulled out plants to avoid sprouting of pods	-	-	-	-
<i>Process and store groundnuts</i>	2	2	-	4
PC33. strip off the groundnut pods from the plants using the relevant implement such as the groundnut stripper	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC34. dry the groundnut pods under the sun or mechanically depending on the quantity and weather conditions, avoiding drying directly under the sun during periods of high temperature	-	-	-	-
PC35. pack the dry groundnuts in the appropriate packing material, ensuring protection from moisture	-	-	-	-
PC36. store the packed groundnuts at the recommended temperature and humidity, ensuring hygienic conditions and protection from moisture	-	-	-	-
<i>Market the processed groundnuts</i>	4	6	-	4
PC37. identify the appropriate markets and buyers such as procurement agencies, eMandi, local traders, co-operatives, exporters, etc.	-	-	-	-
PC38. negotiate with the buyer to secure a profitable price for the produce	-	-	-	-
PC39. arrange an appropriate mode of transport to deliver groundnut to the buyer in a hygienic and safe condition	-	-	-	-
PC40. process the payment using an e-payment method preferred by the client	-	-	-	-
PC41. calculate the benefit-cost (B:C) ratio	-	-	-	-
PC42. maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0215
NOS Name	Carry out groundnut cultivation
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation (Cash Crops)
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

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AGR/N0214: Carry out mustard cultivation

Description

This OS unit is about carrying out cultivation, harvesting, post-harvesting processing and marketing of the mustard crop.

Scope

The scope covers the following :

- Select the mustard variety and site
- Procure, store and treat the mustard cultivation
- Prepare the field for mustard cultivation
- Sow the mustard seeds and maintain the crop
- Perform integrated pest and disease management
- Carry out weed control
- Harvest the mustard crop
- Process and store mustard
- Market the processed mustard

Elements and Performance Criteria

Select the mustard variety and site

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

- PC1.** select a high-yielding and disease-resistant variety of mustard to be cultivated, ensuring its suitability to the selected agro-climatic zone
- PC2.** select a site with the recommended rainfall, sunlight exposure, temperature and humidity for mustard cultivation, ensuring the site doesn't experience storms and frost
- PC3.** check the soil at the site to ensure it is well-drained and suitable for the selected mustard variety

Procure, store and treat the mustard seeds

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

- PC4.** select a certified vendor of mustard seeds and procure seeds of the selected variety in the required quantity, ensuring the seeds meet the applicable quality standards
- PC5.** store the mustard seeds in the storage area at recommended temperature and humidity, ensuring hygienic, and pest and disease-free conditions
- PC6.** carry out seed germination test and sort out the mustard seed lots that fail the test
- PC7.** prepare the seed treatment solution using the appropriate fungicide, pesticide or insecticide in the recommended quantity and treat the seeds appropriately
- PC8.** maintain the record of germination test and seed treatment

Prepare the field for mustard cultivation

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

- PC9.** remove any weeds and waste materials from the field

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- PC10.** carry out ploughing in the field to the required tilth followed by harrowing and planking, using the relevant farm machineries and implements
- PC11.** create the seedbed in the field with ridges and furrows at the recommended spacing, depending on the slope of the land and type of soil
- PC12.** apply the recommended organic and inorganic fertilisers in the field in the prescribed quantity
- PC13.** check the soil's pH using a pH meter and apply lime or other recommended treatment in an appropriate quantity to adjust the pH
- PC14.** create drains in the field for effective drainage and ensuring no waterlogging
- PC15.** install an appropriate irrigation or fertigation system in the field

Sow the mustard seeds and maintain the crop

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

- PC16.** select an appropriate method for sowing seeds such as broadcasting or drilling
- PC17.** carry out pre-sowing irrigation with the recommended quantity of water to loosen the soil
- PC18.** sow the mustard seeds in the field using the relevant equipment according to the selected sowing method, maintaining the recommended moisture level along with planting depth and density
- PC19.** water the seeds with the recommended quantity and apply appropriate fertiliser to the soil immediately after sowing
- PC20.** check the growth of mustard plants and apply the recommended organic and inorganic fertilisers to the soil uniformly in an appropriate quantity,
- PC21.** irrigate the mustard crop with the recommended quantity of water as per the irrigation schedule, maintaining the recommended moisture level
- PC22.** carry out intercropping with a suitable crop for maximum utilisation of soil nutrients and optimum growth of mustard crop

Perform integrated pest and disease management

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

- PC23.** adopt the natural enemies of mustard pests to prevent pest infestation biologically
- PC24.** monitor the mustard crop to identify the signs of pest and disease
- PC25.** apply the recommended pesticides, insecticides or fungicides in the prescribed dose to control pests and disease
- PC26.** maintain the record of pesticides, insecticides or fungicides used on the crop

Carry out weed control

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

- PC27.** apply mulch in the field to prevent the growth of weeds
- PC28.** carry out hoeing in the field to eliminate a large number of weeds or remove weeds manually using the appropriate tools and implements
- PC29.** dispose the eliminated weeds away from the field safely

Harvest the mustard crop

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

- PC30.** check the mustard crop to identify the signs of its maturity such as the pods turning yellow and seed becoming hard

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- PC31.** select an appropriate time of the day for harvesting the mustard crop to prevent the shattering of seeds
- PC32.** harvest the mustard crop using the appropriate tools and implements, ensuring minimum loss during the process

Process and store mustard

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

- PC33.** bundle and stack the harvested mustard plants, and dry them mechanically or under the sun for the recommended duration
- PC34.** carry out threshing to extract mustard seeds from the dry plants
- PC35.** clean the mustard seeds and dry them as per the requirement
- PC36.** pack the dry mustard seeds in the appropriate packing material such as gunny bags or bins
- PC37.** store the packed mustard seeds at the recommended temperature and humidity, ensuring hygienic conditions and protection from moisture

Market the processed mustard

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

- PC38.** identify the appropriate markets and buyers such as procurement agencies, eMandi, local traders, cooperatives, exporters, etc.
- PC39.** negotiate with the buyer to secure a profitable price for the produce
- PC40.** arrange an appropriate mode of transport to deliver mustard seeds to the buyer in a hygienic and safe condition
- PC41.** process the payment using an e-payment method preferred by the client
- PC42.** calculate the benefit-cost (B:C) ratio
- PC43.** maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting a mustard variety to be cultivated such as agro-climatic zone, climate, soil type and required yield
- KU2.** the cultivation duration and yield of different mustard varieties
- KU3.** the process of identifying mustard seed vendors, procuring and storing mustard seeds
- KU4.** the appropriate treatment to be applied in the storage area to remove pests, rodents and insects
- KU5.** the recommended temperature and humidity for storing mustard
- KU6.** the process of carrying out seed germination test and sorting out seeds
- KU7.** the appropriate organic and inorganic seed treatment methods to be followed for treating mustard seeds and the criteria for selecting one
- KU8.** how to prepare the solution for treating the seeds, and the recommended ratio of various chemicals to be maintained
- KU9.** the process of treating the mustard seeds and the recommended dose to be used

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- KU10.** the process of ploughing the field to the required tilth and the use of relevant farm machineries
- KU11.** the suitable time to sow mustard seeds based on the temperature, humidity, etc.
- KU12.** the recommended organic and inorganic fertilisers to be applied in the field to prepare the soil for sowing the seeds
- KU13.** the use of lime and other recommended treatments to adjust the soil's pH
- KU14.** the importance of ensuring the drainage of excess water from the field
- KU15.** the recommended seed rate and depth to be maintained for different varieties of mustard
- KU16.** the use of mechanical seed sowing equipment such as seed drills, tractor-operated planters and precision planters
- KU17.** the recommended planting density to be maintained while sowing mustard seeds
- KU18.** the maturity indicators of the mustard crop
- KU19.** the appropriate time of the day for harvesting mustard crop to prevent the shattering of seeds
- KU20.** the use of relevant tools and implements for harvesting mustard plants
- KU21.** the process of drying mustard under the sun and mechanically
- KU22.** the process of threshing mustard plants to extract mustard seeds
- KU23.** the appropriate packing material for mustard seeds
- KU24.** the recommended temperature and humidity for storing packed mustard seeds
- KU25.** the appropriate markets and buyers of mustard such as eMandi, procurement agencies, local traders, co-operatives, exporters, etc.
- KU26.** the process of negotiating with the buyer and processing orders
- KU27.** the appropriate mode of transport to deliver mustard to the buyer
- KU28.** use of various e-payment methods
- KU29.** how to calculate the benefit-cost (B:C) ratio
- KU30.** how to maintain manual and electronic records using the physical registers and the relevant computer application

Generic Skills (GS)

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

- GS1.** maintain work-related notes and records
- GS2.** read the relevant literature to get the latest updates about the field of work
- GS3.** communicate politely and professionally
- GS4.** listen attentively to understand the information/ instructions being shared
- GS5.** identify appropriate solutions to work-related issues
- GS6.** plan and prioritise tasks to ensure timely completion
- GS7.** take quick decisions to deal with any emergencies or accidents
- GS8.** plan effective use of time and resources

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Select the mustard variety and site</i>	4	4	-	4
PC1. select a high-yielding and disease-resistant variety of mustard to be cultivated, ensuring its suitability to the selected agro-climatic zone	-	-	-	-
PC2. select a site with the recommended rainfall, sunlight exposure, temperature and humidity for mustard cultivation, ensuring the site doesn't experience storms and frost	-	-	-	-
PC3. check the soil at the site to ensure it is well-drained and suitable for the selected mustard variety	-	-	-	-
<i>Procure, store and treat the mustard seeds</i>	4	4	-	4
PC4. select a certified vendor of mustard seeds and procure seeds of the selected variety in the required quantity, ensuring the seeds meet the applicable quality standards	-	-	-	-
PC5. store the mustard seeds in the storage area at recommended temperature and humidity, ensuring hygienic, and pest and disease-free conditions	-	-	-	-
PC6. carry out seed germination test and sort out the mustard seed lots that fail the test	-	-	-	-
PC7. prepare the seed treatment solution using the appropriate fungicide, pesticide or insecticide in the recommended quantity and treat the seeds appropriately	-	-	-	-
PC8. maintain the record of germination test and seed treatment	-	-	-	-
<i>Prepare the field for mustard cultivation</i>	6	4	-	4
PC9. remove any weeds and waste materials from the field	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. carry out ploughing in the field to the required tilth followed by harrowing and planking, using the relevant farm machineries and implements	-	-	-	-
PC11. create the seedbed in the field with ridges and furrows at the recommended spacing, depending on the slope of the land and type of soil	-	-	-	-
PC12. apply the recommended organic and inorganic fertilisers in the field in the prescribed quantity	-	-	-	-
PC13. check the soil's pH using a pH meter and apply lime or other recommended treatment in an appropriate quantity to adjust the pH	-	-	-	-
PC14. create drains in the field for effective drainage and ensuring no waterlogging	-	-	-	-
PC15. install an appropriate irrigation or fertigation system in the field	-	-	-	-
<i>Sow the mustard seeds and maintain the crop</i>	4	6	-	4
PC16. select an appropriate method for sowing seeds such as broadcasting or drilling	-	-	-	-
PC17. carry out pre-sowing irrigation with the recommended quantity of water to loosen the soil	-	-	-	-
PC18. sow the mustard seeds in the field using the relevant equipment according to the selected sowing method, maintaining the recommended moisture level along with planting depth and density	-	-	-	-
PC19. water the seeds with the recommended quantity and apply appropriate fertiliser to the soil immediately after sowing	-	-	-	-
PC20. check the growth of mustard plants and apply the recommended organic and inorganic fertilisers to the soil uniformly in an appropriate quantity,	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. irrigate the mustard crop with the recommended quantity of water as per the irrigation schedule, maintaining the recommended moisture level	-	-	-	-
PC22. carry out intercropping with a suitable crop for maximum utilisation of soil nutrients and optimum growth of mustard crop	-	-	-	-
<i>Perform integrated pest and disease management</i>	4	6	-	4
PC23. adopt the natural enemies of mustard pests to prevent pest infestation biologically	-	-	-	-
PC24. monitor the mustard crop to identify the signs of pest and disease	-	-	-	-
PC25. apply the recommended pesticides, insecticides or fungicides in the prescribed dose to control pests and disease	-	-	-	-
PC26. maintain the record of pesticides, insecticides or fungicides used on the crop	-	-	-	-
<i>Carry out weed control</i>	2	4	-	2
PC27. apply mulch in the field to prevent the growth of weeds	-	-	-	-
PC28. carry out hoeing in the field to eliminate a large number of weeds or remove weeds manually using the appropriate tools and implements	-	-	-	-
PC29. dispose the eliminated weeds away from the field safely	-	-	-	-
<i>Harvest the mustard crop</i>	2	2	-	2
PC30. check the mustard crop to identify the signs of its maturity such as the pods turning yellow and seed becoming hard	-	-	-	-
PC31. select an appropriate time of the day for harvesting the mustard crop to prevent the shattering of seeds	-	-	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC32. harvest the mustard crop using the appropriate tools and implements, ensuring minimum loss during the process	-	-	-	-
<i>Process and store mustard</i>	2	4	-	2
PC33. bundle and stack the harvested mustard plants, and dry them mechanically or under the sun for the recommended duration	-	-	-	-
PC34. carry out threshing to extract mustard seeds from the dry plants	-	-	-	-
PC35. clean the mustard seeds and dry them as per the requirement	-	-	-	-
PC36. pack the dry mustard seeds in the appropriate packing material such as gunny bags or bins	-	-	-	-
PC37. store the packed mustard seeds at the recommended temperature and humidity, ensuring hygienic conditions and protection from moisture	-	-	-	-
<i>Market the processed mustard</i>	2	6	-	4
PC38. identify the appropriate markets and buyers such as procurement agencies, eMandi, local traders, cooperatives, exporters, etc.	-	-	-	-
PC39. negotiate with the buyer to secure a profitable price for the produce	-	-	-	-
PC40. arrange an appropriate mode of transport to deliver mustard seeds to the buyer in a hygienic and safe condition	-	-	-	-
PC41. process the payment using an e-payment method preferred by the client	-	-	-	-
PC42. calculate the benefit-cost (B:C) ratio	-	-	-	-
PC43. maintain the manual and/ or electronic record of sales and payments using the physical registers and/ or the relevant computer application	-	-	-	-
NOS Total	30	40	-	30

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National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0214
NOS Name	Carry out mustard cultivation
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation (Cash Crops)
NSQF Level	4
Credits	2
Version	2.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

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) (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 a knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for the 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 centre based on these criteria.
5. In case of successfully passing only a certain number of NOSs, the trainee is eligible to take a subsequent assessment on the balance NOS's to pass the Qualification Pack.

Qualification Pack

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

Minimum Aggregate Passing % at QP Level : 70

(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/N0217.Prepare for oilseed crop cultivation	30	40	-	30	100	12
AGR/N0108.Carry out macro and micronutrient management for field crops	30	40	-	30	100	15
AGR/N0109.Manage weed growth in crop fields	30	40	-	30	100	10
AGR/N0219.Perform integrated pest and disease management in oilseed crops	30	40	-	30	100	10
AGR/N0111.Perform irrigation management for field crops	30	40	-	30	100	5
AGR/N0218.Harvest, process and market the oilseed crop	30	40	-	30	100	12
AGR/N9922.Engage in collective farming/activity	30	40	-	30	100	3
AGR/N9903.Maintain health and safety at the workplace	40	25	-	35	100	3
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	0	0	50	5
Total	270	335	0	0	850	75

Elective: 1 Soybean

Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0216.Carry out soybean cultivation	30	40	-	30	100	25
Total	30	40	-	30	100	25

Elective: 2 Groundnut

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0215.Carry out groundnut cultivation	30	40	-	30	100	25
Total	30	40	-	30	100	25

Elective: 3 Mustard

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N0214.Carry out mustard cultivation	30	40	-	30	100	25
Total	30	40	-	30	100	25

Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
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.