

Model Curriculum for Recognition of Prior Learning (RPL)

Quality Seed Grower

Sector: Agriculture

Sub Sector: Agriculture Industries

Occupation: Seed Production and Processing

QP Code: AGR/Q7101

Version: 4.0

NSQF Level: 4

Quality Seed Grower

CURRICULUM / SYLLABUS

This program is aimed at training to Recognition of Prior Learning (RPL) candidates for the job of a “Quality Seed Grower”, in the “Agriculture” Sector/Industry and aims at building the following key competencies amongst the learners

| Program Name | Quality Seed Grower |
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| Qualification Pack Name & Reference ID. | AGR/Q7101 |
| Version No. | 4.0 |
| Pre-requisites to Training | Min. Educational Qualification: 12th or equivalent OR 10th Class Pass with 3 years of relevant experience in Agriculture and allied sectors OR Previous NSQF Level 3.5 with 1.5 years of relevant experience in Agriculture and allied sectors OR Previous NSQF Level 3.0 with 3 years of relevant experience in Agriculture and allied sectors Age: 18 Years |
| Training Outcomes: Orientation and Soft Skill | After completing this programme, participants will be able to: <ul style="list-style-type: none">• Identify personal strengths and value systems: safe work habits, achievement motivation, time management, anger management, stress management.• Prepare for employment and self-employment: preparing for an interview, effective resume writing, basic workplace terminology.• Illustrate the basics of entrepreneurship and identify new business opportunities• Develop personality and learn general ethics and discipline• Learn about health and safety hazards and hygiene at work place• Learn effective communication skills• Learn about importance of RPL certification and process of assessment |

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| Training Outcomes: Bridge Course | After completing this programme, participants will be able to: <ul style="list-style-type: none"> ● Describe the process of preparing for growing seed crops. ● Demonstrate the process of sowing the seeds and maintaining the seed crops. ● Demonstrate the process of performing harvesting and post-harvest processing of the seed crop. ● Explain the basic entrepreneurial activities for small enterprise. ● Describe the process of undertaking employability and entrepreneurial practices. ● Explain the importance of practising inclusion and gender equality at work. ● Demonstrate various practices to maintain personal hygiene, cleanliness, and safety at the work. |
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Orientation and Soft Skill Details

| Sr. No. | Module | Key Learning Outcomes | Equipment Required |
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| A. | Orientation, General Discipline, doubts/gaps in Domain Training and Health and Safety | | |
| 1. | Orientation, General Discipline, doubts/gaps in Domain Training and Health and Safety Theory Duration (hh:mm) 06:00 Practical Duration (hh:mm) 00:00 | <ul style="list-style-type: none"> • Domain Training (clarifying any doubts/gaps regarding Job Role) • Understanding Qualification Packs, NOS • Understanding about NSQF framework and applied level descriptors • Understand skill development ecosystem, roles of various stakeholders • Recognize the importance of general discipline in the classroom (dos and don'ts) • List expectations from the program • Outline the objectives of the RPL and importance of skill and certification • Identify risks to health and safety at the workplace and measures to be taken to control them | White Board, Marker, Laptop, projector, |
| B. | Soft Skills and Entrepreneurship Tips specific to the Job Role | | |
| 1. | Entrepreneurship Theory Duration (hh:mm) 02:00 | <ul style="list-style-type: none"> • Discuss the concept and significance of entrepreneurship and the characteristics of an entrepreneur • List the traits of an effective team and team dynamics • Resolve problems by identifying important problem-solving traits • Discuss how to identify new business opportunities within your business • Follow the entrepreneurial process and explain the entrepreneurship ecosystem • Identify key schemes of the govt. and banks to promote entrepreneurship • Define the relationship between entrepreneurship and risk appetite and entrepreneurship and resilience • Importance of book keeping and accounts management. • Understand market dynamics and value chain of agri products. • Understanding formation of cooperatives, FPO, FPC and enterprise creation | Laptop, white board, marker and projector, SWOT activity: pen and paper individual exercise, charts, coloured pens, Group Activity: poster making on entrepreneurship ecosystem. Activity: SMART Goal writing |

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| 2 | Personal Strengths and Value Systems Theory Duration (hh:mm) 01:00 Practical Duration (hh:mm) 00:00 | <ul style="list-style-type: none"> • Self-Improvement, inculcate leadership qualities. • Importance of Discipline in managing small business. • Discuss how to maintain a positive attitude • List your strengths and weaknesses • Describe the importance of honesty in entrepreneurs • Discuss the benefits of time management and applied techniques • Apply tips for anger management and stress management • Effective interpersonal skills, listening and speaking skills. | Workbook exercises on health standards, Laptop, activity on strengths and weaknesses, white board, marker, projector |
| 3 | Preparing for Employment and Self-Employment Theory Duration (hh:mm) 01:00 Practical Duration (hh:mm) 00:00 | <ul style="list-style-type: none"> • Follow the steps to prepare for an interview • Create an effective Resume • Conduct mock interviews • Identify the most frequently asked interview questions and how to answer them | Laptop, white board, marker, projector, sample CVs, Mock interviews, role plays, role play briefs, FAQs, quiz on basic workplace technologies. |
| C. | Familiarization with Assessment Process and Terms | | |
| 1 | Familiarization with Assessment Process and Terms (hh:mm) 02:00 | <ul style="list-style-type: none"> • Familiarization about assessment process • Understanding the need of assessment • Preparation tips for assessment • Doubt clearance session | |
| | Total Duration: Theory Duration (hh:mm) 12:00 Practical Duration (hh:mm) 00:00 | Laptop, white board, marker and projector, SWOT activity: pen and paper individual exercise, charts, coloured pens, Group Activity: poster making on entrepreneurship ecosystem. Activity: SMART Goal writing | |

Bridge Course Details

This course encompasses 06 out of 06 National Occupational Standards (NOS) of “Quality Seed Grower” Qualification Pack issued by “Agriculture Skill Council of India”.

Module 1: Introduction to the role of a Quality Seed Grower

Bridge Module mapped to AGR/N7102 V3.0

Terminal Outcomes:

- Discuss the job role of a Quality Seed Grower.

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| Duration: 01:00 | Duration: 0:00 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none">● Describe the size and scope of the agriculture industry and its sub-sectors.● Discuss the role and responsibilities of a Quality Seed Grower.● Identify various employment opportunities for a Quality Seed Grower. | |
| Classroom Aids | |
| Training kit - Trainer guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video films | |
| Tools, Equipment and Other Requirements | |
| NA | |

Module 2: Preparation for growing seed crops

Mapped to AGR/N7102 v3.0

Terminal Outcomes:

- Describe the process of selecting and preparing the field for growing seeds.
- Demonstrate the process of testing seeds.
- Describe the process of planning seed sowing.

| Duration: 06:00 | Duration: 07:00 |
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| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none">● Explain the criteria for selecting a field for seed production.● Explain the importance and process of getting a soil sample tested.● Describe the process of applying necessary treatment such as farmyard manure, compost and vermicompost to the field.● Explain the difference between foundation and certified seeds.● Explain the criteria for selecting and procuring seeds for production.● Explain the requirements for storing the procured seeds appropriately.● Describe the importance of ensuring that seed storage is free of pests and disease.● List various tools, equipment and Personal Protective Equipment (PPE) required for sowing the seeds and maintaining the seedlings.● Explain how to plan seed sowing.● Explain the need for roguing● Explain the Importance of the seed source and seed inspections | <ul style="list-style-type: none">● Demonstrate the process of extracting soil samples from the field for testing.● Show how to apply the necessary treatment such as farmyard manure, compost, and vermicompost to enhance soil fertility.● Demonstrate the process of ploughing and preparing the field for sowing.● Show how to conduct a seed test to ensure check the germination percentage and vigour of seeds.● Show how to apply the necessary treatment in the storage area to protect the seeds from pests and disease.● Prepare a sample record of the treatment applied in the storage.● Demonstrate the use of relevant tools, equipment and PPE. |
| Classroom Aids | |
| Training kit (Trainer guide, Presentations). Whiteboard, Marker, Projector, Laptop | |
| Tools, Equipment and Other Requirements | |
| Soil Testing Kit, Plastic Bags, Labels, Plough, Seed Drill, Leveler, Tractor etc. | |

Module 3: Process of sowing seeds and maintaining the seed crop

Mapped to ARG/N7103 v3.0

Terminal Outcomes:

- Demonstrate the process of sowing the seeds.
- Describe the process of identifying and removing weeds.
- Demonstrate various practices to control pests and disease in the seed crop.

| Duration: 06:00 | Duration: 07:00 |
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| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none">● Describe the process of sowing seeds and watering them.● Explain the importance of maintaining the recommended temperature and soil moisture to help the seeds germinate.● List the recommended fertilizers to be used on varieties of the seed crop.● Explain how to identify and remove the crop plants with undesirable characteristics to maintain the genetic purity of seeds as per the roughing method.● Explain how to identify varieties of weeds growing among seed crops.● List various signs of pest and disease infestation in seed crops.● Explain the importance of draining out excess water from the field to prevent the growth of pathogens.● Discuss the importance of maintaining appropriate distances from other varieties to prevent cross-pollination.● Discuss about preceding crop requirements | <ul style="list-style-type: none">● Demonstrate the process of sowing the seeds, maintaining the recommended planting depth and density for different seed varieties.● Demonstrate the isolation distance method to maintain the purity of the seed accessions at the pollination stage.● Show how to mount the soil near the root region of the seed crop plants to enhance their water and nutrient absorption capacity and help the plants to stand upright● Show how to apply a cover of mosquito net, paper bag or nylon stockings on the floral portion of the crop plants as per the bagging technique.● Demonstrate the process of identifying and removing varieties of weeds growing among the seed crop, both manually and mechanically.● Demonstrate implementation of controlled pollination practices like bagging, hand-pollinating, or using dedicated pollinator species (such as bees), where required● Demonstrate the process of applying weedicides, pesticides, insecticides to control weeds, pests and disease. |

Classroom Aids

Training kit (Trainer guide, Presentations). Whiteboard, Marker, Projector, Laptop

Tools, Equipment and Other Requirements

Sprayer, Fertilizers, Crop Protection Chemicals, Irrigation Tools & Equipment, Disposable Bottles

Module 4: Process of harvesting and post-harvest processing of seed crops

Mapped to AGR/N7104 v3.0

Terminal Outcomes:

- Demonstrate the process of harvesting varieties of the seed crop.
- Demonstrate the process of performing post-harvest activities.
- Demonstrate various practices for effective resource optimisation.
- Demonstrate various practices for effective waste disposal.

| Duration: 06:00 | Duration: 10:00 |
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| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none">● List the indicators of physiological maturity of a variety of seeds.● Explain the importance of selecting the dry season to harvest the seed crop to maximise the germination capacity of seeds.● Explain the criteria for selecting the manual or mechanical methods for harvesting varieties of the seed crop.● Explain the importance of protecting the seeds from contamination during harvesting and avoiding mixture with other types of seed.● Explain how to protect seeds from contamination and exposure to moisture during processing.● List varieties of packing material suitable for packing the processes seeds.● Explain the optimum temperature and humidity for storing the packed seeds.● Explain the importance of storing the same varieties of seeds together.● Explain the applicable requirements for the safe transportation of seeds.● Explain the benefits of resource optimisation.● Describe the methods of recycling and disposing different types of waste. | <ul style="list-style-type: none">● Show how to assess if the seed crop plants have attained complete physiological maturity for being harvested.● Demonstrate the process of harvesting the seed crop ensuring minimum loss and damage to the seeds.● Demonstrate the process of threshing the harvested seed crop manually or mechanically to separate the seeds from the seed crop plants.● Demonstrate the process of wet and dry cleaning of seeds.● Demonstrate the process of winnowing the seeds to remove stem bits, petals, husks and other flower parts and debris mixed with them.● Show how to sieve seeds using sieves of different gauge sizes.● Show how to dry seeds mechanically using air blowers and check the moisture content in the seeds to ensure the required level of moisture.● Demonstrate the process of packing seeds in batches according to the variety.● Demonstrate sorting of seeds by size, weight and quality to ensure uniformity● Demonstrate various practices for effective and safe storage of packed seeds. |

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| <ul style="list-style-type: none"> ● Discuss the certification requirements set by seed regulatory bodies | <ul style="list-style-type: none"> ● Demonstrate checking of germination rates and other infestation ● Document all the seed batches, storage duration and other conditions in the record. ● Document records of planting inputs,harvest, storage to track the quality issues Demonstrate various practices to optimise the usage of various resources such as water and electricity. ● Prepare a sample record of seeds harvested and processed. ● Demonstrate the process of recycling and disposing of different types of waste in compliance with the applicable laws and regulations. |
| Classroom Aids | |
| Training kit (Trainer Guide, Presentations) | |
| Tools, Equipment and Other Requirements | |
| Thresher, Harvesting Tools and Equipment, Container, Storage infrastructure, Cool Chamber, Crate, Polythene, Bags, Fungicides, Insecticides, Sprayer | |

Module 5: Basic entrepreneurial activities for small enterprise

Mapped to AGR/N9908 v3.0

Terminal Outcomes:

- Describe the process of planning the agricultural enterprise/ business.
- Describe the process of managing the agricultural production process.
- Describe the process of managing the post-production and marketing processes.

| Duration: 02:00 | Duration: 02:00 |
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| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none">• Explain how to analyse the demand and supply of the relevant agricultural produce in the market• Describe the process of identifying the target customers and assess their needs and expectations with respect to the quality and price of the produce.• Explain how to identify various types of agricultural entrepreneurship/ business opportunities.• Explain how to prepare a basic business plan for agricultural entrepreneurship/business activities.• State the appropriate sources of funding for the agricultural entrepreneurship/ businesses• State the relevant government schemes and programs• Explain the importance of ensuring compliance with the government structural reforms and• framework, along with the applicable rules and regulations.• List various resources required for agricultural production• Describe the process of planning agricultural production and the use of relevant technologies to enhance production• Describe the process of optimising the production processes and output through the amalgamation of existing practices with smart technologies. | <ul style="list-style-type: none">• Demonstrate how to analyse the demand and supply of the relevant agricultural produce in the market.• Prepare a sample basic business plan for agricultural entrepreneurship/business activities.• Demonstrate how to calculate the costs incurred and determine the price of the product for profitability.• Prepare a sample marketing plan considering the 4Ps i.e., product, price, promotion, and place and 4As i.e., acceptability, affordability, accessibility, and awareness.• Demonstrate the process of using the relevant digital services such as e-commerce, e-payments, electronic recordkeeping, etc. |

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| <ul style="list-style-type: none"> ● Explain the recommended sustainability practices to be followed during agricultural production to prevent and deal with deforestation, loss of biodiversity, soil degradation, etc. ● Explain how to collect information related to the wholesale and retail price of agricultural produce. ● Explain how to calculate the economics of the produce viz. production cost, price of the produce, B:C Ratio etc. ● Explain the relevant government schemes with the provision of subsidies/funds for the promotion of agricultural produce. ● Describe the process of selecting appropriate marketing channels for marketing agricultural produce, and the applicable requirements and constraints. ● List the relevant buyers of different types of agricultural produce. ● Explain how to identify and manage various risks to production and post-production processes. ● Explain the 4Ps i.e., product, price, promotion, and place and 4As i.e., acceptability, affordability, accessibility, and awareness considered while preparing and executing a marketing plan. ● Explain the use of the relevant digital services such as e-commerce, e-payments, electronic recordkeeping, etc. | |
| Classroom Aids | |
| Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop | |
| Tools, Equipment and Other Requirements | |
| NA | |

Module 6: Hygiene and cleanliness

Mapped to NOS AGR/N9903 v4.0

Terminal Outcomes:

- Discuss how to adhere to personal hygiene practices.
- Demonstrate ways to ensure cleanliness around the workplace.

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| Duration: 00:30 | Duration: 00:30 |
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Explain the requirements of personal health, hygiene and fitness at work. • Describe common health-related guidelines laid down by the organizations/ Government at the workplace. • Explain the importance of good housekeeping at the workplace. • Explain the importance of informing the designated authority on personal health issues related to injuries and infectious diseases. | <ul style="list-style-type: none"> • Demonstrate personal hygiene practices to be followed at the workplace. • Demonstrate the correct way of washing hands using soap and water, and alcohol-based hand rubs. • Demonstrate the steps to follow to put on and take off a mask safely. • Show how to sanitize and disinfect one's work area regularly. |
| Classroom Aids: | |
| Computer, Projection Equipment, Power Point Presentation and Software, Facilitator's Guide, Participant's Handbook. | |
| Tools, Equipment and Other Requirements | |
| Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask | |

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| Total Duration: Theory Duration: (hh:mm): 21:30 Practical Duration: (hh:mm): 26:30 Grand Total Bridge Course Duration: (hh:mm): 48:00 | Unique equipment required: Pesticide- Any, Fertilizers, Biofertilizers, NPK, Fawda, Khurpi, Soil Testing Kit, Irrigation Equipments (Any Sprinkler or Drip), Video Recording Equipment, Compost/Organic Manure, Zinc, Land Leveller, Knapsack Sprayer, Face Masks, Cotton Bags, Seeds of different Crops, Ventury, Rubber gloves, Gumboots |
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Grand Total Course Duration: 12 (Orientation session) + 48 (Bridge Course) = 60 Hours, 0 Minutes