









Paddy Farmer

QP Code: AGR/Q0101

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NSQF Level: 4

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AGR/Q0101: Paddy Farmer

Brief Job Description

The job of a paddy farmer involves cultivation of paddy as per the package of practices recommended for a particular agronomic climate zone, type of soil, rainfall pattern and climatic conditions to achieve the yields as per the genetic potential of a given variety and sell the produce as per the competitive market prices without distress sale.

Personal Attributes

The paddy cultivating farmer should work independently, bearing risk, very laborious and must have the ability to make decisions pertaining to his area of work. Requires clarity, skill to basic arithmetic and algebraic principles. The individual should be result orientedand is responsible for his own working and learning. The individual should also be able to demonstrate skills of assessments and analyzing various opportunities, threats in the climatic and market environments and should be able to use various tools for decision making towards instant problem solving.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

- 1. AGR/N0101: Seed Preparation in Paddy
- 2. AGR/N0102: Land preparation and transplantation in Paddy
- 3. AGR/N0103: Integrated Nutrient Management in Paddy
- 4. AGR/N0104: Weed Management in Paddy
- 5. AGR/N0105: Integrated Pest and Disease Management in Paddy
- 6. AGR/N0106: Irrigation Management in Paddy
- 7. AGR/N0107: Harvesting and Post Harvest Management in Paddy
- 8. AGR/N9903: Maintain health and safety at the workplace

Qualification Pack (QP) Parameters

Sector	Agriculture
Sub-Sector	Agriculture Crop Production







Occupation	Field Crops Cultivation (Food Crops)
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/6111.0101
Minimum Educational Qualification & Experience	5th Class (Preferably) with 6-12 Months of experience Prior experience in Field (Crop) operations
Minimum Level of Education for Training in School	8th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	17 Years
Last Reviewed On	14/06/2017
Next Review Date	31/03/2022
NSQC Approval Date	18/06/2015
Version	1.0
Reference code on NQR	2015/AGR/ASCI/00200
NQR Version	1.0







AGR/N0101: Seed Preparation in Paddy

Description

This OS is for a Paddy Farmer who is responsible for identifying the appropriate seed for paddy cultivation and its treatment

Scope

This unit/task covers the following:

Elements and Performance Criteria

Appropriate Seed Variety

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

PC1. select varieties based on area / ecosystem / season, yield and resistance to pests and diseases

Procurement of Seed

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

- **PC2.** identify various vendors / suppliers (including government nurseries / department) of the seed that are certified
- **PC3.** ascertain the quality of seed material from each source in terms of free from pests and diseases, germination percentage etc.
- **PC4.** ascertain the prevailing market rates for the seed material
- **PC5.** procure the seed material
- **PC6.** identify an appropriate storage space (free of infestation and having congenial climatic conditions for the seed)
- **PC7.** store the seed (if there is time lag between procurement and sowing / nursery preparation) as per recommended place and procedure

Seed Treatment

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

- **PC8.** ascertain the prevalent pests and diseases of paddy in a given agro-climatic zone
- **PC9.** ascertain the appropriate pesticides (chemical as well as biological) available for seed treatment
- **PC10.** treat the seed as per the dosage recommended by the state agriculture university / department or as prescribed by the pesticide manufacturer

Health and Safety Precautions

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

- **PC11.** read the safety precautions in the reading material provided with the pesticide
- **PC12.** keep ready with all the necessary first aids as suggested in the safety measures
- **PC13.** use all the necessary safety material and follow all the preventive measures to avoid any injury during use / application of pesticide

Nursery Preparation

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







- PC14. thoroughly plough soil
- **PC15.** prepare nursery beds as per availability of resources
- PC16. make irrigation and drainage channels
- **PC17.** broadcast the sprouted seed as per the recommended seed rate
- **PC18.** apply manures
- **PC19.** take up weed control
- PC20. net the nursery bed
- PC21. control pests and diseases
- **PC22.** uproot the seedlings for transplantation at the recommended stage for a given variety and soil
- **PC23.** in case of use of paddy transplanter (mechanisation), grow seedlings in trays as per recommended procedure

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- **KU1.** relevant legislation, standards, policies, and procedures in work
- **KU2.** relevant health and safety requirements applicable in the work environment
- **KU3.** own job role and responsibilities and sources for information pertaining to work
- **KU4.** who to approach for support in order to obtain work related information, clarifications and support
- **KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- **KU6.** documentation and related procedures applicable in the context of work
- **KU7.** various climatic parameters such as maximum and minimum temperatures, intensity and distribution of precipitation (rainfall), relative humidity etc.,
- **KU8.** pest and diseases specific to a given agro climatic region, the life cycles of these pests and diseases and the sources of infection
- **KU9.** duration of various varieties
- **KU10.** yields of the varieties
- **KU11.** resistance and susceptibility of the variety to various pests and diseases
- **KU12.** resistance to biotic and abiotic stress (in terms of temperature fluctuations, dry spells, heavy downpour during critical stages etc.,)
- **KU13.** types of nursery methods suitable to a given agro-climatic zone and resource availability
- **KU14.** practices of nursery preparation and management
- **KU15.** pest and disease management in nurseries
- **KU16.** uses and harmful effects of various pesticides
- **KU17.** safe methods of handling the pesticides
- **KU18.** first aid to the exposure of humans to harmful effects of pesticides

Generic Skills (GS)







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

- **GS1.** get updated about the latest varieties of paddy by reading the newspapers and magazines
- **GS2.** keep abreast with the latest knowledge by reading brochures, pamphlets, and product information sheets
- **GS3.** read relevant newspapers/booklets
- **GS4.** read the hazards of use and contamination written on the labels of pesticides
- **GS5.** maintain effective working relationships
- **GS6.** communicate clearly and effectively with others like farmers, concerned officer/stakeholders
- **GS7.** understand information and grasp its meaning
- **GS8.** seek advice from senior people / experts
- **GS9.** make decisions pertaining to the concerned area of work
- **GS10.** identify problems that may arise in carrying out tasks and take preventative action following various filed procedures
- **GS11.** follow basic arithmetic and algebraic principles
- **GS12.** plan and organize paddy nursery and field procedures starting from land preparation to harvesting
- **GS13.** organize meetings / demonstrations with agricultural departments whenever necessary
- **GS14.** participate in paddy exhibition/seminar/workshop
- GS15. attend and make use of exposure visit
- **GS16.** work with paddy experts
- **GS17.** think through the problem, evaluate the possible solution(s) and adopt an optimum /best possible solution(s)
- **GS18.** identify problems immediately and take up solutions quickly to resolve delays
- **GS19.** monitor and maintain the material and equipment required for paddy seed treatment and nursery bed preparation
- **GS20.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action
- **GS21.** take up his own working and learning







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Appropriate Seed Variety	1	-	-	-
PC1. select varieties based on area / ecosystem / season, yield and resistance to pests and diseases	1	-	-	-
Procurement of Seed	3	4	-	-
PC2. identify various vendors / suppliers (including government nurseries / department) of the seed that are certified	-	1	-	-
PC3. ascertain the quality of seed material from each source in terms of free from pests and diseases, germination percentage etc.	-	1	-	-
PC4. ascertain the prevailing market rates for the seed material	1	1	-	-
PC5. procure the seed material	1	-	-	-
PC6. identify an appropriate storage space (free of infestation and having congenial climatic conditions for the seed)	1	-	-	-
PC7. store the seed (if there is time lag between procurement and sowing / nursery preparation) as per recommended place and procedure	-	1	-	-
Seed Treatment	-	3	-	-
PC8. ascertain the prevalent pests and diseases of paddy in a given agro-climatic zone	-	1	-	-
PC9. ascertain the appropriate pesticides (chemical as well as biological) available for seed treatment	-	1	-	-
PC10. treat the seed as per the dosage recommended by the state agriculture university / department or as prescribed by the pesticide manufacturer	-	1	-	-
Health and Safety Precautions	3	-	-	-







Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. read the safety precautions in the reading material provided with the pesticide	1	-	-	-
PC12. keep ready with all the necessary first aids as suggested in the safety measures	1	-	-	-
PC13. use all the necessary safety material and follow all the preventive measures to avoid any injury during use / application of pesticide	1	-	-	-
Nursery Preparation	2	9	-	-
PC14. thoroughly plough soil	-	1	-	-
PC15. prepare nursery beds as per availability of resources	-	1	-	-
PC16. make irrigation and drainage channels	-	1	-	-
PC17. broadcast the sprouted seed as per the recommended seed rate	-	1	-	-
PC18. apply manures	-	1	-	-
PC19. take up weed control	-	1	-	-
PC20. net the nursery bed	-	1	-	-
PC21. control pests and diseases	1	1	-	-
PC22. uproot the seedlings for transplantation at the recommended stage for a given variety and soil	-	1	-	-
PC23. in case of use of paddy transplanter (mechanisation), grow seedlings in trays as per recommended procedure	1	-	-	-
NOS Total	9	16	-	-







National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0101
NOS Name	Seed Preparation in Paddy
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	14/06/2017
Next Review Date	31/03/2022
NSQC Clearance Date	18/06/2015







AGR/N0102: Land preparation and transplantation in Paddy

Description

This OS is for a paddy farmer who is responsible for preparing the field and transplanting through appropriate methods.

Scope

This unit/task covers the following:

Elements and Performance Criteria

Land Preparation, Ploughing and Puddling

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

- **PC1.** clean and plough the field
- **PC2.** submerge the main field with water
- **PC3.** puddle and level the field
- **PC4.** take up irrigation and drainage channels
- **PC5.** preparation of bunds
- **PC6.** compact the bunds
- **PC7.** take up all other advanced practices that would support various methods of cultivation such as system of rice intensification (sri).

Transplantation

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

- **PC8.** take up seed dipping of paddy seedlings for plant protection, as per recommended procedures
- **PC9.** maintain inter-row distance to be decided as per the requirement of inter-cultivation operations, in case use of paddy transplanter
- **PC10.** transplanting practices as per recommended procedures including methods such as sri.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- **KU1.** relevant legislation, standards, policies, and procedures in work
- **KU2.** relevant health and safety requirements applicable in the work environment
- **KU3.** own job role and responsibilities and sources for information pertaining to work
- **KU4.** who to approach for support in order to obtain work related information, clarifications and support
- **KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- **KU6.** documentation and related procedures applicable in the context of work
- **KU7.** various machines that prepare the soil for paddy cultivation







- **KU8.** importance of land leveling as per different methods of irrigation
- **KU9.** various methods of land preparation and their influence on the soil tilth
- **KU10.** advantages and disadvantages of transplanting and direct sowing methods
- **KU11.** advantages and challenges of line transplanting and space between rows
- **KU12.** density of transplanting and the influence on the crop yield say through practice of sri

Generic Skills (GS)

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

- **GS1.** mention the data which are required for record keeping purpose
- **GS2.** update oneself about the latest technologies in land preparation and transplantation by reading the newspaper and magazines
- **GS3.** keep abreast with the latest knowledge by reading brochures, pamphlets, and product information sheets
- **GS4.** read relevant newspapers/booklets
- **GS5.** maintain effective working relationships with neighbouring farmers
- **GS6.** communicate clearly and effectively with others like co-farmers, concerned officer/stakeholders
- **GS7.** understand information and grasp its meaning
- **GS8.** seek advice from senior people and experts
- **GS9.** make decisions pertaining to the concerned area of work
- **GS10.** identify problems that may arise in carrying out tasks and take preventative action following field procedures
- **GS11.** follow basic arithmetic and algebraic principles
- **GS12.** plan and organize paddy cultivation practices
- **GS13.** organize farmers during land preparation & transplantation at situation of labor and water scarcity to avoid spiraling labour rates
- **GS14.** participate in paddy exhibition/seminar/workshop
- **GS15.** attend refresher training
- **GS16.** make & use of exposure visits
- **GS17.** work with paddy experts
- **GS18.** think through the problem, evaluate the possible solution(s) and adopt an optimum /best possible solution(s)
- **GS19.** identify appropriate solutions to resolve delays various problems in the field and take necessary steps to solve the problem
- **GS20.** monitor and maintain the condition of tools and equipment required for land preparation and transplantation / direct sowing.
- **GS21.** monitor the puddling and paddy transplantation or direct sowing
- **GS22.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action
- **GS23.** take up his own working and learning







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Land Preparation, Ploughing and Puddling	17	18	-	-
PC1. clean and plough the field	3	2	-	-
PC2. submerge the main field with water	1	1	-	-
PC3. puddle and level the field	4	4	-	-
PC4. take up irrigation and drainage channels	2	3	-	-
PC5. preparation of bunds	2	3	-	-
PC6. compact the bunds	3	2	-	-
PC7. take up all other advanced practices that would support various methods of cultivation such as system of rice intensification (sri).	2	3	-	-
Transplantation	8	7	-	-
PC8. take up seed dipping of paddy seedlings for plant protection, as per recommended procedures	3	2	-	-
PC9. maintain inter-row distance to be decided as per the requirement of intercultivation operations, in case use of paddy transplanter	2	3	-	-
PC10. transplanting practices as per recommended procedures including methods such as sri.	3	2	-	-
NOS Total	25	25	-	-







National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0102
NOS Name	Land preparation and transplantation in Paddy
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	14/06/2017
Next Review Date	31/03/2022
NSQC Clearance Date	18/06/2015







AGR/N0103: Integrated Nutrient Management in Paddy

Description

This OS is for a Paddy farmer who is responsible for Integrated Nutrient Management in Paddy cultivation

Scope

This unit/task covers the following:

Elements and Performance Criteria

Soil Sampling

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

- PC1. take soil as per the recommended sampling procedure from the field
- **PC2.** dry the soil and prepare samples as per procedure

Testing For Macro and Micro Nutrient Analysis

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

- **PC3.** pack, label and submit to nearby soil testing laboratory for analysis
- **PC4.** collect the soil analysis report from the lab
- **PC5.** collect the recommended organic and inorganic fertilizer dosage from agriculture department based on the soil analysis report

Application of Organic and Inorganic Fertilizers

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

- **PC6.** select appropriately decomposed farm yard manure for soil application
- **PC7.** apply the fym to the soil as per recommended dosage and procedure before planting and during crop cultivation (if required)
- **PC8.** adopt various cultural practices that enhances the soil nutrient status for the benefit of crop stand
- **PC9.** apply of organic and inorganic fertilisers for macro and micro nutrients as per the recommended dosage, timing and method of application

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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







- **KU7.** various procedures of soil sampling
- **KU8.** soil testing laboratories and various nutrients (macro and micro) that are analyzed
- KU9. components of soil analysis report
- **KU10.** recommendations based on the availability of various micro and macro nutrients in a given soil or crop sample
- **KU11.** soil types, their advantages and disadvantages with reference to the nutrient status
- **KU12.** based on the soil type, various methods of land preparation to maintain soil tilth and nutrient status
- **KU13.** appropriate methods of application of various fertilizers and micro nutrients
- **KU14.** time of application in a day
- **KU15.** time of application in the crop life cycle

Generic Skills (GS)

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

- **GS1.** mention the data which are required for record keeping purpose
- **GS2.** report problems to the appropriate personnel in a timely manner
- **GS3.** update oneself about the latest technologies used in nutrient management by reading the newspaper and magazines
- **GS4.** keep abreast with the latest knowledge by reading brochures, pamphlets, and product information sheets
- **GS5.** read relevant newspapers/booklets
- **GS6.** communicate clearly and effectively with others like co-farmers, concerned officers/stakeholders
- **GS7.** understand information and grasp its meaning
- **GS8.** seek advice from senior people and experts
- **GS9.** make decisions pertaining to the concerned area of work
- **GS10.** follow basic arithmetic and algebraic principles
- **GS11.** adopt various methods of nutrient management in association with other farmers
- **GS12.** participate in paddy exhibition/seminar/workshop
- **GS13.** make use of exposure visit
- **GS14.** work with paddy experts
- **GS15.** think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s)
- **GS16.** various nutrient deficiencies and adopt corrective actions immediately
- **GS17.** monitor and maintain the condition of tools and equipment required for nutrient management
- **GS18.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action
- GS19. take up his own working and learning







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Soil Sampling	4	6	-	-
PC1. take soil as per the recommended sampling procedure from the field	2	3	-	-
PC2. dry the soil and prepare samples as per procedure	2	3	-	-
Testing For Macro and Micro Nutrient Analysis	8	12	-	-
PC3. pack, label and submit to nearby soil testing laboratory for analysis	2	2	-	-
PC4. collect the soil analysis report from the lab	2	6	-	-
PC5. collect the recommended organic and inorganic fertilizer dosage from agriculture department based on the soil analysis report	4	4	-	-
Application of Organic and Inorganic Fertilizers	28	17	-	-
PC6. select appropriately decomposed farm yard manure for soil application	7	3	-	-
PC7. apply the fym to the soil as per recommended dosage and procedure before planting and during crop cultivation (if required)	4	6	-	-
PC8. adopt various cultural practices that enhances the soil nutrient status for the benefit of crop stand	8	2	-	-
PC9. apply of organic and inorganic fertilisers for macro and micro nutrients as per the recommended dosage, timing and method of application	9	6	-	-
NOS Total	40	35	-	-







National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0103
NOS Name	Integrated Nutrient Management in Paddy
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	14/06/2017
Next Review Date	31/03/2022
NSQC Clearance Date	18/06/2015







AGR/N0104: Weed Management in Paddy

Description

This OS is for a Paddy farmer who is responsible for Weed Management.

Scope

This unit/task covers the following:

Elements and Performance Criteria

Weed Management

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

- **PC1.** incorporate the weeds and stubbles during summer ploughing and puddling
- **PC2.** manual weeding / chemical weedicide application at appropriate stages of crop growth
- **PC3.** use of bio herbicides for weed control wherever feasible
- PC4. maintain field bunds clean to avoid proliferation of weed seeds

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- **KU1.** relevant legislation, standards, policies, and procedures in work
- **KU2.** relevant health and safety requirements applicable in the work environment
- **KU3.** own job role and responsibilities and sources for information pertaining to work
- **KU4.** who to approach for support in order to obtain work related information, clarifications and support
- **KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- **KU6.** documentation and related procedures applicable in the context of work
- **KU7.** various weeds and their influence on crop yield
- **KU8.** types of weeds and their efficient control methods
- **KU9.** types of weeds and their means of propagation
- **KU10.** critical stages of weed control

Generic Skills (GS)

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

- **GS1.** update meet on the latest technologies used in weed management by reading the newspaper and magazines
- **GS2.** keep abreast with the latest knowledge by reading brochures, pamphlets, and product information sheets







- GS3. read the hazards of use and contamination written on the labels of herbicides
- **GS4.** communicate clearly and effectively with others like agriculture department officials / extension workers, co-farmers etc.
- **GS5.** co-operate with others in accordance with required procedures
- **GS6.** understand information and grasp its meaning
- **GS7.** seek advice from people and experts
- **GS8.** make decisions pertaining to the concerned area of work
- **GS9.** identify problems that may arise in carrying out tasks and take preventative action collective farming procedures
- **GS10.** follow basic arithmetic and algebraic principles
- **GS11.** plan and organize timely weed management
- GS12. participate in paddy exhibition/seminar/workshop
- **GS13.** think through the problem, evaluate the possible solutions and take up an optimum /best possible solutions
- **GS14.** identify temporary and quick solutions to resolve delays
- **GS15.** monitor and maintain the condition of tools and equipment required for weeding
- **GS16.** integrate various methods or effective weed control
- **GS17.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action
- **GS18.** take up his own working and learning







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Weed Management	35	40	-	-
PC1. incorporate the weeds and stubbles during summer ploughing and puddling	6	9	-	-
PC2. manual weeding / chemical weedicide application at appropriate stages of crop growth	10	15	-	-
PC3. use of bio herbicides for weed control wherever feasible	10	10	-	-
PC4. maintain field bunds clean to avoid proliferation of weed seeds	9	6	-	-
NOS Total	35	40	-	-







National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0104
NOS Name	Weed Management in Paddy
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	14/06/2017
Next Review Date	31/03/2022
NSQC Clearance Date	18/06/2015







AGR/N0105: Integrated Pest and Disease Management in Paddy

Description

This OS is for a Paddy farmer who is responsible for carrying out pest and disease management

Scope

This unit/task covers the following:

Elements and Performance Criteria

Identification Of Pests and Understanding Behavior

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

- **PC1.** identifying types of pests (stem borers, gall midge, hoppers, hispa and gundhibugetc) in paddy crop
- **PC2.** identify stage of crop and pest incidence and prepare pest calendar
- **PC3.** diagnosis: signs and symptoms of damage (dead hearts, burns, feeding marks)
- **PC4.** identify the pest life cycle duration
- **PC5.** identify behavior of the pest (like diurnal or nocturnal, egg laying behavior, attraction to coloursetc)
- **PC6.** identify natural enemies of the pests(naids/dragon flies, trichogramma, mirid bug, lady bird beetles, spiders, preying mantidsetc)

Preventive And Curative Methods

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

- **PC7.** identify types of diseases associated (blast, bacterial leaf blight, sheath rot, sheath blight, tungro) in the crop
- **PC8.** identify crop stage and disease incidence disease calendar
- **PC9.** identify signs and symptomsof different diseases (leaf spots, discoloured areas, leaf margins drying, stunted growth)
- **PC10.** identify mode of transmission (implements, vectors, water, rain, wind)
- **PC11.** stubble clearing to drive away the diapausing larvae
- PC12. use of resistant varieties
- **PC13.** seed and seedling treatment
- **PC14.** take up planting modification (like system of rice intensification sri or dry sowing)
- **PC15.** using various traps (light, pheromone etc)
- **PC16.** erecting bird perches
- **PC17.** various sprays a. chemical approaches: as recommended by state agricultural universityb.non-chemical approaches:neem seed kernel extract, cow dung and urine spray, panchagavya spray, 5 leaf extract, 10 leaves extract, sour butter milk extract. etc based on pest type

Knowledge and Understanding (KU)







The individual on the job needs to know and understand:

- **KU1.** relevant legislation, standards, policies, and procedures in work
- **KU2.** relevant health and safety requirements applicable in the work environment
- **KU3.** own job role and responsibilities and sources for information pertaining to work
- **KU4.** who to approach for support in order to obtain work related information, clarifications and support
- **KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- **KU6.** documentation and related procedures applicable in the context of work
- KU7. importance of safe production and safe produce
- **KU8.** paddy growing conditions (conventional or sri)
- **KU9.** major pests and diseases and their behaviour
- **KU10.** operations that have an impact on pest incidence and need to be taken up while land preparation and sowing (stubble clearing, resistant varieties, seed and seedling treatment etc)
- **KU11.** advantages and methods of soil application of neem cake, bioagents like trichodermaviride, pseudomonas florescens etc.
- **KU12.** advantages of erecting bird perches 10 per acre.
- **KU13.** various traps (one light trap and 4 pheromone traps)
- **KU14.** advantages of various resource plants (neem, pongamia, vitex, etc)
- **KU15.** methods & procedures of preparing various biopestcides (neem seed kernel extract, cow dung urine solution, panchagavya)
- **KU16.** record keeping system.
- **KU17.** safety measures and first aid
- **KU18.** handling tools and equipment.
- KU19. national and international standards on pesticide residues

Generic Skills (GS)

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

- **GS1.** keep records
- **GS2.** report problems to the appropriate personnel in a timely manner viz extension worker, agriculture officer
- **GS3.** update oneself about the latest technologies used in pest and disease management in paddy by reading the newspaper and magazines
- **GS4.** keep abreast with the latest knowledge by reading brochures, pamphlets and product information sheets
- **GS5.** maintain effective working relationships
- **GS6.** communicate clearly and effectively with others like neighbouring farmers, extension workers etc
- **GS7.** co-operate with others for various field operations







- **GS8.** understand information and grasp its meaning
- **GS9.** make decisions pertaining to various methods 7 status of pest & other diseases control
- **GS10.** identify problems that may arise in carrying out tasks and take preventative action in field operations
- **GS11.** plan and implement paddy pest and disease management
- **GS12.** participate in paddy exhibition/seminar/workshop.
- GS13. make use of exposure visit
- **GS14.** think through the problem, evaluate the possible solution(s) and take up an optimum /best possible solution(s)
- **GS15.** identify quick & feasible solutions to resolve delays
- **GS16.** monitor and maintain the condition of tools and equipment required for paddy pest management
- **GS17.** monitor the paddy pests and diseases and maintain the plants in good condition. maintain the records of stage of crop and pest / disease incidence and options used.
- **GS18.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Identification Of Pests and Understanding Behavior	18	17	-	-
PC1. identifying types of pests (stem borers, gall midge, hoppers, hispa and gundhibugetc) in paddy crop	5	5	-	-
PC2. identify stage of crop and pest incidence and prepare pest calendar	3	2	-	-
PC3. diagnosis: signs and symptoms of damage (dead hearts, burns, feeding marks)	2	3	-	-
PC4. identify the pest life cycle duration	3	2	-	-
PC5. identify behavior of the pest (like diurnal or nocturnal, egg laying behavior, attraction to coloursetc)	2	3	-	-
PC6. identify natural enemies of the pests(naids/dragon flies, trichogramma, mirid bug, lady bird beetles, spiders, preying mantidsetc)	3	2	-	-
Preventive And Curative Methods	45	45	-	-
PC7. identify types of diseases associated (blast, bacterial leaf blight, sheath rot, sheath blight, tungro) in the crop	5	5	-	-
PC8. identify crop stage and disease incidence disease calendar	3	2	-	-
PC9. identify signs and symptomsof different diseases (leaf spots, discoloured areas, leaf margins drying, stunted growth)	5	5	-	-
PC10. identify mode of transmission (implements, vectors, water, rain, wind)	2	3	-	-
PC11. stubble clearing to drive away the diapausing larvae	2	3	-	-
PC12. use of resistant varieties	2	3	-	-
PC13. seed and seedling treatment	3	2	-	-







Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. take up planting modification (like system of rice intensification sri or dry sowing)	3	2	-	-
PC15. using various traps (light, pheromone etc)	5	5	-	-
PC16. erecting bird perches	5	5	-	-
PC17. various sprays a. chemical approaches: as recommended by state agricultural universityb.non-chemical approaches:neem seed kernel extract, cow dung and urine spray, panchagavya spray, 5 leaf extract, 10 leaves extract, sour butter milk extract. etc based on pest type	10	10	-	-
NOS Total	63	62	-	-







National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0105
NOS Name	Integrated Pest and Disease Management in Paddy
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	14/06/2017
Next Review Date	31/03/2022
NSQC Clearance Date	18/06/2015







AGR/N0106: Irrigation Management in Paddy

Description

This OS is for a paddy who is responsible for Irrigation management

Scope

This unit/task covers the following:

Elements and Performance Criteria

Irrigation Management

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

- **PC1.** during the standing crop period, moisture stress may be avoided through regular water supply as per recommended procedure
- **PC2.** water drainage may be ensured at appropriate status during / prior to certain crop stages such as fertilizer application, flowering, harvesting etc.,
- PC3. avoid water loss through seepage and leaching

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- **KU1.** interaction affects of the soil type, level of the land and water availability on the crop growth and its yield
- **KU2.** timing and method of irrigation appropriate for a given soil type

Generic Skills (GS)

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

- **GS1.** update oneself about the latest technologies used irrigation management by reading the newspaper and magazines
- **GS2.** read relevant newspapers/booklets
- **GS3.** maintain effective working relationships
- **GS4.** communicate clearly and effectively with others like neighbouring farmers, concerned office bearers of irrigation department and stakeholders
- **GS5.** understand information and grasp its meaning
- **GS6.** make decisions pertaining to the concerned area of work
- **GS7.** identify problems that may arise in carrying out tasks and take preventative action following field procedures of collective irrigation management
- **GS8.** follow basic arithmetic and algebraic principles
- **GS9.** plan and organize timely irrigation and drainage
- **GS10.** participate in exhibition/seminar/workshop related to paddy.







- **GS11.** make use of exposure visit
- **GS12.** work with paddy experts
- **GS13.** think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s)
- **GS14.** identify immediate or temporary solutions to resolve delays
- **GS15.** monitor and maintain the condition of tools and equipment required for irrigation management
- **GS16.** apply, analyze, and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action
- GS17. take up his own working and learning







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Irrigation Management	25	25	-	-
PC1. during the standing crop period, moisture stress may be avoided through regular water supply as per recommended procedure	5	5	-	-
PC2. water drainage may be ensured at appropriate status during / prior to certain crop stages such as fertilizer application, flowering, harvesting etc.,	15	15	-	-
PC3. avoid water loss through seepage and leaching	5	5	-	-
NOS Total	25	25	-	-







National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0106
NOS Name	Irrigation Management in Paddy
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	14/06/2017
Next Review Date	31/03/2022
NSQC Clearance Date	18/06/2015







AGR/N0107: Harvesting and Post Harvest Management in Paddy

Description

This OS is for a Paddy farmer who is responsible for Harvesting and Post Harvest Management.

Scope

This unit/task covers the following:

Elements and Performance Criteria

Harvesting

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

PC1. harvest the crop at the appropriate stage

PC2. dry the harvested produce to remove moisture

PC3. threshing and winnowing

Storage and Post -harvest management

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

PC4. maintenance of ideal storage conditions

PC5. manage storage pests

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- **KU1.** relevant legislation, standards, policies, and procedures in work
- **KU2.** relevant health and safety requirements applicable in the work environment
- **KU3.** own job role and responsibilities and sources for information pertaining to work
- **KU4.** who to approach for support in order to obtain work related information, clarifications and support
- **KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- **KU6.** documentation and related procedures applicable in the context of work
- **KU7.** ideal stage of harvesting
- **KU8.** methods to avoid grain loss during harvest
- **KU9.** various methods of storage and their influence on the grain quality
- KU10. various methods of storage and their cost dynamics
- **KU11.** chemicals and other cultural methods that may be used to prevent losses from storage pests

Generic Skills (GS)

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







- **GS1.** write descriptions and details about incidents in reports
- **GS2.** update oneself about the latest technologies used in paddy harvesting and storage by reading the newspaper and magazines
- **GS3.** keep abreast with the latest knowledge by reading brochures and pamphlets
- **GS4.** read relevant newspapers/booklets
- **GS5.** read the hazards of use and contamination written on the labels of pesticides
- **GS6.** communicate clearly and effectively with others like labourers, extension workers and agriculture experts
- **GS7.** co-operate with others in accordance with required procedures
- **GS8.** understand information and grasp its meaning
- **GS9.** seek advice from senior people and agriculture expert
- **GS10.** make decisions pertaining to the concerned area of work
- **GS11.** identify problems that may arise in carrying out tasks and take preventative action following field procedures
- **GS12.** plan and organize harvesting and storage so as to get maximum market prices for the crop produce
- **GS13.** participate in exhibition/seminar/workshop related to paddy.
- GS14. make use of exposure visit
- **GS15.** deal with others farmers lacking the technical knowledge for paddy harvesting and storage to solve the problem on their own
- **GS16.** identify immediate or temporary solutions to resolve delays
- **GS17.** monitor and maintain the condition of tools and equipment required for paddy harvesting, drying and storage
- **GS18.** apply, analyze and evaluate the information gathered from observation, experience, reasoning, or communication, as a guide to thought and action
- **GS19.** take up his own working and learning







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Harvesting	20	20	-	-
PC1. harvest the crop at the appropriate stage	10	10	-	-
PC2. dry the harvested produce to remove moisture	5	5	-	-
PC3. threshing and winnowing	5	5	-	-
Storage and Post -harvest management	18	17	-	-
PC4. maintenance of ideal storage conditions	8	7	-	-
PC5. manage storage pests	10	10	-	-
NOS Total	38	37	-	-







National Occupational Standards (NOS) Parameters

NOS Code	AGR/N0107
NOS Name	Harvesting and Post Harvest Management in Paddy
Sector	Agriculture
Sub-Sector	Agriculture Crop Production
Occupation	Field Crops Cultivation(Food Crops)
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	14/06/2017
Next Review Date	31/03/2022
NSQC Clearance Date	18/06/2015







AGR/N9903: Maintain health and safety at the workplace

Description

This OS is for the cultivator who is responsible for maintaining health and safety of self and others co workers at workplace

Scope

This unit/task covers the following:

- Maintain clean and efficient workplace
- Render appropriate emergency procedures

Elements and Performance Criteria

Maintain clean and efficient workplace

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

- **PC1.** undertake basic safety checks before operation of all machinery and vehicles and ensure hazards are reported to the appropriate supervisor
- **PC2.** work for which protective clothing or equipment is required is identified and the appropriate protective clothing or equipment is used in performing these duties in accordance with workplace policy
- **PC3.** read and understand the hazards of use and contamination mentioned on the labels of pesticides/fumigants etc
- **PC4.** assess risks prior to performing manual handling jobs, and work according to currently recommended safe practice
- **PC5.** use equipment and materials safely and correctly and return the same to designated storage when not in use
- **PC6.** dispose off waste safely and correctly in a designated area
- **PC7.** recognise risks to bystanders and take action to reduce risk associated with jobs in the workplace
- **PC8.** perform work in a manner which minimizes environmental damage by following all procedures and work instructions for controlling risk
- **PC9.** report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger

Render appropriate emergency procedures

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

- **PC10.** follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to emergency
- **PC11.** follow emergency procedures to company standard/workplace requirements
- **PC12.** use emergency equipment in accordance with manufacturers' specifications and workplace requirements
- **PC13.** provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques







- **PC14.** recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate
- PC15. 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 in work
- KU2. relevant health and safety requirements applicable in the work environment
- **KU3.** own job role and responsibilities and sources for information pertaining to work
- **KU4.** who to approach for support in order to obtain work related information, clarifications and support
- **KU5.** importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business
- **KU6.** documentation and related procedures applicable in the context of work
- **KU7.** your general duties under the relevant health and safety legislation
- **KU8.** what personal protective equipment and clothing should be worn and how it is cared for
- **KU9.** the correct and safe way to use materials and equipment required for your work
- **KU10.** the importance of good housekeeping in the workplace
- **KU11.** safe disposal methods for waste
- **KU12.** methods for minimizing environmental damage during work
- **KU13.** the risks to health and safety and the measures to be taken to control those risks in your area of work
- **KU14.** workplace procedures and requirements for the 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 action to take

Generic Skills (GS)

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

- **GS1.** mention the data which are required for record keeping purpose
- **GS2.** report problems to the appropriate personnel in a timely manner
- **GS3.** write descriptions and details about incidents in reports
- **GS4.** read instruction manual for hand tool and equipments
- **GS5.** communicate clearly and effectively with others like farmers, concerned officer/stakeholders
- **GS6.** comprehends information shared by senior people and experts
- **GS7.** make decisions pertaining to types of tools to be used
- **GS8.** identify need of first aid and render it accordingly
- **GS9.** schedule daily activities and drawing up priorities; allocate start times, estimation of completion times and materials, equipment and assistance required for completion







- **GS10.** manage relationships with co-workers and managers who may be stressed, frustrated, confused or angry
- **GS11.** troubleshooting: determine what is causing an operating error and deciding what to do about it
- **GS12.** monitor and maintain the condition of tools and equipment
- GS13. assess situation and identify appropriate control measures
- **GS14.** he is responsible for his own working and learning
- **GS15.** assess the health and conditions of trees, shrubs, plants and other planting materials







Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Maintain clean and efficient workplace	15	15	-	-
PC1. undertake basic safety checks before operation of all machinery and vehicles and ensure hazards are reported to the appropriate supervisor	1	1	-	-
PC2. work for which protective clothing or equipment is required is identified and the appropriate protective clothing or equipment is used in performing these duties in accordance with workplace policy	1	1	-	-
PC3. read and understand the hazards of use and contamination mentioned on the labels of pesticides/fumigants etc	2	3	-	-
PC4. assess risks prior to performing manual handling jobs, and work according to currently recommended safe practice	3	2	-	-
PC5. use equipment and materials safely and correctly and return the same to designated storage when not in use	2	3	-	-
PC6. dispose off waste safely and correctly in a designated area	1	1	-	-
PC7. recognise risks to bystanders and take action to reduce risk associated with jobs in the workplace	3	2	-	-
PC8. perform work in a manner which minimizes environmental damage by following all procedures and work instructions for controlling risk	1	1	-	-
PC9. report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger	1	1	-	-
Render appropriate emergency procedures	15	15	-	-
PC10. follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to emergency	2	3	-	-







Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. follow emergency procedures to company standard/workplace requirements	2	3	-	-
PC12. use emergency equipment in accordance with manufacturers' specifications and workplace requirements	3	2	-	-
PC13. provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques	3	2	-	-
PC14. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate	3	3	-	-
PC15. report details of first aid administered in accordance with workplace procedures	2	2	-	-
NOS Total	30	30	-	-







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	TBD
Version	1.0
Last Reviewed Date	30/11/2018
Next Review Date	31/03/2022
NSQC Clearance Date	19/12/2018

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 knowledge bank of questions created by the SSC.
- 3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
- 4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
- 5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the 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/N0101.Seed Preparation in Paddy	9	16	-	-	25	7
AGR/N0102.Land preparation and transplantation in Paddy	25	25	-	-	50	9
AGR/N0103.Integrated Nutrient Management in Paddy	40	35	-	-	75	15
AGR/N0104.Weed Management in Paddy	35	40	-	-	75	15
AGR/N0105.Integrated Pest and Disease Management in Paddy	63	62	-	-	125	20
AGR/N0106.Irrigation Management in Paddy	25	25	-	-	50	9
AGR/N0107.Harvesting and Post Harvest Management in Paddy	38	37	-	-	75	15
AGR/N9903.Maintain health and safety at the workplace	30	30	-	-	60	10
Total	265	270	-	-	535	100







Acronyms

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







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.







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.