

National Occupational Standards



Basics of Cage Culture Fish Farming

Unit Code: AGR/N4968

Version: 1.0

NSQF Level: 4

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

National Occupational Standards

Description

A Cage Culture Fish Farmer rears different variety of fish in marine/brackish/freshwater cages. The person is responsible for preparing, installing and maintaining the cages for fish farming. The individual is also responsible for harvesting and marketing the reared fish.

Scope

The scope covers the following :

- Prepare and install the cage for fish farming
- Stock, feed and maintain the fish
- Maintain the cage
- Harvest and market the fish
- Maintain health, hygiene and safety in culture operations

Elements and Performance Criteria

Prepare and install the cage for fish farming

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

- PC1.** select a suitable location that meets the applicable criteria for cage culture
- PC2.** procure durable, non-toxic, and rust-proof cage fabrication material from the authorized vendor(s)
- PC3.** procure durable, non-toxic, and rust-proof cage fabrication material from the authorized vendor(s)
- PC4.** apply epoxy primer and paint on Galvanized Iron (GI)/Mild Steel (MS) cages to prevent rusting
- PC5.** install high-quality, UV-resistant netting of appropriate mesh size and floats around the cage frame
- PC6.** install and anchor the cage securely to the bottom of the water body
- PC7.** install shade structures, if required, to protect fish from excessive sunlight exposure

Stock, feed and maintain the fish

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

- PC8.** select and procure the seed of commercially important fish species for cage culture
- PC9.** stock the fingerlings/advanced fingerlings in the cage, maintaining optimum stock density
- PC10.** prepare and implement a feeding plan based on the nutritional needs of the selected fish species
- PC11.** prepare and store the fish feed hygienically
- PC12.** feed the fish as per the feeding schedule and stages of their growth
- PC13.** follow appropriate measures to protect the cage culture site from pollution and maintain optimal water quality
- PC14.** follow appropriate measures to prevent the introduction of stress and disease among fish
- PC15.** coordinate with an aquatic veterinarian/aquaculture expert for regular fish health assessment

National Occupational Standards

- PC16.** establish and use a quarantine facility to isolate and treat the affected individual fish or their groups
- PC17.** examine the cultured fish regularly to detect the symptoms of parasites, pathogenic infections, phenotypic disorders, etc.
- PC18.** examine the cultured fish regularly to detect the symptoms of parasites, pathogenic infections, phenotypic disorders, etc.
- PC19.** adhere to regulations related to fish health, biosecurity, and disease control

Maintain the cage

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

- PC20.** inspect clean and repair/replace the netting, mooring and cage structure
- PC21.** repair or replace damaged netting to prevent fish escape and predator intrusion
- PC22.** check the buoyancy elements regularly to ensure the cage remains afloat
- PC23.** inspect anchors and anchor lines to ensure stability and prevent cage movement

Harvest and market the fish

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

- PC24.** select the appropriate time of harvesting based on the growth of fish and market demand
- PC25.** prepare and use the appropriate harvesting tools to harvest fish
- PC26.** prepare and use the appropriate harvesting tools to harvest fish
- PC27.** carry out appropriate post-harvest activities, including gutting, cleaning, chilling, sorting and grading
- PC28.** store the harvested fish in suitable conditions to prevent deterioration in its quality
- PC29.** adhere to the regulations, applicable to the labelling, packaging, marketing and transportation of fish

Maintain health, hygiene and safety in culture operations

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

- PC30.** follow the necessary practices to protect the aquaculture farm and dykes from erosion and natural calamities
- PC31.** protect the cultured organisms from diseases, contamination, and common predators/ preying organisms
- PC32.** use the relevant tools, equipment and Personal Protective Equipment (PPE) appropriately
- PC33.** follow the standard procedures to deal with accidents and emergencies

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the criteria for selecting the appropriate cage culture site, cage type and cage fabrication material
- KU2.** the process of fabricating and installing a cage for cage culture
- KU3.** the criteria for selecting the appropriate fish species for cage culture
- KU4.** the process of stocking fish seed in the water body and the appropriate precautions to be taken
- KU5.** the nutrition requirements of the relevant fish species

National Occupational Standards

- KU6.** the process of feeding fish and the applicable feeding schedule
- KU7.** the symptoms of different fish diseases and the appropriate treatment to be adopted
- KU8.** the maintenance of the cage used in cage culture and its components
- KU9.** the process of harvesting fish and the use of appropriate tools and equipment
- KU10.** the post-harvest processes carried out on the harvested fish
- KU11.** the marketing of fish and the regulations applicable to packaging, labelling and transportation of fish
- KU12.** the record-maintenance requirements concerning the marketing of fish
- KU13.** the appropriate measures to be followed to maintain health, hygiene and safety during culture operations
- KU14.** the basics of seamanship activities, such as mooring, rigging and watch-keeping

Generic Skills (GS)

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

- GS1.** the basics of seamanship activities, such as mooring, rigging and watch-keeping
- GS2.** read the relevant literature to learn about the latest developments in the field of work
- GS3.** listen attentively to understand the information/ instructions being shared by the speaker
- GS4.** communicate clearly and politely with co-workers and clients
- GS5.** coordinate with co-workers to achieve work objectives
- GS6.** plan and prioritize tasks to ensure timely completion
- GS7.** identify possible disruptions to work and take appropriate preventive measures
- GS8.** take quick decisions to deal with workplace emergencies/ accidents
- GS9.** evaluate all possible solutions to a problem to select the best one

National Occupational Standards

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Prepare and install the cage for fish farming</i>	4	6	-	6
PC1. select a suitable location that meets the applicable criteria for cage culture	-	-	-	-
PC2. procure durable, non-toxic, and rust-proof cage fabrication material from the authorized vendor(s)	-	-	-	-
PC3. procure durable, non-toxic, and rust-proof cage fabrication material from the authorized vendor(s)	-	-	-	-
PC4. apply epoxy primer and paint on Galvanized Iron (GI)/Mild Steel (MS) cages to prevent rusting	-	-	-	-
PC5. install high-quality, UV-resistant netting of appropriate mesh size and floats around the cage frame	-	-	-	-
PC6. install and anchor the cage securely to the bottom of the water body	-	-	-	-
PC7. install shade structures, if required, to protect fish from excessive sunlight exposure	-	-	-	-
<i>Stock, feed and maintain the fish</i>	8	10	-	6
PC8. select and procure the seed of commercially important fish species for cage culture	-	-	-	-
PC9. stock the fingerlings/advanced fingerlings in the cage, maintaining optimum stock density	-	-	-	-
PC10. prepare and implement a feeding plan based on the nutritional needs of the selected fish species	-	-	-	-
PC11. prepare and store the fish feed hygienically	-	-	-	-
PC12. feed the fish as per the feeding schedule and stages of their growth	-	-	-	-
PC13. follow appropriate measures to protect the cage culture site from pollution and maintain optimal water quality	-	-	-	-

National Occupational Standards

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. follow appropriate measures to prevent the introduction of stress and disease among fish	-	-	-	-
PC15. coordinate with an aquatic veterinarian/aquaculture expert for regular fish health assessment	-	-	-	-
PC16. establish and use a quarantine facility to isolate and treat the affected individual fish or their groups	-	-	-	-
PC17. examine the cultured fish regularly to detect the symptoms of parasites, pathogenic infections, phenotypic disorders, etc.	-	-	-	-
PC18. examine the cultured fish regularly to detect the symptoms of parasites, pathogenic infections, phenotypic disorders, etc.	-	-	-	-
PC19. adhere to regulations related to fish health, biosecurity, and disease control	-	-	-	-
<i>Maintain the cage</i>	4	6	-	6
PC20. inspect clean and repair/replace the netting, mooring and cage structure	-	-	-	-
PC21. repair or replace damaged netting to prevent fish escape and predator intrusion	-	-	-	-
PC22. check the buoyancy elements regularly to ensure the cage remains afloat	-	-	-	-
PC23. inspect anchors and anchor lines to ensure stability and prevent cage movement	-	-	-	-
<i>Harvest and market the fish</i>	8	10	-	6
PC24. select the appropriate time of harvesting based on the growth of fish and market demand	-	-	-	-
PC25. prepare and use the appropriate harvesting tools to harvest fish	-	-	-	-
PC26. prepare and use the appropriate harvesting tools to harvest fish	-	-	-	-

National Occupational Standards

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC27. carry out appropriate post-harvest activities, including gutting, cleaning, chilling, sorting and grading	-	-	-	-
PC28. store the harvested fish in suitable conditions to prevent deterioration in its quality	-	-	-	-
PC29. adhere to the regulations, applicable to the labelling, packaging, marketing and transportation of fish	-	-	-	-
<i>Maintain health, hygiene and safety in culture operations</i>	6	8	-	6
PC30. follow the necessary practices to protect the aquaculture farm and dykes from erosion and natural calamities	-	-	-	-
PC31. protect the cultured organisms from diseases, contamination, and common predators/ preying organisms	-	-	-	-
PC32. use the relevant tools, equipment and Personal Protective Equipment (PPE) appropriately	-	-	-	-
PC33. follow the standard procedures to deal with accidents and emergencies	-	-	-	-
NOS Total	30	40	-	30

National Occupational Standards

National Occupational Standards (NOS) Parameters

NOS Code	AGR/N4968
NOS Name	Basics of Cage Culture Fish Farming
Sector	Agriculture
Sub-Sector	
Occupation	Aquaculture
NSQF Level	4
Credits	1.5
Minimum Job Entry Age	NA
Minimum Educational Qualification & Experience	12th Class (pass or equivalent) with NA of experience OR 10th Class with 3 Years of experience relevant experience in Agriculture and allied sectors OR Previous relevant Qualification of NSQF Level (3.5) with 1.5 years of experience relevant experience in Agriculture and allied sectors OR Previous relevant Qualification of NSQF Level (3) with 3 Years of experience relevant experience in Agriculture and allied sectors
Version	1.0
Last Reviewed Date	27/08/2024
Next Review Date	27/08/2027
NSQF Clearance Date	27/08/2024
Reference code on NQR	NG-04-AG-02985-2024-V1-ASCI
NQR Version	1.0
CCN Category	1