

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR AGRICULTURE AND ALLIED INDUSTRY

What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

Contact Us:

Agriculture Skill Council of India, K 59, South City I, Gurgaon – 122018, Haryana

E mail:
ceo@asci-india.com



Contents

1. Introduction and Contacts.....P1
2. Qualifications Pack.....P2
3. OS Units.....P3
4. Glossary of Key TermsP27

Introduction

Qualifications Pack- Sericulturist

SECTOR: AGRICULTURE AND ALLIED

SUB-SECTOR: AGRICULTURE ALLIED ACTIVITIES

OCCUPATION: SERICULTURE

REFERENCE ID: AGR/Q4701

ALIGNED TO: NCO-2004/6123.20

Sericulturist: The person is responsible for rearing of silkworms for production of silk.

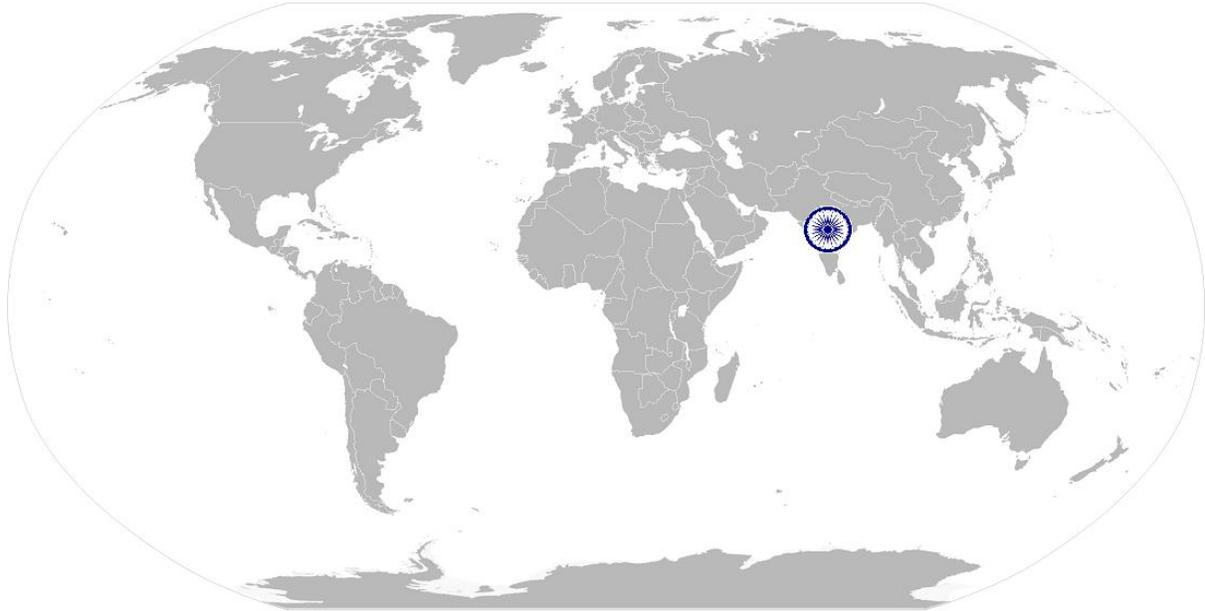
Brief Job Description: The individual at work cultivates plantation for feed and rears the silkworm on leaves from larval stage to cocoon stage for extraction of raw silk fibres from them.

Personal Attributes: The job requires the individual to have: manual and finger dexterity, good eyesight, attention to details, physical, mental and mechanical ability, hand steadiness and stamina to work for long hours.

Job Details	Qualifications Pack Code	AGR/Q4701		
	Job Role	Sericulturist		
	Credits (NSQF) [OPTIONAL]	TBD	Version number	1.0
	Sector	Agriculture and Allied	Drafted on	08/04/14
	Sub-sector	Agriculture allied activities	Last reviewed on	24/06/14
	Occupation	Sericulture	Next review date	24/06/15

Job Role	Sericulturist Also known as 'Silkworm rearer'
Role Description	Cultivating the plants, rearing silkworms from young larvae to cocoon with proper care.
NSQF level	4
Minimum Educational Qualifications*	No entry barrier, 5 th standard pass preferable
Maximum Educational Qualifications*	Not applicable
Training (Suggested but not mandatory)	On the job training
Experience	6 months prior experience in silkworm rearing assistance
Applicable National Occupational Standards (NOS)	Compulsory: <ol style="list-style-type: none"> 1. AGR/N4701 Cultivate plantation for silkworm feed 2. AGR/N4702 Perform pre arrangements for rearing silkworms 3. AGR/N4703 Rear young age silkworm 4. AGR/N4704 Rear late age grown up silkworm till completion stage 5. AGR/N4705 Pest and disease management in sericulture Optional: Not applicable
Performance Criteria	As described in the relevant OS units

National Occupational Standard



Overview

This unit is about cultivating plants to provide feed for the worms.

AGR/N4701
Cultivate plantation for silkworm feed

National Occupational Standard

Unit Code	AGR /N4701
Unit Title (Task)	Cultivate plantation for silkworm feed
Description	This OS unit is about cultivating the required plantation considering various factors like climate, soil, nutrients, etc. and harvest the leaf once grown, to provide feed for the worms for their respective type of silk.
Scope	This unit/ task covers the following: <ul style="list-style-type: none"> Choose appropriate climate for cultivating the plant Prepare land for cultivation Select seeds and sow Transplant seedlings to the field and manage plantation Raise and manage nursery or seed bed Manage nutrients Manage weeds Harvest leaves
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Choose appropriate climate for cultivating the plant	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC1. choose regions with appropriate range of temperature and relative humidity PC2. understand the appropriate rainfall condition timing ideal for good growth of the plants PC3. ensure appropriate plantation seasonal condition
Prepare land for cultivation	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC4. select appropriate and recommended land and soil condition such as slightly slope, flat PC5. test the soil before field preparation with the help of a testing lab PC6. level the plot and divide into sub plots PC7. apply required solutions to the soil in appropriate periodic intervals PC8. make necessary preparations for better rain water harvesting PC9. irrigate with good quality water across the plot PC10. remove the water through a channel after few days PC11. plough green manure crops into the new soil at pre flowering stage PC12. plough the land at appropriate depths to loosen the soil and make it fine PC13. leave the soil exposed to sun in order to kill the weeds and soil born insects PC14. prepare the required number of pits with appropriate sizing, spacing and adequate diameter to plant PC15. apply required quantity of Farm Yard Manure (FYM) with the soil filling the pits few days before the plantation
Select seeds and sow	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC16. choose appropriate plantation variety PC17. collect mature seeds, soak and wash in running water to remove the pulp PC18. put the seeds in water and select those which settle at bottom for sowing PC19. dry the seeds in shade PC20. soak the seeds in water prior to sowing PC21. sow the seeds keeping appropriate distance and depth, with appropriate

AGR/N4701
Cultivate plantation for silkworm feed

	<p>number of seeds per pit and do irrigation if it's not rainy season</p> <p>PC22. mulch the seed bed and wet the bed thoroughly by sprinkling water at frequent intervals</p> <p>PC23. remove the mulch after 90% germination</p> <p>PC24. carry out hoeing and weeding at regular intervals</p>
Transplant seedlings to the field and manage plantation	<p>To be competent, the user/ individual must be able to:</p> <p>PC25. transplant the healthy seedlings after appropriate days of sowing to poly bags filled with soil, sand and FYM at required proportion without disturbing the root system</p> <p>PC26. water the seedlings at regular intervals</p> <p>PC27. avoid stagnancy of water</p> <p>PC28. protect the seedlings from direct sunlight and hail storm</p> <p>PC29. protect the seedlings from pests</p> <p>PC30. transplant the seedlings to the prepared pits</p> <p>PC31. irrigate the plantation at periodic intervals</p> <p>PC32. apply required quantity of NPK (Nitrogen Phosphorous and Potassium) and FYM (Farm Yard Manure) fertilizers</p> <p>PC33. prune the plants at required height</p> <p>PC34. perform weeding, hoeing and inter cultural operations after required days of plantation</p> <p>PC35. sow seeds after hoeing</p> <p>PC36. cut the plants and mix with soil after appropriate days of seed sowing</p> <p>PC37. harvest the crops at appropriate season</p> <p>PC38. mulch the soil of the garden by the plants after collection of the seeds</p> <p>PC39. choose only full grown thick main stems which are free from insect and disease</p> <p>PC40. plant during rainy season for good growth</p> <p>PC41. earth up and level the area around the saplings</p> <p>PC42. choose appropriate irrigation methods such as flat bed method, ridges and furrows method</p>
Raise and manage nursery or seed bed	<p>To be competent, the user/ individual must be able to:</p> <p>PC43. raise nursery or seed beds of appropriate size, spacing and depth depending upon slope, irrigation source</p> <p>PC44. Apply appropriate quantity of FYM, sand and others as required with the soil of the nursery bed</p> <p>PC45. ensure appropriate distance between the planted cuttings</p> <p>PC46. provide drainage channel</p> <p>PC47. plant the cuttings in the nursery at the required angle, spacing, distance and height</p> <p>PC48. apply the necessary chemicals or materials across the nursery</p> <p>PC49. irrigate the nursery bed at periodic intervals</p> <p>PC50. perform weeding at regular intervals</p> <p>PC51. moulch the nursery bed to preserve moisture after planting</p> <p>PC52. transplant the saplings after appropriate number of days after planting</p>
Manage nutrient	<p>To be competent, the user/ individual must be able to:</p> <p>PC53. apply fertilizers as per recommendation from Agricultural University and other experts</p> <p>PC54. ensure appropriate time for the number of dosages for the fertilizer application</p> <p>PC55. ensure irrigation after application of fertilizer</p>

AGR/N4701
Cultivate plantation for silkworm feed

	PC56. apply the required micro nutrients if any deficiency in nutrition is found
Manage weed	To be competent, the user/ individual must be able to: PC57. use well decomposed manure PC58. spray the various required quantities of chemicals and apply the weedicide after pruning PC59. choose appropriate pruning methods such as bottom pruning, middle pruning, strip system PC60. control weed growth by mulching with the required materials such as straw, mulberry twigs ,dried leaves, etc.
Harvest leaf	To be competent, the user/ individual must be able to: PC61. choose the method of leaf harvest according to the type of rearing practiced from leaf picking, branch cutting and whole shoot harvest PC62. use appropriate bags for storing the leaves to keep it cool and fresh PC63. harvest leaves after appropriate number of days of plantation and pruning depending upon the growth and leaf maturity
Knowledge and Understanding (K)	
A. Technical Knowledge	The individual on the job needs to know and understand: KA1. seasonal awareness and climatic conditions suitable for cultivation KA2. soil condition to cultivate KA3. rain water-harvesting KA4. irrigation methods such as flat bed method, ridges and furrows method KA5. use of bio-fertilizers and inorganic fertilizers KA6. different planting methods such as paired row system, ridges and furrows, pit system KA7. use of manually/power operated cutter (stem cutting machine) KA8. nursery management KA9. nutrient requirements KA10. pruning methods such as bottom pruning, middle pruning, strip system KA11. weed management KA12. tools and equipments used for cultivation KA13. leaf harvesting techniques KA14. plantation varieties such as mulberry, som, soalu, castor, kesseru, asan, arjun for the various types of silk reeling such as mulberry, eri, tussar and muga
Skills (S)	
A. Core Skills/ Generic Skills	Reading and writing skills
	The user/individual on the job needs to know and understand how: SA1. to read magazines/journals and understand about latest technologies in cultivation
	Communication Skills
	The user/individual on the job needs to know and understand how: SA2. to communicate effectively with neighbouring workers and colleagues
B. Professional Skills	Decision Making and Problem Solving
	The user/individual on the job needs to know and understand how: SB1. to make decision pertaining to the cultivation SB2. to identify problems that may arise and take necessary actions

AGR/N4701

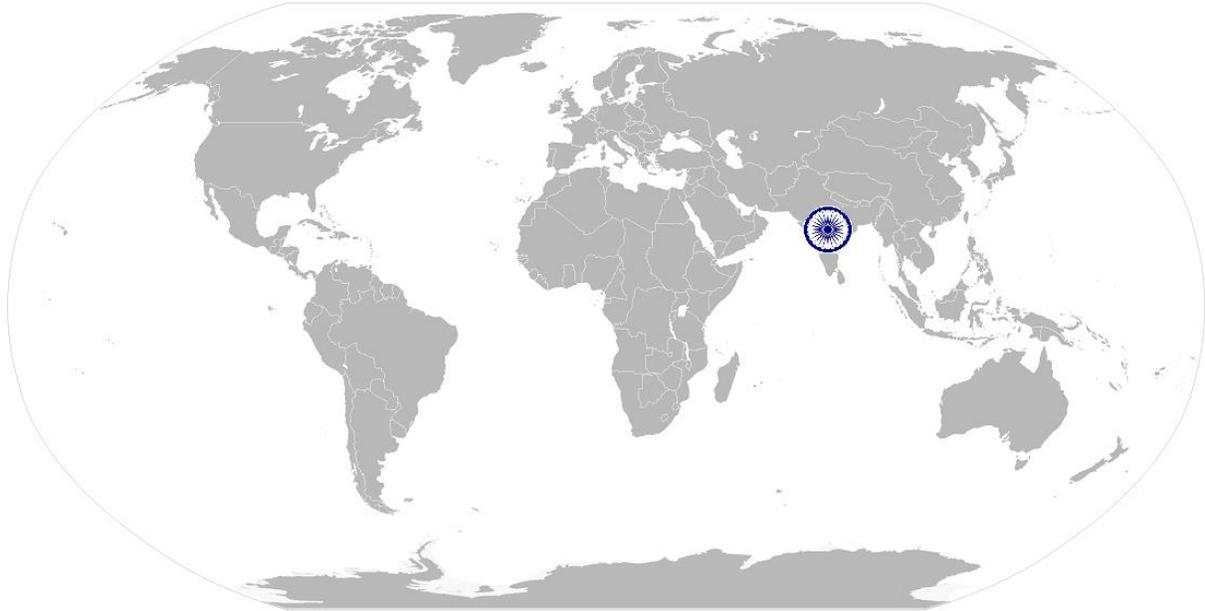
Cultivate plantation for silkworm feed

	Planning Skills
	The user/individual on the job needs to know and understand how: SB3. to plan on climate, soil conditions and nutrient and nursery management
	Using tools and equipments
	The user/individual on the job needs to know and understand how: SB4. to use equipments and tools like spade, tiller, cutter, etc for cultivating and harvesting mulberry
	Analytical Skills
	The user/individual on the job needs to know and understand how: SB5. to plan and monitor effective cultivation of mulberry for healthy feed
	Critical Thinking
	The user/individual on the job needs to know and understand how: SB6. to apply, analyze and evaluate the information gathered from observation and experience
Reflective Thinking	
The user/individual on the job needs to know and understand how: SB7. to reduce the repetitive errors and improve the cultivation process and conditions	

AGR/N4701
Cultivate plantation for silkworm feed
NOS Version Control

NOS Code	AGR/N4701		
Credits (NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Agriculture and Allied	Drafted on	08/04/14
Industry Sub-sector	Agriculture allied activities	Last reviewed on	24/06/14
		Next review date	24/06/15

National Occupational Standard



Overview

This unit is about performing the pre requisites required for carrying out silkworm rearing.

AGR/N4702
Perform pre arrangements for rearing silkworm

Unit Code	AGR /N4702
Unit Title (Task)	Perform pre-arrangements for rearing silkworms
Description	This OS unit is about performing pre-arrangements such as preparing a separate rearing house, incubating and preserving the eggs after hatching and preparing for separating them out from the shell i.e. brushing to carry out rearing
Scope	<p>This unit/ task covers the following:</p> <ul style="list-style-type: none"> • Build rearing house • Disinfect the rearing house and appliances • Prepare rearing house • Prepare for brushing • Incubate and preserve the eggs • Perform brushing
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Build rearing house	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. build a separate house with sufficient number of windows to permit proper required ventilation for rearing</p> <p>PC2. make provision to make it air tight for proper disinfection</p> <p>PC3. avoid damp condition and exposure to bright sun light and radiation</p> <p>PC4. ensure good ventilation and an optimum temperature and humidity</p> <p>PC5. avoid stagnation of air, direct and strong blow of air</p> <p>PC6. build the rearing house depending on the brushing capacity and the method of rearing with appropriate flooring space</p> <p>PC7. ensure that the house has facilities to maintain the required environmental conditions</p> <p>PC8. construct the rearing house with adequate required spacing and consider for disinfection, washable flooring</p>
Disinfect the rearing house and appliances	<p>To be competent, the user/ individual must be able to:</p> <p>PC9. clean the rearing house and tools free from dust and dirt</p> <p>PC10. disinfect the rearing equipment with appropriate chemicals such as bleaching powder</p> <p>PC11. expose all rearing equipments to bright sunlight for few hours</p> <p>PC12. disinfect the rearing room at least 3 days before and soon after rearing</p> <p>PC13. scrub the rearing room with the bleaching powder solution</p> <p>PC14. spray the required disinfectants such as slaked lime, chlorine dioxide or others in and around the rearing house including the walls</p> <p>PC15. take adequate precautionary and protection measures such as wearing apron, mask, hand gloves before handling chemicals</p> <p>PC16. maintain cleanliness and hygiene in the rearing house</p>
Prepare rearing house	<p>To be competent, the user/ individual must be able to:</p> <p>PC17. arrange and keep ready the essential rearing appliances such as non-recurring and recurring items</p> <p>PC18. keep the rearing room ready well in advance after disinfection providing</p>

AGR/N4702
Perform pre arrangements for rearing silkworm

	necessary environmental conditions
Prepare for brushing	To be competent, the user/ individual must be able to: PC19. wash the rearing equipments and houses before commencement of each rearing PC20. keep all the rearing equipments inside the rearing room/house PC21. close the doors and windows tightly after disinfection, also sealing any cracks PC22. open the room after 24 hours PC23. adjust the room to appropriate temperature level
Incubate and preserve the eggs	To be competent, the user/ individual must be able to: PC24. ensure to collect quality seeds from the seed production units PC25. spread loose eggs uniformly and cover them PC26. preserve the eggs in an earthen incubation chamber for required time PC27. maintain the temperature and humidity using appropriate materials such as paraffin papers , wet foam pads PC28. keep the eggs in a dark and closed condition at the head pigmentation stage PC29. expose the eggs to light, when hatching is expected PC30. incubate the eggs for hatching (into larvae)
Perform brushing	To be competent, the user/ individual must be able to: PC31. brush or separate the silkworm on the paraffin paper placed on the bottom of the rearing tray PC32. collect fresh and quality mulberry leaves and chop for feeding PC33. sprinkle the chopped leaves over the hatched larvae for their feed PC34. remove the worms along with the leaves on a rearing tray PC35. prevent drying of leaves and to maintain the required humidity using materials such as paraffin papers ,wet foam pads
Knowledge and Understanding (K)	
A. Technical Knowledge	The individual on the job needs to know and understand: KA1. ventilation requirements in the rearing house KA2. flooring space and provision of separate room and necessary facilities in the rearing house KA3. disinfectants such as slaked lime, chlorine or others used KA4. use of apron, mask, hand gloves before handling chemicals KA5. temperature and humidity regulation KA6. cleanliness and hygiene requirements in the rearing house KA7. usage of general non recurring appliances like disinfection mask and protective gum shoes, sprayer for disinfection, room heater, water air cooler, kerosene blow lap, wet and dry thermometer, 6" forceps KA8. usage of specific non recurring appliances like egg transportation box, egg incubation chamber, loose egg incubation frame, black box, chawki rearing trays, rearing bottom stand, feeding stand, ant wells, leaf chopping board, leaf chopping knife, leaf mat, bed cleaning nets, earthen pot, litter basket, late age rearing trays, rearing stand, shoot rearing rack, plastic basin, buckets, mugs, plastic box, foam pads, foot rugs, leaf chamber for late age, leaf basket and cleaning nets KA9. usage of recurring appliances like paraffin paper, formalin, bleaching powder, lime powder, bed disinfectants, slides and cover slips, gunny cloth, cora cloth KA10. temperature and humidity regulation

AGR/N4702
Perform pre arrangements for rearing silkworm

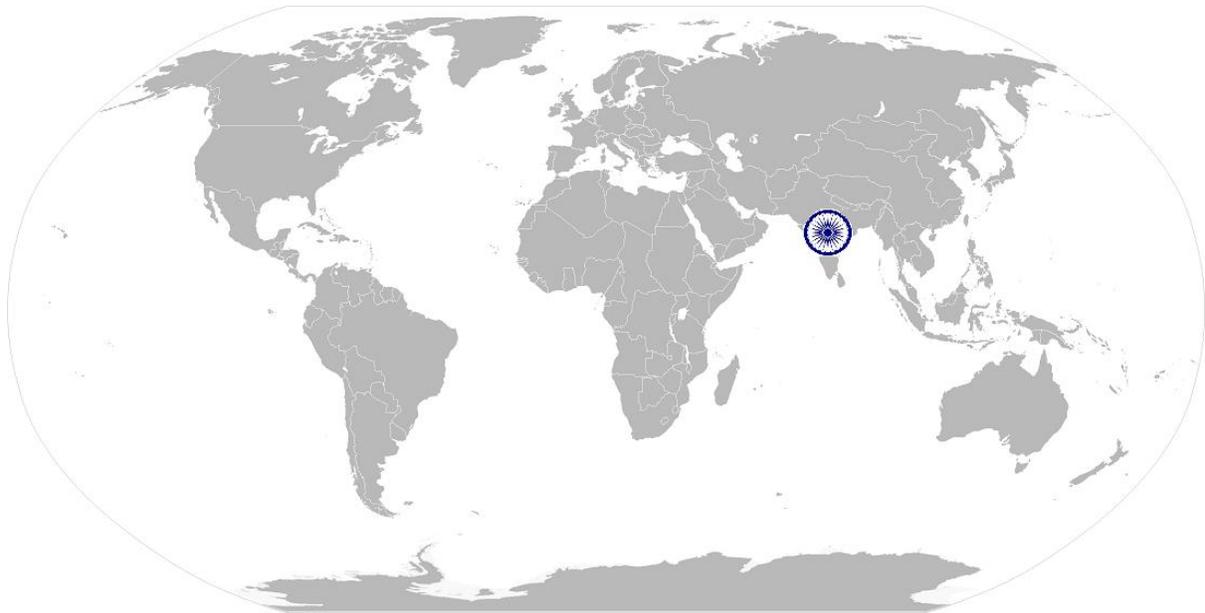
	KA11. earthen incubation chamber KA12. use of materials such as paraffin papers , wet foam pads KA13. hatching, incubating and preserving the eggs KA14. brushing methods
Skills (S)	
A. Core Skills/ Generic Skills	Reading and writing skills
	The user/individual on the job needs to know and understand how: SA1. to read magazines/journals and understand about latest technologies in rearing
	Communication Skills
	The user/individual on the job needs to know and understand how: SA2. to communicate effectively with neighbouring workers and colleagues
B. Professional Skills	Decision Making and Problem Solving
	The user/individual on the job needs to know and understand how: SB1. to make decision pertaining to the spacing, ventilation and other requirements to build the rearing house SB2. to identify problems that may arise and take necessary actions
	Planning Skills
	The user/individual on the job needs to know and understand how: SB3. to plan on disinfectants to be used in the rearing house
	Analytical Skills
	The user/individual on the job needs to know and understand how: SB4. to plan and monitor incubation, preservation of eggs and brushing
	Critical Thinking
	The user/individual on the job needs to know and understand how: SB5. to apply, analyze and evaluate the information gathered from observation and experience
	Reflective Thinking
	The user/individual on the job needs to know and understand how: SB6. to reduce the repetitive errors and improve the rearing process and conditions

AGR/N4702
Perform pre arrangements for rearing silkworm

NOS Version Control

NOS Code	AGR/N4702		
Credits (NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Agriculture and Allied	Drafted on	08/04/14
Industry Sub-sector	Agriculture allied activities	Last reviewed on	24/06/14
		Next review date	24/06/15

National Occupational Standard



Overview

This unit is about rearing the young silkworms

AGR/N4703
Rear young age silkworm

Unit Code	AGR /N4703
Unit Title (Task)	Rear young age silkworm
Description	This OS unit is about rearing the young age silkworm by feeding them on the leaves cultivated, cleaning and taking proper care of them at the moulting stage to grow to next age.
Scope	This unit/ task covers the following: <ul style="list-style-type: none"> • Select and preserve the leaves • Feed the worms • Clean the silkworm • Maintain the conditions • Take care of worms during moulting
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Select and preserve the leaves	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC1. select the leaves appropriately for feeding e.g.: largest glossy leaf PC2. ensure appropriate size of the chopped leaf PC3. ensure the leaves are rich in nutrient and moisture PC4. preserve the harvested leaf in fresh condition by spraying water on it at frequent intervals PC5. store the leaf in cold and dark place
Feed the worms	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC6. feed the larvae with tender leaves from brushing to the end of second stage PC7. allow it to eat continuously till it grows to its maximum size
Clean the silkworm	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC8. prevent insects coming in to the rearing bed PC9. remove silkworm excreta and left over leaves in the rearing bed PC10. clean once before the worms settle for moulting PC11. ensure crawling space for worm by using a net with mesh of appropriate size over the rearing bed PC12. transfer the worm and leaves along with the net to another tray PC13. discard the left over
Maintain the conditions	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC14. maintain optimum temperature and humidity PC15. regulate spacing and feeding dose as recommended
Take care of worms during moulting	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> PC16. ensure that worms are not disturbed at the time of moulting PC17. ensure correct detection of moult PC18. ensure the correct feed PC19. keep the rearing bed thin and dry with proper aeration during moult PC20. ensure the silkworm is ready to spin the silk cocoon based on factors like when it stops eating and changes its colour PC21. transfer the worms after one or two feeds and after the second moult

AGR/N4703
Rear young age silkworm

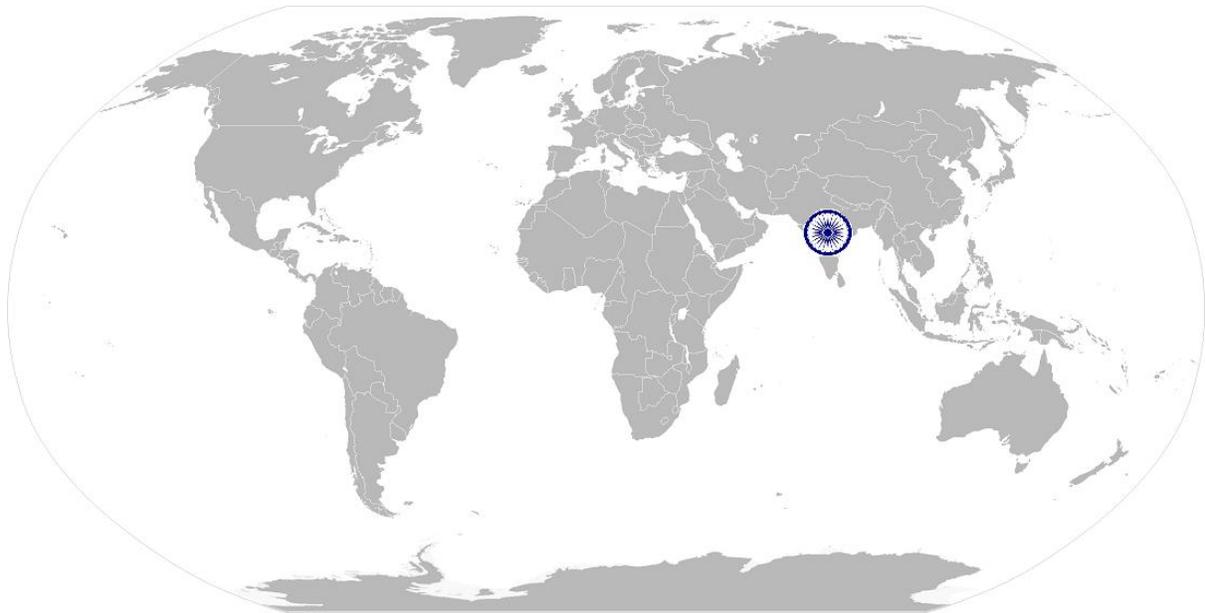
	PC22. prefer cooler hour of the day for the transportation to old age rearing process
Knowledge and Understanding (K)	
A. Technical Knowledge	<p>The individual on the job needs to know and understand:</p> <p>KA1. selecting nutrient and moisture content leaf for feed</p> <p>KA2. feeding conditions and providing the correct feed</p> <p>KA3. nutrient requirements</p> <p>KA4. use of net or other materials with mesh</p> <p>KA5. cleaning methods of worm</p> <p>KA6. temperature and humidity regulation</p> <p>KA7. spacing of rearing room</p> <p>KA8. correct detection of moult</p> <p>KA9. colour change and feeding habit detection of the silkworm before transportation</p>
Skills (S)	
A. Core Skills/ Generic Skills	Reading and writing skills
	The user/individual on the job needs to know and understand how: SA1. to read magazines/journals and understand about latest technologies in rearing
	Communication Skills
	The user/individual on the job needs to know and understand how: SA2. to communicate effectively with neighbouring workers and colleagues
B. Professional Skills	Decision Making and Problem Solving
	The user/individual on the job needs to know and understand how: SB1. to make decision pertaining to feeding and cleaning the silkworms SB2. to identify problems that may arise and take necessary actions
	Planning Skills
	The user/individual on the job needs to know and understand how: SB3. to plan on the feeding, cleaning, moulting and transportation of the worms
	Analytical Skills
	The user/individual on the job needs to know and understand how: SB4. to plan and monitor moulting stage of the silkworms
	Critical Thinking
	The user/individual on the job needs to know and understand how: SB5. to apply, analyze and evaluate the information gathered from observation and experience
	Reflective Thinking
The user/individual on the job needs to know and understand how: SB6. to reduce the repetitive errors and improve the rearing process and conditions	

AGR/N4703
Rear young age silkworm

NOS Version Control

NOS Code	AGR/N4703		
Credits (NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Agriculture and Allied	Drafted on	08/04/14
Industry Sub-sector	Agriculture allied activities	Last reviewed on	24/06/14
		Next review date	24/06/15

National Occupational Standard



Overview

This unit is about rearing late age grown-up silkworm till completion stage.

AGR/N4704
Rear late age grown up silkworm till completion stage

National Occupational Standard

Unit Code	AGR /N4704
Unit Title (Task)	Rear late age grown up silkworm till completion stage
Description	This OS unit is about rearing late age grown up silkworm till completion stage by ensuring a quality leaf feed maintaining the required conditions, taking proper care of the silkworms at the moulting stage, performing mounting and harvesting the cocoons
Scope	This unit/ task covers the following: <ul style="list-style-type: none"> Ensure quality of leaves for feeding Maintain the required conditions for rearing Take care of worms during moulting Maintain hygiene in silkworm rearing Mount the matured worms Harvest the cocoons
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Ensure quality of leaves for feeding	To be competent, the user/ individual must be able to: PC1. use nutritious leaf with less moisture content PC2. avoid feeding the worms with withered leaves PC3. increase the number of feeds with lesser quantity and chopped leaves provided at each feed during high humid conditions PC4. reject over-matured and yellow leaves PC5. feed with medium maturity and coarse leaves
Maintain the required conditions	To be competent, the user/ individual must be able to: PC6. maintain optimum temperature and humidity in the rearing house by artificial heating or cooling PC7. regulate the spacing and feeding as recommended
Take care of worms during moulting	To be competent, the user/ individual must be able to: PC8. remove the paraffin papers PC9. spread the larvae evenly to settle for moult PC10. reduce the feeding quantity when the worms start to settle for moulting PC11. provide air circulation to avoid excess humidity in the room PC12. stop feeding during the last stage for moulting to start PC13. reduce the humidity in the bed and dry up the left over leaves PC14. resume feeding once the worms come out from moulting with tender leaf PC15. clean the rearing bed periodically PC16. collect the matured worms using different appropriate techniques such as use of branches, net, for sending them for mounting
Maintain hygiene in silkworm rearing	To be competent, the user/ individual must be able to: PC17. collect dead, disease infected and unequal larvae from the rearing tray every day and dispose PC18. collect litters from the floor of the rearing room at the time of bed cleaning PC19. dust and clean the floor, entrance, in and around the rearing building PC20. wash hands and feet with solution before attending rearing work PC21. do not store leaves in rearing room

AGR/N4704
Rear late age grown up silkworm till completion stage

	PC22. remove uneaten leaves from the rearing tray PC23. avoid frequent handling of worms. PC24. rear irregular/unequal worms separately
Mount the matured worms	To be competent, the user/ individual must be able to: PC25. collect the matured worms PC26. apply the necessary solutions for early and uniform spinning of cocoons PC27. maintain the appropriate temperature, humidity and spacing of mountage area PC28. provide good aeration in time of spinning PC29. provide proper ventilation, shade, even and moderate lighting PC30. ensure appropriate time for mounting as the ripened worms would waste silk PC31. ensure the silkworm performs pupating i.e. spinning a silk cocoon by attaching itself to a twig, tree or shrub in a rearing room PC32. take proper care of worms while spinning for good quality of silk
Harvest the cocoons	To be competent, the user/ individual must be able to: PC33. perform harvesting when the pupae is fully formed and hard PC34. remove the dead and diseased worm PC35. clean the cocoons by removing the rough silk enveloping the cocoon PC36. transport in a loose pack PC37. decide on the number of times to harvest in a year depending upon whether it is dry land or irrigated mulberry
Knowledge and Understanding (K)	
A. Technical Knowledge	The individual on the job needs to know and understand: KA1. selecting nutrient and moisture content leaf for feed KA2. feeding conditions and providing the correct feed KA3. nutrient requirements KA4. use of net or other materials with mesh KA5. cleaning methods of worm KA6. temperature and humidity regulation KA7. spacing of rearing room KA8. correct detection of moult KA9. proper care during moulting KA10. Hygiene maintenance KA11. mounting the matured worms KA12. detection for spinning and proper care while spinning KA13. provide aeration in time of spinning KA14. harvesting methods and techniques
Skills (S)	
A. Core Skills/ Generic Skills	Reading and writing skills
	The user/individual on the job needs to know and understand how: SA1. to read magazines/journals and understand about latest technologies in rearing
	Communication Skills
	The user/individual on the job needs to know and understand how: SA2. to communicate effectively with neighbouring workers and colleagues
B. Professional Skills	Decision Making and Problem Solving
	The user/individual on the job needs to know and understand how: SB1. to make decision pertaining to feeding and cleaning the silkworms

AGR/N4704

Rear late age grown up silkworm till completion stage

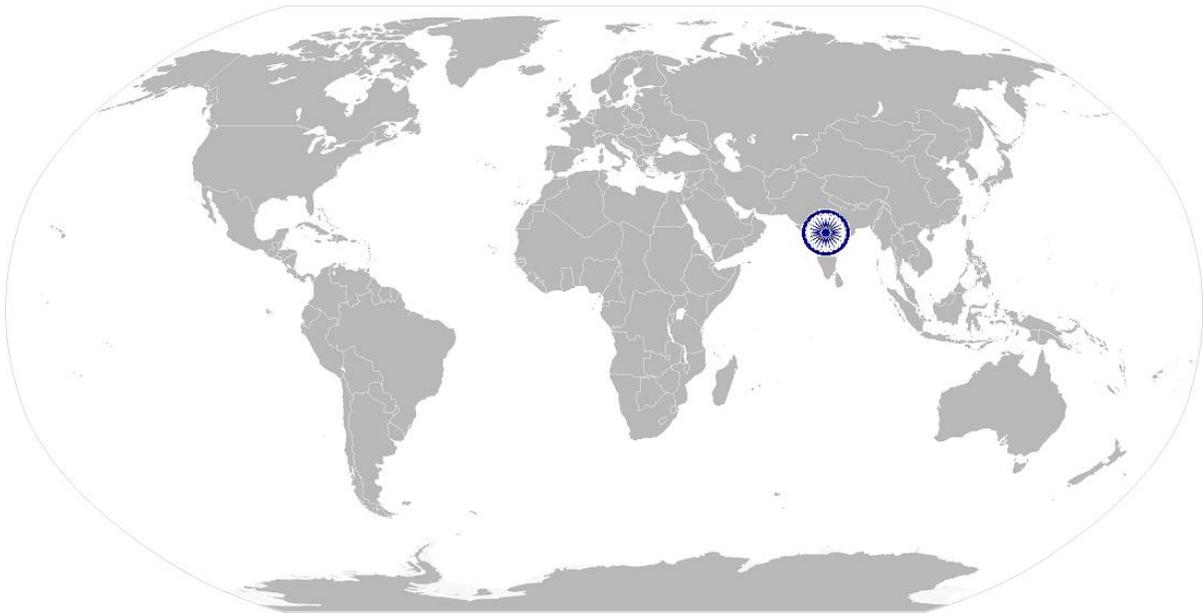
	SB2. to identify problems that may arise and take necessary actions
	Planning Skills
	The user/individual on the job needs to know and understand how: SB3. to plan on the feeding, cleaning, moulting, mounting and harvesting
	Analytical Skills
	The user/individual on the job needs to know and understand how: SB4. to plan and monitor moulting and mounting stage
	Critical Thinking
	The user/individual on the job needs to know and understand how: SB5. to apply, analyze and evaluate the information gathered from observation and experience
	Reflective Thinking
	The user/individual on the job needs to know and understand how: SB6. to reduce the repetitive errors and improve the rearing process and conditions
	Labour Management
The user/individual on the job needs to know and understand how to: SB7. to manage relationships with farmers, customers and other neighbouring workers as well	

AGR/N4704
Rear late age grown up silkworm till completion stage

NOS Version Control

NOS Code	AGR/N4704		
Credits (NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Agriculture and Allied	Drafted on	08/04/14
Industry Sub-sector	Agriculture allied activities	Last reviewed on	24/06/14
		Next review date	24/06/15

National Occupational Standard



Overview

This unit is about managing pests and diseases

AGR/N4705 Pests and diseases management in Sericulture

National Occupational Standard

Unit Code	AGR /N4705
Unit Title (Task)	Pests and Diseases management in Sericulture
Description	This OS unit is about managing pest and disease
Scope	This unit/ task covers the following: <ul style="list-style-type: none"> • Manage pest • Manage disease
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Manage pest	To be competent, the user/ individual must be able to: PC1. maintain hygienic conditions in the rearing room PC2. spray necessary chemicals, acids and solutions to prevent pest damage PC3. conduct silkworm rearing only after 15 days of insecticide spray
Manage disease	To be competent, the user/ individual must be able to: PC4. analyze the symptoms and take the necessary preventive measures PC5. provide wider spacing so that diseased worms do not transmit the infection or disease to the rest so easily PC6. follow the recommended regulations strictly with respect to the condition of rearing house, optimum temperature and humidity, leaf quality, spacing, etc. PC7. follow the recommended procedures of disinfection
Knowledge and Understanding (K)	
A. Technical Knowledge	The individual on the job needs to know and understand: KA1. use of chemicals, acids and solutions to prevent pest damage KA2. hygiene requirements in the rearing room KA3. disease management analyzing systems and taking preventive measure KA4. rearing house regulations KA5. leaf quality for feed KA6. rearing methods and techniques KA7. temperature and humidity regulation KA8. disinfectants used for rearing KA9. nutrient requirements
Skills (S)	
A. Core Skills/ Generic Skills	Reading and writing skills
	The user/individual on the job needs to know and understand how: SA1. to read magazines/journals and understand about latest technologies in silkworm rearing
	Communication Skills
	The user/individual on the job needs to know and understand how: SA2. to communicate effectively with neighbouring workers and colleagues
B. Professional Skills	Decision Making and Problem Solving
	The user/individual on the job needs to know and understand how: SB1. to make decision pertaining to pest and disease management SB2. to identify problems that may arise and take necessary actions

AGR/N4705

Pests and diseases management in Sericulture

	Planning Skills
	The user/individual on the job needs to know and understand how: SB3. to plan on managing pest and disease
	Analytical Skills
	The user/individual on the job needs to know and understand how: SB4. to plan and monitor pest and disease management
	Critical Thinking
	The user/individual on the job needs to know and understand how: SB5. to apply, analyze and evaluate the information gathered from observation and experience
	Reflective Thinking
	The user/individual on the job needs to know and understand how: SB6. to reduce the repetitive errors and improve the rearing process and conditions
Labour Management	
The user/individual on the job needs to know and understand how to: SB7. to manage relationships with farmers, customers and other neighbouring workers as well	

AGR/N4705
Pests and diseases management in Sericulture

NOS Version Control

NOS Code	AGR/N4705		
Credits (NSQF) [OPTIONAL]	TBD	Version number	1.0
Industry	Agriculture and Allied	Drafted on	08/04/14
Industry Sub-sector	Agriculture allied activities	Last reviewed on	24/06/14
		Next review date	24/06/15

Definitions

Keywords /Terms	Description
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.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or an area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Sub-function	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
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 they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance criteria are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (OS)	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	Knowledge and understanding 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.

Acronyms

Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills	Core skills or generic skills 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.
Moult	Shedding, throwing or discharging off old body parts for replacement
Pupae	Stage between larvae and adult i.e. the cocoons
Keywords /Terms	Description
NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack