

Model Curriculum

Dairy Farm Supervisor

SECTOR: AGRICULTURE & ALLIED
SUB-SECTOR: DAIRYING
OCCUPATION: DAIRY FARM MANAGEMENT
REF ID: AGR/Q4103, V1.0
NSQF LEVEL: 5



Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

AGRICULTURE SKILL COUNCIL OF INDIA

for the

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/Qualification Pack: **'Dairy Farm Supervisor'** QP No. **'AGR/ Q4.103 NSQF Level 5'**

Date of Issuance: January 30th, 2017

Valid up to: March 31st, 2020

* Valid up to the next review date of the Qualification Pack



Authorised Signatory
(Agriculture Skill Council of India)

TABLE OF CONTENTS

1. Curriculum	04
2. Trainer Prerequisites	09
3. Annexure: Assessment Criteria	10

Dairy Farm Supervisor

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Dairy Farm Supervisor”, in the “Agriculture & Allied” Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Dairy Farm Supervisor		
Qualification Pack Name & Reference ID. ID	AGR/Q4103, v1.0		
Version No.	1.0	Version Update Date	
Pre-requisites to Training	Class 12, preferably with 1-2 years experience in a Dairy Farm		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Dairy Farm Management: Overall supervision of activities of the Dairy farm- ensure stress free environment, feed ration calculation, feeding, milking, Disease Prevention, herd health management, Understand Dairy economics, budgeting of Dairy farm • Inventory Management: Classify the inventory and ensure timely supplies • Documentation & Record Keeping: Maintain various registers, financial records, inventory records, attendance register etc • Safety, Hygiene & Sanitation of the Dairy Farm: Conduct workplace audit ensuring safety & hygiene of the workplace and the workers • Team management: delegate work, address issues of the workers, upskill the workers 		

This course encompasses 5 out of 5 National Occupational Standards (NOS) of “Dairy Farm Supervisor” Qualification Pack issued by “Agriculture Skill Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	Introduction Theory Duration (hh:mm) 05:00 Practical Duration (hh:mm) 00:00 Corresponding NOS Code Bridge Module	<ul style="list-style-type: none"> Understand General Discipline in the class room (Do's & Don'ts) Understand the different indigenous and exotic breeds High milk yielding varieties Selection of Cattle Differentiate Healthy and sick animals Learn and Practice Basic skills of communication Learn and Practice Basic reading capabilities to enable reading of signs, notices and/or cautions at site Understand regional & national regulatory requirements for Dairy herd management Understand the Role of a Dairy Farm Supervisor and the progression pathway 	Laptop, white board, marker, projector
2	Dairy herd management, feeding and milking Theory Duration (hh:mm) 20:00 Practical Duration (hh:mm) 40:00 Corresponding NOS Code AGR /N4109	<ul style="list-style-type: none"> Understand different types of feed & fodder requirement of dairy cattle Identify various feeds, fodders, feed supplements and additives in different seasons Get acquainted with different feeding strategies and formulation of feed ration according to the animal's growth stage Ensure timely availability of different types of feed, supplements, concentrates, fodder as per the requirement Calculate and evaluate feed rations for healthy performance of the cattle Plan and allocate feed using feed budgeting techniques Prepare feeding schedule, processing of fodder, methods of feeding and watering Ensure proper storage of feed and fodder Ensure stress free environment for smooth & hygienic milking Ensure milking equipments (if used) are correctly installed and maintained Ensure smooth milking of cattle using appropriate milking technique 	Laptop, white board, marker, projector, Audio-visual aids, Milking pails, milking machine, bucket, chaff cutter, grinder, wheel barrow, strip cup, milk strainer

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> Ensure delivery of the milk to the processing plant within the specified time Plot the milk yield and ration on a chart and analyse feeding and milking pattern of the animals 	
3	Dairy Herd Health Management Theory Duration (hh:mm) 20:00 Practical Duration (hh:mm) 30:00 Corresponding NOS Code AGR/N4110	<ul style="list-style-type: none"> Understand various types of diseases and disturbances that can affect animal health Select breeds suited to local conditions Determine herd size and stocking rate as per the resource availability Establish proper identification system for dairy animals Understand common contagious and infectious diseases & their Preventive Measures Prevent entry of diseases into the farm Ensure Vaccination of all animals as recommended or required by local animal health authorities Observe signs of health in dairy animals Observe and identify symptoms of certain specific diseases in animals Pressing of wounds Ensure separation of sick animals from healthy ones and their proper treatment Ensure reproductive health of animals Ensure safe storage & usage of chemicals and veterinary medicines as prescribed by the veterinarians Ensure safe & sanitary environment for animals 	Laptop, white board, marker, projector, Audio-visual aids, sanitizer, disinfectant, syringe, vaccines
4	Complete documentation and record keeping and inventory management related to dairy farm operations Theory Duration (hh:mm) 15:00 Practical Duration (hh:mm) 20:00 Corresponding NOS Code	<ul style="list-style-type: none"> Understand basic Dairy economics Get acquainted with basic accounting practices Maintain the record of details of animals Maintain daily record of milk yield Ensure proper record of diseased, treated or under-treatment animals is maintained Classify and maintain records of the inventory Maintain records of the feed purchased, consumed and stored Maintain financial records to interpret and improve the financial health of the 	Laptop, white board, marker, projector, Audio-visual aids, Various registers and log book

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	AGR/N4111	dairy farm <ul style="list-style-type: none"> • Prepare budget of the dairy farm operations • Compare the budgeted and actual cash flow for each month/week 	
5	Ensure safety, hygiene and sanitation in a Dairy Farm Theory Duration (hh:mm) 10:00 Practical Duration (hh:mm) 15:00 Corresponding NOS Code AGR/N4112	<ul style="list-style-type: none"> • Maintain a clean & efficient workplace • Ensure personal hygiene of dairy workers • Ensure proper disposal of waste • identify, document and report problems such as rodents and pests to management • Ensure safe milk handling • Conduct workplace checklist audits before and after the work to ensure safety and hygiene • Render appropriate emergency procedures • Practice General safety and first aid 	Laptop, white board, marker, projector, Sanitizer, Personal protective equipment Like: safety gloves, Safety boots, hairnet First Aid Kit: Bandages, Adhesive bandages, Betadine Solution / ointment, Pain relief spray / ointment, Antiseptic liquid; Antidote, Phone directory, Search lights, fire extinguisher,
6	Manage and lead a team for Dairy Farm Management Theory Duration (hh:mm) 10:00 Practical Duration (hh:mm) 15:00 Corresponding NOS Code AGR/N4113	<ul style="list-style-type: none"> • Delegate work to the team • Communicate job expectations and any process requirements • Counsel and address issues of the team • Ensure periodic training, upskilling and knowledge sharing in the team • Evaluate performance of the team and provide feedback to the team 	Computer, Audio-visual aids, Projector
7	Soft Skills/ Digital Literacy/ Financial Literacy/ Entrepreneurship Skills Theory Duration (hh:mm) 20:00 Practical Duration (hh:mm) 20:00 Corresponding NOS Code	<ul style="list-style-type: none"> • Basic Communication & Presentation Skills • Organizational Skills • Basic Computer Skills • Various types of documents and their uses- Birth certificate, 10th Certificate, Ration Card, Voter Id Card, Aadhar Card, PAN card, Driving License, Bank Pass Book etc • Various types of loan/credit available (relevant to the trainees' requirement) and the process to avail the same 	Computer, Audio-visual aids, Projector

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Total Duration: Theory Duration (hh:mm) 100:00 Practical Duration (hh:mm) 140:00	Unique Equipment Required: Laptop, white board, marker, projector, Audio-visual aids, Milking pails, milking machine, bucket, chaff cutter, wheel barrow, strip cup, milk strainer , Sanitizer, disinfectant, syringe, vaccines, Various registers, PPEs	

Grand Total Course Duration: **240 Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by [Agriculture Skill Council of India](#))

Trainer Prerequisites for Job role: “Dairy Farm Supervisor” mapped to Qualification Pack: “AGR/Q4103, v1.0”

Sr. No.	Area	Details
1	Description	Trainer is responsible for educating the trainees – Dairy herd management, feeding, milking and ensure healthy performance of dairy cattle, Documentation & Record keeping, Maintain Safety & Hygiene of the Dairy Farm, Manage & supervise the farm workers.
2	Personal Attributes	Trainer should be Subject Matter Expert. He/ she should have good communication, leadership, observation and practical oriented skills.
3	Minimum Educational Qualifications	Bachelor of Veterinary Science and Animal Husbandry (BVSc & A H) preferable
4a	Domain Certification	Certified for Job Role: “Dairy Farm Supervisor” mapped to QP: “AGR/Q4103, v1.0”. Minimum accepted score is 80%.
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “SSC/Q1402”. Minimum accepted % as per respective SSC guidelines is 70%.
5	Experience	<ul style="list-style-type: none"> • MVSc in relevant subject (Livestock Production Management, Extension Education etc.) with 1 Year experience • BVSc & AH with 3 Years of relevant experience • Diploma in Animal Husbandry with relevant experience of 5 Years

Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Dairy Farm Supervisor
Qualification Pack	AGR/Q4103, v1.0
Sector Skill Council	Agriculture

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (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 centre(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 this criteria
5	To pass the Qualification Pack, every trainee should score a minimum of 70% in aggregate
6	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

Assessable outcomes	Assessment criteria	Total Marks	Out Of	Theory	Skills Practical
1. AGR/Q4101 Dairy herd management, feeding and milking	PC1. Ensure that there are adequate number of sources for providing food supplements and grazing to achieve production targets		3	1	2
	PC2. Identify the various types of locally available feeds and fodders		3	1	2
	PC3. Plan ahead to ensure that the herd's feed and water requirements are met		3	1	2
	PC4. Plan and allocate feed using feed budgeting techniques		3	1	2
	PC5. Develop and implement location specific nutrient management plan; ensure that the feed is enriched through chaffing, mixing and addition of supplements		3	1	2
	PC6. Ensure the feed fed to dairy animals is fit for the purpose and will not negatively impact the quality or safety of their milk or meat		5	2	3
	PC7. Check all animals on a timely basis to be certain that they are receiving adequate feed and clean water at all times		5	2	3
	PC8. Calculate and evaluate feed rations for individual dairy animals or groups to maximise milk production and avoid over and/or under feeding		5	2	3
	PC9. Ensure that the barns/sheds of the cows are cleaned daily or as often as possible		3	1	2
	PC10. Ensure that the necessary feed or forage is regularly tested for nutrient contents		5	2	3
	PC11. Ensure appropriate storage conditions to avoid feed spoilage or contamination		3	1	2
	PC12. Ensure that the weeds and pests are properly checked to maintain pasture and crops		5	1	4
	PC13. Ensure effective management of all aspects of milking process, including hygiene and somatic cell count, to maintain milk quality		5	1	4
	PC14. Identify individual animals that require special milking management		5	1	4
	PC15. Ensure appropriate udder preparation for milking		3	1	2
	PC16. Ensure that animals are milked regularly using consistent milking techniques		5	1	4

	PC17. Ensure that the dairy animals are milked at their peak yield so as to reach the highest milk production level	5	1	4
	PC18. Ensure that there is an overall environment that is stress free and improves milk production:			
	<ul style="list-style-type: none"> Clean and safe water in sufficient amount 			
	<ul style="list-style-type: none"> Feeds with high hygienic quality 			
	<ul style="list-style-type: none"> A well balanced ration with suitable ingredients 	5	1	4
	<ul style="list-style-type: none"> Prompt treatment of diseases 			
	<ul style="list-style-type: none"> Avoid delivering milk from cows with high cell count 			
	<ul style="list-style-type: none"> Ensure good ventilation and optimum temperature inside the animal accommodation 			
	PC19. Identify animals with potential health problems and take pre-emptive measures to ensure that milk production does not suffer	3	1	2
	PC20. Group animals by yield, which can result in faster milking	5	1	4
	PC21. Ensure milking equipments (if used) are correctly installed and maintained	3	1	2
	PC22. Ensure that the milking equipments are in proper condition and bulk tank for milking is sanitized and cleaned	3	1	2
	PC23. Ensure that milk is cooled or delivered for processing within the specified time	3	1	2
	PC24. Ensure that the milk of a treated animal is not mixed with the milk of other animals in the bulk milk tank	3	1	2
	PC25. Ensure that the milking parlour, holding area and bulk tank room is cleaned after the milking process	3	1	2
	PC26. Evaluate long-term milk production for individual animals to plan breeding	3	1	2
		100	30	70
2. AGR/Q4102 Dairy herd health management	PC1. Choose breeds and animals well suited to the local environment and dairy farming system	3	1	2
	PC2. Determine herd size and stocking rate based on manpower skills, local conditions and the availability of	3	1	2

	land, infrastructure, feed, and other inputs			
	PC3. Vaccinate all animals as recommended or required by local animal health authorities	5	2	3
	PC4. Ensure that only those animals with known health status (both herd and individual animals) are bought and their introduction to the farm is controlled using quarantine if necessary	5	1	4
	PC5. Ensure animal transport on and off the farm does not introduce diseases	3	1	2
	PC6. Monitor risks from adjoining land and neighbours and have secure boundaries	3	1	2
	PC7. Ensure that the access of people and wildlife to the farm is limited and only through a certain number of entry points	3	1	2
	PC8. Ensure that there is a vermin control programme in place	3	1	2
	PC9. Ensure that there is an identification system in place that allows all animals to be identified individually from birth to death	5	1	4
	PC10. Develop an effective herd health management programme focused on prevention that meets farm needs as well as regional and national regulatory requirements	5	1	4
	PC11. Ensure that the animals are regularly checked for signs of diseases	3	1	2
	PC12. Ensure that the sick animals are attended to quickly and in an appropriate manner	3	1	2
	PC13. Ensure that the sick animals are kept in isolation	3	1	2
	PC14. Ensure that written records of all treatments are kept and the treated animals are identified appropriately	5	2	3
	PC15. Manage animal disease that can affect public health	5	2	3
	PC16. Ensure that the dairy animals have a stress free environment	5	2	3
	PC17. Ensure that animals which show early signs of heat are given nutritious feed and other supplements to support their pregnancy	5	1	4
	PC18. Identify the signs of heat in dairy animals and ensure that animals that show high signs of heat are selected for natural or artificial insemination	5	1	4

	(AI)				
	PC19. Ensure that a trained parturition worker is available and preparation for expected calving have been done		5	2	3
	PC20. Ensure that the parturition process happens in a safe and sanitary environment		3	1	2
	PC21. Ensure that only those chemicals are used that have been approved for supply and use under the relevant legislation		5	2	3
	PC22. Ensure that the chemicals are used according to directions prescribed, the dosage is calculated carefully and the animal is observed for the appropriate withholding periods		5	1	4
	PC23. Ensure that only those medicines which have been prescribed by veterinarians are used on animals		5	1	4
	PC24. Ensure that chemicals and veterinary medicines are stored safely and are disposed off responsibly		5	1	4
			100	30	70
3. AGR/Q4103 Complete documentation, record keeping and inventory management related to dairy farm operations	PC1. Ensure that the below mentioned records are maintained and updated regularly:				
	<ul style="list-style-type: none"> Record of animal health with their age, sex, date of birth, date or purchase etc. 				
	purchase etc.				
	<ul style="list-style-type: none"> Breeding record 				
	<ul style="list-style-type: none"> Production record 		10	7	3
	<ul style="list-style-type: none"> Calf record 				
	<ul style="list-style-type: none"> Feeding record 				
	<ul style="list-style-type: none"> Health record 				
	<ul style="list-style-type: none"> Mortality record 				
	<ul style="list-style-type: none"> Sale record 				
	PC2. Ensure that a daily record of milk yield from each animal is maintained and any abnormal yield is identified for further investigation		15	10	5
	PC3. Ensure that a proper record of diseased, treated or under-treatment animals is maintained		5	3	2
	PC4. Classify inventory items into		5	3	2

	consumable and non-consumable categories and store them appropriately			
	PC5. Document and maintain records of parameters such as amount of feed purchased, amount of feed consumed, stocked feed etc.	5	3	2
	PC6. Maintain record of all dairy equipments along with the status of their operation and identify the equipments that might need replacement in the near future	5	3	2
	PC7. Maintain financial record to gauge the financial health of the dairy farm:			
	• Cash analysis book			
	• Statement of debtors and creditors			
	• Dairy output			
	• Dairy variable and fixed costs			
	• Labour costs			
	• Machinery costs			
	PC8. Maintain financial records (per dairy animal) for:			
	• Value of milk produced			
	• Value of calves (sold and retained)			
	• Cost of concentrate food			
	• Cost of other purchased feedstuffs			
	• Forage cost			
	PC9. Prepare a budget for the operations of the farm by taking into account the following:			
	• List of available resources			
	• Estimation of forage area and livestock numbers			
	• Estimation of physical inputs and outputs			
	• Estimation of prices of feed, equipment, etc.			
	• Estimation of total fixed costs and overheads			
		10	6	4
		10	6	4
		15	5	10

	PC10. Prepare a monthly or weekly cash flow budget		10	7	3
	PC11. Compare the budgeted and actual cash flow for each month/week		10	7	3
			100	60	40
4. AGR/Q4104 Safety, hygiene and sanitation in a dairy farm	PC1. Ensure housing for dairy animals is clean at all times; the housing area should:				
	<ul style="list-style-type: none"> Be designed to provide good drainage and ventilation and to avoid animal injury 				
	<ul style="list-style-type: none"> Be of suitable size and designed to cater for the size of animals and the herd 		5	1	4
	<ul style="list-style-type: none"> Have adequate loose bedding which is maintained in a hygienic condition 				
	<ul style="list-style-type: none"> All stalls and beds are kept clean and dry (e.g. by replacing the bedding frequently) 				
	<ul style="list-style-type: none"> Be cleaned and scraped regularly to remove manure and other waste 				
	PC2. Ensure personal hygiene of dairy workers, by usage of gloves, hairnets, shoes, etc. whenever required		10	3	7
	PC3. Ensure hygienic milking and safe milk handling		10	3	7
	PC4. Clean, maintain and monitor milking area and equipments periodically, using it only for the specified purpose		10	3	7
	PC5. Ensure proper disposal of waste and other potentially hazardous materials		10	3	7
	PC6. Use safety equipment such as fire extinguisher, first aid kit and eye-wash station when required		5	1	4
PC7. Follow housekeeping practices by having designated area for materials/tools		10	3	7	
PC8. Attend training on hazard management to understand types of hazards such as physical, chemical and biological hazards and measures to control and prevent them		5	2	3	
PC9. Identify, document and report problems such as rodents and pests to management		5	1	4	
PC10. Conduct workplace checklist audits before and after work to ensure safety and hygiene		5	3	2	

	PC11. Ensure the procedures for dealing with accidents, fires and emergencies are followed at all times		15	5	10
	PC12. Ensure that first aid treatment is provided to any injured worker or animals in case of an accident		5	1	4
	PC13. Ensure that emergency equipments are in place and in a proper working condition		5	1	4
			100	30	70
5. AGR/Q4105 Manage and lead a team for dairy farm management	PC1. Ensure that the team is aware of the schedule and job expectations on a daily basis		12	4	8
	PC2. Involve the team in regular meetings to communicate information intended for them		12	4	8
	PC3. Ensure communication to the team on any changes in policies/ processes by the organization through required verbal/ written mechanisms		12	4	8
	PC4. Ensure participation of the team in various engagement initiatives organized by the organization		12	4	8
	PC5. Counsel and address issues among the team for any work related issues		12	4	8
	PC6. Support the manager in deployment of the team as per production schedule and the organizational norms and guidelines		10	4	6
	PC7. Ensure periodic training of the team and support the team by delivering trainings		10	3	7
	PC8. Share knowledge of processes, techniques and products with the team to enhance their skill levels		10	4	6
	PC9. Provide feedback to the manager pertaining to performance of the team		10	4	6
			100	35	65
Total		500	500	185	315
Percentage Weightage:				37%	63%
Minimum Pass% to qualify (aggregate):				60%	