



RUMINANTS PRODUCTION

TECHNICAL-PROFESSIONAL

Grade 12

**Three-Term Budget Of Work (BOW)
for Learning Competencies**

**TECHNICAL-PROFESSIONAL
AGRI-FISHERY BUSINESS AND FOOD INNOVATION
Grade 12**

**Three-Term Budget Of Work
For Learning Competencies**

Please note that each Tech-Pro elective is completed in one term if delivered at Grade 12.

Elective	Ruminants Production
Prerequisite	None
Performance Standard	The learners perform activities in using and maintaining of different tools, materials, implements, and equipment, farm layout, housing, fixtures and facilities and forage production in raising dairy and meat-type ruminants in following occupational safety and health standards.
Content Standard	The learners demonstrate understanding on the overview, occupational safety and health standards, use and maintenance of the different tools, materials, implements, and equipment, housing, fixtures, and facilities, and forage production raising dairy and meat-type ruminants.

Week	Learning Competency	Suggested Activities
1	Discuss the overview of ruminants production	Overview of Ruminants Production - Pre-test - Brainstorm: What are ruminants? - Lecture discussion - Show pictures of cattle, goat, sheep, and carabao - Class sharing Types and Importance of Ruminants

Week	Learning Competency	Suggested Activities
		- Review activity - Discussion on common ruminants in the Philippines such as cattle, goat, sheep, and carabao - Group activity: Identify products from ruminants - Short quiz Digestive System of Ruminants - Discussion of the four stomach compartments - Labeling activity (rumen, reticulum, omasum, abomasum) - Video presentation - Reflection
	Discuss the use and maintenance of the different tools, materials, implements, and equipment in ruminants production based on the industry standards	Tools and Equipment in Ruminants Production - Show actual tools (feeder, waterer, rope halter) - Identify uses of each tool - Demonstration of proper handling - Worksheet activity Maintenance of Tools and Equipment - Demonstration: Cleaning and disinfecting tools - Group activity: Make a maintenance checklist - Practical cleaning activity - Recap discussion

Week	Learning Competency	Suggested Activities
2	Demonstrate occupational safety and health standards in ruminants production	Occupational Safety and Health (OSH) - Identify farm hazards - Discussion on proper animal handling - Demonstration of PPE use - Role play: Safe farm practices Emergency and Safety Procedures - Discussion on common farm accidents - First aid basics - Group activity: Identify unsafe practices - Quiz
	Discuss the maintenance of housing, fixtures, and facilities for ruminants production based on industry standards	Housing for Ruminants - Discussion on types of housing - Identify parts of animal housing - Drawing activity: Simple housing design - Sharing Maintenance of Housing and Facilities - Demonstration: Cleaning animal pens - Prepare sanitation schedule - Group discussion on waste disposal - Reflection

Week	Learning Competency	Suggested Activities
3	Perform forage production for feeding ruminants	Introduction to Forage Production - Discussion on importance of forage - Identify common forage crops (Napier grass, Guinea grass) - Planning activity for planting Planting Forage - Demonstration of planting methods - Actual planting activity - Discussion on watering and care Harvesting Forage - Demonstration of proper harvesting - Students practice cutting forage - Post-test - Reflection and evaluation
Suggested Performance Tasks	Individual Task: - Create a concept map showing the different types of ruminants and their uses. - Identify common breeds of cattle, goats, and sheep found in the locality. - Make a short oral presentation about the benefits of raising ruminants. - Identify and label common tools and equipment used in ruminants production. - Demonstrate proper cleaning and storage of farm tools. - Identify hazards commonly found in ruminants production areas. - Make a personal safety checklist before performing farm activities. - Draw and label the parts of a ruminants housing facility.	

Week	Learning Competency	Suggested Activities
	• Prepare a cleaning and maintenance schedule for animal housing. • Identify common forage crops used for ruminants. • Demonstrate proper planting of forage seeds or cuttings. Group Task: • Conduct a group discussion on the different systems of ruminants production. • Create a poster or infographic about the ruminants industry. • Demonstrate the proper use of tools and equipment in class. • Create a visual display of farm tools with their functions and maintenance procedures. • Conduct a simulation activity on inspecting damaged tools and equipment. • Conduct a mock safety inspection of the farm area. • Perform a role-play on proper emergency response during farm accidents. • Develop a model or layout of an ideal ruminants housing facility. • Perform a demonstration on proper sanitation procedures in animal housing. • Create a maintenance plan for housing and farm facilities. • Conduct group activities on harvesting and storing forage materials. • Prepare a forage production calendar for one production cycle.	

Performance Standard	The learners perform silage making and breeding in raising dairy and meat-type ruminants in accordance with industry practices.	
Content Standard	The learners demonstrate an understanding of the principles in preparation of silage and breeding in raising dairy and meat-type ruminants.	
Week	Learning Competency	Suggested Activities
4	Demonstrate the procedures in silage preparation	Introduction to Silage - Motivation activity (show actual silage or pictures) - Brainstorming: Why preserve feeds? - Lecture on importance of silage in ruminant production - Identify materials and tools needed - Short reflection Materials and Procedures in Silage Making - Review - Demonstration: Chopping forage (e.g., Napier grass) - Discussion on mixing molasses and proper ratio - Identify proper moisture content - Group activity: Arrange silage steps in correct order Actual Silage Preparation - Demonstration of proper packing and sealing - Students perform silage preparation - Labeling and recording date - Clean-up and evaluation Silage Monitoring and Evaluation - Discussion on fermentation process (21–30 days)

Week	Learning Competency	Suggested Activities
		- Identify characteristics of good and poor silage - Group activity: Create silage quality checklist - Quiz
	Discuss breeds and selection of stocks in ruminants	BREEDS AND SELECTION OF STOCKS Common Breeds of Ruminants - Review activity - Discussion on breeds of cattle, goat, and sheep - Identify meat-type and dairy-type breeds - Picture identification activity Characteristics of Good Breeds - Discussion: Breed characteristics (size, growth rate, milk production) - Group activity: Compare two breeds - Reporting and class discussion - Short quiz Selection of Breeding Stocks - Discussion: Importance of proper stock selection - Identify characteristics of healthy animals - Demonstration: Body conformation checking - Prepare simple selection checklist Practical Selection Activity - Observation of actual animals (if available) - Students evaluate and select best breeding stock - Group presentation of chosen animal

Week	Learning Competency	Suggested Activities
		Feedback and reflection
5	Perform breeding of ruminants	BREEDING OF RUMINANTS Introduction to Breeding - Discussion: Importance of breeding in production - Types of breeding (natural mating and artificial insemination) - Identify signs of heat in female ruminants - Video presentation Breeding Procedures - Demonstration of proper handling during breeding - Discussion on breeding schedule - Role play activity - Prepare breeding record form Post-Breeding Management - Discussion on pregnancy signs - Care of pregnant animals - Prepare breeding calendar - Class sharing Assessment and Evaluation - Written quiz (silage, breeds, breeding) - Practical evaluation (silage steps or stock selection checklist) - Reflection and feedback

Week	Learning Competency	Suggested Activities
Performance Standard	The learners perform feeding, caring and management in raising dairy and meat-type ruminants in accordance with industry practices.	
Content Standard	The learners demonstrate an understanding of the principles in feeding and care and management in raising dairy and meat-type ruminants.	
5	Perform feeding of ruminants	FEEDING OF RUMINANTS Types of Feeds - Motivation: Show actual samples of forage and concentrates - Discussion on types of feeds (roughage, concentrates, minerals, water) - Identify common feeds for cattle and goat - Group activity: Classify feed samples - Reflection Nutritional Requirements - Review - Discussion on nutrient needs (maintenance, growth, lactation) - Demonstration: Measuring feeds properly - Group activity: Prepare simple daily ration - Short quiz Feeding Procedures - Demonstration: Proper feeding schedule and quantity - Students perform feeding activity - Observe animal feeding behavior - Clean feeding area and equipment Feed Management and Storage

Week	Learning Competency	Suggested Activities
		• Discussion on proper feed storage • Identify signs of spoiled feeds • Demonstration: Proper stacking and storage • Prepare feed monitoring checklist
6	• Perform care and management of ruminants with the assistance of license veterinarian or license animal science technician	CARE AND MANAGEMENT OF RUMINANTS Animal Health Care • Discussion with licensed veterinarian/animal science technician • Identify common diseases and symptoms • Demonstration: Proper animal restraint • Q&A session Preventive Practices • Discussion on vaccination and deworming schedule • Demonstration: Sanitation practices in pens • Prepare health care calendar • Reflection Grooming and Routine Care • Demonstration: Grooming and hoof cleaning • Students perform grooming • Record keeping activity • Group discussion Housing and Environmental Management • Discussion on proper housing conditions • Identify ventilation, drainage, and cleanliness requirements • Inspection activity of animal housing • Prepare improvement plan

Week	Learning Competency	Suggested Activities
Suggested Performance Tasks	Individual Task: • Prepare a step-by-step procedure guide for silage making. • Record observations during the fermentation process. • Identify common breeds of cattle, goats, and sheep. • Compare the characteristics of different ruminant breeds. • Demonstrate proper handling of animals during breeding activities. • Explain the importance of proper breeding management. • Prepare a simple feeding schedule based on animal requirements. • Record daily feed consumption of animals. • Prepare and mix feeds for ruminants. • Demonstrate proper grooming and cleaning of animals. Group Task: • Perform actual silage preparation using available forage materials. • Demonstrate proper mixing and packing of silage inside containers or pits. • Conduct a group reporting on breeds suitable for local production. • Create posters or charts showing different ruminant breeds. • Demonstrate breeding procedures through simulation or actual observation. • Create a breeding calendar for ruminants production. • Demonstrate proper feeding management practices. • Conduct feed ration computation activities. • Perform cleaning and sanitation of animal housing facilities. • Develop a care and management plan for ruminants production.	
Performance Standard	The learners perform feeding, caring and management in raising dairy and meat-type ruminants in accordance with industry practices.	
Content Standard	The learners demonstrate an understanding of the principles in feeding and care and management in raising dairy and meat-type ruminants.	

Week	Learning Competency	Suggested Activities
7	Perform handling of dairy animals based on industry practices	DAIRY MANAGEMENT Handling of Dairy Animals - Discussion on proper handling techniques - Demonstration: Safe movement and restraint - Role play activity - Observation checklist Proper Milking Procedures - Discussion on sanitation before milking - Demonstration: Hand milking or machine milking - Students practice milking - Clean-up and sanitation
	Apply management practices on rearing dairy-breeder animals	Rearing Dairy-Breeder Animals - Discussion on selection of dairy breeders - Identify characteristics of good breeder animals - Prepare breeder management plan - Class sharing Assessment and Evaluation - Written quiz (feeding, health care, dairy management) - Practical assessment (feeding, handling, or milking) - Reflection and feedback
Performance Standard	The learners perform activities in management practices, pre-selling activities and marketing of raising dairy and meat-type ruminants in accordance with industry practices.	
Content Standard	The learners demonstrate an understanding of the principles in management practices, pre-selling activities and marketing in raising dairy and meat-type ruminants.	

Week	Learning Competency	Suggested Activities
8	Apply management practices of meat-type ruminants	Management Practices of Meat-Type Ruminants Introduction to Meat-Type Ruminant Production Competency: Apply management practices of meat-type ruminants - Discuss common meat-type ruminants in the Philippines (goat, sheep, cattle, carabao) - Identify breeds suitable for meat production - Explain housing systems and site selection - Activity: Farm layout planning (group activity) Feeding and Nutrition Management - Discuss feeding requirements (growing, fattening, breeding animals) - Compute feed rations using available local feed resources - Demonstration: Proper feed preparation and feeding - Activity: Prepare sample feeding schedule Health and Biosecurity Management - Discuss common diseases of meat-type ruminants - Explain vaccination and deworming schedules - Demonstration: Proper restraint and basic health checking - Activity: Create a herd health calendar Breeding and Herd Management - Discuss selection of breeders - Identify signs of heat and proper breeding time - Explain culling practices - Activity: Evaluate sample breeder profiles for selection

Week	Learning Competency	Suggested Activities
	Perform waste disposal management in ruminants production	Waste Disposal Management & Marketing Waste Management Principles Competency: Perform waste disposal management in ruminant production - Identify types of waste (manure, urine, bedding materials) - Discuss environmental impacts of improper disposal - Activity: Waste classification exercise Manure Management and Utilization - Demonstration: Proper manure collection and storage - Discuss composting process - Activity: Compost pit design planning - Optional: Produce organic fertilizer from manure Sanitation and Environmental Protection - Discuss drainage systems and odor control - Identify safety practices in waste handling - Activity: Create a sanitation checklist
9	Perform marketing of ruminant products	Marketing of Ruminant Products Competency: Perform marketing of ruminant products - Identify ruminant products (meat, manure, breeding stock) - Discuss market channels (local traders, livestock auction markets, direct selling) - Role-play: Buyer and seller negotiation - Activity: Develop simple marketing plan Record Management & Integration Importance of Record Keeping

Week	Learning Competency	Suggested Activities
		Competency: Perform record management in ruminant production • Discuss types of farm records (breeding, health, feeding, financial) • Identify importance of accurate records • Activity: Analyze sample farm records
10	• Perform record management in ruminant's production	Preparation of Production Records • Demonstration: Filling out breeding and health record forms • Activity: Create sample herd record sheet • Compute growth rate and feed conversion Financial and Marketing Records • Discuss income and expense recording • Compute profit and loss • Activity: Prepare simple financial statement for a small ruminant farm Performance Assessment • Practical exam: - o Demonstrate proper management practices - o Prepare waste management plan - o Present marketing plan - o Submit complete record forms • Reflection and feedback session

Suggested Performance Tasks	Individual Task: • Demonstrate proper approaching and handling of dairy animals. • Identify the behavior of dairy animals during handling. • Practice proper tying and restraining techniques. • Prepare feeding and watering schedules for dairy breeders. • Observe and record growth and health conditions of dairy animals. • Demonstrate proper cleaning of feeding and watering equipment. • Prepare a simple health monitoring record. • Demonstrate proper segregation of biodegradable and non-biodegradable waste. • Prepare a waste disposal checklist for farm sanitation. • Demonstrate proper customer communication skills. • Create simple promotional materials for ruminant products. Group Tasks • Conduct a demonstration on proper movement of dairy animals. • Perform role-playing activities on handling dairy cattle during feeding and milking. • Develop a management plan for dairy-breeder animals. • Demonstrate proper care and maintenance of dairy housing facilities. • Conduct demonstrations on proper housing and management practices. • Create a feeding program for meat-type ruminants. • Conduct a farm clean-up activity. • Demonstrate composting of animal manure. • Create posters promoting proper waste disposal practice • Conduct a mock selling activity for dairy or meat products. • Develop a marketing plan for ruminant products.
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