

APPLY PRINCIPLES OF LIVESTOCK NUTRITION

UNIT CODE: 0811 341 01A

Unit Description

This unit equips trainees with competencies required for applying livestock nutrition that will be applied in a processing facility. It involves demonstrating knowledge of livestock digestive processes and systems, nutritional knowledge, feed types, and evaluating livestock dietary needs.

Elements and Performance Criteria

ELEMENT These describe the key outcomes which make up workplace function .	PERFORMANCE CRITERIA There are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range.</i>
1. Apply knowledge of livestock digestive processes and systems	1.1 Different parts of the digestive tract of <i>livestock</i> are identified as per animal type. 1.2 Process of digestion in <i>livestock</i> is described as it relates to their classification. 1.3 <i>Common structural disorders</i> of the digestive system are described according to their effect on the functioning of GIT.
2. Apply knowledge of nutritional principles	2.1 Nutrition is explained based on livestock physiology and metabolism. 2.2 Interrelation of the <i>three key elements</i> in the golden triangle are explained for optimizing productivity. 2.3 The feed conversion rates are quantified and managed to optimize nutrient utilization.
3. Apply knowledge of feed types	3.1 Sources of <i>feed nutrients</i> are identified according to origin. 3.2 Roles of <i>feed nutrients</i> are described as they relate to function. 3.3 Livestock feeds are classified based on their nutritive values, moisture content and function. 3.4 Effects of feed <i>deficiencies and toxicities</i> are identified.
4. Evaluate livestock dietary needs	4.1 <i>Factors influencing feed intake</i> in livestock are described. 4.2 Feed requirements for <i>specific livestock</i> are determined according to need based on <i>feeding standards</i> . <i>4.3 Adequacy of nutrition</i> is described based on body condition scores and weight gain.

Range

This section provides work for environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variables	Range
1. Livestock includes but may not be limited to:	1.1 Sheep 1.2 Cattle 1.3 Poultry 1.4 Goats 1.5 Pigs 1.6 Rabbits 1.7 Fish
2. Common structural disorders that affect GIT includes but may not be limited to:	2.1 Displaced abomasum 2.2 gizzard impaction 2.3 RUMEN hardware disease 2.4 (Traumatic reticulo-peritonitis)
3. Three key elements includes but may not be limited to:	3.1 Housing 3.2 Feed 3.3 Livestock
4. Feed Nutrients component of feed includes but may not be limited to:	4.1 Water 4.2 Carbohydrates 4.3 Fats 4.4 Vitamins 4.5 Mineral 1.1 Proteins
2. Deficiencies and toxicities include lack of nutrients and effects of excess nutrients includes but may not be limited to:	2.1 Mineral deficiencies 2.2 Carbohydrates deficiencies 2.3 Vitamins deficiencies 2.4 Hypervitaminosis 2.5 Mineral toxicities
3. Factors influencing feed intake includes but not limited to	3.1 Age 3.2 Level of production 3.3 Physiological status 3.4 Ambient temperature
4. Feeding standards Feeding standards are statements or quantitative descriptions of the amounts of one or more such nutrients needed by animals	4.1 KALRO feeding standards 4.2 National feeding standards

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills:

- Organizing skills
- Analytical skills
- Negotiation skills
- Interpersonal skills
- Communication skills
- Evaluation skills
- Problem solving
- Critical thinking

Required Knowledge

The individual needs to demonstrate knowledge of:

- Animal digestive anatomy and physiology
- Animal nutrition requirements
- Feed ingredients that supply nutrients required
- Sources of quality feed ingredients
- Types of feeds and feedstuffs
- Animal nutrition
- Nutritional diseases
- Animal health
- Metabolism Types of farm animals
- Types of feed supplements and substitutes
- methods of controlling bee behavior
- Bee behavior

Evidence Guide

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 identified the different parts of the digestive tract of livestock 1.2 Described process of digestion in livestock. 1.3 Described common structural disorders of the digestive system. 1.4 Quantified and managed feed conversion. 1.5 Identified effects of feed deficiencies and toxicities. 1.6 Determined feed requirements for specific livestock.
2. Resource Implications	The following resources should be provided: 2.1 Appropriately simulated environment where assessment can take place. 2.2 Access to relevant assessment environments. 2.3 Resources relevant to the proposed assessment activity or tasks.
3. Methods of assessment	Competency may be observed through: 3.1 Practical 3.2 Third party report 3.3 Projects 3.4 Portfolio of evidence 3.5 Written tests 3.6 Oral questions
4. Context(s) of Assessment	Competency may be assessed: 4.1 Workplace 4.2 Simulated work environment
5. Guidance information for assessment	The unit may be assessed alone or together with other units in this sector.