

FORMULATE LIVESTOCK FEEDS

UNIT CODE: AGR/OS/EXT/CR/03/6/A

UNIT DESCRIPTION

This unit specifies competencies required to produce and formulate livestock feeds. It involves determination of animal nutrition requirements, calculating livestock feed ratios, producing animal feed and feedstuffs, processing animal feedstuff, animal feedstuffs mixing, packaging animal feed and storing animal feed.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	These 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. Determine animal nutrition requirements	1.1. Animals are categorized as per breed, age, production level and physiological status of the animal 1.2. Feed requirements are determined as per feeding standard tables
2. Formulate Livestock feed ration,	2.1. <i>Animal feeds ingredients</i> are identified as per animal feeding standard tables. 2.2. <i>Livestock feed ingredient rations</i> are formulated using formulas or computer programs as per animal feeding standard tables
3. Produce animal feed and feedstuffs	3.1. Propagation materials are sourced as per agro-ecological zone 3.2. Land is prepared as per planting material requirements 3.3. Propagated materials are established as per good agricultural practices 3.4. Fodder crops are managed as per good agricultural practices 3.5. Fodder crops are harvested as per maturity index and height
4. Process animal feedstuff	4.1. Animal feeds ingredient are procured as per type of feed to be formulated 4.2. Ingredient proportions are weighed as per feed formulation formula 4.3. Ingredients are mixed as per feed formulation formula 4.4. Feed is analyzed as per standardization requirements. 4.5. Animal feeds are packaged as per market requirements 4.6. Animal feeds are stored as per occupation safety standards

RANGE OF VARIABLES

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

RANGE	VARIABLE
1. Animal feeds ingredients may include but not limited to:	<ul style="list-style-type: none">• Maize germ• Fish meal• Sunflower cake• Soy bean meal• Cotton seed cake• Premixes• Lime /D.C.P
2. Livestock feed ingredient rations may include but not limited to:	<ul style="list-style-type: none">• Maintenance ration• Steaming ration• Production ration• Starter rations• Finisher rations
3. Animal feedstuffs may include but not limited to:	<ul style="list-style-type: none">• Hay• Silage• Dairy meal• Bran• Chicken feeds• Pig feeds• Dog meal

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:

- Measuring
- ICT skills
- Mixing
- Packaging
- Storing

Required knowledge

The individual needs to demonstrate knowledge of:

- Animal nutrition requirements
- Feed ingredients that supply nutrients required
- Sources of quality feed ingredients
- Calculation of animal feed ratios

- Computer programs
- Types of feeds and feedstuffs
- Animal nutrition
- Procurement
- Agricultural economics (cost benefit analysis)
- Animal feedstuffs processing
- Animal feedstuffs mixing techniques
- Packaging
- Standard bodies e.g. KEBS
- Feeds storage structures
- Feed storage conditions
- Characteristics of a good store

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	<p>Assessment requires evidence that the candidate: Demonstrated:</p> <ul style="list-style-type: none"> 1.1 Understanding of animal feed ingredients 1.2 Ability to formulate livestock feed rations 1.3 Understanding of feed stuffs 1.4 Ability to prepare land 1.5 Ability to establish fodder crops 1.6 Ability to manage fodder 1.7 Understanding of harvesting 1.8 Ability to weigh ingredients needs 1.9 Ability to analyze animal feeds 1.10 Ability to package animal feeds 1.11 Understanding of storage methods and conditions
2. Resource Implication	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> •
3. Method of assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Projects 3.2 Observation 3.3 Written tests 3.4 Oral questioning 3.5 Demonstration
4. Context of assessment	<ul style="list-style-type: none"> 4.1 Competency elements must be assessed in a safe working environment 4.2 Assessment may be conducted in a workplace or simulated environment 4.3 During Industrial attachment

5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

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