



Western Technical College

30090363 Livestock Nutrition

Course Outcome Summary

Course Information

Description	This course is designed to enable the student to apply basic principles of livestock nutrition and determine livestock nutrient requirements. Inventorying and evaluating feeds, calculating cost of production for livestock enterprise and measuring livestock feeding efficiency through business analysis are included in this class. Students will also be able to develop Standard Operating Procedures for livestock feeding and investigate emerging trends including new technology, industry regulations, consumer trends and public policy. All classes in the Farm Business and Production management program include instruction on financial analysis and management of the farming operation.
Career Cluster	Agriculture, Food and Natural Resources
Instructional Level	Technical Diploma Courses
Total Credits	3
Total Hours	180

Textbooks

No textbook required.

Experiential Learning

1. Work-Based Learning: this course applies your learning to your desired profession by working in industry placements such as internships, practicums, clinicals, or co-ops.

Program Outcomes

1. Utilize agronomic resources for optimal farm production
2. Evaluate livestock management plans

3. Plan for operation and maintenance of farm facilities and equipment
4. Create farm business plans
5. Apply marketing principles to agricultural enterprises

Course Competencies

1. Calculate cost of production for livestock enterprise

Assessment Strategies

- 1.1. Written Product

Criteria

You will know you are successful when:

- 1.1. learner completes annual balance sheet
- 1.2. learner records all income and expenses for farm enterprises
- 1.3. Learner predicts feed impacts on economic performance.
- 1.4. Learner bases feeding strategies on market conditions of both feed and product produced.

Learning Objectives

- 1.a. Record all income and expenses related to farming enterprise
- 1.b. Identify all production measures such as bushels and pounds produced.
- 1.c. Compute enterprise budgets
- 1.d. Predict how management decisions impact economic performance
- 1.e. Observe market conditions.

2. Develop Standard Operating Procedures for livestock feeding

Assessment Strategies

- 2.1. Written Product

Criteria

Performance will meet expectations when:

- 2.1. Plan includes method to keep feed storage facilities dry, clean and free of medications, pesticides, herbicides, fertilizer, solvents, rodents, birds, manure, etc. to minimize possibility of contamination.
- 2.2. Plan includes inspection schedule for all feed equipment, including scales, mixers, bins, trucks, feed bunks and feeders.
- 2.3. Plan includes instructions to clean and repair all feed equipment when necessary.
- 2.4. Plan describes how diet formulations and changes are updated and kept on file; changes are to be communicated to all employees involved with daily feeding operations.
- 2.5. Plan includes instructions for medicated feeds including that medicated feed additives are stored separate from all other feeds and adequate records are kept regarding the use of these products.

Learning Objectives

- 2.a. Recognize the role of the animal nutritionist on a livestock enterprise
- 2.b. Describe the importance of animal feed processing and mixing
- 2.c. Explain feed/ingredient sorting and the effects of particle size and shape on feed mixing
- 2.d. Perform proper feed sampling techniques

3. Investigate emerging trends including new technology, industry regulations, consumer trends and public policy

Assessment Strategies

- 3.1. Interview

Criteria

Performance will meet expectations when:

- 3.1. Learner explains how public policy impacts production of livestock.
- 3.2. Learner considers consumer trends when making production decisions.
- 3.3. Learner understands how new technology will impact farming operation.

- 3.4. Learner follows industry regulations on farming operation.

Learning Objectives

- 3.a. Discuss how with food safety regulations apply to livestock feeding strategies.
- 3.b. Summarize the issue of sustainable animal nutrition and feeding in Europe and World-wide within a socio-political, economic and environmental context
- 3.c. Study the nutritional factors that independently and in combination with each other dictate sustainable animal production in all aspects
- 3.d. Recognize and critically evaluate negative side effects of animal feeding upon man (food safety issues), animal (demands and welfare issues) and environment (ecological issues) and to indicate possibilities to reduce these
- 3.e. Identify political issues on feeding strategies in livestock

4. Apply basic principles of livestock nutrition

Assessment Strategies

- 4.1. Interview

Criteria

You will know you are successful when:

- 4.1. Learner will be able correctly use the various components that make up livestock rations.
- 4.2. Learner will recognize and be able to adjust rations based on fundamentals of feeding livestock for maintenance, growth, and production.
- 4.3. Learner will identify and correctly utilize the various feedstuffs.
- 4.4. Learner adjusts feed composition based on signs and symptoms of nutrient deficiencies

Learning Objectives

- 4.a. Summarize nutritional principles
- 4.b. Explain how nutrition impacts animal performance and production
- 4.c. Review rations for appropriate ingredients for different livestock at various stages of production.
- 4.d. Identify animal environments and how they influence animal performance.
- 4.e. Recognize the nutritional status of an animals at the farm level
- 4.f. Explain the factors affecting feed consumption
- 4.g. Identify common feedstuff used in livestock nutrition
- 4.h. Evaluate samples of feed for accurate analysis

5. Determine livestock nutrient requirements

Assessment Strategies

- 5.1. Interview

Criteria

Performance will be satisfactory when:

- 5.1. Learner will demonstrate a basic knowledge of livestock nutrition.
- 5.2. Learner will be knowledgeable of the various parts of the digestive tract in livestock.
- 5.3. Learner will understand how 6 major nutrients work together and what impact each nutrient has on the animal.
- 5.4. Learner identifies specific nutrient requirements using NRC recommendations
- 5.5. Learner selects correct feeds based on nutrient needs of livestock

Learning Objectives

- 5.a. Explain the function of nutrition and its importance in modern livestock production
- 5.b. Describe the common methods of analysis for nutrient content
- 5.c. Identify techniques used the measure feed and nutrient utilization
- 5.d. Explain importance of the six basic nutrients and their functions
- 5.e. Review the nutritive values of common feedstuff from NRC tables for nutrient composition
- 5.f. Calculate animal nutrient requirements