



**Saskatchewan
Learning**

Feedlot Production 10, 20, 30 Agriculture Technician Program Curriculum Guide A Practical and Applied Art

**Saskatchewan Learning
2004
ISBN: 1-894743-63-6**

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Acknowledgements

Saskatchewan Learning acknowledges the contributions of the following individuals to the development of this curriculum:

- Karen Rempel, contracted developer/writer
- Dale Peake, educational consultant
- Cheryl Slevinsky, typesetting,

The developer/writer wishes to thank:

- The Agriculture Institute of Management in Saskatchewan, Inc. (AIMS) for providing funding for the development of the Agriculture Technician courses.
- Saskatchewan Agriculture, Food and Rural Revitalization, Sustainable Production Branch for providing funding to develop the Feedlot Production courses.
- Eleanor Corby, Christel Gee, and Barry Mitschke, Curriculum and Instruction Branch, Saskatchewan Education for their guidance.
- Jim Birch, Saskatchewan Agriculture, Food and Rural Revitalization, Green Certificate Coordinator.

This Feedlot Production curriculum guide has been adapted from Alberta Agriculture's Green Certificate Program.

Overview

The Agriculture Technician (ATEC) Program develops students' knowledge, skills and abilities in six major areas of agricultural production. These six areas of production are:

- field crop and irrigated field crop
 - cow/calf
 - feedlot
 - dairy
 - sheep
- pork.*

* Initially, pork will be developed as an ATEC program but may eventually be elevated to a designated trade.

The courses within each area of production are organized into three levels of knowledge, skills and abilities: introductory, intermediate, and advanced.

Introductory level modules (Level 10) help students gain knowledge and build the skills and abilities that are used in the day-to-day operation of the particular production sector. These modules form the basis of further learning. The range of experience and knowledge of students at the introductory level will range from very little or none to considerable. Those students with prior knowledge and experience should be assessed and given credit for the core modules as quickly as possible. Optional modules should be used to enhance students' knowledge, skills and abilities.

Intermediate level modules (Level 20) build on the competencies developed at the introductory level. These modules broaden or refine the knowledge, skills and abilities used in the particular production sector. Optional modules are used to enhance learning and address individual interests and learning needs. These modules also help students direct their learning toward related careers, job opportunities, and post-secondary education.

Advanced level modules (Level 30) demand that students acquire a higher level of knowledge, skills and abilities in the particular production sector. These modules encourage development of employability skills which help students gain entry into the workplace or related post-secondary program.

If articulation agreements are established, these courses could provide the desirable background and skills for farm employment or entry into related programs at public and vocational colleges, technical institutes, apprenticeship programs, and universities in Saskatchewan.

All of the courses have been prepared with the guidance of Saskatchewan Learning and follow the outline, format and required dimensions of the Saskatchewan Learning Practical and Applied Arts curricula.

Philosophy and Rationale

Saskatchewan is a world leader in traditional primary production agriculture. Today, there is ever increasing and intense global competition for primary agriculture products. This means that Saskatchewan agricultural producers and employees need to have knowledge, skills and abilities in a variety of areas in order to maximize production and remain viable.

Providing students with practical knowledge, skills and abilities in feedlot production will help students provide meaningful contributions to their family farming operations or pursue related career and educational opportunities.

Aim and Goals

Aim

The aim of Feedlot Production is to provide students with knowledge, skills and abilities in feedlot production including farm safety procedures, communication skills, and basic knowledge of machinery and livestock equipment operation as well as the care and handling of feedlot cattle.

Goals

Awareness: To provide students with an awareness of the nature of feedlot production including the knowledge, skills and abilities required for feedlot production.

Connections between School and Work: To create a connection for students between the world of school and the world of work.

Business and Entrepreneurship Attitudes: To develop the skills and abilities which encourage students to understand the business of feedlot production and markets.

Community Environment: To use relevant community examples which will help develop students' skills and abilities as well as encourage a sense of pride and community.

Communication: To develop social and communication skills as potential employees or employers in feedlot production.

Employability Skills: To encourage the development of employability skills in feedlot production.

Personal Management Skills: To promote self-esteem, confidence and a proactive attitude toward time management, communication skills, and technical skills.

Course Components and Considerations

Course Description

Feedlot Production 10, 20, 30 requires 100 hours of instruction for each course. The guide has been developed to provide a balance among:

- *knowledge* of all facets of feedlot production including farm safety
- *skills and abilities* provided by information and practical application of concepts
- *exposure* to farms involved in feedlot production
- *opportunities* for mentoring, job shadowing, or work study using resources in the community.

The ATEC Program guidelines are organized into two sets of modules.

Feedlot Production 10, 20, 30 Core Modules represent 50-65 hours of in-class or practical instruction which will develop students' knowledge, skills and abilities at the introductory level of feedlot production.

Feedlot Production 10, 20, 30 Optional Modules are used to meet the interests of individual students. Students should be encouraged to develop learning contracts indicating their particular area of interest.

To successfully complete Feedlot Production 10, 20, 30, a student must spend in the range of 25-50 hours of every 100 hours receiving practical instruction at a work site.

Training Plans

The appendices contain training plans in the form of checklists. These training plans can be used by teachers or farmers-trainers for organizing, planning and monitoring work study or instruction at a work site. Student expectations include observation, assistance or demonstration of a skill or set of skills.

Adjusting for Prior Learning and Experience

Many students, particularly those coming from farm backgrounds, may have already acquired some of the basic knowledge and/or competencies in feedlot production prior to taking the course(s). Teachers should assess individual students and evaluate their level of competency. Teachers should apply the Adaptive Dimension to Core Modules (by adjusting their instruction, materials and environment to support student achievement of course objectives) and encourage students to select optional modules that will enhance their knowledge, skills and abilities in feedlot production.

Students should develop their own learning contracts according to their needs. Each module has a suggested range of instructional hours allowing for flexibility in designing individual learning contracts.

Course Overview

In the Feedlot Production 10, 20, 30 series, there are no prerequisites for any of the courses. While it is recommended that students complete all three courses in the series, a teacher may choose to teach 20 or 30 without the others. In order to accommodate this option, few modules have prerequisite modules identified. When not providing the 10, 20 and 30 courses in order, however, teachers must review, and

may need to incorporate, learning objectives from modules at previous levels to ensure that students gain all the necessary knowledge and skills.

Module Code	Module	Suggested Time
Core and Optional Modules for Feedlot Production 10		
FEED01	Module 1: Farm Safety (Core)	7-9 hours
FEED02	Module 2: Communications (Core)	3-4 hours
FEED03	Module 3: Career Exploration (Core)	3-4 hours
FEED04	Module 4: Planning for Feedlot Operation (Core)	4-6 hours
FEED05	Module 5: Farm Equipment Maintenance and Repair (Core)	10-14 hours
FEED06	Module 6: Marketing (Core)	4-8 hours
FEED07	Module 7: Feedlot Cattle (Core)	5-7 hours
FEED08	Module 8: Cattle Behaviour (Core)	4-5 hours
FEED09	Module 9: Livestock Handling Equipment (Core)	4-6 hours
FEED10	Module 10: Feedlot Nutrition (Core)	4-5 hours
FEED11	Module 11: Transportation (Optional)	2-3 hours
FEED12	Module 12: Animal Health Care (Optional)	4-6 hours
FEED13	Module 13: Cattle Illnesses, Parasites and Diseases (Optional)	3-5 hours
FEED14	Module 14: Feedlot Maintenance (Optional)	3-5 hours
FEED15	Module 15: Horse Care, Handling, and Riding (Optional)	5-7 hours
FEED16A	Module 16A: Work Study Preparation and Follow-up Activities (Core)	5-10 hours
FEED17A	Module 17A: Work Study (Core)	25-50 hours
Core and Optional Modules for Feedlot Production 20		
FEED18	Module 18: Farm Safety (Core)	4-9 hours
FEED19	Module 19: Communications (Core)	3-4 hours
FEED20	Module 20: Career Exploration (Core)	3-4 hours
FEED21	Module 21: Planning for Feedlot Cattle Production (Core)	4-6 hours
FEED22	Module 22: Farm Equipment Maintenance and Repair (Core)	12-14 hours
FEED23	Module 23: Marketing (Core)	4-5 hours
FEED24	Module 24: Feedlot Cattle (Core)	2-3 hours
FEED25	Module 25: Dehorning and Castration (Core)	3-4 hours
FEED26	Module 26: Maintenance and Repair of Livestock Equipment (Core)	3-4 hours
FEED27	Module 27: Using Livestock Equipment Safely (Core)	3-4 hours
FEED28	Module 28: Feedlot Rations (Core)	4-6 hours
FEED29	Module 29: Veterinary Drug Protocols (Core)	2-3 hours
FEED30	Module 30: Marketing Systems (Optional)	4-6 hours
FEED31	Module 31: Forage Production (Optional)	4-5 hours
FEED16B	Module 16B: Work Study Preparation and Follow-up Activities (Core)	5-10 hours
FEED17B	Module 17B: Work Study (Core)	25-50 hours
Core Modules for Feedlot Production 30		
FEED32	Module 32: Causes and Prevention of Farm Accidents (Core)	4-5 hours
FEED33	Module 33: First Response for Farm Accidents (Core)	3-4 hours

FEED34	Module 34: Communications (Core)	2-3 hours
FEED35	Module 35: Career Exploration (Core)	3-4 hours
FEED36	Module 36: Farm Planning (Core)	3-4 hours
FEED37	Module 37: Farm Equipment Maintenance and Repair (Core)	10-12 hours
FEED38	Module 38: Digestive System and Feed Requirements of Cattle (Core)	8-12 hours
FEED39	Module 39: Specialized Feedlot Equipment (Core)	8-10 hours
FEED40	Module 40: Marketing Systems (Core)	5-6 hours
FEED41	Module 41: Animal Identification (Core)	4-5 hours
FEED42	Module 42: Code of Ethics in Animal Practice (Core)	4-6 hours
FEED16C	Module 16C: Work Study Preparation and Follow-up Activities (Core)	5-10 hours
FEED17C	Module 17C: Work Study (Core)	25-50 hours

Considerations for Program Delivery

Community Partnerships Involve Using Local Farms and Farmers to Learn

Throughout this program, feedlot operators and livestock experts are recommended as resource persons to enhance student learning and to provide practical experience. Students should also use related livestock production businesses and services such as:

- feed mills
- auction markets
- cattle buyers
- farm building contractors
- producer organizations
- veterinarians
- short-line equipment manufacturers or machinery dealers.

Teachers will need to seek assistance from feedlot operators in the community to provide opportunities for practical experience and to act as resources as required. Adjustments should be made to accommodate the particular circumstances of the community as well as the related experiences of the students.

Work study opportunities are a requirement of the course (e.g., 25 to 50 hours per credit).

Instructional Resources

There are a wide variety of resources for the instruction of feedlot production. Students should develop skills in finding and using the most current information on topics related to feedlot production.

Saskatchewan Agriculture, Food and Rural Revitalization is the most important source of current resources. Resources can be ordered from the Publication Distribution Centre Order Desk by telephone at (306) 721-4330, by fax at (306) 721-4626 or by e-mail at Valb.pad@sk.sympatico.ca. Saskatchewan Agriculture, Food and Rural Revitalization's web site is <http://www.agr.gov.sk.ca>.

Instructional Strategies and Methods

Feedlot Production 10, 20, 30 encourages the use of the following instructional strategies and methods. Consult Saskatchewan Learning's foundation document *Instructional Approaches: A Framework for Practice* (1991), for additional information. Many methods are recommended for use with the ATEC program.

experiential

- field trips
- field observations
- job shadowing.

interactive

- presentations including on-site demonstrations or symposiums
- discussions
- mentoring with co-operating farmer-trainer.

independent learning

- learning contracts
- student reference manuals.

Learning contracts and the creation of Student Reference Manuals are of particular importance in the ATEC Program.

Learning Contracts

Feedlot Production 10, 20, 30 is designed for more individualized exploration and application of skills and abilities through on-site practice with working farmers or on-site trainers. Learning contracts should be used to organize the on-site practice with the foundational and learning objectives required by the modules throughout the course. Examples of learning contracts can be found in Saskatchewan Learning's foundation document, *Student Evaluation: A Teacher Handbook*.

Student Reference Manual

The purpose of the Student Reference Manual is to be a repository of useful, work site reference material collected throughout the course and throughout the various levels. The Student Reference Manual will provide an exhibit of a student's effort, progress, and achievement over a period of time. The manual should be organized so that it is clearly useful to the individual student.

Throughout each level, students will be requested to prepare material to insert and maintain in the manual. The material in the manual should be evaluated on usefulness, completeness, accuracy, organization and presentation.

Preparing for Feedlot Production

The courses in the ATEC Program focus on the skills and abilities required at the technician level of feedlot production. Students are expected to achieve the basic competencies listed throughout the course by:

- engaging in hands-on, practical experiences with knowledgeable experts in feedlot production
- monitoring progress using checklists at key points throughout the course. These checklists should be self-assessed and verified by the farmer-trainer as well as the teacher.

The key factor to successful achievement of the basic competencies is the contribution made by the co-operating farmer-trainer. In order to establish a successful relationship, expectations should be discussed, defined and mutually agreed upon by the co-operating farmer-trainer and the teacher. Teachers should refer to the Work Study Guidelines, a section of the *Practical and Applied Arts Handbook* (2003) for specific direction.

Teachers should also prepare an inventory of other community resources, work study opportunities and field trip or demonstration sites prior to implementing Feedlot Production 10, 20, 30.

Planning Schedule for Teachers

Time period	To Do
Prior to course	Identify possible co-operating farmer-trainer* Review guidelines for Work Study Identify and select possible field trip or demonstration sites Identify possible work study opportunities.
Early in course	Work with students to: <ul style="list-style-type: none">• prepare individual learning contracts• identify and arrange field trip sites• identify and arrange work study opportunities.
Mid-way	Have students review individual learning contracts Discuss progress with co-operating farmers-trainers.
End of course	Remind students of deadlines Prepare for final assessment.

* Working with Saskatchewan Agriculture, Food and Rural Revitalization's (SAFRR) Green Certificate Program is considered optional but recommended in order for students to receive high school credit as well as certification through the SAFRR Green Certificate program. By having students enrol in the SAFRR Green Certificate Program, SAFRR can assist teachers with the identification of co-operating farmers-trainers as well as possible symposiums, field trips or demonstration sites.

Student Evaluation

There are three areas of importance in this curriculum on which teachers will collect data on student progress. Teachers should clearly outline their expectations of students and make students aware of the expectations for content (concept attainment), application (knowledge of processes), and experiential knowledge.

Areas of importance	Range of emphasis (%)	Suggested assessment techniques
Content (concept attainment)	20 – 30%	Ongoing student activities including written assignments, presentations, homework, attendance at workshops and symposiums
Application (knowledge and application of basic competencies and processes)	30 – 40%	Checklists indicating achievement of basic competencies in feedlot production
Experiential (application of knowledge; developing skills, abilities, processes and attitudes using actual situations; site visitations; and work study)	30 – 50%	Learning contracts (personal development and application of skills, abilities and attitudes) Student Reference Manual including appropriate ongoing documentation indicative of independent learning Work study component assessment.

Refer to *Student Evaluation: A Teacher Handbook* (1991) for examples of a variety of assessment and evaluation techniques.

Program Evaluation

Program evaluation is the systematic process of gathering and analyzing information about some aspect of the school program in order to make a decision or to communicate to others what is happening in a program.

By its nature, Feedlot Production 10, 20, 30 can accommodate the interests and needs of each individual student. The course also depends on the co-operation of farmers-trainers. Although assessment is time-consuming, the course should be assessed regularly to ensure that:

- the program is meeting the needs of the individual student
- the co-operating farmer-trainer/student relationship is successfully operating
- the program provides meaningful awareness, adequate exploration opportunities, and relevant experiences.

Techniques for gathering and analyzing information on the course are anecdotal records, interviews and surveys at various times of the year. The information that is gathered can be used to make decisions about the program in future years.

Relationship to Saskatchewan Agriculture, Food and Rural Revitalization's Green Certificate Program

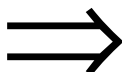
The Feedlot Production 10, 20, 30 is based upon Saskatchewan Agriculture, Food and Rural Revitalization's Green Certificate Program - Technician Level. The following chart indicates the relationship with SAFRR's Green Certificate Program. Students or teachers should contact Saskatchewan Agriculture, Food and Rural Revitalization's Green Certificate Program (306) 787-8191 for more information.

Agriculture Technician Program

Feedlot Production 10
Introductory Level
1 Secondary Level credit

Feedlot Production 20
Intermediate Level
1 Secondary Level credit

Feedlot Production 30
Advanced Level
1 Secondary Level credit



Saskatchewan Agriculture, Food and Rural Revitalization's Green Certificate Program

Green Certificate Program
Level I: Technician

Students completing all three courses of Feedlot Production will be eligible for certification as a Level I Technician: Feedlot Production through Saskatchewan Agriculture, Food and Rural Revitalization. This applies for all production sectors with the exception of pork. Students completing the pork production sector may be eligible to receive credit in SIAST's pork management program when articulation processes have been completed with Saskatchewan Learning and the Apprenticeship and Trade Certification Commission (ATCC).

The ATEC Program relies on a partnership of students, teachers, and co-operating farmers-trainers. Teachers may also wish to involve Saskatchewan Agriculture, Food and Rural Revitalization's Green Certificate Coordinator to assist in the program.

The following chart outlines the roles and responsibilities of each person involved in the ATEC Program. Teachers should review this information prior to making arrangements for delivery of the program.

Roles, Responsibilities and Accountability

The following charts indicate the role of each person involved in the ATEC Program.

Note: Working with the Saskatchewan Agriculture, Food and Rural Revitalization's Green Certificate Program is considered optional but is recommended in order for students to receive high school credit as well as receive certification through the Saskatchewan Agriculture, Food and Rural Revitalization Green Certificate Program. SAFRR's Green Certificate Program can also provide students with various learning opportunities through workshops, symposiums, and demonstrations.

Teacher
Read, interpret and comply with policy regarding Work Study.
Identify course needs of students and ensure the registration process.
Determine if the work site is acceptable. Facilitate the location and approval of a suitable training site. The co-operating farmers-trainers should: <ul style="list-style-type: none">• be qualified in the occupation• be able and willing to give direction to the student• have time to supervise and give direction.
Ensure that the work place is safe, complying with Occupational Health and Safety Standards.
Supervise the student's on-site work experience in accordance with school and Saskatchewan Learning policies.
Monitor student and co-operating farmer-trainer on a regular basis for progress and results on training.
Provide for a sound educational program for students.
Evaluate students.
Optional: Communicate with Saskatchewan Agriculture, Food and Rural Revitalization's Green Certificate Coordinator. Look for opportunities which would be of mutual benefit (i.e., symposiums, testing days for training periods, locating co-operating farmers-trainers, tour sites).

Student
Show initiative in taking the course and understanding the course requirements.
Establish an individual learning contract.
Participate in training sessions, symposiums, and meetings.
Learn the skills outlined in the course to the level required.
Work with the co-operating farmer-trainer to learn and acquire basic competencies.
Maintain records in the Student Reference Manual.
Keep records, prepare reports, and complete other evaluation procedures required by the teacher to receive high school credit in the course.
Optional: Attend a test day for a training period as required by Saskatchewan Agriculture, Food and Rural Revitalization's Green Certificate Program.

Co-operating Farmer-Trainer
Participate in orientation for the ATEC Program.
Spend time and energy to help in the training of the student.
Provide a safe, learning environment for students.
Ensure that students have achieved competence in the skills according to the various standards outlined in the course.
Communicate with the teacher on the student's program.

Optional: SAFRR Green Certificate Coordinator
Work with the teacher to establish the program.
Recognize the difference between the roles of the teacher, co-operating farmer-trainer, student and SAFRR Green Certificate Coordinator.
Provide information and outline the process to students who wish to enroll in the ATEC Program for high school credit as well as receive certification through Agriculture and Food's Green Certificate Program – Technician Level.
Help supply materials, manuals, and other resources which support the delivery of the program.
If requested by the teacher, help identify suitable co-operating farmers-trainers for various production sectors.
Invite students to participate in test days for training periods, workshops or symposiums.
Arrange testers and organize test days.

* These tables have been modified from Battle River Regional Division #31 (1997), *Green Certificate Program: Handbook for Administrations and School Coordinators*, Camrose, AB.

Core and Optional Modules for Feedlot Production 10

Module 1: Farm Safety (Core)

Suggested Time: 7-9 hours

Level: Introductory

Prerequisite: None

Module Overview

This module is used to establish the critical importance of farm safety. Students are alerted to become aware of a variety of potential farm hazards. Students are also introduced to safety precautions and procedures associated with operating and maintaining farm vehicles.

Teachers, students and farmers/on-site trainers should be familiar with farm safety including taking a farm safety audit and requiring continuing compliance with farm safety precautions. Further information can be obtained from the Farm Safety Division, Occupational Health and Safety, Saskatchewan Labour.

The significance of farm safety should be reinforced by stipulating to students that failure to demonstrate farm safety procedures would result in non-completion of the program.

Foundational Objectives

- To understand and use farm safety procedures at all times.
- To be able to recognize potential hazards on farms.
- To observe, assist with or demonstrate skills in practicing farm safety.

Common Essential Learnings Foundational Objective

- To understand how technology influences occupational roles within feedlot production and affects the work site (e.g., occupational health, safety, etc.). (TL)

Learning Objectives		Notes
1.1	To identify potential farm hazards.	Have a farm safety specialist talk to the students about general farm safety. Use site visitations and have students identify potential hazards and precautionary measures. Explain why these areas need cautionary attention. Contact Saskatchewan Labour, Prevention Services Branch, (787-8399 or 1-800-567-7233) for more information.
1.2	To describe the use of safety guards, shields, and other safety devices used on farm equipment.	Demonstrate a safety walk around all machinery and other devices to check for the placement and installment of safety devices. Point out the use of safety guards, shields and other safety devices on farm equipment. Have students demonstrate the ability to locate, read, and comprehend the warning messages on the farm equipment.

Learning Objectives

Notes

Involve students in a discussion on farm safety around livestock.

Student Reference Manual: Have students prepare a safety checklist and inspection to be used on a routine basis.

- 1.3 To describe the kind of proper clothing and protective gear necessary to observe farm safety.

Discuss the kind of clothing, footwear, gloves, glasses, and breathing and ear devices necessary to work on farms and operate farm machinery. Identify the farm jobs or situations that warrant these precautionary measures.

- 1.4 To distinguish between a safe practice and an unsafe practice when using a number of manual and power tools as well as lifting equipment such as jacks and winches.

Manual and power tools as well as lifting equipment (jacks and winches) are used by all production sectors. Often, students do not recognize that these power tools and lifting equipment can be potentially dangerous. Have students examine the safety hazards associated with these kinds of small tools, jacks or winches.

- 1.5 To identify potential fire hazards and prevention procedures on farms.

Fires on farms can be caused by a variety of sources. Have students list the various fire hazards on farms. Have students describe fire prevention on farms and investigate various types of fire equipment.

Student Reference Manual: Have students prepare a list and description of the various types of fire extinguishers.

- 1.6 To know when and how to use basic First Aid.

Basic First Aid is an essential skill on farms. Students would benefit from taking First Aid courses. Invite a practical nurse or St. John's Ambulance personnel to instruct students in basic first aid such as dealing with cuts, burns, sprains and breaks. Students should be familiarized with emergency procedures for contacting the police station, ambulance and fire department.

Student Reference Manual: Have students itemize a list of basic First Aid procedures.

Module 2: Communications (Core)

Suggested Time: 3-4 hours

Level: Introductory

Prerequisite: None

Module Overview

Effective oral and written communication skills are important skills in all areas of feedlot production. Throughout the course, students should be encouraged to develop and use effective verbal and written communication skills. An important component of effective communication is the use of appropriate industry language including accurate technical terms. Teachers may wish to have students establish vocabulary lists.

Foundational Objectives

- To develop effective oral and written communications skills.
- To observe, assist with or demonstrate effective communication.

Common Essential Learnings Foundational Objectives

- To gradually incorporate the vocabulary of feedlot production into their talking and writing. (COM)
- To understand and use organizational structures (e.g., to order ideas sequentially or chronologically, to compare and contrast, to discern cause and effect). (COM)

Learning Objectives		Notes
2.1	To understand the need for reliable information throughout all activities associated with feedlot production.	<p>Providing and understanding current and reliable information involves a number of effective oral and written communication skills. Discuss with students the various kinds of communication required in feedlot production including reading and forwarding messages, reading and interpreting animal health products, calculating feed rations or rates of gain, and interpreting manuals and other types of information.</p> <p>Non-verbal communication can interfere with messages. Role play various situations with students, emphasizing employee/employer interactions.</p>
2.2	To identify the characteristics of effective verbal and written communication.	<p>Effective use of words is very important in making sure that the message is clearly understood. Effective communication depends on:</p> <ul style="list-style-type: none">• choice of words• simple instructions and answers• concise, specific language. <p>In farming, communication is critical not only to the operation of the farm but also to follow safety procedures. Have students identify the information and communication needs on a farm.</p>

Learning Objectives	Notes
2.3 To develop skills in receiving and passing on messages and important information.	<p>Farmers are continually receiving and passing on information on everything from machinery repairs to livestock market reports. There are specific skills that a student should use when receiving a message that needs to be passed on as well as giving messages. Often, these messages are verbal (i.e., telephone, face to face) or through electronic communication such as faxes and e-mail.</p> <p>Have students compose and pass on messages and information, that might be used on a farm, through a variety of ways. Examples include:</p> <ul style="list-style-type: none">• telephone messages with written notes• messages left and retrieved through voice mail or answering machines• messages delivered or received through faxes• face to face messages and information
2.4 To locate and use specific information contained in a variety of publications.	<p>Feedlot operators make use of many sources of information. Finding and sorting information is an important skill particularly for technical information including farm equipment maintenance, feed costs, billing information, and animal health products. Provide students with a number of manuals and other technical information. Have students locate and sort information specific to feedlots.</p> <p>Student Reference Manual: Have students list useful manuals and publications related to feedlot production.</p>

Module 3: Career Exploration (Core)

Suggested Time: 3-4 hours

Level: Introductory

Prerequisite: None

Module Overview

Students should explore the career options available throughout the course on feedlot production. This module can be used to guide for future career and educational plans. It also introduces students to the concept of employability skills.

Foundational Objectives

- To create an awareness of the post-secondary programs, careers, and employment opportunities in the feedlot industry.
- To develop a career plan.
- To understand the concept of employability skills.
- To observe, assist with or demonstrate ability in making career choices and using employability skills.

Common Essential Learnings Foundational Objectives

- To seek information through a steadily expanding network of options including other libraries, databases, individuals and agencies. (IL)
- To recognize that learning is continuous from birth to death (e.g., life experiences). (IL)

Learning Objectives	Notes
3.1 To develop individual career profiles.	<p>This learning objective is used to help students identify their areas of interest and abilities in feedlot sector. This will enable students over the long term to maintain their enthusiasm as well as act as a positive reinforcement. Ask students to create an inventory of activities and interests.</p> <p>Assist students in identifying their academic and non-academic strengths including their present knowledge base. Encourage students to value their life experiences and their abilities outside of school. Emphasize the importance of relevant experience and expertise.</p> <p>Have students prepare a list of the many kinds of career opportunities in the feedlot industry.</p> <p>Have students research career clusters and the range of occupational opportunities related to feedlot production.</p> <p>Encourage students to investigate various factors before making career choices including:</p> <ul style="list-style-type: none">• description of the work duties• personal qualities an individual must possess to succeed in the career

Learning Objectives

Notes

- processes required to become certified within the career or trade
- length of education and training required
- school locations
- cost of education and up-grading
- trends within the business or career
- worst and best aspects of the job
- starting salary
- opportunities for advancement.

Have students use this information to develop individual career profiles and a statement of educational and career goals particularly related to the feedlot industry.

3.3 To identify basic personal and employability skills.

This learning objective is used to reinforce the notion of employability skills including:

- teamwork
- punctuality
- personal responsibility
- positive attitude
- co-operation.

Have students provide a description of each of these employability skills. Role play situations with students demonstrating where these skills would come into play.

3.4 To understand and practise time management.

Time management is an important lifelong skill. Have students list the jobs on a particular farm that need to be done on a weekly, monthly, seasonal or yearly basis. Prioritize the jobs and ask students to prepare a time management system.

Have students list their own jobs including schoolwork and extra curricular activities. Have students prioritize and prepare a personal time management system.

Student Reference Manual: Have students include a personal time management system.

Module 4: Planning for Feedlot Operation (Core)

Suggested Time: 4-6 hours

Level: Introductory

Prerequisite: None

Module Overview

This module is used to outline the basic types of planning required for the operation of a feedlot.

Foundational Objectives

- To understand basic types of planning used in the operation of feedlots.
- To collect and use information related to feedlots.
- To observe, assist with or demonstrate abilities in planning for a feedlot operation.

Common Essential Learnings Foundational Objectives

- To distinguish between primary and secondary sources of information. (COM)
- To apply conclusions and generalizations to new situations. (CCT)

Learning Objectives	Notes
4.1 To describe the kinds of plans that are used in feedlots.	<p>There are a number of plans used daily, monthly and yearly on a farm. Some of these include:</p> <ul style="list-style-type: none">• financial plans• marketing plans• cash projections• equipment usage• feed purchases• herd health regimes. <p>Discuss with students the basics of a plan, what it is used for and how it is developed. Plans are used to assist in the daily, monthly and yearly operation of a feedlot.</p> <p>Emphasize to students that plans are used to review past performance, identify future plans and how they might be achieved and monitor progress.</p>
4.2 To develop a plan for the operation of a feedlot.	<p>Describe the basic elements of planning. Ask students to apply these basics and provide a brief description using these elements in a plan for the operation of a feedlot. Include considerations for employees, finances, and equipment use.</p> <p>In preparing a plan for the operation of a feedlot it is important to identify all the resources that are available or required. To prepare a plan for the operation of a feedlot, students need to investigate and describe:</p> <ul style="list-style-type: none">• sources of cattle, feed and water• environmental considerations

Learning Objectives

Notes

- availability of cattle
- size of the operation
- human and equipment resources
- buildings, fences and corrals
- feed storage and method of feeding
- financial resources
- markets.

Have students develop a plan for the operation of a feedlot.
Use Saskatchewan Agriculture, Food and Rural
Revitalization's web site to assist in finding information.

Student Reference Manual: Have students prepare a number
of plans for buildings, fences, corrals, livestock handling
equipment and feed storage.

Module 5: Farm Equipment Maintenance and Repair (Core)

Suggested Time: 10-14 hours

Level: Introductory

Prerequisite: None

Module Overview

This module is used to give students an introduction to general maintenance and repair of farm machinery. Farm safety is stressed throughout the module.

Note: In dealing with all modules on farm equipment, teachers should inform students of the dangers and legalities of under-aged drivers operating farm machinery.

Foundational Objectives

- To develop basic skills and abilities in the repair and maintenance of farm machinery.
- To develop skills and abilities in the use of hand and power tools which are used to service farm machinery.
- To observe, assist with or demonstrate skills and abilities in maintaining and repairing farm equipment.

Common Essential Learnings Foundational Objectives

- To determine own learning needs. (IL)
- To analyze data to create hypotheses, predictions and estimates. (CCT)

Learning Objectives	Notes
5.1 To develop skills in the processes associated with regular machinery maintenance.	<p>The first step in maintenance of farm machinery is a preventive maintenance process (i.e., checking oil and fuel levels, cleaning radiators, preventing chaff build-up and monitoring gauges).</p> <p>Explain regular maintenance processes to students. Have students use the manuals of several different kinds of farm equipment to describe preventive maintenance practices related to the particular machine.</p> <p>Student Reference Manual: Have students develop a checklist of preventive maintenance procedures for each piece of feedlot equipment.</p>
5.2 To identify and describe a variety of different types of tools (power and manual).	<p>There are a number of screwdrivers, wrenches, and tools used in the daily maintenance and operation of feedlot equipment.</p> <p>Each tool has a distinct operational procedure. Have students describe how to use a variety of common farm tools. Students should examine and demonstrate the standards illustrated in the operator's manual of each specific tool.</p>

Learning Objectives

Notes

Have students determine the different types and sizes of wrenches (manual and power) that best suit the job that the wrench is designed to achieve.

Demonstrate how the correct selection and use of the specific tool to fit the correct screw or bolt is very important to prevent damage to the tool, bolt or screw.

Distinguish between a safe practice and an unsafe practice when using specific manual and power tools.

- 5.3 To identify and describe the characteristics of the common farm mechanical, hydraulic, and hand jacks and winches.

In order to maintain machinery, it is often necessary to hoist or elevate machinery, parts of machinery, or other objects while working around the farm. There are a number of different ways to hoist an object depending on the structure of the article. It is important for students to be aware of the weight range, strength, and capacity of the jack and the weight of the item being lifted.

Have students compare and contrast the uses and efficiencies of the direct vertical, automotive, floor type, and any other type of lift. Identify the type of lift that is best suited for each job.

Student Reference Manual: Have students prepare a summary of the type of common farm mechanical, hydraulic and hand jacks and winches.

- 5.4 To identify the dangers and hazards associated with common lifting equipment.

Overloading, tipping of the jack, and damaged or worn equipment can be just a few of the hazards when using lifting equipment. Select and illustrate the dangers and hazards that are associated with common lifting equipment.

Demonstrate the correct operating procedures in using the jack or hoisting equipment in a safe and efficient manner.

- 5.5 To identify the transportation regulations for farm equipment and livestock on public roads.

Transporting livestock and large farm equipment requires skills and caution. The province and rural municipalities have a number of regulations relating to agriculture. It is the responsibility of the farmer or rancher to know and abide by these regulations. Legal settlements for negligence can be very costly to a farming operation.

Learning Objectives

Notes

Identify and explain licensing, insurance, operator's qualifications and *Dangerous Goods Transportation Act* for handling all types of farm equipment on public roads. Consideration should be given to liability insurance, license class, and types of roads.

Examine and describe the requirements for width, height, length, lighting, slow moving signs, clear visibility and seasonal restrictions on all farm equipment.

Livestock transportation regulations also specify the types of trailers that can be used as well as restrictions to the amount of time that livestock can be hauled.

Student Reference Manual: Have students prepare a number of descriptions/situations of transportation of livestock or farm equipment. Include outside sources of information for specific rules and regulations (e.g., Highway Traffic Board for over-width, over-height vehicles).

- 5.6 To understand the need for having emergency equipment.

Outline and give examples of the tools and emergency equipment which are required if the farm machinery has a crisis while in transport on a public road. Assess students' knowledge using a short answer test, oral interview or other assessment technique.

Module 6: Marketing (Core)

Suggested Time: 4-8 hours

Level: Introductory

Prerequisite: None

Module Overview

Marketing is one of the most important activities in the operation of a feedlot. This module gives students basic awareness and knowledge of agricultural marketing.

Foundational Objectives

- To develop an understanding of how agricultural commodities are marketed.
- To develop an awareness of the market information available to producers.
- To observe, assist with or demonstrate skills in agricultural marketing.

Common Essential Learnings Foundational Objectives

- To read and interpret quantitative information found in newspapers, magazines and government, political and business publications and evaluate the validity of arguments based on such information. (NUM)
- To propose generalizations that explain relationships. (CCT)

Learning Objectives		Notes
6.1	To gain first hand knowledge of how marketing information is used in producing an agricultural commodity.	<p>Students would benefit from a field trip to an auction barn, inland terminal or grain elevator as a practical introduction to marketing. Prepare hosts ahead of time regarding the level of students' understanding and the kind of information that would be helpful to students.</p> <p>Students could use a case history or interview approach to gather and sort information about livestock marketing.</p>
6.2	To describe the basic steps involved in livestock marketing.	<p>At this level, students should develop only a basic understanding of livestock marketing. Marketing involves gathering and making decisions about when to buy or sell calves, cows or finished cattle. Have students locate and sort current market information.</p> <p>Have students provide a description of the various kinds of markets used in marketing feedlot cattle.</p>

Module 7: Feedlot Cattle (Core)

Suggested Time: 5-7 hours

Level: Introductory

Prerequisite: None

Module Overview

This module demonstrates a practical knowledge of feedlot cattle breeds and types. Students begin to develop an understanding of the most desirable characteristics for feeding various classes of cattle (steers, cows, heifers, virgin bulls, yearlings, short keep cattle, backgrounders, finished or fat cattle). Throughout this course, students should develop and use vocabulary associated with the feedlot industry.

Foundational Objectives

- To develop an understanding of the desirable characteristics for various types, ages and sex of feedlot cattle.
- To observe, assist with or demonstrate practical knowledge of feedlot cattle breeds and types.

Common Essential Learnings Foundational Objectives

- To generate, classify and explore reasons or rules underlying categories. (CCT)
- To organize information for reporting, discussing or sharing. (COM)

Learning Objectives		Notes
7.1	To develop an understanding of the basic terminology used in describing feedlot cattle.	<p>Students need to develop an understanding of the specific terminology used in describing different types of feedlot cattle. With the help of feedlot operators, cattle producers, livestock specialists, cattle buyers, or other resources, introduce students to a variety of terms including:</p> <ul style="list-style-type: none">• backgrounders• short-keep cattle• finished cattle• rail grade• fats cattle• yearlings• grass cattle• rate of gain• cattle on feed• cost per pound of gain• shrinkage
7.2	To identify suitable types of feedlot cattle by breeds, types, ages, and condition.	<p>Have the students research the different cattle breeds and cross-breeds that are best suited for feedlot production. Have students identify the advantages and disadvantages of each. Students should also investigate market reports and look at which types demand the best price.</p>

Learning Objectives**Notes**

- | | | |
|-----|---|--|
| 7.3 | To describe the most desirable physical characteristics for calves, yearlings, cows, short keeps, backgrounders and fat cattle. | Ask a livestock specialist, feedlot operator or cattle buyer to discuss what to look for when examining the best types of cattle to place in a feedlot. Students should develop an understanding that these characteristics are needed to maximize production for feedlot profits. |
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Module 8: Cattle Behaviour (Core)

Suggested Time: 4-5 hours

Level: Introductory

Prerequisite: None

Module Overview

The students will develop an understanding of the anatomy of beef cattle and consider what adaptations the animal has that could affect its habits and behaviours in a feedlot situation. Students will develop a knowledge of the nature of cattle vision and hearing and the effects it has on its behaviour.

Foundational Objectives

- To recognize the relationship between the physical characteristics of cattle and their habits and behaviours in a feedlot.
- To observe, assist in reacting appropriately to, or demonstrate an understanding of feedlot cattle.

Common Essential Learnings Foundational Objectives

- To ask relevant questions in order to further their own understanding of cattle behaviour. (COM)
- To make careful observations and to draw conclusions from those observations. (COM, CCT)

Learning Objectives	Notes
8.1 To describe the physical characteristics of beef cattle which are significant in a feedlot situation.	<p>Invite a livestock specialist, veterinarian, feedlot operator or other knowledgeable person to discuss a variety of physical characteristics which are significant in a feedlot situation. Some of these include:</p> <ul style="list-style-type: none">• the digestive system of cattle and how it affects what type of feed cattle eat, feeding times, transportation and overall health• the foot and leg structure of cattle in relation to size, weight, and the animal's ability to move through chutes or on various types of flooring• the effect of weather on animal health• the effects of touching animals with stock prods or whips and how feedlot cattle react to pain and shock• the effect of shock on feedlot cattle including transportation, handling and weather• the nature of the cattle's vision and hearing and its effect on cattle behaviour
8.2 To understand the effects of stress on feedlot cattle.	<p>A number of factors can induce stress on feedlot cattle. Stress in feedlot cattle reduces the ability to digest feed efficiently and can also cause illness and disease.</p> <p>Have a feedlot operator discuss the various kinds of stress that affect feedlot cattle including:</p> <ul style="list-style-type: none">• the nature of the cattle vision (360 degrees) and how it affects cattle behaviour both positively and negatively.

Learning Objectives**Notes**

- the nature of cattle hearing and how noise can cause stress (e.g., loud noises can cause excitability and increase heart rate)
- moving cattle
- weaning
- vaccinations
- changes in feed.

Students should become knowledgeable about techniques to reduce stress on feedlot cattle.

Module 9: Livestock Handling Equipment (Core)

Suggested Time: 4-6 hours

Level: Introductory

Prerequisite: None

Module Overview

Students will develop a working knowledge in the operation of squeezes, gates, handling aids (e.g., prods, whips), chutes, and scales. Students will describe the personal safety hazards associated with this equipment for the operator and the cattle.

Foundational Objectives

- To understand the operation of livestock handling equipment.
- To recognize the safety procedures associated with using this equipment.
- To observe, assist with or demonstrate skills in safely operating livestock handling equipment.

Common Essential Learnings Foundational Objective

- To explore the evolution of technological innovations within livestock handling. (CCT)

Learning Objectives	Notes
9.1 To develop safety skills in handling cattle when using scales, chutes, and gates.	Demonstrate the hazards associated with scales, chutes, and gates and describe techniques which should be used to minimize accidents. Remind students that they should be alert and concentrate on the tasks that are required. Discuss with students how they should handle animals to minimize trampling, kicking, butting or other kinds of animal behaviour which would be harmful both to animals and students.
9.2 To identify and describe the workings of a squeeze.	Identify the parts, and describe the workings and function of each part, on a manual and power squeeze. Students should be able to demonstrate the proper settings and maintain the appropriate squeeze pressures. Demonstrate the proper way to set a headgate to suit the animal in order to properly restrain it. Have students demonstrate the ability to work and adjust the squeeze.
9.3 To identify and describe the workings of a cattle scale.	List and demonstrate the parts of a scale to students. Describe the limits of the scale. Demonstrate to students how to prepare the scale for proper operation including balancing and cleaning. Students should demonstrate proper operating techniques and describe key points of accurate scale operation. Ensure that students can record weights accurately.
9.4 To demonstrate the proper use of handling tools such as prods and whips.	Students will describe the proper selection of handling devices/tools that will allow the animals to be moved efficiently with the least amount of stress. The students will identify what works best for what jobs in order to minimize stress on the animals.

Module 10: Feedlot Nutrition (Core)

Suggested Time: 4-5 hours

Level: Introductory

Prerequisite: None

Module Overview

Students need to be knowledgeable about the basic feed requirements needed to grow and finish feedlot cattle. Students will investigate the requirements of a feeding management plan including different types of rations. An important employability skill is for students to be able to follow directions and maintain accurate records of feeding plans.

Foundational Objectives

- To become knowledgeable about the basic feed requirements.
- To be able to follow directions and maintain accurate records of feeding plans.
- To observe, assist with or demonstrate knowledge and skills related to feedlot nutrition.

Common Essential Learnings Foundational Objectives

- To distinguish between quantitative situations where precision is required and those where approximations are acceptable. (NUM)
- To distinguish between primary and secondary sources of information. (COM)

Learning Objectives	Notes
10.1 To develop an understanding of the basic elements and considerations of feed rations.	<p>Invite a livestock specialist or feedlot operator to discuss the basic requirements of feed rations for the various types or kinds of cattle which may be in a feedlot. Have students investigate the nutrient qualities of various types of feed and prepare basic feed rations. (Effective August 1997, both Canada and the United States banned feed that contains cattle protein. Feeding of cattle protein to other cattle is a practice believed to contribute to the spread of mad cow disease known as bovine spongiform encephalopathy (BSE). BSE is a fatal disease that destroys the brains of infected cattle. Humans can contract a form of the disease, known as variant Creutzfeldt-Jakob, by eating tissue from the brains, spinal cords and nervous systems of infected animals. Creutzfeldt-Jakob is an incurable disease.)</p> <p>Student Reference Manual: Have students prepare a chart of basic elements and considerations needed for feed rations. Include a list of supplements and the costs.</p>
10.2 To develop an understanding of the relationship between the condition of cattle and the type of feeding plan used.	<p>At this level, students should develop an understanding that adjustments in feeding plans need to be made according to the size and type of cattle being feed. Demonstrate to students how to assess the condition of the cattle in a certain pen and plan the food for maximum growth at minimum cost. The</p>

Learning Objectives**Notes**

proper mixing techniques and proportions should be analyzed. Have students develop a plan that accommodates the complete growth cycle of the animals.

Student Reference Manual: Have students develop a chart listing the type, age, sex and condition of cattle and the recommended feed plan.

10.3 To develop and use feeding records.

Feedlot operators need to develop and maintain careful records indicating the amount and kind of feed consumed by the animals. These records should be “user-friendly” and easily accessible on a daily basis. Have students look at a variety of plans and develop their own if necessary.

Module 11: Transportation (Optional)

Suggested Time: 2-3 hours

Level: Introductory

Prerequisite: None

Module Overview

Have students discuss the effects of trucking on cattle behaviour. Students will review the effects of touch from stock prods and whips and consider how livestock react to shock or long trailer rides without water or feed.

Foundational Objectives

- To develop skills in transporting cattle to cause the least amount of stress on the animal.
- To observe, assist with or demonstrate skills in transporting cattle.

Common Essential Learnings Foundational Objective

- To demonstrate humane care of animals. (PSVS)

Learning Objectives	Notes
11.1 To describe the problems of handling cattle for transportation.	The people handling cattle must be conscious of the amount of body movement, noise level, and respect to ensure animal safety, health and welfare. The handlers must show patience, care and concern. The stress for animals depends on what you do when handling them and on forward planning to know where you want animals to go and whether they will fit in a space pen or chute. Overcrowding can cause unnecessary stress. Cattle that are being transported long distances should be accommodated by providing the plans for water, food, and safety of the animal in transport.
11.2 To demonstrate the correct selection of handling aids and their proper use in moving cattle under a variety of situations.	Animals must be moved efficiently and smoothly in order to reduce the amount of stress for the animal. The people in charge of moving the animals must be aware of what works best in the given situation. It is important to assess the situation ahead of time and decide on the proper equipment to use to move the animals.

Module 12: Animal Health Care (Optional)

Suggested Time: 4-6 hours

Level: Introductory

Prerequisite: None

Module Overview

Animal health care is optional at this level and required as students enhance their knowledge of feedlot operation. At this time, students should become familiar with the overall health care practices required at feedlots, including the need to accurately identify any animals which may be ill or injured.

Foundational Objectives

- To develop good animal health care practices.
- To develop basic knowledge about animal health products.
- To observe, assist with or demonstrate knowledge of animal health care practices.

Common Essential Learnings Foundational Objectives

- To demonstrate humane care of animals. (PSVS)
- To use a variety of resources to cover the breadth and depth of the topic of animal health care. (COM)

Learning Objectives	Notes
12.1 To identify methods of identifying sick or injured animals in a feedlot.	<p>Injured or sick feedlot animals can be identified by tags, brands or by marking with livestock markers. There are many types of tags that can identify a large amount of information about the animal. Each feedlot has developed a specific method for identifying animals.</p> <p>Have students investigate the methods used to identify sick or injured animals. In addition, have students describe safety hazards associated with tagging or other types of identification, and describe key techniques or practices to ensure the animals' safety.</p>
12.2 To identify and describe the nature of vaccines and how they work.	<p>Vaccines are preventative drugs that stimulate the immune system. Each type of vaccine is used to prevent specific diseases. Students should develop an understanding of the most common vaccines including how they should be handled, proper dosage, and how to document and record the procedure in the animal record system.</p> <p>Student Reference Manual: Have students develop an animal health record system.</p> <p>Students should also develop a chart of the most common vaccines including when they are used, dosages, handling, and storage.</p>

Module 13: Cattle Illnesses, Parasites and Diseases (Optional)

Suggested Time: 3-5 hours

Level: Introductory

Prerequisite: None

Module Overview

Students will research and describe the different types of illnesses or diseases and make a list of the symptoms. Students will explain precautionary measures that prevent the diseases from developing in a feedlot. While optional at this basic level, students will be required at more advanced levels to demonstrate knowledge of cattle illnesses and diseases.

Foundational Objectives

- To develop a basic knowledge of feedlot diseases, parasites, and disorders.
- To understand the basic precautionary practices to prevent diseases or infections from occurring within a feedlot.
- To observe, assist with or demonstrate knowledge of the types of illnesses, parasites and diseases that affect feedlot cattle.

Common Essential Learnings Foundational Objective

- To make notes and organize within a system such as a chart or database. (COM)

Learning Objectives	Notes
13.1 To describe the range of symptoms of respiratory diseases, eye disorders, feet and leg disorders, and skin disorders.	<p>Discuss with students the following range of symptoms:</p> <ul style="list-style-type: none">• Respiratory diseases have symptoms of fever, cough, and rapid breathing.• Eye disorders may be in form of pink eye, cancer eye or injury. Look for inflammation, watery, discharge, or smell.• Feet and leg disorders may be foot rot, cracks or wounds in hoof or bruises. Look for lameness, swelling or stiffness.• Skin disorders may be warts, mange, cuts or ringworm. Look for change of appearance on the hide of animals. <p>Student Reference Manual: Have students develop a chart listing common diseases or injuries, their symptoms and treatment.</p>
13.2 To describe common internal and external parasite disorders, their nature, and symptoms or appearance.	<p>The internal parasites (worms, warbles) and external (lice, ringworm, mange, mites, flies) can be treated with pesticides and other animal health products. Students should acquire a knowledge for identifying these symptoms.</p>
13.3 To develop a basic understanding of common diseases and disorders of the digestive tract.	<p>Two of the most common disorders that occur with feedlot cattle are bloat and rumen overload. Feedlot operators or other livestock producers should describe bloat and rumen overload to students indicating both symptoms and prevention.</p>

Module 14: Feedlot Maintenance (Optional)

Suggested Time: 3-5 hours

Level: Introductory

Prerequisite: None

Module Overview

The ability to maintain a feedlot is very important to the overall success of the operation. Students should use the appropriate tools for corral and fence mending. Without the constant upkeep of the feedlot, cattle can be easily injured and maximum production is reduced. Students will be able to identify and describe hazards associated with fencing jobs and power post pounders and demonstrate procedures to minimize dangers. Students will perform inspection of feed bunks, water troughs, and other pen facilities. Students should demonstrate the ability to check, maintain, and repair fences, waterers, and gates.

Foundational Objectives

- To demonstrate the ability to check, maintain, and repair feedlot buildings, fences, and facilities.
- To describe the hazards associated with using maintenance equipment.
- To observe, assist with or demonstrate skills and abilities required for feedlot maintenance.

Common Essential Learnings Foundational Objectives

- To learn through synthesizing understandings, experiences, interests and needs. (IL)
- To make careful observations and make decisions based on those observations. (COM, CCT)

Learning Objectives	Notes
14.1 To describe the inspection procedures of feed bunks, watering systems, and pen facilities.	<p>Some of the inspection procedures used in feedlots are:</p> <ul style="list-style-type: none">• checking the feed consumption and comparing the findings to the yard sheet to verify if the correct amount of food is available• looking for wastage, spillage, and spoiled feed and reporting all findings• examining the water supply for operation, temperature, electrical shock, cleanliness, and overflow• checking for damaged or loose fences, gates, and feed bunks. <p>Students should be able to accurately communicate the results of their inspection either verbally or using a written description.</p> <p>Student Reference Manual: Have students make and use an inspection checklist of a feedlot.</p>
14.2 To demonstrate the use of maintenance tools around a feedlot setting.	<p>Have the students demonstrate the use of fencing tools, power post pounder and other types of maintenance tools showing confidence and preciseness. Have the students demonstrate the safety that is required to operate these tools and to take all precautionary measures to ensure the safety of everyone.</p>

Module 15: Horse Care, Handling, and Riding (Optional)

Suggested Time: 5-7 hours

Level: Introductory

Prerequisite: None

Module Overview

In today's mechanized world, there is still a place for the horse when handling cattle in a feedlot operation. Horses have a certain calming or subtle force which cattle react to with less stress than a motorized vehicle. Many feedlots use horses and pen-checkers to care for and handle cattle.

Foundational Objectives

- To identify and describe factors and instincts or personality traits which affect behaviour of a horse.
- To demonstrate correct selection, and care, of tack and proper saddling procedures.
- To identify hazards associated with riding and describe key points of technique which minimize injury to horse and rider.
- To observe, assist with or demonstrate skills associated with using a horse in a feedlot.

Common Essential Learnings Foundational Objective

- To demonstrate humane care of animals. (PSVS)

Learning Objectives	Notes
15.1 To identify and describe basic horse behaviour under a variety of conditions.	<p>Students should be able to demonstrate calmness around horses when handling animals. It is important for the operator to treat animals humanely while they are gaining familiarity with the horse.</p> <p>Horse behaviour depends on the particular conditions, herd size, and dynamics of the herd. Have students discuss various aspects of horse behaviour.</p>
15.2 To demonstrate proper tacking of the horse and acceptable riding skills required for handling cattle.	<p>The students should demonstrate the correct way to tack a horse making sure that the blankets, cinches, and other tack are properly fitted. Students should demonstrate the proper riding skills needed around a feedlot setting.</p>

Module 16A, B, C: Work Study Preparation and Follow-up Activities (Core)

Suggested Time: 5-10 hours

Level: Introductory, Intermediate, Advanced

Prerequisite: None

Module Overview

This module is used to prepare students for work study placement. Learning objectives include pre-placement information, preparation for interviews, and expectations for the work site experience.

Foundational Objective

- To develop work site skills in the feedlot production sector.

Common Essential Learnings Foundational Objective

- To increase awareness of a variety of employability skills in the feedlot. (CCT, COM, PSVS, TL)

Learning Objectives		Notes
16.1	To create an awareness of the expectations of each of the partners in the work study component.	<p>In order to establish a successful working relationship with all of the partners involved at the work site, it is important to define the expectations of each partner.</p> <p>Refer to Guidelines for Work Study, a section of the <i>Practical and Applied Arts Handbook</i> (2003), for expectations of business, student, teacher monitor and school.</p>
16.2	To determine factors that affect the student contribution at the work site. (CCT)	<p>The students may formulate a list of the knowledge, skills and attitudes that students bring to the work site and how each may impact on their jobs. Their lists may include topics such as:</p> <ul style="list-style-type: none">• school subjects• past experiences• self-concept and personality• needs, values and interests• knowledge, skills or attributes• career goals and plans. <p>Ask students to do a self-assessment of their knowledge, skills and attitudes using the items in the above list as a guide. Have students explain how such knowledge and skills are valuable to the beef industry. Try to incorporate the value of communication and teamwork in the discussion.</p>
16.3	To foster an awareness of building good communication in the workplace.	<p>Discuss verbal and non-verbal communication. List some ways in which negative non-verbal communication may be addressed. Encourage students to role play ways of demonstrating effective techniques of verbal communication on the job when giving or</p>

Learning Objectives

Notes

receiving instructions, and when resolving conflict. With the use of case studies, divide the students into groups and have them role play to show how effective use of communication can be used to resolve conflict on the job.

- 16.4 To develop a résumé and cover letter that can be forwarded to a potential employer.

The student will develop a résumé and cover letter using the correct format. ATEC teachers can work with other staff members to ensure résumé and cover letter preparation is taught. The résumé and cover letter is currently addressed in English Language Arts, Information Processing, and Career and Work Exploration.

Students should develop the résumé on a computer disk and update the résumé during the progression of the course as references are accumulated.

If students have already completed the résumé and cover letter in another course, the teacher may do a review and encourage students to update their résumés. Students shall submit résumés for teacher approval prior to going to the work site.

The résumé and cover letter may be used as an introduction for the employer of a work site prior to an interview with the student.

- 16.5 To determine student guidelines for an interview.

Through a classroom discussion or in groups have students generate a list of guidelines for an interview. After the students formulate their list, the instructor may add missing items to the list.

Outline and describe the three stages of an interview. Point out to the students in what stage each of their previously discussed guidelines will be used. A brief description of the three stages of an interview follow.

The **greeting** involves an introduction between the student and employer. Discuss or demonstrate how this should be done.

The **exchange** is where the employer asks a series of questions and engages in a conversation with the student about information on the résumé and other matters relating to the job placement.

The **parting** brings the interview to a close. It can be just as important as the greeting. Explain how this can be done.

Learning Objectives**Notes**

Provide students with a list of questions frequently asked by employers, or ask students to formulate a list in a group, and have students role play the stages of the interview.

16.6 To discuss the interview.

After the student has completed the interview with employer, do a follow-up activity. Review the interview with the student using the three stages as a point for discussion.

16.7 To develop procedural guidelines for the work site.

Discuss work site guidelines, related to the following factors, with students.

- transportation
- hours of work
- absence and tardiness
- procedures for conflict resolution
- role of the student, teacher and work place supervisor
- dress code
- job description
- school and employer expectations.

Ensure that students understand these guidelines by asking students to describe each of these guidelines.

16.8 To relate feedback from the work site.

Students should be encouraged to provide feedback about work sites including: where they were placed, type of business, duties, most rewarding experience, most difficult situation, and how they handled it and unexpected learnings.

It is recommended that each student send a thank-you note or card to the employer upon the completion of each work placement. If more than one placement has been made in the course, follow-up activities must be completed after each placement.

Module 17A, B, C: Work Study (Core)

Suggested Time: 25-50 hours

Level: Introductory, Intermediate, Advanced

Prerequisite: 16A, B, C respectively

Module Overview

Refer to the Work Study Guidelines included in the *Practical and Applied Arts Handbook* (2003) for direction on implementing work study.

Foundational Objectives

- To be aware of the careers and opportunities in the field of agriculture that exist in Saskatchewan and other provinces.
- To integrate classroom learning with work-related learning.
- To increase awareness of employability skills as they relate to the work environment.

Common Essential Learnings Foundational Objectives

- To engage in a work study experience and develop entry level workplace skills that may lead to sustainable employment. (PSVS)
- To expand career research beyond the classroom setting. (IL)

Teachers need to use or design appropriate learning objectives for this module (e.g., to demonstrate ability to follow a “Training Plan”).

Note: Consult the Career and Work Exploration Curriculum Guide and the Department of Labour for content about Labour Standards, Occupational Health and Safety, and Workplace Hazardous Materials Information System (WHMIS). Add more depth if you offer work studies during grade 11 or 12 in a course series.

Core and Optional Modules for Feedlot Production 20

Module 18: Farm Safety (Core)

Suggested Time: 4-9 hours
Prerequisite: None

Level: Intermediate

Module Overview

Given the importance of farm safety, each level of ATEC courses begins with a core module on farm safety. This module provides students with knowledge, skills and abilities used when operating or maintaining farm equipment in all areas of production. Remind students of farm safety precautions at all times including the rules and regulations associated with operating farm vehicles.

Farm safety precautions are also required when working around feedlot cattle. Knowledge of, and respect for, the particular characteristics of feedlot cattle are of great value in the prevention of accidents to both the handler and the animal.

Students should develop comprehensive and useful notes on each of these subjects. Critical information should be placed in the Student Reference Manual.

Foundational Objectives

- To understand and use farm safety procedures at all times.
- To observe, assist with or demonstrate farm safety procedures with farm machinery and when working with feedlot cattle.

Common Essential Learnings Foundational Objective

- To understand how technology influences occupational roles within feedlot production and affects the work site (e.g., occupational health, safety, etc.). (TL)

Learning Objectives		Notes
18.1	To identify existing or potential hazards on the farm.	<p>Have a farm safety specialist talk to the students about general farm safety. Identify hazardous equipment or chemicals around the farm. Use site visitations and have students identify potential hazards and precautions. Explain why these areas need cautionary attention.</p> <p>Have students consider the existing or potential hazards that are unique to feedlot cattle operations. Consider these hazards from the perspective of the feedlot producers as well as of the cattle.</p> <p>Student Reference Manual: Have students develop and/or use a farm safety audit. Include safety for animals as well as for operators, handlers and visitors.</p>

Learning Objectives	Notes
18.2 To describe the use of safety guards, shields, and other safety devices on farm equipment.	<p>Demonstrate a safety walk-around check on all the devices used for safety and make sure everything is in proper working order. Ask students with prior knowledge to point out the use of safety guards, shields and other safety devices on farm equipment.</p> <p>Have students demonstrate their knowledge and ability to locate, read, and comprehend the warning messages on the farm equipment.</p> <p>Student Reference Manual: Have students develop a safety checklist and inspection to be used on a routine basis.</p>
18.3 To describe the proper clothing and protective gear used on farms.	<p>Engage students in a discussion about the proper clothing, footwear, gloves, glasses, and breathing and ear devices to use when working around and operating farm machinery, or when applying chemicals and other hazardous materials.</p> <p>Have students identify when and where protective gear should be used.</p>
18.4 To distinguish between a safe practice and an unsafe practice when using specific manual and power tools as well as lifting equipment such as jacks and winches.	<p>Have students examine the safety hazards associated with the use of power or manual tools. Students should also identify the hazards associated with jacks and winches.</p>
18.5 To identify fire hazards and precautions on farms.	<p>Examine and list the fire hazards on farms. Know how and when to use various types of fire equipment.</p> <p>Have students consider the fire hazards for feed supplies such as hay, straw and grain. Indicate, or have students suggest, precautionary measures.</p>
18.6 To know when and how to use basic First Aid.	<p>Have students prepare a list of basic First Aid procedures. If possible, encourage students to take the First Aid Course through St. John's Ambulance.</p>

Module 19: Communications (Core)

Suggested Time: 3-4 hours

Level: Intermediate

Prerequisite: None

Module Overview

Students will enhance their verbal and written communication skills including the use of forms and recordkeeping. Recordkeeping is extremely important in feedlot cattle production particularly for custom feedlots. Custom feedlots are providing a service to customers who expect accurate and honest recordkeeping.

An important marketing and management tool for feedlot cattle production is the ability to access and use the most current information and human resources available. This module is intended to encourage students to develop the practice of seeking information on a regular basis.

The module is also used to remind students of the how and where to find information including reading manuals and finding industry-related information.

Foundational Objectives

- To enhance verbal and written communication skills used at feedlots.
- To develop skills in using forms and recordkeeping at feedlots.
- To develop skills in finding and using information.
- To observe, assist with or demonstrate effective feedlot communication.

Common Essential Learnings Foundational Objectives

- To gradually incorporate the vocabulary of the subject area into their talk and writing. (COM)
- To develop skills in using manuals to use and find information. (COM, IL)

Learning Objectives		Notes
19.1	To encourage effective verbal and written communication skills. (COM)	<p>Ask students to list a number of examples of verbal and written communication that are used on a daily basis at a feedlot. Review the characteristics of effective communication and ask students to prepare examples.</p> <p>Have students role play employee/employer situations using verbal and written communication. Emphasize the importance of effective communication skills on the farm.</p>
19.2	To develop skills in using and filling out a variety of forms used on a farm.	<p>There are a variety of forms that are used on farms. Some of these forms include:</p> <ul style="list-style-type: none">• employee time logs• tax forms• compensation reports• market forms• feed and consumption records• cattle inventories

Learning Objectives

Notes

- production records
- budget forms and other types of banking information.

Using a variety of forms such as weigh dockets, time sheets, tax forms, production records and inventory sheets, have students develop skills in completing forms. Indicate when they should be used, as well as those which are legally required.

19.3 To develop skills in finding, analyzing and using a variety of information. (IL)

Feedlot producers need current information in order to make profitable decisions about marketing and production. This information can be found in manuals, weekly or monthly publications, trade magazines, or government and industry publications.

Have students find, analyze and describe the use of different types of information on feedlot cattle production. Remind students of the importance of using the table of contents, index, order forms, toll-free numbers, or on-line assistance.

Saskatchewan Agriculture, Food and Rural Revitalization is a good source for information on feedlot cattle production.

Students may also want a chance to access the Internet for a variety of product and equipment information. The *Western Producer Farm Directory* has a wide variety of web sites listed.

Student Reference Manual: Have students list the most important publications and web sites for personal use.

Module 20: Career Exploration (Core)

Suggested Time: 3-4 hours

Level: Intermediate

Prerequisite: None

Module Overview

Students explore the career options available to them in feedlot production and develop long term plans. Students also review the concept of employability skills. Students who have previously taken Career Exploration at Level 10 of the ATEC courses should re-examine and update their career plans.

Foundational Objectives

- To develop a career or educational plan.
- To understand and appreciate the importance of employability skills.
- To observe, assist with or demonstrate preparing a career plan and using employability skills.

Common Essential Learnings Foundational Objectives

- To seek information through a steadily expanding network of options including libraries, databases, individuals and agencies. (IL)
- To recognize that learning is continuous from birth to death (e.g., life experiences). (IL)

Learning Objectives		Notes
20.1	To examine the importance of employability skills. (CCT)	<p>Have students examine the following list of employability skills and describe how they would apply to their careers in agriculture:</p> <ul style="list-style-type: none">• ability to communicate effectively• problem-solving skills• technological ability• positive attitude• punctuality• responsibility• adaptability• independence and self-reliance. <p>Have students interview feedlot operators to determine the kinds of employability skills that are important to these operators.</p>
20.2	To examine different career choices in the production of feedlot cattle.	<p>Have students look at a number of career choices that fit their personality and learning styles.</p> <p>Encourage students to prioritize these choices by interest and job requirements. Have students state the reasons for these decisions.</p>

Learning Objectives		Notes
20.3	To identify sources of counseling and organizations that can assist in planning a career.	A number of services can assist students in planning a career. Assist students with the preparation of a list of these services including post-secondary institutions, employment agencies, and courses at regional colleges.
20.4	To develop a career plan and appropriate educational strategy.	Have students prepare a career plan including both short term (1-2 years) and long term (2-6 years) objectives. Have students describe the objectives in writing and how they might be achieved. Review the plans with students, making sure that the objectives are realistic.

Module 21: Planning for Feedlot Cattle Production (Core)

Suggested Time: 4-6 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module helps students enhance their knowledge and use of farm planning techniques, or review and evaluate existing plans.

Foundational Objectives

- To enhance skills associated with feedlot cattle production plans.
- To understand the basics of financial planning.
- To observe, assist with or demonstrate planning for a feedlot.

Common Essential Learnings Foundational Objectives

- To distinguish between primary and secondary sources of information. (COM)
- To apply conclusions and generalizations to new situations. (CCT)

Learning Objectives		Notes
21.1	To review and/or develop farm and land management plans specifically related to feedlot production.	<p>Core modules in Level 10 develop the basic elements of farm planning. Review the strategies presented at that level. Have students review and/or develop the farm and land management plans specifically for feedlot cattle production. Consideration should be given to access to the availability of an abundance of water and feed, drainage, environmental regulations, and access to markets and cattle.</p> <p>Have students share their plans with students in other ATEC courses. Have students discuss, share and critique plans. If possible, have students present their plans to an extension agrologist or financial person for review.</p>
21.2	To review the process of effective time management (personal and farm).	<p>Have students review or prepare a personal time management schedule as well as a farm time management schedule. Make sure students develop their time management schedules to balance school, work, and recreation. In feedlot production, managing personal time is often beyond the control of the individual operator. Remind students due to the daily and seasonal pressures of operating a feedlot, finding balance in life will require both planning and flexibility.</p> <p>Students should also be reminded of that lack of sleep is a leading cause of farm injuries.</p> <p>Student Reference Manual: Have students prepare, review and update time management plans.</p>

	Learning Objectives	Notes
21.3	To develop a basic understanding of financial planning.	Financial planning and maintaining business records are some of the most important components of operating a feedlot. Have students research the different ways that a financial plan can be prepared. Contact various financial institutions for plans and/or resource people that can provide useful information or assistance to students. Refer to Saskatchewan Learning's Accounting Curriculum Guide, Farm Accounting Module, for more information and practice.
21.4	To develop a farm recordkeeping system.	<p>Preparing a financial plan for a feedlot should be kept simple. One of the most important building blocks of a good financial plans is the quality and accessibility of the records that provide the information.</p> <p>Have students develop a filing system for a feedlot. Discuss the categories that need to be included, as well as how to file and retrieve information when it is required.</p> <p>Feedlot operators need to know what they have in their inventory of feed as well as cattle on feed. Developing and using an inventory system is required for effective operation of a feedlot. This inventory should include cost, ownership, current value and date, and replacement value as well as any outstanding payables or receivables.</p> <p>Have students gather or prepare inventory records typically used at a feedlot.</p> <p>Student Reference Manual: Have students prepare a simple financial plan for a feedlot.</p>

Module 22: Farm Equipment Maintenance and Repair (Core)

Suggested Time: 12-14 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module is used to reinforce the basic skills of general maintenance and repair of farm machinery that were introduced in Level 10. Rather than observe, students will be expected to assist with maintenance and repair and demonstrate skills listed in the training plans.

Farm safety is stressed throughout the module.

Note: In dealing with all modules on farm equipment, teachers should inform students of the dangers and legalities of under-aged drivers operating farm machinery.

Foundational Objectives

- To develop basic skills and abilities in the repair and maintenance of farm machinery.
- To develop skills and abilities in the use of hand and power tools which are used to service farm machinery.
- To assist with and demonstrate skills related to general farm maintenance and repair.

Common Essential Learnings Foundational Objective

- To develop an understanding of the precautionary and preventive processes and procedures students should use in everyday situations. (TL, CCT)

Learning Objectives	Notes
22.1 To assist with or demonstrate skills in the processes related to with regular machinery maintenance.	<p>The first step in maintenance of farm machinery is having a preventive maintenance process (i.e., checking oil and fuel levels, cleaning radiators, preventing chaff build-up, and monitoring gauges).</p> <p>Have students describe the regular maintenance of the farm equipment used on a regular basis.</p> <p>Students should be able to use the manuals of several different types of farm equipment to describe preventive maintenance practices of the particular machine.</p> <p>Student Reference Manual: Have students prepare or update checklists of preventive maintenance procedures for each piece of equipment.</p>
22.2 To identify and describe a variety of tools (power and manual).	<p>On a farm operation, there are a number of screwdrivers, wrenches, and tools used in the daily maintenance and operation of farm machinery such as the daily routine checkups of pulleys or adapting the machinery to different uses.</p>

Learning Objectives

Notes

Each tool has a distinct operational procedure. Have students describe how to use a variety of common farm tools. Students should examine and demonstrate the standards illustrated in the operator's manual of each specific tool.

Have students determine the different types and sizes of wrenches (manual and power) that best suit the job that the wrench is designed to achieve.

Demonstrate how the correct selection and use of the specific tool to fit the correct screw or bolt is very important to prevent damage to the tool, bolt or screw.

Distinguish between a safe practice and an unsafe practice when using specific manual and power tools.

- 22.3 To identify and describe the characteristics of the common farm mechanical, hydraulic, and hand jacks and winches.

In order to maintain machinery, it is often necessary to hoist or elevate machinery, parts of machinery, or other objects while working around the farm. There are a number of different ways to hoist an object depending on its structure. It is important for students to be aware of the weight range, strength, and capacity of the jack and the weight of the item being lifted.

Have students compare and contrast the uses and efficiencies of the direct vertical, automotive, floor type, and any other lift. Identify the type of lift that is best suited for each job.

Student Reference Manual: Have students prepare a summary of the type of common farm mechanical, hydraulic and hand jacks and winches.

- 22.4 To identify the dangers and hazards associated with common lifting equipment.

Overloading, tipping of the jack, and damaged or worn equipment can be just a few of the hazards when using lifting equipment. Select and illustrate the dangers and hazards that are associated with common lifting equipment.

Demonstrate the correct operating procedures in using the jack or hoisting equipment in a safe and efficient manner.

- 22.5 To identify the transportation regulations for farm equipment and livestock on public roads.

Transporting livestock and large farm equipment requires skills and caution. The province and rural municipalities have a number of regulations relating to agriculture. It is the responsibility of the farmer or rancher to know and abide by

Learning Objectives

Notes

these regulations. Legal settlements for negligence can be very costly to a farming operation.

Identify and explain licensing, insurance, operator's qualifications and *Dangerous Goods Transportation Act* for handling all types of farm equipment on public roads. Consideration should be given to liability insurance, license class, and types of roads.

Examine and describe the requirements for width, height, length, lighting, slow moving signs, clear visibility and seasonal restrictions on all farm equipment.

Livestock transportation regulations also specify the types of trailers that can be used as well as restrictions to the amount of time that livestock can be hauled.

Student Reference Manual: Have students prepare a number of descriptions/situations of transportation of livestock or farm equipment. Include outside sources of information for specific rules and regulations (e.g., Highway Traffic Board for over-width, over-height vehicles).

22.6 To understand the need for having emergency equipment.

Outline and give examples of the tools and emergency equipment which are required if the farm machinery has a crisis while in transport on a public road.

Module 23: Marketing (Core)

Suggested Time: 4-5 hours

Level: Intermediate

Prerequisite: None

Module Overview

Marketing is one of the most important activities in the production of feedlot cattle. This module is intended to enhance students' basic understanding of marketing by exposing them to the variety of options available to feedlot operators.

Foundational Objectives

- To develop skills in using market information.
- To describe different marketing mechanisms.
- To observe, assist with or demonstrate skills in marketing feedlot cattle.

Common Essential Learnings Foundational Objectives

- To read and interpret quantitative information found in newspapers, magazines and government, political and business publications and evaluate the validity of arguments based on such information. (NUM)
- To propose generalizations that explain relationships. (CCT)

Learning Objectives	Notes
23.1 To describe how to market an agricultural commodity.	<p>Marketing of any products incorporates a series of activities. These activities include but are not limited to:</p> <ul style="list-style-type: none">• locating, sorting and analyzing market information for current and potential markets• identifying and considering the factors which influence marketing such as product supply and demand, imports and exports, consumer trends and economic conditions• assessing the potential of advertising and promotion in a variety of markets. <p>Describe what each of these steps means in practical terms and have students apply the steps to a particular agricultural commodity. Have students compare the marketing activities of different commodities.</p>
23.2 To develop skills in gathering and using market information for a particular agricultural commodity.	<p>Have students locate current sources of market information for a particular agricultural commodity. Review market terminology with students including terms such as futures market, bull or bear market, FOB pricing and open market. Have students practise reading commodity markets and discuss the events that might affect the price.</p> <p>Have students graph the price of a particular commodity for the duration of the course.</p>

Learning Objectives

Notes

	<p>Student Reference Manual: Have students list sources of current market information. Encourage students to include web sites, radio or television broadcasts and print information.</p>
23.3 To identify factors that influence decisions about marketing an agricultural commodity. (CCT)	<p>Commodity prices are based on supply and demand. There are other factors, however, which influence decisions about when to sell a commodity. These factors include:</p> <ul style="list-style-type: none">• financial constraints such as limited cash flow or credit requirements• limits on the amount of time for perishable products• distribution and transportation requirements• international and domestic trade policies and regulations. <p>Feedlot operators need to consider these factors and others when making decisions about the kind of feedlot cattle to market as well as when and where. Ask a feedlot operator to discuss the factors that are considered when making marketing decisions.</p> <p>Encourage students to think of ways to mitigate the negative influences of cattle marketing as well as how to take advantage of favourable influences.</p>
23.4 To identify different market opportunities.	<p>Many farmers have chosen to market their agricultural products through alternative, contract, or niche markets. Have students investigate the different marketing opportunities for cattle. Encourage students to analyze the advantages and disadvantages of each opportunity.</p> <p>Engage students in a discussion on how to determine the best time to buy or sell a variety of weights and types of feedlot cattle. Emphasize the importance of these considerations when buying feed as well as when leasing or buying equipment.</p> <p>Students may also wish to explore the opportunities for them to buy feedlot cattle through feeder associations or short term business loans.</p> <p>Have students describe their ideas for innovative marketing opportunities for feedlot cattle. For example, have students look at transportation costs of buying and selling cattle in the United States or other Canadian provinces.</p> <p>If possible, have students attend the Canadian Western Agribition or other cattle sales to get a first-hand look at marketing. Ask students about the relationship between purebred sales and feedlot sales.</p>

Module 24: Feedlot Cattle (Core)

Suggested Time: 2-3 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module enhances students' basic knowledge of feedlot cattle to include more detailed descriptions of the anatomy and physiology of beef cattle including the structures of the body, neck, head, feet, and legs. This type of information assists feedlot operators with the calving process, vaccinations, diagnoses, and implantation sites as well as procedures associated with dehorning and castration.

Foundational Objectives

- To identify and describe the musculature, skeletal structure, parts, and function of the body, neck, head, legs and feet of beef cattle.
- To observe, assist in identifying or demonstrate knowledge about feedlot cattle.
- To use information about the muscular-skeletal structure of cattle when making decisions about the care and treatment of feedlot cattle.

Common Essential Learnings Foundational Objectives

- To generate, classify and explore reasons or rules underlying categories. (CCT)
- To organize information for reporting, discussing or sharing. (COM)

Learning Objectives	Notes
24.1 To identify and describe the muscular-skeletal structure of the animal	<p>Every time an operator addresses an issue dealing with the feedlot operation, there will be a direct or indirect reference to the structure of the cattle. It is very important that the operator knows the structure of the animal in order to make knowledgeable decisions when working with cattle. Knowing the skeletal structure allows the operator to diagnose any health issues, injury, or general sickness.</p> <p>The operator of a feedlot has to be aware of the muscle structure as it relates to infection, treatment, and implanting operations. The operator should know the common areas for injections because the strength of the drug determines the amount and how it is injected.</p> <p>Work with a veterinarian or animal health specialist or gather information about these structures. Check students' knowledge through diagrams and demonstrations.</p> <p>Student Reference Manual: Have students gather diagrams of the muscular-skeletal system.</p>

Module 25: Dehorning and Castration (Core)

Suggested Time: 3-4 hours

Level: Intermediate

Prerequisite: None

Module Overview

Dehorning and castration are routine activities at feedlots. This module describes the structures of the male reproductive system as well as the horn and surrounding tissues. The module also requires that students observe, assist or demonstrate the use of dehorning and castrating equipment.

Foundational Objective

- To observe, assist with or demonstrate dehorning and castration procedures.

Common Essential Learnings Foundational Objective

- To demonstrate humane care of animals. (PSVS)

Learning Objectives		Notes
25.1	To become familiar with castration.	<p>For castration, feedlot operators need to know the location and function of the scrotum, testicles, cord, and penis.</p> <p>Have a feedlot operator or veterinarian describe and demonstrate the different kinds of castration devices including emasculators and knives. Discuss post-castration health care.</p> <p>Include in the discussion the risks and benefits of castrating animals including observations on health of the animal, feedlot cattle behaviour and weight gain of steers and bulls.</p>
25.2	To become familiar with dehorning.	<p>For dehorning, feedlot operators need to be aware of the major blood vessels and growth “centre” of the horn to complete the dehorning operation.</p> <p>With the help of a feedlot operator or veterinarian, demonstrate to students the various types of dehorning procedures including the use of dehorners, pastes, and saws. Have students observe, assist or demonstrate dehorning.</p> <p>Discuss post-dehorning care.</p> <p>Student Reference Manual: Have students make notes and diagrams of dehorning and castrating procedures including equipment and care of the animals.</p>

Module 26: Maintenance and Repair of Livestock Equipment (Core)

Suggested Time: 3-4 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module emphasizes the routine inspection and maintenance of livestock equipment including squeezes, gates, skid steer loaders, and other livestock equipment.

Foundational Objectives

- To develop an understanding of the maintenance and repair of livestock equipment.
- To observe, assist with or demonstrate ability in maintaining and repairing livestock equipment.

Common Essential Learnings Foundational Objectives

- To explore the evolution of technological developments in livestock equipment. (CCT)
- To develop an understanding of the precautionary and preventive processes and procedures students should use in everyday situations. (TL, CCT)

Learning Objectives	Notes
26.1 To identify the parts and describe the working and function of squeezes, gates, steer loaders, and other livestock equipment.	<p>Gates, squeezes, scales, panels, levers and other controls are used throughout feedlots. Operators and workers need to know when and how to use various pieces of equipment. Take a walk about the feedlot with students to identify the variety of equipment used.</p> <p>Some equipment will have hydraulic mechanism parts and controls. The students should be familiar with the manuals for this equipment and be able to demonstrate the workings of the equipment.</p> <p>Student Reference Manual: Have students make a list of equipment and special operating or maintenance details.</p>
26.2 To perform a routine inspection.	<p>The operators of a feedlot will have to maintain the equipment to ensure optimum use. The operator needs to check for proper working of all parts of the equipment.</p>
26.3 To demonstrate routine maintenance and repair of livestock equipment.	<p>Investigate the manufacturers' recommendations for monitoring and checking equipment. Students will perform lubrication with oil and grease as well as check oil levels.</p> <p>Student Reference Manual: Have students list lubrication points, fuel and oil levels and other necessary information associated with livestock equipment used at a feedlot.</p>

Module 27: Using Livestock Equipment Safely (Core)

Suggested Time: 3-4 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module is used to emphasize the importance of using livestock equipment safely for the health of both the animal and operator.

Foundational Objective

- To demonstrate the safe use of livestock equipment.

Common Essential Learnings Foundational Objectives

- To demonstrate humane care of animals. (PSVS)
- To understand how technology influences occupational roles within feedlot production and affects the work site (e.g., occupational health, safety, etc.). (TL)

Learning Objectives		Notes
27.1	To identify and describe the animal injuries and safety hazards associated with livestock handling equipment.	When a worker or operator uses livestock equipment, there is a potential that the animal or operator may be injured. The operator must be able to foresee the dangers of using the equipment for himself/herself and the animal. For example, the operator should be watching for signs of choking, broken bones, crushing or agitation. Safety to both the animal and operator should be practised at all times.

Module 28: Feedlot Rations (Core)

Suggested Time: 4-6 hours

Level: Intermediate

Prerequisite: None

Module Overview

Students will assess the different rations and monitor desired feed processing quality standards. Students should be able to judge a prepared ration for proper processing and mixing and verify it is suitable for that specific pen. This module will teach students to check for spoilage, dustiness, or contamination.

Foundational Objectives

- To understand the components of feedlot rations.
- To observe, assist with or demonstrate the preparation of feedlot rations.
- To analyze and verify that a prepared ration is suitable for a designated group of cattle.

Common Essential Learnings Foundational Objectives

- To distinguish between quantitative situations where precision is required and those where approximations are acceptable. (NUM)
- To distinguish between primary and secondary sources of information. (COM)

Learning Objectives	Notes
28.1 To develop an understanding of the proper feed rations.	Level 10 provided students with a basic understanding of feed rations. Remind students of the essential components of feed rations including total digestible nutrients, protein content and minerals (also see Module 10.1) Indicate the difference that age, condition, weight, sex, size and type of cattle make to the composition of a feed ration. Have students review their notes in the Student Reference Manual or make new notes on the various feed rations used at a feedlot.
28.2 To evaluate a feed sample for the correct processing and mixing.	Identify the proper rolling, grinding, mixing, and uniformity required in various types of feed. Indicate to students the importance of checking to see if the ration from the feed mill, or prepared on the farm, has the proper nutrients and supplements required for that pen. Students should be able to identify signs of proper rolling, grinding, and mixing techniques so that the feedlot cattle will develop with maximum growth.
28.3 To check a feed sample for spoilage, dustiness, and contamination.	Nutrition and feed samples are one of the major sources of animal well-being and profit efficiency. The operator of a feedlot must be very accurate in checking for spoilage, dustiness, and contamination. Indicate to students the importance of knowing what to look for in feed.
Student Reference Manual: Have students prepare lists of rations and prices as well as what to look for in quality and quantity of feed rations.	

Module 29: Veterinary Drug Protocols (Core)

Suggested Time: 2-3 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module will interpret and demonstrate a drug treatment and protocol. Students should know the correct application techniques, dosage, and follow-up procedures. The students will learn the Health of Animals Regulations and look at accurate time guidelines for return to good health.

Foundational Objectives

- To develop an understanding of the drugs used to treat certain diseases/conditions using what is written in the drug protocol.
- To describe the key points of application in the treatment protocol, the post-treatment protocol, or the progressive treatment of a disorder.
- To describe the drug withdrawal requirements and the protocol in an untreatable situation.

Common Essential Learnings Foundational Objective

- To understand the meaning of precision and determine the most appropriate degree of precision for a particular task. (NUM)

Learning Objectives		Notes
29.1	To identify the components of a drug protocol.	<p>The operator of a feedlot must be able to interpret and describe the steps and activities to be completed when treating the specific health conditions. These steps and activities collectively are called the drug protocol. Veterinarians are the best source for describing and interpreting the drug protocol for feedlot operations.</p> <p>Components of a drug protocol include the standard practices of how and when to use the drugs, storage requirements, withdrawal times, how much to use and conditions that the drugs will treat.</p> <p>Look at several different feedlot drugs and have students describe the drug protocol associated with each.</p>
29.2	To describe the key points of application instructions in the treatment protocol.	<p>The operator must identify the proper application technique with the correct tools and equipment needed to administer the progressive and pre-treatment. The operator must decide if the animal must be isolated or where the treatment must be administered. The operator must also make an informed decision if the first treatment is not effective.</p> <p>Discuss application instructions with a feedlot operator or veterinarian.</p>

Learning Objectives**Notes**

29.3 To describe the drug withdrawal requirements and the protocol for untreatable conditions.

Depending on the drug type, the operator must understand the Health of Animal Regulations when withdrawing treatment from an animal. If the treatment is unsuccessful at the end of regular efforts, the operator must decide what is to be done with the animal in terms of shipping, disposal, or marketing.

Student Reference Manual: Have students prepare a drug protocol for a number of common feedlot drugs.

Module 30: Marketing Systems (Optional)

Suggested Time: 4-6 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module studies the basic categories of the grading system and the main distinguishing characteristics that each animal must have for that category. Using information from a variety of sources enhances the operator's knowledge of current market conditions.

Foundational Objectives

- To identify the basic categories and characteristics of the grading system using proper terminology
- To interpret the cattle market with its summaries, reports, and selling mechanisms
- To observe, assist with or demonstrate the use of market information.

Common Essential Learnings Foundational Objectives

- To read and interpret quantitative information found in newspapers, magazines and government, political and business publications and evaluate the validity of arguments based on such information. (NUM)
- To propose generalizations that explain relationships. (CCT)

Learning Objectives		Notes
30.1	To use and understand the terms associated with markets and grading systems.	Indicate to students the terms associated with markets and grading systems. Invite a feedlot operator or livestock order buyer to talk about markets and grading systems. Include terminology that will enable students to understand and use market reports.
30.2	To identify and describe the categories, characteristics, and terminology associated with marketing cattle.	Feedlot operators need to know how to visually identify when an animal is "finished" or ready for a certain market. Have a feedlot operator explain the characteristics of various grades and types of cattle and what to look for in an animal when selecting them for market.
30.3	To understand the market reports and selling mechanisms.	Have students follow the livestock market report over a period of time. Information can be found on the Internet, local radio broadcasts or through various publications. Have students chart the price of various groups of cattle over a period of time.

Module 31: Forage Production (Optional)

Suggested Time: 4-5 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module focuses on the growth, harvesting and storage of forage for a feedlot operation.

Foundational Objectives

- To compare and contrast different types of forage and methods of storage.
- To determine stocking rates for pasture and production rates of hayland.

Common Essential Learnings Foundational Objective

- To use a variety of resources to cover the breadth and depth of the topic of forage production. (COM)

Learning Objectives		Notes
31.1	To understand the differences between natural grassland and different types of tame forage.	<p>Students should research the features of different common types of tame forage, and compare those with natural grassland in terms of sustainability, nutritional value, and forage yield per acre.</p> <p>Students should be able to calculate grazing capacity and/or determine expected yield in different types of forage.</p>
31.2	To identify causes of reduced forage production and evaluate methods of rejuvenation of tame forage.	<p>Over time, perennial forage stands will suffer a reduction in productivity. Students should become familiar with methods used to evaluate hayland or pasture conditions and should be able to discuss causes that result in declining forage production. Some causes are related to soil conditions or weather, while others are related to range management practices.</p> <p>Through discussion with a Rangeland and Forage Agrologist, an Extension Agrologist, or College of Agriculture Department of Animal and Poultry Science staff person, students should investigate the advantages and disadvantages of different methods of rejuvenating a declining forage stand. These methods include breaking and reseeding, mechanical disturbance of soil, fertilization, improved grazing management, use of herbicides, sod seeding, over seeding and mowing.</p>

Learning Objectives	Notes
31.3 To compare and contrast different types of forage storage.	<p>Maintaining food quality and reducing waste should be the goals of any forage storage system. Convenience of harvesting and feeding should also be considered. Students should have an opportunity to research and discuss those aspects of various forage storage methods including:</p> <ul style="list-style-type: none">• small square bales• large square bales• round bales• silos• bunkers• bags.
31.4 To explain the nutritional and animal health benefits of feeding silage to feedlot animals versus dry forage only.	<p>Students should research how silage compares to dry forage in reducing feeding problems and minimizing the need for feed processing. Students should be able to explain why some dry forage should be included along with the silage.</p>

Core Modules for Feedlot Production 30

Module 32: Causes and Prevention of Farm Accidents (Core)

Suggested Time: 4-5 hours
Prerequisite: None

Level: Advanced

Module Overview

At the advanced level of ATEC courses, students should be familiar with the importance of farm safety. This module serves as a review of farm safety and emphasizes the causes of accidents as well as procedures and practices which can prevent farm accidents.

Students should refer to their Student Reference Manual for checklists and examples of farm safety audits.

Foundational Objectives

- To demonstrate operating and maintenance procedures related to various pieces of farm equipment.
- To demonstrate skills associated with farm safety.

Common Essential Learnings Foundational Objectives

- To understand how technology influences occupational roles within feedlot production and affects the work site (e.g., occupational health, safety, etc.). (TL)
- To explore the consequences which individual actions have for others in concrete situations. (PSVS)

Learning Objectives	Notes
32.1 To identify farm hazards.	Have a farm safety specialist speak to students about farm safety. Students should be able to identify a number of hazardous situations which should be monitored on a farm. Students should also be familiar with various farm safety groups, organizations and regulations such as Workers' Compensation.
32.2 To describe the use of safety guards, shields, and other safety devices used on farm equipment.	<p>Students should demonstrate a safety walk-around check on all the devices used for safety and make sure everything is in proper order pointing out the use of safety guards, shields and other safety devices used on farm equipment.</p> <p>Students should also be knowledgeable about the proper clothing, footwear, gloves, glasses and breathing and ear devices necessary for personal safety when working around and operating farm machinery or when applying chemicals and other hazardous materials.</p> <p>Student Reference Manual: Have students revise and/or develop and use safety checklists for specific equipment on the farm. Students should also develop a personal safety audit of a farm.</p>

Learning Objectives	Notes
32.3 To demonstrate safe practices when using lifting equipment.	<p>Students should be able to demonstrate safe practices when using specific manual and power tools as well as when lifting equipment such as jacks and winches. Have students examine the safety hazards associated with the use of power or manual tools. Identify the hazards associated with jacks and winches.</p> <p>Have students describe the kinds and sizes of jacks and winches which should be used for various farm equipment repair and maintenance.</p>
32.4 To identify potential fire hazards and recommend precautions and fire fighting techniques.	<p>Students should be able to identify fire hazards and demonstrate all types of fire fighting techniques. Have students examine and list the fire hazards on farms. Students should know how and when to use various types of fire fighting equipment.</p> <p>Student Reference Manual: Have students prepare a checklist of potential fire hazards, types of fire extinguishers and fire safety precautions.</p>

Module 33: First Response for Farm Accidents (Core)

Suggested Time: 3-4 hours

Level: Advanced

Prerequisite: None

Module Overview

Students have been encouraged throughout this program to take advantage of a First Aid course. This module is used to develop students' practices of "first response" in the event of farm accidents.

Foundational Objectives

- To develop skills in dealing with emergency situations on a farm.
- To observe, assist with or demonstrate skills in dealing with farm emergencies.

Common Essential Learnings Foundational Objective

- To generate and evaluate alternative solutions to problems. (CCT)

Learning Objectives	Notes
33.1 To develop skills in handling emergency situations.	<p>A course in First Aid is highly recommended but not always possible. With the help of an ambulance driver, RCMP or local police officer, St. John's Ambulance, nurse or doctor, help prepare students to deal with emergency situations by identifying the steps involved in seeking assistance, caring for injured people and using first aid supplies.</p> <p>Student Reference Manual: Have students prepare a checklist of the components of a well-equipped first aid kit. Students should also make a chart of emergency phone numbers including police and fire departments, and ambulance services.</p>

Module 34: Communications (Core)

Suggested Time: 2-3 hours

Level: Advanced

Prerequisite: None

Module Overview

Producers rely on accurate information and effective communication on their farms. Effective communication skills are critical to maintaining good employee-employer relationships.

Throughout this module, students develop and use skills required to gather, find and sort useful information and to communicate effectively. Students may choose to focus on specific production information include finding and using specific information.

Foundational Objectives

- To locate, gather and use information about a production sector.
- To be able to differentiate between fact and opinion in information.
- To develop a range of skills used for effective communication.

Common Essential Learnings Foundational Objectives

- To gradually incorporate vocabulary related to feedlot production into their talking and writing. (COM)
- To develop skills in using manuals to find information. (COM, IL)
- To read, comprehend and use written materials including graphs, charts and displays. (NUM, IL)

Learning Objectives	Notes
34.1 To understand the need for reliable information in all production sectors.	<p>Using flow charts or concept webs, identify where producers need reliable information. Have students consider the type of information that producers require. For example, producers need information on:</p> <ul style="list-style-type: none">• commodity prices, markets and growing conditions• transportation and input costs• health problems and weed or insect infestations• financial requirements and banking information. <p>After identifying these information needs, have students consider where they could gather information related to each need and how they could communicate this information most effectively.</p> <p>Have students consider the role of reliable information and effective communication on farms.</p>
34.2 To locate and sort useful information required on a farm.	<p>Finding, sorting and using information are important skills on a farm.</p> <p>In groups, or as individuals, have students gather, sort and critique information about crop production.</p>

Learning Objectives

Notes

Have students prepare a resource listing of information including the source and availability of the information and where and how it might be used. Encourage students to make the listings as comprehensive as possible including transportation, storage, related services and so on. Reinforce the value of reliable information and effective communication.

Student Reference Manual: Have students prepare a list of valuable resources.

34.3 To recognize the importance of effective communication.

All sectors in agriculture require effective communication skills in order to understand or be understood by employees, employers, suppliers, or customers. Some examples follow:

Producers need effective communication skills to:

- obtain and effectively use related goods and services
- market their products effectively.

Employees need effective communication skills to:

- analyze, organize and clarify information
- establish good will for their organizations
- communicate their ideas to both technical and non-technical colleagues
- better workplace and interpersonal relationships
- make good first impressions.

Have students describe the communication needs for their particular farming operation. Have students describe and demonstrate the skills that are required as well as when and how they would be used. Some examples are:

Writing and publications packages such as:

- word processing systems
- desktop publishing packages - PowerPoint, PageMaker, Claris Works.

Information management systems such as:

- spreadsheets
- database management
- teleconferencing.

Office tools such as:

- facsimile
- electronic mail
- voice mail.

Module 35: Career Exploration (Core)

Suggested Time: 3-4 hours

Level: Advanced

Prerequisite: None

Module Overview

This module provides students with a more extensive career exploration. Having worked and participated in a particular production sector by this stage of the program, students should be able to describe a variety of career opportunities and post-secondary educational programs that are of interest.

Foundational Objectives

- To be able to describe and access careers and job opportunities in production agriculture or other fields.
- To observe, assist with or demonstrate making career choices and using employability skills.

Common Essential Learnings Foundational Objectives

- To seek information through a steadily expanding network of options including libraries, databases, individuals and agencies. (IL)
- To recognize that learning is continuous from birth to death (e.g., life experiences). (IL)

Learning Objectives	Notes
35.1 To identify career clusters and the range of occupational opportunities in feedlot production.	<p>List and research careers or occupations relating to feedlot production and cluster them according to:</p> <ul style="list-style-type: none">• primary production - professional science, management and operation• marketing, distribution and retail services• support services - production and processing, financial and governmental• resource management <p>Have students consider job descriptions, employment market, educational requirements, and wage expectations. If possible, students should assess current employment opportunities based on employment statistics. There are a number of web sites on agricultural careers for students to review.</p> <p>If possible, have students work with other ATEC students and hold a career fair or make oral presentations on other sectors.</p>

Module 36: Farm Planning (Core)

Suggested Time: 3-4 hours

Level: Advanced

Prerequisite: None

Module Overview

In this module, students apply farm planning techniques to a particular production sector. This module is used to enhance students' skills in farm planning with particular attention to financial planning. As an alternative, students may wish to complete the Farm Accounting Module contained in the Accounting curriculum.

Foundational Objectives

- To develop farm planning skills, particularly financial planning skills.
- To observe, assist with or demonstrate a variety of farm planning skills.

Common Essential Learnings Foundational Objectives

- To distinguish between primary and secondary sources of information. (COM)
- To apply conclusions and generalizations to new situations. (CCT)
- To write up a proposal for an individual project. (IL)

Learning Objectives	Notes
36.1 To prepare a projected budget.	Have students prepare a projected budget of income and expenses for a year in a farming operation. Reinforce the usefulness of a recordkeeping system to verify and modify the budget. Student Reference Manual: Have students develop a budget.
36.2 To select and use an accounting system.	Have students select and/or use an accounting system for farm business transactions. Be sure to reinforce the keeping of records to support the system.
36.3 To prepare a net worth statement.	Describe to students the concept of a net worth statement or have a representative from a financial institution talk to students on the statement. Student Reference Manual: Have students prepare a net worth statement.
36.4 To study the sources of credit and the credit rating system.	Invite a representative from a financial institution or Farm Credit Canada to talk to students about farm credit and the credit rating system.

Module 37: Farm Equipment Maintenance and Repair (Core)

Suggested Time: 10-12 hours

Level: Advanced

Prerequisite: None

Module Overview

Farm equipment maintenance and repair has been introduced in Level 10 and reinforced in Level 20. At Level 30, students are expected to demonstrate the skills and procedures described at the 10 and 20 levels.

Using the training plans from Farm Equipment Maintenance and Repair Level 10, have students demonstrate all of the skills and procedures identified.

Foundational Objective

- To demonstrate skills and procedures of farm equipment maintenance and repair.

Common Essential Learnings Foundational Objective

- To demonstrate skills in the precautionary and preventive processes and procedures students should use in everyday situations. (TL, CCT)

Learning Objectives

Notes

Refer to Levels 10 and 20 as well as to training plans (see appendices).

Module 38: Digestive System and Feed Requirements of Cattle (Core)

Suggested Time: 8-12 hours

Level: Advanced

Prerequisite: None

Module Overview

This module expands student's knowledge of beef cattle anatomy to include rumination and digestion. The module also includes investigation into the effects of different feed types on the growth of feedlot cattle.

Foundational Objectives

- To expand students' knowledge of beef cattle anatomy.
- To understand that different feed rations affect cattle in different ways.
- To observe, assist with the identification of, or demonstrate knowledge relating to the digestive system and feed requirements of feedlot cattle.

Common Essential Learnings Foundational Objective

- To distinguish between quantitative situations where precision is required and those where approximations are acceptable. (NUM)
- To distinguish between primary and secondary sources of information. (COM)

Learning Objectives	Notes
38.1 To describe the rumination and digestion process.	<p>Cattle have a very unique stomach structure. In addition, the function of the digestive tract changes form as cattle develop from newborn to mature animals. Feedlot operators need to know how the digestive system develops from the calf to mature animals in order to adjust feed rations which will ensure animal health and maximum productivity.</p> <p>Have students research the rumination and digestion process in cattle. Diagrams will help students understand the rumination and digestion system. Examine and explain the different microorganisms required to break down different feeds.</p>
38.2 To develop feeding programs for various types and ages of feedlot cattle.	<p>Feedlot cattle are grouped and fed according to age, size, sex and condition. Different types of feed are fed to different groups of cattle depending on the feedlot operator's plans for growth rate, markets, and overall health of the animals. The nature of the digestive system in beef cattle is such that different feeds have different effects on cattle.</p> <p>Effective August 1997, both Canada and the United States banned feed that contains cattle protein. Feeding of cattle protein to other cattle is a practice believed to have caused the outbreak of mad cow disease – know as bovine spongiform encephalopathy (BSE). BSE is a fatal disease that destroys the</p>

Learning Objectives

Notes

brains of infected cattle. Humans can contract a form of the disease, known as variant Creutzfeldt-Jakob, by eating tissue from the brains, spinal cords and nervous system of infected animals. Creutzfeldt-Jakob is an incurable disease.

When a feeding regime has been proposed based on available feed, it is important that producers do a feed analysis to ensure that there are adequate amounts of total digestible nutrients, crude protein, vitamins and minerals. Feed analysis will provide information on deficiencies and indicate any problems with the feed.

Have students prepare a feeding plan, obtain feed samples and analysis and assess the plans for different pens (groups) of feedlot cattle. Verify these plans with a veterinarian, feedlot operator or livestock specialist.

Student Reference Manual: Have students describe the digestive system functions and nutritional requirements of:

- weanlings
- backgrounders
- mature cows and bulls
- cattle coming off grass
- yearlings

38.3 To identify the symptoms of common digestive diseases and disorders.

Digestive diseases can be caused by viral, microorganism, or bacterial infections. Digestive disorders are caused by problems with feed, parasites, physiological problems or stress.

Factors that feedlot operators need to consider are the problems that can occur because of rapid feed switches, concentrates, and additives.

Work with the feedlot operator or veterinarian to describe various common digestive diseases and disorders to students.

Student Reference Manual: Have students research and prepare a chart which lists the various digestive diseases and disorders, causes, prevention, medication and other remedies.

Module 39: Specialized Feedlot Equipment (Core)

Suggested Time: 8-10 hours

Level: Advanced

Prerequisite: None

Module Overview

This module provides specific information and requires the demonstration of abilities in operating specialized feedlot equipment.

Foundational Objectives

- To know and be able to operate various kinds of specialized feedlot equipment.
- To observe, assist with or demonstrate the operation of various kinds of feedlot equipment.

Common Essential Learnings Foundational Objective

- To explore the evolution of technological developments within the feedlot industry. (CCT)

Learning Objectives	Notes
39.1 To identify and demonstrate the operation of specialized feedlot equipment.	<p>There is a variety of specialized livestock equipment that may be used in feedlot operations. Some of these include weigh scales, feed mills, front end loaders, bale shredders, tub grinders, forage harvesters, and feed wagons.</p> <p>Demonstrate the maintenance, repair and operation of the equipment used at a feedlot.</p> <p>Student Reference Manual: Have students prepare a list of specialized feedlot equipment, describe the major components, identify safety procedures and demonstrate proper operation and maintenance.</p>

Module 40: Marketing Systems (Core)

Suggested Time: 5-6 hours

Level: Advanced

Prerequisite: None

Module Overview

Marketing feedlot cattle is a key activity of feedlot operations. This module enhances students' knowledge of basic marketing concepts by including more detailed information pertinent to feedlots.

Foundational Objectives

- To develop an awareness of how beef cattle are typically bought and sold in a cow/calf operation.
- To develop an awareness of some of the factors involved in marketing beef cattle.
- To observe, assist with or demonstrate an understanding of the marketing of feedlot cattle.

Common Essential Learnings Foundational Objectives

- To read and interpret quantitative information found in newspapers, magazines and government, political and business publications and evaluate the validity of arguments based on such information. (NUM)
- To propose generalizations that explain relationships. (CCT)

Learning Objectives		Notes
40.1	To describe the different marketing options available for feedlot operators.	Have students research and describe the different types of markets available to the operator. Have students compare and contrast these different types for advantages and disadvantages.
40.2	To understand terminology specific to the marketing of beef cattle.	<p>In order to make informed decisions about when and where to market the cattle produced on a cow/calf operation, producers need to be aware of beef marketing terminology.</p> <p>Discuss the following terms:</p> <ul style="list-style-type: none">• grading system and categories• shrinkage• yield• backgrounders, replacement heifers, feeders, slaughter cattle, cull cows and bulls• rate of gain• cost of production.
40.3	To understand other factors that play a role in the marketing decisions associated with a cow/calf operation.	There are a number of marketing options available to the cow/calf operator. The maximum price, however, for selling as well as the minimum price for buying still does not guarantee a profit margin. Buyers and sellers need to obtain as much

Learning Objectives

Notes

information as possible on current and future conditions including:

- livestock price
- feed requirements and costs
- condition of the cattle
- transportation
- interest rates
- grain prices
- weather conditions
- the number of cattle in feedlots
- purebred and commercial demand.

Have students suggest how each of these factors might influence decisions about marketing cattle.

40.4 To identify the various ways of marketing cattle.

Cattle can be bought or sold in a variety of ways including through brokers, livestock markets, satellite sales and direct to packing plants. Each has advantages and disadvantages including sales costs, yardage and transportation costs.

Have students describe the various ways that beef cattle can be bought or sold. Using the day's current prices, have students select the best option for marketing.

40.5 To describe the transportation of cattle.

Regardless of how or when cattle are sold, they still must be transported to another place.

Have students describe the best conditions for transporting the cattle to market. Contact the Society for the Prevention of Cruelty to Animals (SPCA) for specific rules and regulations on transporting cattle.

Have students identify the basics of a marketing plan for the various types of cattle on a typical cow/calf operation.

Student Reference Manual: Have students list local order buyers, livestock markets, trucking companies and rates and other information related to marketing feedlot cattle.

Module 41: Animal Identification (Core)

Suggested Time: 4-5 hours

Level: Advanced

Prerequisite: None

Module Overview

Every cow/calf operation has a method of identifying animals. This module provides students with a working knowledge of the methods that producers use to identify animals.

Foundational Objectives

- To observe, assist with or demonstrate a working knowledge of animal identification.
- To use the different ways that cattle can be identified.
- To compare and contrast the advantages and disadvantages of animal identification.
- To use animal identification to keep accurate records on each animal.

Common Essential Learnings Foundational Objectives

- To understand how public policy shapes the development and use of technology. (TL)
- To explore the evolution of technological innovations within the cattle industry with a focus on the political and social forces that spawned the innovation and the steps involved in the development. (TL)

Learning Objectives	Notes
41.1 To identify various methods used to identify animals.	<p>The care of a herd depends largely on the records of each animal and being able to track the animals throughout their life at the cow/calf operation. Cattle can be identified with ear tags, tattoos, hot iron brands, freeze brands or computer chips. It is important that the operator is able to look at the different choices and apply them to the animals.</p> <p>Have students describe the different types of marking animals.</p> <p>Compare and contrast the advantages and disadvantages of the different ways to mark animals. Demonstrate the techniques and procedures to apply each type with minor discomfort to the animal. Identify the hazards of each type and describe the safety precautions to be taken during the process.</p> <p>Verify with students that the method that they have chosen is incorporated in livestock records.</p>

Module 42: Code of Ethics in Animal Practice (Core)

Suggested Time: 4-6 hours

Level: Advanced

Prerequisite: None

Module Overview

This module is used to draw attention to the Code of Ethics for Animal Practice established by the Farm Animal Council of Saskatchewan.

Foundational Objectives

- To know and understand the Code of Ethics.
- To observe, assist with or demonstrate an understanding of the practice related to the Code of Ethics as it applies to feedlot cattle.

Common Essential Learnings Foundational Objectives

- To practice humane animal care. (PSVS)
- To examine moral issues in feedlot production through a framework which incorporates cultural understandings. (CCT)

Learning Objectives

Notes

- | | | |
|------|---|---|
| 42.1 | To identify the Code of Ethics for Animal Care. | Contact the Farm Animal Council of Saskatchewan for more information on the Code of Ethics. |
|------|---|---|

Resources

Alberta Agriculture, Food and Rural Development. (1996). *Alberta animal health course – level 2*. Edmonton AB: Author.

Alberta Agriculture, Food and Rural Development. (1995). *Alberta beef herd management*. Edmonton AB: Author.

Alberta Agriculture, Food and Rural Development. (1996). *Alberta cattle nutrition course - level 2*. Edmonton AB: Author.

Alberta Agriculture, Food and Rural Development. (1996). *Cow/calf production technician: Training curriculum, skill profile and performance standards*. Edmonton AB: Author.

Alberta Agriculture, Food and Rural Development. (1996). *Feedlot production technician: Training curriculum, skill profile and performance standards*. Edmonton AB: Author.

Canadian Rural Information Service. E-mail: cris@em.agr.ca. Web site: www.agr.ca/policy/cris
Telephone: 1-888-757-8725. Mailing address: 930 Carling Avenue, Ottawa ON K1A 0C5.

Newspapers: *Western Producer* and *Grainews*.

Rural Service Centres. Videos and other publications.

Saskatchewan Labour, Prevention Services Branch. Telephone: 787-8399 or 1-800-567-7233 for information and publications on farm safety.

Saskatchewan Agriculture, Food and Rural Revitalization. Web site: <http://www.agr.gov.sk.ca/>.
Miscellaneous publications available from the Publication Distribution Centre Order Desk by phone: (306) 721-4330, by fax: (306) 721-4626 or by e-mail: valb.pad@sk.sympatico.ca

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Alberta Agriculture, Food and Rural Development. (1996). *Cow/calf production technician: Training curriculum, skill profile and performance standards*. Edmonton AB: Author

Alberta Agriculture, Food and Rural Development. (1996). *Feedlot production technician: Training curriculum, skill profile and performance standards*. Edmonton AB: Author.

Battle River Regional Division #31. (1997). *Green certificate program: Handbook for administrations and school coordinators*. Camrose AB.

Saskatchewan Education. (1991). *Instructional approaches: A framework for professional practice*. Regina SK: Author.

Saskatchewan Education. (1991). *Student evaluation: A teacher handbook*. Regina SK: Author

Appendix A: Training Plans for Feedlot Production 10

Module 1: Farm Safety (Core)

Student's Name _____ Farmer-Trainer _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the major types of potential farm hazards: <ul style="list-style-type: none">• moving vehicles• speed and power of machines and moving parts• center of gravity (roll over)• working with groups of people around machinery• clothing, gloves, and footwear• rotation parts (PTO, belts, chains, etc.)• hot surfaces and fluids• high pressure hydraulics• other _____					
Demonstrates personal safety habits when working around and operating farm machinery and when working with livestock					
Identify and describe situations which warrant: <ul style="list-style-type: none">• use of ear plugs• eye protection• dust protection for breathing• location and accessibility of fire and first aid equipment					
Maintains the tools and shop in a clean and safe condition					
Identifies safety guards, shields, safety devices and warning signs used on farm equipment					

Module 1: Farm Safety (Core)

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes proper clothing and protective gear					
Demonstrates the safety hazards associated with small tools, jacks, winches, and other lifting equipment.					
Describes three basic components of a fire Describes the three classes or types of fire Lists the classes of fire possible: <ul style="list-style-type: none">• on a truck or tractor• on a farm shop• in other potential areas					
Reads and interprets the labels on a fire extinguisher					
Selects the proper extinguisher for the type of fire					
Performs basic emergency first aid procedures to: <ul style="list-style-type: none">• restore breathing• choking victims• bleeding cases• victims of shock• other _____					
ADDITIONAL COMMENTS:					

Module 2: Communications (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Demonstrates the following communication skills: <ul style="list-style-type: none">• reading and forwarding messages• reading and interpreting charts• interpreting manuals• other _____					
Demonstrates effective communication through: <ul style="list-style-type: none">• choice of words• simple instructions and answers• concise, specific language					
Composes and passes on messages and information through: <ul style="list-style-type: none">• telephone messages on written notes• messages left and retrieved through voice mail and answering machines• messages delivered or received through faxes• face to face messages and information					
Locates, sorts, and summarizes specific information for manuals and a variety of publications					
ADDITIONAL COMMENTS: 					

Module 3: Career Exploration (Core)

Student's Name _____ Farmer-Trainer _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Develops an individual career profile					
Identifies basic personal and employability skills					
Prepares a personal time management system					
ADDITIONAL COMMENTS:					

Module 4: Planning for Feedlot Operation (Core)

Student's Name _____ Farmer-Trainer _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes the kinds of plans used in livestock production					
Develops a land management plan					
Develops a farm plan					
ADDITIONAL COMMENTS:					

Module 5: Farm Equipment Maintenance and Repair (Core)

Student's Name _____ Farmer-Trainer _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Demonstrates preventative maintenance: <ul style="list-style-type: none">• checking oil• checking fuel levels• cleaning radiators• monitoring gauges• removing dust build-up					
Interprets manuals of farm equipment					
Identifies and describes the operational procedures and safety hazards for: <ul style="list-style-type: none">• screwdrivers• wrenches• pliers and cutters• hammers, mauls, chisels and punches• other _____					
Identifies and describes the characteristics of and the safety hazards associated with: <ul style="list-style-type: none">• mechanical jacks and winches• hand jacks and winches• hydraulic lifting equipment• other lifting devices					

Module 5: Farm Equipment Maintenance and Repair (Core)

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the transportation regulations for moving farm equipment on public roads in terms of: <ul style="list-style-type: none"> • licensing • insurance • operator's qualifications • types of roads • other _____ 					
Describes the transportation regulations for the equipment in terms of: <ul style="list-style-type: none"> • width, height and length requirements • lighting • slow moving signs • clear visibility • seasonal restrictions • other _____ 					
Understands the need for emergency equipment					
Describes examples of tools and emergency equipment for farm equipment in transport					
ADDITIONAL COMMENTS:					

Module 6: Marketing (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes and understands how the marketing system works for: <ul style="list-style-type: none"> • feed grain • cattle 					
Locates and interprets current market information					
Identifies and describes the various kinds of markets used in livestock production Lists the advantages and disadvantages of each					
ADDITIONAL COMMENTS:					

Module 7: Feedlot Cattle (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the range of feedlot cattle breed, types, ages, and backgrounds					
Describes the physical characteristics and relates this to the maximum productions for feedlot profit of: <ul style="list-style-type: none">• calves• yearlings• cows• short keeps• backgrounders• fat cattle					
Given the structure of the cattle's foot, size and weight describes: <ul style="list-style-type: none">• the footing agility of cattle• what footing is easy to walk on• what causes problems					
ADDITIONAL COMMENTS:					

Module 8: Cattle Behaviour (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes the cattle's anatomy and adaptations which allow maximum growth					
Describes the effect each adaptation has on the cattle's habits and behaviours in a feedlot setting					
Identifies the nature of the cattle's vision and its effect on its behaviour					
Identifies the nature of the cattle's hearing and its effect on its behaviour					
ADDITIONAL COMMENTS:					

Module 9: Livestock Handling Equipment (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies and describes the working of: <ul style="list-style-type: none"> squeezes chutes and gates cattle scales handling tools (prods, whips and slappers) 					
Identifies and describes the safety skills and procedures when using: <ul style="list-style-type: none"> squeezes chutes and gates cattle scales handling tools (prods, whips and slappers) 					
ADDITIONAL COMMENTS:					

Module 10: Feedlot Nutrition (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Develops a feeding management plan					
Determines the food value of: <ul style="list-style-type: none">• legumes(grasses)• grains• root vegetables					
Develops a system of recording the feeding process: <ul style="list-style-type: none">• manually on paper• electronically with computers					
ADDITIONAL COMMENTS:					

Module 11: Transportation (Optional)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	✓ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes the effects of changing a familiar setting through: <ul style="list-style-type: none"> • trucking • splitting • spreading 					
Identifies and describes the problems of handling cattle for transportation					
Describes the safety precautions necessary in handling cattle for transportation					
Describes the correct selection of handling aids and their proper use in moving cattle in a variety of situations					
ADDITIONAL COMMENTS:					

Module 12: Animal Health Care (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Develops a policy to identify animals in a feedlot					
Describes the process of identification using: <ul style="list-style-type: none"> tags brands other _____ 					
Identifies and describes the nature of vaccines and how they work					
Describes how vaccines are: <ul style="list-style-type: none"> handled administered documented and recorded 					
ADDITIONAL COMMENTS:					

Module 13: Cattle Illnesses, Parasites and Diseases (Optional)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describe the nature, symptoms and appearance of: <ul style="list-style-type: none"> internal parasites external parasites 					
Describe the common diseases and disorders of the digestive tract					
ADDITIONAL COMMENTS:					

Module 14: Feedlot Maintenance (Optional)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies and uses tools for corral and fence mending					
Develops a system to check, maintain, and repair fences, gates and lighting systems					
Describes the standards and checks for: <ul style="list-style-type: none"> • bunks • water systems • pen facilities • other _____ 					
Describes the safety precautions in using tools					

ADDITIONAL COMMENTS:

Module 15: Horse Care, Handling, and Riding (Optional)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies and describes basic horse behavioural characteristics for: <ul style="list-style-type: none"> • feeding and eating • being handled • being ridden • being confined • other _____ 					
Demonstrates proper tacking of the horse					
Demonstrates acceptable riding skills for handling feedlot cattle					
Identifies the hazards associated with riding					
Describes and identifies the safety precautions to be taken when riding					
ADDITIONAL COMMENTS: 					

Appendix B: Training Plans for Feedlot Production 20

Module 18: Farm Safety (Core)

Student's Name _____ Farmer-Trainer _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies potential farm hazards Explains why these areas need cautionary attention					
Describes the use of safety guards, shields and other safety devices used on farm equipment Locates, reads, and comprehends warning messages on farm equipment					
Describes the kind of proper clothing and protective gear (footwear, gloves, glasses, breathing devices, hearing devices) necessary to observe farm safety Identifies the farm jobs that require this cautionary equipment					
Demonstrates safe practice when using manual or power tools Identifies the safety precautions when using jacks and winches Describes the hazards associated with manual or power tool and other lifting equipment					

Module 18: Farm Safety (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies various fire hazards in a farm environment					
Describes fire prevention strategies on farms					
Identifies the different types of fires that can occur on a farm					
Demonstrates basic first aid skills required on a farm					
Identifies the steps in handling emergency procedures that require police, ambulance and fire fighters					
ADDITIONAL COMMENTS:					

Module 19: Communications (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Demonstrates effective oral and written communication skills when: <ul style="list-style-type: none">• reading and forwarding messages• reading and interpreting farm products• calculating rates and rations• interpreting manuals• engaging in other types of communication					
Demonstrates effective verbal and written communication by using: <ul style="list-style-type: none">• appropriate choice of words• simple instructions and answers• concise, specific language Identifies the information and communication needs on the farm					
Receives and passes on messages accurately in the following ways: <ul style="list-style-type: none">• telephone messages with written notes• messages left and retrieved through voice mail or answering machines• messages delivered or received through faxes• face to face messages and information• e-mail or other computer generated messages					
ADDITIONAL COMMENTS: 					

Module 19: Communications (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Locates, sorts, and uses information contained in a variety of publications					
Locates, sorts, and uses information retrieved from the Internet or other computer sources					
ADDITIONAL COMMENTS:					

Module 20: Career Explorations (Core)

Student's Name _____ Farmer-Trainer _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Develops an individual career profile by identifying: <ul style="list-style-type: none"> identifying specifically areas of interest life experiences areas of expertise relevant experiences strengths and abilities activities and interests dislikes or areas that need improvement academic and non-academic strengths other _____ 					
Identifies the career opportunity with these studies Researches career clusters and the range of occupational opportunities related to this area					
Demonstrates use of time management skills Prioritizes and prepares a personal time management system					
Identifies basic personal and employability skills					
ADDITIONAL COMMENTS: 					

Module 21: Planning for Feedlot Cattle Production (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the kinds of plans used in a livestock production operation					
Develops the plans necessary to operate this type of farm					
Develops a: <ul style="list-style-type: none"> land management plan farm management plan 					

ADDITIONAL COMMENTS:

Module 22: Farm Equipment Maintenance and Repair (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Demonstrates skills in machinery maintenance: <ul style="list-style-type: none"> • checking oil • checking fuel levels • cleaning radiators • cleaning filters • monitoring gauges • preventing dust build-up on screens or filters • other _____ 					
Identifies and describes a variety of different types of tools and their uses Demonstrates correct selection and use of each tool Distinguishes between a safe practice and an unsafe practice					
Identifies and describes the characteristics of the common farm mechanical, hydraulic and hand jacks and winches Compares and contrasts the uses and efficiencies of the direct vertical, automotive, floor type, and any other type of lifting device					
ADDITIONAL COMMENTS:					

Module 22: Farm Equipment Maintenance and Repair (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the dangers and hazards associated with common lifting equipment					
Describes the need for having emergency equipment which is required if the farm machinery has a crisis while in transport					
Describes the transportation regulations for farm equipment and livestock on public roads Identifies and explains licensing, insurance, operator's qualifications and the <i>Dangerous Goods Transportation Act</i> for handling all types of farm equipment on public roads					
ADDITIONAL COMMENTS:					

Module 23: Marketing (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes how marketing information is used in producing agricultural commodities					
Describes the basic steps involved in livestock marketing					
Describes the various kinds of markets used in feedlot operation					
ADDITIONAL COMMENTS:					

Module 25: Dehorning and Castration (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes and identifies the location and function of: <ul style="list-style-type: none">• scrotum• testicles• cord• penis Lists the risks and benefits of castrating animals					
Describes and demonstrates the different types of castration devices (emasculators, knives, other) Describes and applies post-castration health care					
Describes the reasons for dehorning Describes the location of major blood vessels and the growth “centre” of the horn					
Describes the various types of dehorning procedures (dehorners, pastes and saws) Demonstrates the dehorning process					
ADDITIONAL COMMENTS:					

Module 26: Maintenance and Repair of Livestock Equipment (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
<p>Identifies and describes the workings and function of:</p> <ul style="list-style-type: none"> • squeezes • gates • steer loaders • other equipment <p>Interprets and describes the contents of the manuals for all equipment</p> <p>Demonstrates the operation of all equipment</p>					
<p>Monitors and checks the equipment</p> <p>Applies and performs lubrication with oil and grease on all equipment</p> <p>Demonstrates routine maintenance and repair of all livestock equipment</p>					
<p>ADDITIONAL COMMENTS:</p>					

Module 27: Using Livestock Equipment Safely (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies and describes the possible animal injuries and safety hazards associated with livestock handling equipment					
Demonstrates safe and humane practices when using livestock equipment					
ADDITIONAL COMMENTS:					

Module 28: Feedlot Rations (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes and reviews Level 10 basic understanding of feed rations (refers to Student Reference Manual)					
Evaluates a feed sample for: <ul style="list-style-type: none">• correct processing and mixing• proper rolling, grinding, and uniformity• proper nutrients and supplements• maximum growth for cattle					
Checks the feed sample for spoilage, dustiness, and contamination					
Prepares lists of rations, prices, and quality and quantity of feed rations					
ADDITIONAL COMMENTS:					

Module 29: Veterinary Drug Protocols (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the components of a drug protocol Interprets and describes the steps and procedures for specific health conditions Completes a drug protocol with these components: <ul style="list-style-type: none">• how and when to use drugs• storage requirements• withdrawal times• correct dosage• conditions the drugs will treat					
Describes the main points of application instructions in the treatment protocol Identifies the proper tools and equipment needed to administer the progressive and pre-treatment Demonstrates informed decisions on treatments					
Describes the drug withdrawal requirements Describes the protocol for untreatable conditions in terms of shipping, disposal, or marketing Demonstrates the Health of Animal Regulations at all times					
ADDITIONAL COMMENTS: 					

Module 30: Marketing Systems (Optional)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Uses and understands the terms associated with markets and grading systems					
Describes and demonstrates the market reports and selling mechanisms found on the Internet, broadcasts, or through various publications					
Develops a price chart system for various groups of cattle					
ADDITIONAL COMMENTS:					

Module 31: Forage Production (Optional)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies different types of tame forage and demonstrates an understanding of the different characteristics of each					
Calculates grazing rates or determines expected yield of hayland based on normal conditions					
Determines condition of tame pasture or hayland and recognizes conditions that cause declining production rates					
Suggests rejuvenation methods that are suitable for particular situations					
Demonstrates an understanding of the advantages and disadvantages of various forage storage methods					
Demonstrates an understanding of the important role that silage plays in a feedlot operation, and the advantages a combination of silage and dry forage has over dry forage alone					
ADDITIONAL COMMENTS:					

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Module 32: Causes and Prevention of Farm Accidents (Core)

Student's Name _____ Farmer-Trainer _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies and is perceptive of farm hazards Identifies farm safety groups, organizations, and regulations set out by Workers' Compensation and other groups					
Describes the use of safety guards, shields, and other safety devices used on farm equipment Demonstrates a safety walk-around check on all the devices used for safety Develops a personal safety audit of a farm environment					
Demonstrates safe practices when using lifting equipment Identifies the safety hazards associated with use of: <ul style="list-style-type: none"> power or manual tools jacks, winches and other lifting equipment 					
Identifies potential fire hazards in a farm environment Describes all types of fire fighting techniques needed for a farm setting Describes the precautions necessary for dealing with the different types of fires					
ADDITIONAL COMMENTS:					

Module 33: First Response for Farm Accidents (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Demonstrates the required skills to handle emergency situations					
Develops and creates a well-equipped first aid kit					
Displays charts of emergency phone numbers (police, fire, ambulance, doctor, hospital, etc.) in appropriate places					
ADDITIONAL COMMENTS:					

Module 34: Communications (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies where producers need reliable information such as: <ul style="list-style-type: none">• commodity prices, markets, and growing conditions• transportation and other input costs• health problems and weed/insect infestations• financial/banking information• other _____					
Demonstrates the ability to locate and sort useful information Demonstrates the ability to critically analyze information Demonstrates the ability to communicate effectively reliable information					
Describes and demonstrates the communication skills needed for: <ul style="list-style-type: none">• writing and publications• information management• office tools					
Demonstrates effective communication skills to understand or be understood by employees, employers, suppliers, or customers					
ADDITIONAL COMMENTS: 					

Module 35: Career Exploration (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies career cluster and the range of occupational opportunities in the type of farming that interests the student according to: <ul style="list-style-type: none"> primary production (professional science, management, etc.) marketing, distribution and retail services support services (production, financial and government) 					
ADDITIONAL COMMENTS:					

Module 36: Farm Planning (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	$\sqrt{\text{ if Student:}}$ A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Prepares a projected budget for the particular type of farm					
Selects and demonstrates use of an accounting system					
Describes a net worth statement					
Prepares a net worth statement					
Investigates the sources of credit and a credit rating system					
ADDITIONAL COMMENTS:					

Module 37: Farm Equipment Maintenance and Repair (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Lists the components and the types of fluids that need to be checked: <ul style="list-style-type: none">• fuel, oil (engine, transmission, steering)• water (radiator, battery)• accessories (hydraulics)					
Demonstrates correct procedures to change: <ul style="list-style-type: none">• oil and filters for all parts of the vehicle• hydraulic, fuel, air, and water filters					
Describes the types of greases and oils for high/low speed, seasons, other					
Demonstrates the correct procedures to change: <ul style="list-style-type: none">• non-engine parts requiring lubrication• air cleaners• grease gun• coolant• battery• other _____					
Demonstrate the correct procedures to service: <ul style="list-style-type: none">• drive train and transmission• brake system• tires and rims					

Module 37: Farm Equipment Maintenance and Repair (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Demonstrates the standards illustrated in the operator's manual, use and operational procedure, and safety precautions required to use: <ul style="list-style-type: none">• wrenches• screwdrivers• hammers• chisels• punches• files and rasps• saws for wood and metal• other tools					
Identifies and describes the characteristics of and knows the weight range, strength, and capacity of: <ul style="list-style-type: none">• hydraulic jacks and hoists• hand jacks and hoists• direct vertical lift• floor type lift• automotive type lift• other power or manual jacks/winches					
Identifies the dangers and hazards associated with lifting equipment Identifies unsafe, worn, or defective parts on any lifting equipment					
Demonstrates the ability to repair any lifting equipment					

Module 37: Farm Equipment Maintenance and Repair (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies and explains: <ul style="list-style-type: none">• licensing• insurance• <i>Dangerous Goods Transportation Act</i>• width, height and length requirements• lighting• use of slow moving signs• clear visibility rules• seasonal restrictions• emergency equipment required in crisis when transporting machinery on public roads					
Obtains and knows the government and municipal guidelines for transporting farm equipment, trucks, or machinery on public roads					
ADDITIONAL COMMENTS:					

Module 38: Digestive System and Feed Requirements of Cattle (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes the rumination and digestion process from the calf to mature animals including: <ul style="list-style-type: none">• weanlings• backgrounders• mature cows and bulls• cattle coming off grass• yearlings• other _____					
Develops feeding programs for various types and ages of feedlot cattle					
Identifies the symptoms of common digestive diseases and disorders Researches and prepares a chart which lists the various digestive diseases and disorders, causes, prevention strategies, medication and other remedies					
ADDITIONAL COMMENTS:					

Module 39: Specialized Feedlot Equipment (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
<p>Interprets and describes the contents of the operators' manuals for the specialized feedlot equipment</p> <p>Identifies and demonstrates the operation of specialized feedlot equipment such as:</p> <ul style="list-style-type: none"> • weight scales • feed mills • front-end loaders • bale shredders • tub grinders • forage harvesters • feed wagons • other _____ 					
<p>Demonstrates the maintenance, repair, and operations of feedlot equipment</p> <p>Demonstrates safety procedures for all specialized feedlot equipment</p>					
<p>ADDITIONAL COMMENTS:</p>					

Module 40: Marketing Systems (Core)

Student's Name _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes and uses the terminology correctly for marketing of feedlot cattle					
Identifies the various ways of marketing cattle List the advantages and disadvantages of each way Compares and contrasts sales cost, yardage, transportation and other factors					
Describes the rules and regulations for transporting cattle Completes a list of local order buys, livestock markets, trucking companies, rates, and other information related to marketing feedlot cattle					
ADDITIONAL COMMENTS:					

Module 41: Animal Identification (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies and describes the advantages and disadvantages of the various methods used to identify animals					
Demonstrates the techniques and procedures to apply the different methods of identifying animals with minimum discomfort to the animal					
Uses the animal identification system to keep accurate records on each animal					
Identifies the safety precautions and hazards associated with each method of identification					
ADDITIONAL COMMENTS:					

Module 42: Code of Ethics in Animal Practice (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes the Code of Ethics for Animal Practice established by the Animal Care Foundation					
Demonstrates the handling of cattle as described in the Code of Ethics for Animal Care when working in a feedlot setting					
ADDITIONAL COMMENTS:					

