



**Saskatchewan
Learning**

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

**Saskatchewan Learning
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This Sheep 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 vary 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 sheep 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 Sheep Production is to provide students with knowledge, skills and abilities in sheep production including farm safety procedures, communication skills, and basic knowledge of machinery and livestock equipment operation as well as of the care and handling of sheep.

Goals

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

Employability Skills: To encourage the development of employability skills in sheep 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

Sheep Production 10, 20, 30 requires 100 hours of instruction per course. The guidelines have been developed to provide a balance among:

- *knowledge* of all facets of sheep production including farm safety
- *skills and abilities* provided by information and practical application of concepts
- *exposure* to farms involved in sheep 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.

Sheep 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 sheep production.

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

To successfully complete Sheep 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 farmer-trainers for organizing, planning and monitoring work study or instruction at a work site. Student expectations include observation and 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 sheep production prior to taking this course. Teachers should assess individual students and evaluate their level of competency. Teachers should apply the Adaptive Dimension to all modules (by adjusting their instruction, materials, and environment to support student achievement of objectives) and encourage students to select optional modules that will enhance their knowledge, skills and abilities in sheep 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 Sheep 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	Modules	Suggested Time
Core and Optional Modules for Sheep Production 10		
SHEE01	Module 01: Farm Safety (Core)	7-9 hours
SHEE02	Module 02: Communications (Core)	3-4 hours
SHEE03	Module 03: Career Exploration (Core)	3-4 hours
SHEE04	Module 04: Planning for Sheep Production (Core)	4-6 hours
SHEE05	Module 05: Farm Equipment Maintenance and Repair (Core)	12-14 hours
SHEE06	Module 06: Marketing (Core)	4-5 hours
SHEE07	Module 07: Sheep Behaviour (Core)	4-6 hours
SHEE08	Module 08: Handling Sheep (Core)	4-5 hours
SHEE09	Module 09: Animal Health (Core)	4-6 hours
SHEE10	Module 10: Sheep Nutrition (Core)	5-6 hours
SHEE11	Module 11: Weaning Lambs (Optional)	7-8 hours
SHEE12	Module 12: Crutching Ewes (Optional)	8-10 hours
SHEE13A	Module 13A: Work Study Preparation and Follow-up Activities (Core)	5-10 hours
SHEE14A	Module 14A: Work Study (Core)	25-50 hours
Core and Optional Modules for Sheep Production 20		
SHEE15	Module 15: Farm Safety (Core)	7-9 hours
SHEE16	Module 16: Communications (Core)	3-4 hours
SHEE17	Module 17: Career Exploration (Core)	3-4 hours
SHEE18	Module 18: Planning for Sheep Production (Core)	4-6 hours
SHEE19	Module 19: Farm Equipment Maintenance and Repair (Core)	12-14 hours
SHEE20	Module 20: Marketing (Core)	4-5 hours
SHEE21	Module 21: Sheep Anatomy and Physiology (Core)	5-6 hours
SHEE22	Module 22: Sheep Care and Handling (Core)	5-6 hours
SHEE23	Module 23: Sheep Herd Health (Core)	6-9 hours
SHEE24	Module 24: Grazing Systems (Optional)	6-8 hours
SHEE13B	Module 13B: Work Study Preparation and Follow-up Activities (Core)	5-10 hours
SHEE14B	Module 14B: Work Study (Core)	25-50 hours
Core and Optional Modules for Sheep Production 30		
SHEE25	Module 25: Causes and Prevention of Farm Accidents (Core)	4-5 hours
SHEE26	Module 26: First Response for Farm Accidents	3-4 hours
SHEE27	Module 27: Communications (Core)	2-3 hours
SHEE27	Module 28: Career Exploration (Core)	3-4 hours
SHEE29	Module 29: Farm Planning (Core)	3-4 hours

SHEE30	Module 30: Farm Equipment Maintenance and Repair (Core)	10-12 hours
SHEE31	Module 31: Marketing (Core)	4-5 hours
SHEE32	Module 32: Sheep Nutrition and Feed Rations (Core)	6-8 hours
SHEE33	Module 33: Sheep Care (Core)	7-9 hours
SHEE34	Module 34: Shearing Sheep (Core)	4-6 hours
SHEE35	Module 35: Pest Control (Core)	4-5 hours
SHEE36	Module 36: Orphan Lamb Care (Optional)	4-5 hours
SHEE37	Module 37: Lambing (Optional)	5-10 hours
SHEE38	Module 38: Operation of Roller Mills (Optional)	5-10 hours
SHEE13C	Module 13C: Work Study Preparation and Follow-up Activities (Core)	5-10 hours
SHEE14C	Module 14C: Work Study (Core)	25-50 hours

Considerations for Program Delivery

Community Partnerships Involve Using Local Farms and Farmers to Learn

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

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

Teachers will need to seek assistance from sheep producers in the community in order 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 (i.e., 25 to 50 hours per credit).

Instructional Resources

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

Sheep Production 10, 20, 30 encourages the use of the following instructional strategies and methods. Consult the foundation document *Instructional Approaches: A Framework for Practice* (1991) for additional information. Many instructional 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 farmers-trainers.

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

Sheep Production 10, 20, 30 is designed for 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 based on the foundational and specific 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 accuracy, completeness, usefulness, and organization.

Preparing for Sheep Production 10, 20, 30

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

- engaging in hands-on, practical experiences with knowledgeable experts in sheep production
- monitoring progress using checklists at key points throughout the course. These checklists should be self-assessed and verified by the farmers-trainers as well as by 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 farmers-trainers and the teacher. Teachers should refer to the "Guidelines for Work Study", 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 Sheep Production 10, 20, 30.

Planning Schedule for Teachers

Time period	To Do
Prior to course	Identify possible co-operating farmers-trainers* 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 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 sheep 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, Sheep 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 and interviews as well as 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

Sheep 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

Sheep Production 10
Introductory Level
1 Secondary Level credit

Sheep Production 20
Intermediate Level
1 Secondary Level credit

Sheep 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 Sheep Production will be eligible for certification as a Level I Technician: Sheep 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.

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 farmers-trainers 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 an orientation for the ATEC Program.
Spend time and energy to help in the training of students.
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 students' 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 Secondary Level 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 Administrators and School Coordinators*, Camrose, AB.

Core and Optional Modules for Sheep 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 well 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 farm safety skills.

Common Essential Learnings Foundational Objective(s)

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

Learning Objectives		Notes
1.1	To identify potential farm hazards.	<p>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.</p> <p>Contact Saskatchewan Labour, Prevention Services Branch, (787-8399 or 1-800-567-7233) for more information.</p>
1.2	To describe the use of safety guards, shields, and other safety devices used on farm equipment.	<p>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.</p> <p>Involve students in a discussion on farm safety around sheep.</p>

Learning Objectives

Notes

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 fighting 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 of cuts, burns, sprains, and breaks. Students should be familiarized with emergency procedures for contacting the police station, ambulance and fire hall. |

Student Reference Manual: Have students prepare 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 sheep 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 communication skills.
- To observe, assist with or demonstrate effective communication.

Common Essential Learnings Foundational Objectives

- To gradually incorporate the vocabulary of sheep production into their talk 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 sheep 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 sheep 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 market reports. There are specific skills that a student should use when receiving a message that needs to be passed on as well as when 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>Sheep production makes use of many sources of information. Finding and sorting information is an important skill, particularly for technical information including farm equipment maintenance, calving information, and animal health products. Provide students with a number of manuals and other technical information. Practice locating, sorting and discussing when to use specific information.</p> <p>Student Reference Manual: Have students prepare a list of useful manuals and publications related to sheep 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 sheep production. This module can be used to guide 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 sheep production.
- To develop a career plan.
- To understand the concept of employability skills.
- To observe, assist with using or demonstrate career and 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 raising sheep. 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 sheep production.</p> <p>Have students research career clusters and the range of occupational opportunities related to sheep 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 raising sheep.

3.2 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. Have students role play situations demonstrating where these skills would come into play.

3.3 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 Sheep Production (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 sheep production.

Foundational Objectives

- To understand basic types of planning used in the production of sheep.
- To collect and use information related to farm planning.
- To observe, assist with or demonstrate abilities in planning for sheep production.

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 sheep production.	<p data-bbox="659 852 1463 919">There are a number of plans used daily, monthly and yearly on a farm. Some of these include:</p> <ul data-bbox="659 926 1008 1115" style="list-style-type: none">• land management plans• financial plans• lambing plans• cash projections• equipment usage. <p data-bbox="659 1157 1463 1367">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 farm. They are developed to review past performance, identify future goals, suggest strategies to help achieve the goals, and monitor how well the plan works.</p> <p data-bbox="659 1409 1463 1589">Describe the basic elements of planning. Ask students to apply these basics and provide a brief description using these elements in a land management plan, a financial plan, equipment usage, etc. Have students list the type of information they would need to complete each of these plans.</p>

Learning Objectives	Notes
<p>4.2 To develop a land management or farm plan.</p>	<p>At this basic level, students are introduced to planning through a land management (or farm) plan. Inform students of the purpose of a land management or farm plan. Have them discuss why it is important.</p> <p>In preparing a land management or farm plan, it is important to identify all the resources that are available or required to operate the farm. To prepare a land management plan, students need to study and describe:</p> <ul style="list-style-type: none"> • land features including soil types and water sources/availability • cultivated/non-cultivated land • uses of various land types • most suitable types of farming/ranching • other environmental considerations. <p>To prepare a farm management plan students need to study and describe:</p> <ul style="list-style-type: none"> • natural, human and equipment resources • financial resources • geographical area • natural resources - soil type, land formations and cultivated acres • most suitable type of farm/ranching for the area. <p>Have students select a location and develop a farm and /or land management plan. Use Saskatchewan Agriculture, Food and Rural Revitalization's web site to assist in finding information.</p> <p>Student Reference Manual: Have students prepare a number of plans for buildings, fences, corrals, sheep handling equipment and feed storage.</p>

Module 5: Farm Equipment Maintenance and Repair (Core)

Suggested Time: 12-14 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 necessary for farm equipment maintenance and repair.

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 types of farm equipment to describe preventive maintenance practices for the particular machine.</p> <p>Student Reference Manual: Have students develop a checklist of preventive maintenance procedures for each piece of sheep production equipment.</p>
5.2	To identify and describe a variety of different types 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 maintenance of the machinery, 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.

- 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.

Learning Objectives	Notes
5.5 To identify the regulations for transporting livestock as well as farm equipment.	<p>Transporting livestock, such as sheep, or moving 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.</p> <p>Identify and explain licensing, insurance, operator's qualifications and <i>Dangerous Goods Transportation Act</i> for handling all types of farm equipment on public roads. Consideration should be given to liability insurance, license class, and types of roads.</p> <p>Examine and describe the width, height, length requirements, the lighting requirements, slow moving signs, clear visibility rules and seasonal restrictions on all farm equipment.</p> <p>Livestock transportation regulations also specify the types of trailers that can be used as well as restrictions to the amount of time that sheep can be hauled.</p> <p>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).</p>
5.6 To understand the need for having emergency equipment.	<p>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.</p>

Module 6: Marketing (Core)

Suggested Time: 4-5 hours
Prerequisite: None

Level: Introductory

Module OverviewMarketing is one of the most important activities in sheep production. 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 related to sheep 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 sheep marketing.</p>
6.2	To describe the basic steps involved in sheep marketing.	<p>At this level, students should develop only a basic understanding of sheep marketing. Marketing involves gathering and making decisions about when to buy or sell ewes, lambs, whethers or rams. Have students locate and sort current market current information.</p> <p>Have students provide a description of the various kinds of markets used in sheep production.</p>

Module 7: Sheep Behaviour (Core)

Suggested Time: 4-6 hours

Level: Introductory

Prerequisite: None

Module Overview

This module introduces students to understanding sheep behaviour patterns and temperament. Understanding sheep behaviour and temperament is critical to the production of healthy sheep and a profitable operation.

Foundational Objectives

- To describe the basic psychological characteristics of sheep which affect their behaviour.
- To understand the relationship between sheep behaviour and their care.
- To observe, assist in reacting appropriately to, or demonstrate an understanding of sheep behaviour.

Common Essential Learnings Foundational Objectives

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

Learning Objectives		Notes
7.1	To describe the concept and characteristics associated with sheep behaviour.	<p>Students should become familiar with behaviours that sheep display. Some of these behaviours are:</p> <ul style="list-style-type: none">• quietness in contrast to aggression• follow the leader• flocking instinct• habit formation• browsing and foraging for feed• herding habits. <p>All of these habits or instincts can be researched or observed on site.</p> <p>Student Reference Manual: Have students prepare a checklist of the behaviours of sheep and a description of the sheep's reaction.</p>
7.2	To identify the sheep's reaction to different types of environments.	<p>Have students study the sheep's reaction to the various environments around the farm keeping in mind the sheep's characteristics. Have students describe how the sheep responds to various stimuli in the environment and indicate how a handler should reaction to each situation. Some examples of stimuli include: moving to different surroundings, loud noises, quick forceful action, wind, heat, rain, and dogs. Have students make anecdotal records of situations where sheep exhibit particular behaviours in response to various stimuli. Quietly observing sheep in a variety of situations will help students understand sheep and their particular patterns of behaviour.</p>

Learning Objectives

Notes

- 7.3 To interpret and assess the situation and react appropriately to the sheep's behaviour.

Sheep producers need to be able to interpret and assess the situation and react appropriately to sheep behaviour. Have students speculate on the type of situation that sheep would be involved in on a daily basis. It is important to be able to assess the situation and make precautionary measures to avoid any stress on the animals.

Student Reference Manual: Have students make a list of appropriate types of precautionary measures to ensure safe handling of sheep.

Have students design an environment that is conducive to the sheep's psychological behaviours.

Module 8: Handling Sheep (Core)

Suggested Time: 4-5 hours

Level: Introductory

Prerequisite: None

Module Overview

This module is used to introduce students to the basic principles of handling sheep. Sheep are more susceptible than other types of livestock to adverse reactions to negative stimuli in their environment or improper handling.

Foundational Objectives

- To develop the basic skills in moving, catching, holding and throwing sheep.
- To observe, assist with, or demonstrate skills in handling sheep.

Common Essential Learnings Foundational Objectives

- To ask relevant questions in order to further their own understanding of handling sheep. (COM)
- To examine moral issues related to sheep handling through a framework which incorporates cultural understandings. (CCT)

Learning Objectives		Notes
8.1	To move sheep individually or in groups.	<p>There are various methods of moving sheep and each way varies greatly depending on the person in charge, equipment, number of sheep being moved, physical environment and temperament of the animal. The main objective is to keep the sheep calm, move the sheep safely to avoid injury to the sheep, and use minimum excessive or wasted movement.</p> <p>To move the sheep short distances (up to 4 metres), handlers should pick up one hind leg and walk the sheep backwards on three legs. For distances greater than 4 metres, the handler should place one hand around the neck and the other hand on the docked tail. Push the sheep forward with the hand on the docked tail and direct the sheep with the other hand.</p> <p>Each individual will have a unique way of moving sheep and practice will make the student develop a method that fits all the mentioned criteria.</p>
8.2	To be able to catch and hold sheep.	<p>The handler should identify the necessary precautions when catching and holding sheep. There should be no injury to the animal, no damage to the equipment or operator and minimum stress to the sheep.</p>

Learning Objectives

Notes

8.3 To develop the ability to throw a sheep correctly.

One procedure is for the operator to move into the sheep and let them move past the operator. Using a neck crook, hook the sheep around the neck. Move up to the sheep and hold it in the appropriate manner. The handler must be gentle and quiet, and not pull on the wool.

The techniques required to use a leg hook are similar. Handlers, however, should approach the sheep quietly from behind and hook the leg as straight as possible. The handler then pulls back as quickly as possible so that there is no slack.

With the assistance and guidance of an experienced sheep herdsman, have students observe, assist with, or demonstrate proper handling of sheep.

There are many situations where it is necessary to throw a sheep. These situations include veterinary services and shearing. Precautionary measures in throwing a sheep are crucial. The handler must not pull on the fleece, display minimum stress to the sheep without restricting the animal's breathing, and throw the sheep quickly and efficiently. Ewes should not be thrown in the later stages of pregnancy.

Using the appropriate methods of holding sheep (i.e., placing one hand on the neck and the other hand on the docked tail) the handler moves the hand holding the docked tail onto the sheep's flank and pulls slightly towards him or herself. The handler then places the other hand on the sheep's muzzle, turns the head away from him or herself and back towards the sheep's body. Next, the handler steps back and allows the sheep to fall towards him or herself while lifting the sheep onto its rump. The handler should then move into position behind the sheep.

Handlers should use their knowledge of sheep behaviour to keep the animal calm. Never sit the sheep on its docked tail as it is extremely uncomfortable. Sheep should also not lay on their backs or they will have difficulty breathing.

With the assistance of an experience sheep operator have students observe, assist with, and demonstrate the proper ways to throw a sheep.

Module 9: Animal Health (Core)

Suggested Time: 4-6 hours

Level: Introductory

Prerequisite: None

Module Overview

This module is used to develop basic skills related to animal health in sheep. Students should not attempt to treat sheep except under the guidance of the operator. Inappropriate treatment could result in serious harm to the animal.

Foundational Objectives

- To develop an understanding of common types of sheep diseases and physical disorders.
- To develop skills in the treatment and first aid to sheep.
- To observe, assist with, or demonstrate skills and abilities in caring for sheep.

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. (COM)

Learning Objectives		Notes
9.1	To identify common sheep diseases and physical disorders.	<p>Working with a veterinarian or experienced sheep producer, identify the common diseases that occur with a sheep operation and the precautionary measures that should be taken to prevent the diseases.</p> <p>Discuss with students various factors including:</p> <ul style="list-style-type: none">• the age of the sheep when certain diseases can occur• the cause of the disease• the symptoms• the treatment. <p>Include in the discussion signs and symptoms of:</p> <ul style="list-style-type: none">• plant poisoning• nutritional diseases• foot diseases• bloat• chemical poisoning• respiratory diseases• infections.

Learning Objectives	Notes
9.2 To perform basic animal first aid.	<p data-bbox="657 212 1451 352">Invite a veterinarian or sheep producer to demonstrate to students the contents, equipment, and supplies that should be included in a first aid kit for sheep. Explain what each item is used for and how to use it.</p> <p data-bbox="657 394 1451 573">The temperature of a sheep is an important way of diagnosing diseases and infections. Demonstrate to students the correct method of taking an animal's temperature using a rectal thermometer. The students should also be able to take an animal's heart rate and respiratory rate.</p> <p data-bbox="657 615 1451 682">Have students observe, assist with, or demonstrate how to perform basic first aid and treat minor injuries to the animals.</p> <p data-bbox="657 724 1451 793">Student Reference Manual: Have students prepare a list of common sheep diseases, symptoms and treatments.</p>

Module 10: Sheep Nutrition (Core)

Suggested Time: 5-6 hours

Level: Introductory

Prerequisite: None

Module Overview

This module introduces students to the basic elements of sheep nutrition. As ruminants, sheep require a number of essential nutrients to sustain health, maintain reproductive capabilities and promote rapid weight gain.

Foundational Objectives

- To develop a basic understanding of the nutritional requirements of sheep.
- To observe, assist with, or demonstrate skills and abilities with feeding sheep.

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 understand the importance of a clean and abundant water supply.	<p>Sheep, like other livestock, require clean and abundant supplies of water to ensure health and adequate weight gain. Discuss with students what is meant by adequate water quality and supply. Discuss the characteristics of good water quality. Inform students of trace minerals contained in water (e.g., phosphates). Investigate where to send water samples for testing. If possible, have water samples tested.</p> <p>Have students consider how seasonal conditions, environmental conditions, and feed quality and quantity affect water quality and quantity.</p> <p>On the farm, have students check the water supply for sheep.</p>
10.2	To develop proper methods of handling sheep manure.	<p>Discuss the importance of housing for sheep and how it contributes to the general health of sheep. Sheep need to be bedded adequately to maintain health.</p> <p>Straw is the most common type of bedding used for sheep. Demonstrate to students how to clean pens. It is important to consider the quality or type of bedding, storage time, and spreading techniques. Inform students that pens should be cleaned on a regular basis to reduce fecal contamination of feed, reduce odour, and control flies.</p>

Learning Objectives**Notes**

Have students observe, assist with, or demonstrate the proper way to spread manure either by hand or using a manure spreader. Explain the need to control the amount and density of manure in a designated area to prevent contaminating the soil or water supply.

Module 11: Weaning Lambs (Optional)

Suggested Time: 7-8 hours

Level: Introductory

Prerequisite: None

Module Overview

Weaning lambs takes planning and good herd health management practices. This module informs students of some of the considerations required in order to wean lambs safely.

Foundational Objectives

- To become knowledgeable about weaning lambs.
- To observe, assist with, or demonstrate skills related to weaning lambs.

Common Essential Learnings Foundational Objectives

- To demonstrate humane care of animals. (PSVS)
- To synthesize ideas gleaned from current reading/discussion/viewing/oral presentations with prior knowledge and understanding. (COM)

Learning Objectives	Notes
11.1 To become knowledgeable about weaning lambs.	<p>Separating the lambs from the ewes varies in methods and timing. The younger the lambs, the more prepared the operator must be in order to meet the nutritional and housing requirements of the lambs. For example, if the operator chooses to creep feed lambs, he/she must make sure that the feeders are situated in appropriate areas, kept full and free from manure.</p> <p>An effective creep feeding system must include an appropriate ration, access to a water source and a suitable environment. If weaning takes place when the lambs weigh about 12-25 kgs, the ewes are removed from the lambs and the lambs remain in the familiar environment. If the lambs are out on pasture with creep feeders, then the lambs are removed to fresh green pasture with creep feeders. If the ewes and lambs are on the range until fall, the ewes and lambs are separated and the lambs are put into feedlots for finishing.</p>

Module 12: Crutching Ewes (Optional)

Suggested Time: 8-10 hours

Level: Introductory

Prerequisite: None

Module Overview

An important practice in maintaining the health of sheep is called crutching. Crutching is a term used to describe the shearing of the wool around the genital area and teats.

Foundational Objectives

- To develop skill in crutching ewes.
- To observe, assist with, or demonstrate ability in crutching ewes.

Common Essential Learnings Foundational Objectives

- To demonstrate humane care of animals. (PSVS)
- To synthesize ideas gleaned from current reading/discussion/viewing/oral presentations with prior knowledge and understanding. (COM)

Learning Objectives	Notes
12.1 To develop the ability to crutch a ewe.	<p>Ewes should be crutched about 1-2 months before lambing season and prior to the breeding season. Crutching is the removing of the sheep's wool from the udder, tail and flank areas. Ewes are crutched before lambing so that the lambs can find and suck easily on the teat. Crutching also prevents infection while giving birth. Ewes are crutched before breeding season to make it easier for rams to find and service ewes in heat.</p> <p>To crutch a ewe, the handler uses the appropriate techniques to catch, hold and throw a ewe. The handler sets the ewe on its rump and uses electric or hand shears to cut the wool. Hand shears should be used to remove heavy dung tags. These tags should be placed in a separate bag from other wool.</p>

Module 13A, 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 sheep production sector.

Common Essential Learnings Foundational Objective

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

Learning Objectives	Notes
13.1 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 work site, student, teacher monitor, and school.</p>
13.2 To determine factors that would affect the student contribution in the work site. (CCT)	<p>The students may formulate a list of the what they can bring to the workplace 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• other knowledge, skills and attributes• career goals and plans. <p>Ask students to do a self-assessment of 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 sheep industry. Try to incorporate the value of communication and teamwork in the discussion.</p>

Learning Objectives	Notes
13.3 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 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.</p>
13.4 To develop a résumé and cover letter that can be forwarded to a potential employer.	<p>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. Résumé and cover letter preparation is currently addressed in English Language Arts, Information Processing, and Career and Work Exploration.</p> <p>Students should develop the résumé on a computer disk and update the résumé during the progression of the course as references are accumulated.</p> <p>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.</p> <p>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.</p>
13.5 To determine student guidelines in preparation for an interview.	<p>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.</p> <p>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 follows.</p> <p>The greeting involves an introduction between the student and employer. Discuss or demonstrate how this should be done.</p> <p>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.</p>

Learning Objectives

Notes

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

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.

13.6 To discuss the interview.

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

13.7 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 site supervisor
- dress code
- job description
- school and employer expectations.

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

13.8 To relate feedback from the work placement.

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 14A, B, C: Work Study (Core)

Suggested Time: 25-50 hours

Level: Introductory

Prerequisite: None

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.

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Module 15: Farm Safety (Core)

Suggested Time: 7-9 hours

Level: Intermediate

Prerequisite: None

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 sheep. Knowledge of and respect for the particular characteristics of sheep 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 and place the information 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 sheep.

Common Essential Learnings Foundational Objective

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

Learning Objectives	Notes
15.1 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 sheep operations. Consider these hazards from the perspective of the sheep producers as well as of the sheep.</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
15.2 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>
15.3 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, and when applying chemicals and other hazardous materials.</p> <p>Have students identify when and where protective gear should be used.</p>
15.4 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>
15.5 To identify fire hazards and precautions on farms.	<p>Have students examine and list the fire hazards on farms. Students should also know how and when to use various types of fire fighting 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>
15.6 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 16: 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 sheep production, particularly for purebred herds and in feedlot situations.

An important marketing and management tool for sheep 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 on farms.
- To develop skills in using forms and recordkeeping on farms.
- To develop skills in finding and using information.
- To observe, assist with, or demonstrate effective 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
16.1 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 on a farm. 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. (COM)</p>
16.2 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• sheep 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.

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

Sheep 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 sheep 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 of information on sheep 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 17: Career Exploration (Core)

Suggested Time: 3-4 hours

Level: Intermediate

Prerequisite: None

Module Overview

Students explore the career options available to them in sheep 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 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 skills relating to career choices and employability.

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
17.1 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 sheep producers or farmers/trainers to determine the employability skills that are important to these producers.</p>
17.2 To examine different career choices in the production of sheep.	<p>Have students look at a number of career choices that fit their personality and learning styles.</p> <p>Have students prioritize these choices by interest and job requirements. Have students state the reasons for these decisions.</p>

Learning Objectives	Notes
17.3 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.
17.4 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 18: Planning for Sheep 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 sheep production plans.
- To understand the basics of financial planning.
- To observe, assist with, or demonstrate planning for sheep production.

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
18.1 To review and/or develop farm and land management plans specifically related to sheep production.	<p>Core modules in Level 1 develop the basic elements of farm planning. Review the strategies presented at that level. Have students review and/or develop farm and land management plans specifically for sheep production.</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>
18.2 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 sheep production, managing personal time is often beyond the control of the individual producer. Remind students that due to the seasonal pressures of lambing, finding balance in life will require both planning and flexibility.</p> <p>Students should also be reminded 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
18.3 To develop a basic understanding of financial planning.	<p>Financial planning and maintaining business records are some of the most important components of operating a farm or ranch. 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 10, 20, 30 Farm Accounting Module, for more information and practice.</p> <p>Student Reference Manual: Have students prepare a financial plan for a particular farming operation.</p>
18.4 To develop a farm recordkeeping system.	<p>Preparing a financial plan for a farm is as easy as the quality and accessibility of the records that provide the information.</p> <p>Have students develop a filing system for a farming operation. Discuss the categories that need to be included as well as how to file and retrieve information when it is required.</p> <p>Farmers need to know what they have in inventory. Developing and using an inventory system is required for effective operation of a farm. This inventory should include cost, ownership, current value and date, and replacement value.</p> <p>Have students gather or prepare inventory records for agricultural commodities.</p>

Module 19: 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 or 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
19.1 To assist with or demonstrate skills in the processes related to 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 dairy production equipment.</p>

Learning Objectives	Notes
19.2 To identify and describe a variety of tools (power and manual).	<p data-bbox="646 216 1468 359">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 daily routine checkups of pulleys or adapting the machinery to different uses.</p> <p data-bbox="646 401 1455 543">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> <p data-bbox="646 585 1398 690">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.</p> <p data-bbox="646 732 1446 837">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.</p> <p data-bbox="646 879 1468 942">Distinguish between a safe practice and an unsafe practice when using specific manual and power tools.</p>
19.3 To identify and describe the characteristics of the common farm mechanical, hydraulic, and hand jacks and winches.	<p data-bbox="646 1020 1463 1236">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.</p> <p data-bbox="646 1278 1471 1383">Have students compare and contrast the uses and efficiencies of the direct vertical, automotive, floor type, and any other types of lift. Identify the type of lift that is best suited for each job.</p> <p data-bbox="646 1425 1468 1530">Student Reference Manual: Have students prepare a summary of the type of common farm mechanical, hydraulic and hand jacks and winches.</p>
19.4 To identify the dangers and hazards associated with common lifting equipment.	<p data-bbox="646 1572 1471 1715">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.</p> <p data-bbox="646 1757 1446 1820">Demonstrate the correct operating procedures in using the jack or hoisting equipment in a safe and efficient manner.</p>

Learning Objectives

Notes

- 19.5 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 regarding 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.

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).

- 19.6 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 20: 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 sheep. This module is intended to enhance students' basic understanding of marketing by exposing them to the variety of options available to sheep producers.

Foundational Objectives

- To develop skills in using market information.
- To describe different marketing mechanisms.
- To observe, assist with, or demonstrate skills related to marketing of sheep and sheep products.

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
20.1 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>
20.2 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

Student Reference Manual: Have students list sources of current market information. Encourage students to include web sites, radio or television broadcasts and print information.

- 20.3 To identify factors that influence decisions about marketing an agricultural commodity. (CCT)

Commodity prices are based on supply and demand. There are, however, other factors which influence decisions about when to sell a commodity. These factors include:

- 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.

Farmers need to consider these factors and more when making decisions about marketing an agricultural commodity. Discuss with students these factors. Encourage students to think of ways to mitigate the negative influences as well as how to take advantage of favourable influences.

- 20.4 To identify different market opportunities.

Many farmers have chosen to market their agricultural products through alternative, contract or niche markets. Have students investigate the different marketing opportunities for a particular commodity. Encourage students to analyze the advantages and disadvantages of each opportunity.

Engage students in a discussion on the best time to sell lambs, replace sheep with younger animals, buy feed, rent pasture, and lease or buy equipment.

Students may also wish to explore the opportunities for them to buy sheep through feeder associations, short term business loans or leasing sheep.

Have students describe their ideas for innovative marketing opportunities for sheep. If possible, have students attend the Canadian Western Agribition or other sheep sales to get a first hand look at marketing.

Module 21: Sheep Anatomy and Physiology (Core)

Suggested Time: 5-6 hours

Level: Intermediate

Prerequisite: None

Module Overview

Sheep behaviour depends in large part on anatomy and physiology. It also depends on flight instinct and herd behaviour.

Foundational Objectives

- To describe sheep anatomy and physiology.
- To become aware of the particular behaviour of sheep.
- To observe, assist in identifying, or demonstrate knowledge about sheep behaviour.

Common Essential Learnings Foundational Objectives

- To use a variety of resources to increase the breadth and depth of knowledge about sheep anatomy and physiology. (COM)
- To distinguish between primary and secondary sources of information. (COM)

Learning Objectives	Notes
21.1 To describe the basic anatomy and physiology of the sheep.	<p>The operator of a sheep farm should have a thorough knowledge of the anatomy of the sheep. Have students work with a farmer-trainer to locate and name the major external parts of the sheep. Describe the function and how the anatomy of sheep affects the behaviour and temperament of the sheep.</p> <p>Have students investigate the respiratory system, digestive and circulatory system, and genito-urinary tract of rams and ewes. Students should be able to describe and locate the major parts and describe the function of each. Diagrams and reference books will assist students.</p> <p>Student Reference Manual: Have students gather and organize various diagrams about sheep anatomy and physiology.</p>

Module 22: Sheep Care and Handling (Core)

Suggested Time: 5-6 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module builds upon students' basic knowledge of sheep care and handling to include care of the feet, herding techniques, sheep identification and use of a dog. This module is a hands-on experience necessary for developing skills and abilities in handling sheep.

Foundational Objectives

- To enhance students' basic knowledge of sheep care and handling.
- To observe, assist with, or demonstrate examples of sheep care and handling.
- To describe the process in which the operator tattoos and tags sheep.
- To demonstrate the use of a dog when handling sheep.
- To describe how to herd a flock of sheep.

Common Essential Learnings Foundational Objectives

- To ask relevant questions in order to further their understanding of sheep care and handling. (COM)
- To examine moral issues related to sheep care and handling through a framework which incorporates cultural understandings. (CCT)

Learning Objectives	Notes
22.1 To describe the process of trimming the sheep's feet.	<p>In this module, the students should identify the reasons for trimming feet and the appropriate times of the year for completing this process. The operator should trim the sheep's hooves during shearing time, during lambing, or when the sheep go out to or return from pasture. If the sheep are confined to corrals, the feet may need to be trimmed more often.</p> <p>Students should describe and demonstrate the method of trimming. They should know the materials required for this process. If the students are using a hoof trimmer or sharp knife, they should trim the toe straight across and then cut off each side wall of hoof leaving the sole flat to facilitate proper movement and wear of the hooves. The students should describe the precautions that need to be taken to ensure that lameness, bleeding, or foot rot does not occur.</p>
22.2 To describe and demonstrate how to tag and tattoo sheep.	<p>Students should identify the reasons for having an identification system on a sheep operation. The students should describe the different techniques and the procedures necessary for each technique. The students should demonstrate the techniques on the sheep. The students should identify the safety precautions that are required to ensure the welfare of the sheep both psychologically and physiologically.</p>

Learning Objectives	Notes
22.3 To describe and demonstrate how to use a dog on a sheep operation.	<p>The students should identify the reasons that it is necessary to have a dog on a sheep operation. A good working dog is an advantage on a sheep operation because it is more effective use of the operator's time and efficient in handling sheep. The students should identify the qualities that are required in a sheep dog. The students should demonstrate proper handling techniques using voice and hand commands. The students should train the dog to work the sheep in several different settings.</p>
22.4 To demonstrate and describe the process of herding a flock of sheep	<p>Herding a flock of sheep requires a keen sense of sheep behaviour including the herd and flight instincts. Sheep are prey animals and, therefore, are likely to flee any unknown or unfamiliar circumstances. Operators need to keep these characteristics in mind when working with sheep.</p> <p>As with all modules in Sheep Production, the skills and abilities associated with herding a flock of sheep are best acquired with the help of farmers-trainers. Students should be reminded that humane treatment of animals is a requirement of this course.</p>

Module 23: Sheep Herd Health (Core)

Suggested Time: 6-9 hours

Level: Intermediate

Prerequisite: None

Module Overview

This module is used to develop students' knowledge about sheep herd health. Students learn to recognize signs and symptoms of various diseases and disorders. Treatment and medication are included in this module. Students become familiar with interpreting labels for medications and identifying the sick and problems that sheep encounter.

Foundational Objectives

- To become familiar with the signs and symptoms of sheep diseases and disorders.
- To develop the ability to select and administer veterinary medication.
- To observe, assist with identifying, or demonstrate knowledge of sheep herd health.

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 sheep herd health. (COM)

Learning Objectives		Notes
23.1	To develop the ability to identify the signs and symptoms of diseases and disorders in sheep.	<p>Indicate to students the signs of healthy sheep. Students should check animals for indications that the sheep are in good condition. With the help of farmers-trainers, show students signs and symptoms of diseases and disorders.</p> <p>Student Reference Manual: Have students develop a checklist for signs to observe when checking sheep.</p>
23.2	To become knowledgeable about the types of medications and veterinary supplies used to maintain healthy sheep.	<p>Invite a veterinarian to discuss the most common types of medications and veterinary supplies used to maintain healthy sheep. Discuss the concept of preventive herd health.</p> <p>Student Reference Manual: Have students develop a checklist of preventive health practices.</p>
23.3	To interpret the labels of medications and drugs.	<p>The students should be able to describe the procedures for administering drugs and medications from the labels. The students should administer medication by injection (at least five different ways) and orally (at least four different ways).</p>

Module 24: Grazing Systems (Optional)

Suggested Time: 6-8 hours

Level: Intermediate

Prerequisite: None

Module Overview

Sheep are ruminants and, therefore, grazing animals. Whether in confinement or on range conditions, students need to consider how these situations will affect breeding as well as pasture conditions.

Foundational Objectives

- To become knowledgeable about the grazing systems for sheep.
- To develop an awareness of the relationship between grazing systems and breeding regimes.
- To observe, assist with identifying, or demonstrate knowledge of grazing systems used for sheep.

Common Essential Learnings Foundational Objective

- To learn through synthesizing understandings, experiences, interests and needs. (IL)

Learning Objectives		Notes
24.1	To develop an understanding of the grazing options available for sheep production.	<p>Discuss with students the various types of grazing and the advantages of each type. The students should identify and describe the advantages and disadvantages of open and closed grazing methods. The students should be able to identify the methods and strategies of herding in a range setting mentioning all the considerations necessary to ensure the safety and well-being of the herd.</p> <p>Student Reference Manual: Have students investigate and document the stocking rates for pasturing sheep. Students should develop a grazing plan for a particular sheep operation.</p>
24.2	To develop an understanding of a sheep breeding program for range conditions.	<p>Describe a breeding program based on pasture or range conditions. Discuss with a farmer-trainer the steps that need to be taken to ensure that the breeding period occurs over the shortest period of time possible.</p> <p>Have students discuss why a shortened breeding season is important for sheep production.</p>
24.3	To manage the range land.	<p>Range management is the efficient use of rangeland. The water, plant, and soil resources must be carefully managed to ensure the maximum production of animal products (e.g., meat, wool, and hide). Work with a farmer-trainer or rangeland specialist to discuss the concepts of rangeland management.</p>

Learning Objectives**Notes**

Consider proper ground cover. Identify the methods used to keep the range covered with proper forage and maintain a range forage reserve as well.

Introduce the concept of water management and the techniques used to increase the water holding capacity of the range. Discuss with students ways in which to control soil erosion. Work with farmers-trainers to demonstrate to students the conditions necessary to achieve maximum levels of sheep production from the range.

24.4 To develop the ability to protect sheep from predators.

Working with farmers-trainers, describe to students the steps in camp management by identifying the best bedding grounds for the night to ensure the safety and health of the sheep. Discuss and describe ways of protecting the sheep from predators when out on the range. Students should identify the different types of predators and how to best protect the sheep from each predator.

Core and Optional Modules for Sheep Production 30

Module 25: Causes and Prevention of Farm Accidents (Core)

Suggested Time: 4-5 hours

Level: Advanced

Prerequisite: None

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.
- To observe, assist with, or demonstrate the identification of causes and prevention of farm accidents.

Common Essential Learnings Foundational Objectives

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

Learning Objectives	Notes
25.1 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.
25.2 To describe the use of safety guards, shields, and other safety devices 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 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
25.3 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 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>
25.4 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 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 26: 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 practices related to "first response".

Common Essential Learnings Foundational Objective

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

Learning Objectives	Notes
26.1 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 such as police and fire departments, and ambulance services.</p>

Module 27: 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.
- To observe, assist with, or demonstrate effective communication.

Common Essential Learnings Foundational Objectives

- To gradually incorporate vocabulary related to sheep production into their talk 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
27.1 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 types 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. <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>
27.2 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 sheep 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.

27.3 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
- effectively market their products.

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
- improve 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 28: 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 which are of interest.

Foundational Objectives

- To describe and access careers and job opportunities in production agriculture or other field.
- To observe, assist with, or demonstrate ability in determining career paths.

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

28.1 To identify career clusters and the range of occupational opportunities in sheep production.

Have students list and research careers or occupations relating to sheep production and cluster them according to:

- primary production - professional science, management and operation
- marketing, distribution and retail services
- support services - production and processing, financial and governmental
- resource management.

Have students consider job descriptions, employment market, educational requirements and wage expectations. If possible, have students assess current employment opportunities based on employment statistics. There are a number of web sites on agricultural careers for students to review.

If possible, have students work with other ATEC students and hold a career fair or make oral presentations on other sectors.

Module 29: 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 10, 20, 30 Curriculum Guide.

Foundational Objectives

- To develop farm planning skills particularly financial planning skills.
- To observe, assist with, or demonstrate the use 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)

Learning Objectives	Notes
29.1 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.
29.2 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.
29.3 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 about the statement. Student Reference Manual: Have students prepare a net worth statement.
29.4 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 30: 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 that 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 31: Marketing (Core)

Suggested Time: 4-5 hours

Level: Advanced

Prerequisite: None

Module Overview

All types of livestock are marketed using basic fundamentals of supply and demand. As well as these basic fundamentals, sheep marketing requires specialized knowledge of sheep and lamb markets. An important component of sheep marketing is the wool and by-products produced.

Foundational Objectives

- To develop an understanding of sheep and lamb marketing practices.
- To observe, assist with, or demonstrate marketing sheep and lambs.

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
31.1 To describe the marketing system for sheep, lambs, and their products.	Begin by studying the basic products from sheep and lambs that can be marketed. Students should develop an understanding of marketing terminology. Work with a farmer-trainer to discuss the best markets available for marketing sheep and lambs. Indicate the advantages and disadvantages of marketing seasons and the timing of breeding programs to take advantage of the best market opportunities. Indicate the potential restrictions that may develop during marketing time. Explain the concept of check-off fees and state the requirements for payment on the sale of wool and sheep.

Module 32: Sheep Nutrition and Feed Rations (Core)

Suggested Time: 6-8 hours

Level: Advanced

Prerequisite: None

Module Overview

Sheep have different nutritional requirements which vary according to their age and development, sex of the animal, time of the year and overall physical condition. Sheep producers need to give careful consideration to these nutritional requirements and the ways in which feed rations are formulated.

Foundational Objectives

- To develop the ability to prepare appropriate feed rations for sheep.
- To observe, assist with, or demonstrate the preparation of feed rations and accommodate the nutritional needs of sheep.
- To calculate feed requirements based on the nutritional needs and condition of sheep.

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
32.1	To develop an understanding of the basic nutritional requirements of sheep according to age, sex, time of year and physical condition.	<p>Have a veterinarian or farmer-trainer thoroughly explain the nutritional requirements of sheep. Explain terminology such as total digestible nutrients, protein, trace minerals, and moisture content. Indicate to students some of the problems that inadequate or improper feed cause.</p> <p>Student Reference Manual: Have students list the nutritional requirements of sheep according to age, sex, type of feed, condition of sheep and time of the year.</p>
32.2	To develop the ability to prepare feed rations according to the nutritional requirements of sheep.	<p>Having gained knowledge about the nutritional requirements of sheep, students should be able to develop feed rations or interpret how to prepare and/or read a master recipe sheet for the different pens of sheep.</p> <p>Students should be able to demonstrate the ability to distribute feed rations accordingly.</p>

Module 33: Sheep Care (Core)

Suggested Time: 7-9 hours

Level: Advanced

Prerequisite: None

Module Overview

This module is used to develop students' abilities to dock tails and castrate sheep.

Foundational Objectives

- To demonstrate a variety of skills necessary to care for sheep.
- To observe, assist with, or demonstrate the variety of activities needed to care for sheep.

Common Essential Learnings Foundational Objectives

- To demonstrate humane care of animals. (PSVS)
- To synthesize ideas gleaned from current reading/discussion/viewing/oral presentations with prior knowledge and understanding. (COM)

Learning Objectives	Notes
33.1 To describe and demonstrate how to dock tails and castrate sheep.	<p>Discuss with students the reasons why docking tails is essential for maintaining the health of sheep. Indicate the problems with flies as well as the spread of diseases that can result when tails are not docked.</p> <p>Demonstrate to students the proper procedures for docking using:</p> <ul style="list-style-type: none">• rubber rings• emasculator• electric docker• hot iron. <p>Ensure that students are aware of post-docking care and treatment as well as the signs and symptoms of infection or infestation of flies.</p> <p>With the help of a farmer-trainer, have students discuss the advantages and disadvantages of castration. Demonstrate the proper procedures for castration using:</p> <ul style="list-style-type: none">• rubber ring• emasculator• knife• bloodless castrator. <p>Students should identify the precautions to be taken when docking or castrating for both animals and the producers.</p>

Module 34: Shearing Sheep (Core)

Suggested Time: 4-6 hours

Level: Advanced

Prerequisite: None

Module Overview

Shearing sheep is an important and necessary activity of sheep production. There are particular methods of holding and shearing sheep that can help alleviate strain on the shearer as well as stress on the animal. Have students review Level 10 on how to hold sheep properly. After each sheep is shorn, the fleece must be cleaned and handled properly in order to receive the best financial return for the wool.

Foundational Objectives

- To develop the ability to shear sheep.
- To observe, assist with, or demonstrate the shearing of sheep.
- To develop the ability to handle fleece.

Common Essential Learnings Foundational Objective

- To demonstrate humane care of animals. (PSVS)

Learning Objectives	Notes
34.1 To develop the ability to shear a sheep.	<p>Have students discuss how to determine the appropriate time to shear. Shearing is a specialized skill that adds quality and appearance to the fleece. The sheep should be comfortable with minimum effort on the part of the shearer.</p> <p>Have a professional shearer or the farmer-trainer demonstrate how to catch, hold and turn sheep during shearing. Nicks may occur and should be treated with an antiseptic ointment to prevent infection or fly infestation.</p> <p>Student Reference Manual: Have students illustrate or find photos that show the proper methods for holding and shearing sheep.</p>
34.2 To prepare a fleece for bagging and sale.	<p>Sheep should be shorn on an annual basis. Preparing fleece for bagging and sale is an important factor in obtaining the best return for wool. Describe the terms relating to the different types of wool. Demonstrate the proper technique for removing a fleece in the shearing area.</p> <p>The students should be able to:</p> <ul style="list-style-type: none">• remove foreign materials from the wool• package belly wool• fold, roll, and tie clean fleece• pack, stack, and store the wool.

Module 35: Pest Control (Core)

Suggested Time: 4-5 hours

Level: Advanced

Prerequisite: None

Module Overview

This module provides the students with information on methods of internal and external pest control in sheep.

Foundational Objectives

- To describe the best ways to control internal and external sheep pests.
- To observe, assist with, or demonstrate the best ways to control sheep pests.

Common Essential Learnings Foundational Objective

- To synthesize ideas gleaned from current reading/discussion/viewing/oral presentations with prior knowledge and understanding. (COM)

Learning Objectives	Notes
35.1 To become familiar with the various types of internal and external pests that affect sheep.	<p>Sheep are susceptible to a number of internal and external pests that must be controlled in order to maintain the health of the animal. Have a veterinarian discuss with students the most common types of internal and external pests, signs or symptoms of infestations and procedures needed to control the pests. Include insecticides and de-worming drugs used for treatment of external parasites and internal parasites describing specific use, and any precautionary measures required</p> <p>Student Reference Manual: Have students develop a list of internal and external pests, signs of infestations and treatment.</p>
35.2 To demonstrate the application of internal and external pest control chemical and powders.	<p>Demonstrate or have students indicate signs or symptoms of internal and external parasites. Describe and/or demonstrate the respective method of treatment.</p> <p>Student Reference Manual: Have students design a preventive program to control external and internal parasites.</p>

Module 36: Orphan Lamb Care (Optional)

Suggested Time: 4-5 hours

Level: Advanced

Prerequisite: None

Module Overview

Orphan lambs are common in sheep production. Caring for these orphans is an important activity in sheep production. This module is used to demonstrate the special care and attention required in order to care for orphan lambs.

Foundational Objectives

- To develop skills and abilities in caring for orphan lambs.
- To observe, assist with, or demonstrate caring for orphan lambs.

Common Essential Learnings Foundational Objective

- To demonstrate humane care of animals. (PSVS)

Learning Objectives	Notes
36.1 To develop the ability to graft lambs.	<p>Lambs are orphaned for a number of reasons. For example, lambs may be orphaned or one twin may not be accepted by the ewe. “Grafting” lambs is a term used to describe the adoption of orphan lambs by another ewe. Timing and perseverance are often the key elements to successful grafting. Grafting is often the best way to raise healthy lambs.</p> <p>Demonstrate to students how to graft a lamb to another ewe using the stanchion method of holding the ewe.</p>
36.2 To develop a knowledge of the use of milk replacer to feed orphan lambs.	<p>Grafting lambs is often the first choice for caring for orphan lambs. It is, however, not always possible or successful.</p> <p>Bottle feeding orphan lambs is time consuming and requires a sense of how much milk is required by a lamb. In the case of orphan lambs, too much as well as too little milk can be very harmful.</p> <p>Have students investigate the contents of milk replacer and calculate how much milk replacer lambs require.</p> <p>Talk to producers about the optimum time to start lambs on prepared rations.</p> <p>Student Reference Manual: Have students develop a list of milk replacers, mixing rates and quantities required for various ages and sizes of lambs.</p>

Learning Objectives	Notes
36.3 To describe the proper facilities needed when caring for orphans.	Orphan lambs require special pens as well as feed including milk bottles and/or multiple lamb milk feeders and water containers. Discuss these requirements with a producer. Students should describe the process of caring for, and proper facilities when caring for, orphans.

Module 37: Lambing (Optional)

Suggested Time: 5-10 hours

Level: Advanced

Prerequisite: None

Module Overview

This module is used to give students the “basics” of lambing ewes.

Foundational Objectives

- To develop the ability to lamb a ewe.
- To observe, assist with, or demonstrate the lambing of ewes.

Common Essential Learnings Foundational Objectives

- To ask relevant questions in order to further their understanding of lambing. (COM)
- To make observations and derive inferences from those observations. (COM)
- To demonstrate humane care of animals. (PSVS)

Learning Objectives	Notes
37.1 To become knowledgeable about testing ewes for pregnancy.	Ewes should be pregnancy tested early in the gestation period to maintain the highest rates of reproduction possible in a flock. Barren or open ewes should be culled from the flock. Invite a veterinarian to demonstrate how to pregnancy check ewes. Have students debate the pros and cons of the costs of pregnancy checking in comparison to the return on investment. (CCT)
37.2 To develop the ability to help lamb a ewe.	<p>Demonstrate to students the necessary precautionary measures for preparing young or first time ewes for the birthing process. Students should assist with preparing (or prepare) a lambing time basic needs kit including a supply of colostrum, iodine for dipping navels, syringes, electrolyte solutions, penicillin and medications to prevent the spread of coccidiosis.</p> <p>Discuss or have students demonstrate ways to minimize stress on the ewes and lambs. Students should be able to identify the onset of parturition and give assistance when required.</p> <p>Student Reference Manual: Have students list all the items and the reasons for each item required in a lambing kit.</p> <p>Identify types of difficult births and describe the techniques used to assist in each difficult situation.</p>

Learning Objectives		Notes
37.3	To demonstrate effective post-natal care of ewes and lambs.	The students should demonstrate effective post-natal care of ewes and lambs. Students should be able to diagnose and treat a retained placenta with use of bolus, penicillin, and veterinarian's assistance.
37.4	To dispose of dead animals,	Discuss with students the proper procedures to dispose of dead animals. Students should be made aware of the precautions required to protect the water supply and feed supply from contamination and/or spread of diseases.

Module 38: Operation of Roller Mills (Optional)

Suggested Time: 5-10 hours

Level: Advanced

Prerequisite: None

Module Overview

Roller mills are used to crack grain that is used as part of the feed ration for sheep. Operating a roller mill requires skill. This module describes some of the basic skills required in the operation of a roller mill.

Foundational Objective

- To observe, assist with or demonstrate the operation of a roller mill.

Common Essential Learnings Foundational Objective

- To use questioning as a tool to further their understanding of roller mills. (CCT)

Learning Objectives		Notes
38.1	To operate a feed roller and maintain service to the roller.	<p>Demonstrate to students the components of a roller mill and its operation. Identify the safety precautions and procedures to minimize accidents. Have students demonstrate their ability to perform walk-around inspections of the machinery and perform any minor adjustments.</p> <p>Discuss the importance of proper lubrication to the roller mill. Students should be able to demonstrate the operation of the roller mill to ensure quality and quantity of feed.</p>

Resources

Alberta Agriculture, Food and Rural Development. (1996) Sheep 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 Agriculture, Food and Rural Revitalization. Web site: <http://www.agr.gov.sk.ca/>
Miscellaneous publications available from the Publication Distribution Centre Order Desk by telephone: (306) 721-4330, by fax: (306) 721-4626 or by e-mail: Valb.pad@sk.sympatico.ca

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

References

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 Sheep 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 livestock					
Identifying and describes 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					
Describes proper clothing, and protective gear					

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
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 in: <ul style="list-style-type: none"> • a truck or tractor • a farm shop • 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 Sheep Production (Core)

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

Learning Objectives	\checkmark if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes the kinds of plans used in sheep 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 the preventative maintenance: <ul style="list-style-type: none">• checking oil and 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					
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 _____					

Module 5: Farm Equipment Maintenance and Repair (Core)

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
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 needed 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 • sheep 					
Locates and interprets current market information					
Identifies and describes the various kinds of markets used in sheep production. Lists the advantages and disadvantages of each					
ADDITIONAL COMMENTS:					

Module 7: Sheep Behaviour (Core)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the sheep's behaviour patterns: <ul style="list-style-type: none"> quietness/aggressiveness herding habits grazing follow the leader flocking instinct habit formation browsing 					
Identifies the sheep's reaction to: <ul style="list-style-type: none"> wind loud noises new setting loud voices aggressive actions sun dogs water other _____ 					
Demonstrates ability to look ahead and interpret a situation: <ul style="list-style-type: none"> to avoid stress to the animal to provide precautionary measures 					
ADDITIONAL COMMENTS:					

Module 8: Handling Sheep (Core)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Demonstrates how to move sheep: <ul style="list-style-type: none"> • in groups • individually 					
Demonstrates how to: <ul style="list-style-type: none"> • throw a sheep • crutch a ewe • wean lambs 					
ADDITIONAL COMMENTS:					

Module 9: Animal Health (Core)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the sicknesses and disorders among sheep					
Describes the precautionary measures of prevention					
Is able to perform basic animal first aid					
ADDITIONAL COMMENTS: 					

Module 10: Sheep Nutrition (Core)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies adequate water quality and supply					
Matches water supply to: <ul style="list-style-type: none"> seasonal conditions environmental conditions animal characteristics feed type other _____ 					
Identifies the factors that influence the nutrient content of manure					
Identifies how to reduce: <ul style="list-style-type: none"> fecal contamination of feed odour fly population 					
Demonstrates the ability to operate manure spreading equipment					
ADDITIONAL COMMENTS:					

Module 11: Weaning Lambs (Optional)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the nutritional need of lambs prior to weaning					
Identifies composition of creep rations to maximize continued growth of lambs					
Chooses the proper water source					
Chooses suitable housing for lambs during and post weaning					
Chooses a suitable environment for the lambs to be weaned					
Provides adequate feeders and proper placement of feeders					
Identifies proper watering systems					
ADDITIONAL COMMENTS:					

Module 12: Crutching Ewes (Optional)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the proper time for crutching ewes					
Identifies the reason for crutching					
Demonstrates: <ul style="list-style-type: none"> the proper handling techniques to catch, hold, and throw a ewe the use of electric and hand shears the proper crutching techniques 					
ADDITIONAL COMMENTS:					

Appendix B: Training Plans for Sheep Production 20

Module 15: 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 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 farms jobs that require these 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 15: 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 department					
ADDITIONAL COMMENTS:					

Module 16: 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					
Locates, sorts, and uses information contained in a variety of publications Locates, sorts, and uses information retrieved from the Internet or other computer sources					

Module 17: 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 by: <ul style="list-style-type: none">• specific 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 career opportunities 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 18: Planning for Sheep 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 types of plans used in a sheep production operation					
Develops the plans necessary to operate this type of farm					
Developes a: <ul style="list-style-type: none"> land management plan farm management plan 					
ADDITIONAL COMMENTS:					

Module 19: 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 and 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					
Identifies the dangers and hazards associated with common lifting equipment					

Module 19: 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		
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 20: 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 sheep marketing					
Describes the various kinds of markets used in sheep production					
ADDITIONAL COMMENTS:					

Module 21: Sheep Anatomy and Physiology (Core)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Locates and names the external parts of sheep and their function					
Is able to name, locate, and describe the function of: <ul style="list-style-type: none"> • respiratory system • digestive system • circulatory system • genito-urinary tract (ram and ewe) • other _____ 					
ADDITIONAL COMMENTS: 					

Module 22: Sheep Care and Handling (Core)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Demonstrates and describes: <ul style="list-style-type: none"> trimming the feet tattooing and tagging how a dog handles sheep heading a flock of sheep 					
Identifies proper range land management techniques					
ADDITIONAL COMMENTS:					

Module 23: Sheep Herd Health (Core)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the signs and symptoms of diseases and disorders in sheep					
Completes a checklist for signs to observe when checking sheep					
Identifies the different types of medications and veterinary supplies used to maintain healthy sheep					
Describes when to use medications and veterinary supplies with sheep					
Demonstrates preventative health practices					
Describes the procedures for administering drugs and medications from the labels					
ADDITIONAL COMMENTS:					

Module 24: Grazing Systems (Optional)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the different types of grazing and the advantages and disadvantages of open and closed grazing					
Identifies the methods and strategies of herding in the different settings Demonstrates techniques to ensure the safety and well-being of the herd					
Describes the efficient use of rangeland Describes how to manage the plant, water, and soil resources					
Describes the steps in camp management Identifies the different types of predators Describes ways of protecting sheep from predators					
Describes a breeding program based on pasture or range conditions Describes the advantages for shortened breeding season					
ADDITIONAL COMMENTS: 					

Appendix C: Training Plans for Sheep Production 30

Module 25: 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 perceives to 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 the 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 when dealing with different types of fires					
ADDITIONAL COMMENTS:					

Module 26: 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 hall, ambulance, doctor, hospital, etc.) in appropriate places					
ADDITIONAL COMMENTS: 					

Module 27: 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 analyze information Demonstrates the ability to communicate effectively reliable information					
Describes and demonstrates the communications skills needed for: <ul style="list-style-type: none">• writing and publications• managing information• using office tools					
Demonstrates effective communication skills to understand or be understood by employees, employers, suppliers, or customers					
ADDITIONAL COMMENTS: 					

Module 28: 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 29: 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 30: 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 types of fluids that need to be checked: <ul style="list-style-type: none">• fuel, oil, fluid (engine, transmission and 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 _____					
Demonstrates the correct procedures to service: <ul style="list-style-type: none">• drive train and transmission• brake system• tires and rims					

Module 30: 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 30: 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 while 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 31: Marketing (Core)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes the basic products from sheep and lambs that can be marketed					
Uses marketing terminology					
Identifies the markets available locally, nationally, and internationally					
Indicates the advantages and disadvantages of marketing seasons and the timing of the breeding programs					
Indicates potential restrictions that develop during marketing time					
Explains the concept of check-off fees and state of requirements on the sale of wool and sheep					
ADDITIONAL COMMENTS:					

Module 32: Sheep Nutrition and Feed Rations (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Explains the nutritional requirements of sheep according to age, sex, time of year and physical condition					
Uses terminology such as digestible nutrients, protein, trace minerals and moisture content					
Identifies problems of inadequate feed and improper feed cause					
Interprets how to read a master recipe sheet					
Develops and prepares feed rations					
Distributes feed rations accordingly					
ADDITIONAL COMMENTS:					

Module 33: Sheep Care (Core)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Discusses reasons for docking tails (identifies problems with flies, other parasites, etc. and diseases)					
Demonstrates proper procedures for docking using: <ul style="list-style-type: none"> • rubber rings • emasculator • electric dockers • hot iron 					
Identifies signs and symptoms of infection or infestation of flies, etc. Demonstrates post-docking care and treatment					
Discusses the advantages and disadvantages of castration Identifies the precautions for both animals and operator when castrating					
Demonstrates the proper procedures for castration using: <ul style="list-style-type: none"> • rubber ring • emasculator • knife • bloodless castrator 					
ADDITIONAL COMMENTS:					

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the appropriate time to shear sheep					
Identifies how to add quality and appearance to the fleece through proper shearing					
Demonstrates how to catch, hold, and turn sheep during shearing					
Demonstrates the ability to shear sheep					
Demonstrates how to prepare a fleece for bagging and sale by: <ul style="list-style-type: none">• removing foreign materials from the wool• packaging belly wool• folding, rolling, and tying clean fleece• packing, stacking, and storing the wool Describes the terms for the different types of wool					
Demonstrates the proper technique for removing a fleece from the shearing area					
ADDITIONAL COMMENTS:					

Module 35: Pest Control (Core)**Student's Name** _____ **Farmer-Trainer** _____

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the various types of internal and external pests that affect sheep					
Describes the signs or symptoms of infestations and procedures to control or treat pests					
Demonstrates the application of internal and external pest control chemicals and powders					
ADDITIONAL COMMENTS:					

Module 36: Orphan Lamb Care (Optional)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Identifies the reasons for having to graft a lamb					
Demonstrates how to graft lambs					
Identifies the contents of milk replacer					
Calculates the proper amount of milk replacer for each lamb					
Describes the proper facilities needed when caring for orphans					
Describes the process of caring for orphans					
ADDITIONAL COMMENTS:					

Module 37: Lambing (Optional)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes and demonstrates how to complete a pregnancy test on ewes					
Demonstrates the precautionary measures for preparing ewes for the birthing process					
Prepares a lambing time basic needs kit					
Demonstrates ways to minimize the stress on the ewes and lambs					
Demonstrates effective post-natal care of ewes and lambs					
Identifies methods of disposing of dead animals to meet all precautionary procedures required					
ADDITIONAL COMMENTS:					

Module 38: Operation of Roller Mills (Optional)

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

Learning Objectives	√ if Student: A - Assisted O - Observed D - Demonstrated			Completion Date	Comments
	A	O	D		
Describes the components of a roller mill and its operation					
Demonstrates the walk-around inspections and is able to make minor adjustments					
Demonstrates proper lubrication of the mill.					
Demonstrates operation of the mill to ensure quality and quantity of feed					
ADDITIONAL COMMENTS:					