

## MODULE AGR2040: LIVESTOCK/POULTRY 1 (MATERIALS & PROCESSES)

**Level:** Intermediate

**Theme:** Technology and Applications

**Prerequisite:** None

**Module Description:** Students apply knowledge of materials and processes in raising livestock, poultry or other animal commodities, focusing attention on anatomy and identification, rations and feeding, housing, animal handling and restraint, animal health and welfare, and care for the young; and they identify related career opportunities. Potential areas of specialization include the production of beef, dairy, poultry, swine, sheep, game, exotics and bees and/or the study of aquaculture.

**Module Parameters:** Access to livestock, poultry or specialty animals and to appropriate animal housing and fencing structures.

Off-campus learning can support the development of practical skills in animal production; consultation with a work site supervisor ensures that relevant safety considerations are addressed and that student learning meets or exceeds the learner expectations in this module.

See the *Off-campus Education Guide for Administrators, Counsellors and Teachers* (Alberta Education, 1995) for further information regarding off-campus learning.

**Note:** This module can be combined with other modules from the Agriculture strand and/or from the Career Transitions strand to provide opportunities for students to develop technical competencies within the Alberta Green Certificate Training Program (Alberta Agriculture, Food and Rural Development). Opportunities may also exist for the completion of practical components of this module through projects undertaken with local youth groups; e.g., 4-H Clubs. See Section H (Linkages/Transitions) of this guide for further information.

**Supporting Modules:** CTR2210 Workplace Safety (Practices) [Career Transitions Strand]  
AGR1030 Production Basics

Because of the practical nature of this module, students need a general knowledge of accepted practices and potential hazards when performing tasks related to animal production. See Planning for Instruction in Section C for further information on student safety.

**MODULE AGR2040: LIVESTOCK/POULTRY 1 (MATERIALS & PROCESSES)** (continued)

**Curriculum and Assessment Standards**

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>describe the basic anatomy, physiology and breeds of cattle (beef or dairy), sheep, swine, poultry or specialty animals</li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>identifying by name and function the basic structural parts of a beef, dairy, sheep, swine, poultry or specialty animal. Identification to include, where possible, structural parts of the head, body and limbs.</li> </ul> <p><i>Assessment Tool</i>  <i>Identification Guide: Basic Anatomy and Physiology, AGR2040–1</i></p> <p><i>Standard</i>  <i>Identify by name and function 15 basic structural parts located in the head, body and limb areas of particular importance in the production system</i></p> <ul style="list-style-type: none"> <li>explain vital life processes of respiration, digestion, excretion, growth and reproduction for a livestock species, and the significance of each in the production system.</li> </ul> <p><i>Assessment Tool</i>  <i>Knowledge/Application Assessment: Vital Life Processes, AGR2040–2</i></p> <p><i>Standard</i>  <i>Respond to a standard of 2 on the rating scale</i></p> <ul style="list-style-type: none"> <li>compare the unique characteristics of two or more breeds of a beef, dairy, sheep, swine, poultry or specialty animal, and describe their significance to the producer.</li> </ul> <p><i>Assessment Tool</i>  <i>Research Process: Animal Breeds, AGR2040–3</i></p> <p><i>Standard</i>  <i>Conduct research to a standard of 2 on the rating scale.</i></p>	<p>30</p>

**MODULE AGR2040: LIVESTOCK/POULTRY 1 (MATERIALS & PROCESSES) (continued)**

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>demonstrate practical skills in raising, growing and finishing cattle (beef or dairy), sheep, swine, poultry or specialty animals</li> <li>demonstrate appropriate use of basic structures and equipment in animal production</li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>demonstrating practical skills within <u>three</u> of the following areas of animal production:               <ul style="list-style-type: none"> <li>– feeding</li> <li>– housing</li> <li>– handling and restraint</li> <li>– health and welfare</li> <li>– breeding operations</li> <li>– care for young.</li> </ul>               Production tasks will involve the application of appropriate safety guidelines for animal husbandry.             </li> </ul> <p><i>Assessment Tool</i>  <i>Task Checklist: Livestock/Poultry 1, AGR2040–4</i>  <i>Lab Assessment: Animal Care, AGRLAB–ANM</i></p> <p><i>Standard</i>  <i>Achieve a minimum performance rating of 2 in applicable areas of task and lab assessment</i></p> <ul style="list-style-type: none"> <li>maintaining an anecdotal record of production tasks performed.</li> </ul> <p><i>Assessment Tool</i>  <i>Log/Record of Animal Care, AGRLOG–ANM</i></p> <p><i>Standard</i>  <i>Completing all sections of the log/record for animal care tasks performed over a negotiated/contracted period of time</i></p> <ul style="list-style-type: none"> <li>demonstrating knowledge and safe use of basic structures and equipment pertinent to each area of animal production.</li> </ul> <p><i>Assessment Tool</i>  <i>Task Checklist: Livestock/Poultry 1, AGR2040–4</i>  <i>Lab Assessment: Animal Care, AGRLAB–ANM</i></p> <p><i>Standard</i>  <i>Achieve a minimum performance rating of 2 in applicable areas of task and lab assessment</i></p>	<p>50</p> <p>10</p>

**MODULE AGR2040: LIVESTOCK/POULTRY 1 (MATERIALS & PROCESSES) (continued)**

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>• describe career opportunities relevant to beef, dairy, sheep, swine, poultry or specialty animal production</li> <li>• demonstrate basic competencies.</li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>• given career information relevant to livestock, poultry or specialty animal production, completing a research project on one or more career opportunities within the industry.</li> </ul> <p><i>Assessment Tool</i>  <i>Career Search: Intermediate Level, AGRCAR-2</i></p> <p><i>Standard</i>  <i>Complete research to a standard of 2 on the rating scale.</i></p> <ul style="list-style-type: none"> <li>• observations of individual effort and interpersonal interaction during the learning process.</li> </ul> <p><i>Assessment Tool</i>  <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p style="text-align: center;">10</p> <p style="text-align: center;">Integrated throughout</p>

Concept	Specific Learner Expectations	Notes
<p>Anatomy and Physiology</p>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• describe the characteristics and function of major anatomical structures in livestock, poultry or an animal specialty</li> <li>• explain vital life processes and related terminology; e.g.:               <ul style="list-style-type: none"> <li>– respiration</li> <li>– digestion</li> <li>– waste excretion</li> <li>– growth</li> <li>– reproduction</li> </ul> </li> </ul>	<p>Draw, label and list the functions of specific anatomical structures.</p> <p>Prepare models.</p> <p>Prepare diagrams of an animal's digestive system.</p> <p>Cattle and sheep have rumens (4-compartment stomachs), which enable them to digest grass and crop wastes.</p>

**MODULE AGR2040: LIVESTOCK/POULTRY 1 (MATERIALS & PROCESSES) (continued)**

Concept	Specific Learner Expectations	Notes
<p>Anatomy and Physiology (continued)</p>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• identify major classes and breeds of commercial species</li> <li>• describe the desirable characteristics of major classes and breeds</li> <li>• identify animal breeds that are suited to specific production and market applications.</li> </ul>	<p>Dairy cattle producers place emphasis on a cow's udder and milk production records.</p> <p>Beef, hog and meat poultry producers place emphasis on muscling for meat production.</p> <p>Identify specific breeds of animals from pictures/slides.</p> <p>Invite a rural development specialist/veterinarian as a resource person.</p>
<p>Production Skills</p>	<ul style="list-style-type: none"> <li>• identify basic physical requirements for producing livestock, poultry or specialty animals; e.g.:               <ul style="list-style-type: none"> <li>– water and food</li> <li>– light</li> <li>– temperature</li> <li>– air</li> <li>– space variables</li> </ul> </li> <li>• describe how weather and climate may affect production activities</li> <li>• describe normal/abnormal feed sources, and the impact of nutrient deficiencies on animal health</li> <li>• provide basic feed requirements in specific situations; e.g.:               <ul style="list-style-type: none"> <li>– maintenance</li> <li>– growth or finishing</li> <li>– pregnant or lactating mothers</li> </ul> </li> <li>• demonstrate accepted methods of handling and restraining animals</li> </ul>	<p>List the tasks required to provide proper care for an animal.</p> <p>Potential linkages exist with the Alberta Agriculture Green Certificate Farm Training Program:</p> <ul style="list-style-type: none"> <li>• beef</li> <li>• dairy</li> <li>• sheep</li> <li>• swine.</li> </ul> <p>For further information, see Section H: Linkages/Transitions.</p> <p>Prepare a flow chart that illustrates techniques for ration formulation.</p> <p>Develop a chart depicting the nutritional requirements of a specific animal.</p> <p>Compare different feeding systems.</p>

**MODULE AGR2040: LIVESTOCK/POULTRY 1 (MATERIALS & PROCESSES) (continued)**

Concept	Specific Learner Expectations	Notes
Production Skills (continued)	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• describe common pests, diseases and ailments that affect the health of animals within the industry; e.g.:               <ul style="list-style-type: none"> <li>– identification, symptoms and treatment</li> <li>– cultural, mechanical, biological and chemical methods of control</li> </ul> </li> <li>• administer basic treatments for common pests, diseases and/or ailments; e.g.:               <ul style="list-style-type: none"> <li>– injections</li> <li>– dusting</li> </ul> </li> <li>• identify policy, legislation and safe practices relevant to raising livestock, poultry or specialty animals.</li> </ul>	<p>Consider the use of:</p> <ul style="list-style-type: none"> <li>• drug administration</li> <li>• vaccination</li> <li>• feed additives.</li> </ul> <p>Examine the role of veterinary services.</p> <p>Research herd health factors and considerations.</p>
Structures and Equipment	<ul style="list-style-type: none"> <li>• describe housing and fencing structures used in producing livestock, poultry or specialty animals; e.g.:               <ul style="list-style-type: none"> <li>– fences and shelters</li> <li>– totally confined rearing structures</li> </ul> </li> <li>• clean and disinfect trailers, pens and other animal holding structures</li> <li>• safely operate and maintain equipment used at each stage of production within the industry; e.g.:               <ul style="list-style-type: none"> <li>– hand and/or power equipment used in maintaining health and nutrition</li> <li>– handling equipment, such as trucks, conveyors and augers</li> </ul> </li> <li>• evaluate the design and/or construction of structures and equipment in respect to:               <ul style="list-style-type: none"> <li>– function, operation and maintenance</li> <li>– safety and efficiency</li> <li>– ethical, legal and environmental factors</li> <li>– economics and cost</li> </ul> </li> <li>• identify policy, legislation and safe practices relevant to the use of structures and equipment within the industry.</li> </ul>	<p>Research an appropriate facility for one type of livestock.</p> <p>Construct models of fences, gates, corrals, etc., suited to a specific animal.</p> <p>Design/construct models of structures and equipment.</p> <p>Collect/label pictures of various types of animal shelters.</p> <p>Potential linkages exist with the Construction Technologies strand (see CON2100, a module on agri-structures).</p>

**MODULE AGR2040: LIVESTOCK/POULTRY 1 (MATERIALS & PROCESSES) (continued)**

Concept	Specific Learner Expectations	Notes
Career Opportunities	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• research careers and the range of occupational opportunities related to producing livestock, poultry or animal specialties; e.g.:               <ul style="list-style-type: none"> <li>– primary production</li> <li>– agriscience/production management</li> <li>– resource management</li> <li>– support services</li> </ul> </li> <li>• describe current employment opportunities based on employment statistics</li> <li>• outline trends in livestock, poultry or specialty production, and future career opportunities.</li> </ul>	<p>Plan for individual/group research and presentations.</p> <p>Research information regarding:</p> <ul style="list-style-type: none"> <li>• job description</li> <li>• employment markets</li> <li>• education/training</li> <li>• wage expectations.</li> </ul> <p>Arrange/facilitate:</p> <ul style="list-style-type: none"> <li>• information interviews</li> <li>• work study/experience</li> <li>• job shadowing.</li> </ul> <p>Contact the “Career Hotline” (telephone: 1-800-661-753).</p> <p>See the National Occupational Profiles (NOC) in Section H: Linkages/Transitions.</p>

