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ABSTRACT

This comprehensive and verified employer competency list was developed from a modified DACUM (Developing a Curriculum) process involving business, industry, labor, and community agency representatives from Ohio. This competency list contains 11 units (with or without subunits), competencies, and competency builders that identify the occupational, academic, and employability skills needed to enter the agricultural business as a beef and sheep producer. Within the outline are three levels of items: core (required, the basis for state vocational competency tests); advancing (needed to advance in an occupation); and futuring (needed to enter and remain in a given occupation 3 to 4 years from now). The units cover the following: (1) general safety precautions; (2) animal care; (3) genetics, reproduction, and breeding; (4) waste handling and disposal; (5) nutrition, feeds, and feeding; (6) herd health; (7) marketing; (8) business management; (9) agricultural mechanics; (10) crop/forage production; and (11) employability skills. (KC)

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OCAP

OHIO'S COMPETENCY ANALYSIS PROFILE

BEEF AND SHEEP PRODUCER

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What is OCAP?

"A comprehensive and verified employer competency list will be developed and kept current for each program." This is the second objective of Imperative 3 of the *Action Plan for Accelerating the Modernization of Vocational Education: Ohio's Future at Work*. Ohio's Competency Analysis Profile (OCAP) lists are the Division of Vocational and Career Education's response to that objective. OCAP lists evolve from a modified DACUM process involving business, industry, labor, and community agency representatives from throughout Ohio. The OCAP process is directed by the Vocational Instructional Materials Laboratory at The Ohio State University's Center on Education and Training for Employment.

How is OCAP used?

Each OCAP contains units (with and without subunits), competencies, and competency builders that identify the occupational, academic, and employability skills needed to enter a given occupation or occupational area. Within that outline there are three levels of items: core, advancing, and futuring. Core items are essential to entry-level employment. These items are required to be taught and will be the basis for questions on the state vocational competency tests (scheduled to begin in FY93). Advancing items (marked with one asterisk) are needed to advance in a given occupation. Futuring items (marked with two asterisks) are needed to enter and remain in a given occupation three to four years from now.

Districts may add as many units, subunits, competencies, and competency builders as desired to reflect local employment needs, trends, and specialties. Local advisory committees should be actively involved in the identification and verification of additional items. Using OCAP lists, instructors will be able to formulate their courses of study and monitor competency gains via the new competency testing program.

The **Employability Skills** portion of this list was verified by the following employer panel:

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OHIO COMPETENCY ANALYSIS PROFILE

Beef and Sheep Producer

UNIT 1: General Safety Precautions

COMPETENCY 1.0.1: Maintain safe work environment

COMPETENCY BUILDERS:

- 1.0.1.1 Organize and maintain clean, neat, and safe work area
- 1.0.1.2 Identify and correct safety hazards
- 1.0.1.3 Provide well-lighted work area
- 1.0.1.4 Ventilate work areas
- 1.0.1.5 Identify and safely handle hazardous materials
- 1.0.1.6 Store hazardous materials
- 1.0.1.7 Read and follow safety information
- 1.0.1.8 Maintain and install safety devices*
- 1.0.1.9 Clean up and dispose of hazardous materials*
- 1.0.1.10 Comply with EPA regulations and recognize when to call government agencies for cleanup and disposal of hazardous waste materials*
- 1.0.1.11 Comply with OSHA regulations*

COMPETENCY 1.0.2: Apply safe work habits

COMPETENCY BUILDERS:

- 1.0.2.1 Wear protective clothing and equipment
- 1.0.2.2 Use safe lifting and carrying methods
- 1.0.2.3 Administer first aid
- 1.0.2.4 Follow safety directions on hazardous materials labels
- 1.0.2.5 Use fire extinguishers
- 1.0.2.6 Recognize symptoms of chemical injury or poisoning
- 1.0.2.7 Handle compressed gases
- 1.0.2.8 Maintain and use slow moving vehicle signs when operating vehicles on road
- 1.0.2.9 Prevent riders on agricultural and industrial equipment not designed for riders
- 1.0.2.10 Use safe animal handling practices

* advanced

** futuring

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COMPETENCY 1.0.3: Operate and maintain equipment

COMPETENCY BUILDERS:

- 1.0.3.1 Follow safety rules for equipment operation and maintenance
- 1.0.3.2 Operate equipment defensively
- 1.0.3.3 Maintain safety shields on all equipment
- 1.0.3.4 Shut down power equipment before servicing and adjusting equipment or clearing obstructions
- 1.0.3.5 Recognize hazards involved in working near above- and below-ground public utilities
- 1.0.3.6 Follow correct procedures when working in manure-handling facilities and silos
- 1.0.3.7 Follow manufacturer's service recommendations

UNIT 2: Animal Care

COMPETENCY 2.0.1: Perform general animal care procedures

COMPETENCY BUILDERS:

- 2.0.1.1 Follow general safety precautions
- 2.0.1.2 Identify parts of animal anatomy
- 2.0.1.3 Apply animal identification procedures
- 2.0.1.4 Guard and control flock against predators
- 2.0.1.5 Provide adequate amounts of clean food and water
- 2.0.1.6 Observe animals daily
- 2.0.1.7 Handle and move animals with regard for safety of animals and handlers
- 2.0.1.8 Be aware of animal welfare issues
- 2.0.1.9 Bed animals
- 2.0.1.10 Weigh animals

COMPETENCY 2.0.2: Restrain, handle, or move animals

COMPETENCY BUILDERS:

- 2.0.2.1 Follow general safety precautions
- 2.0.2.2 Pen animals according to number, size, weight, sex, temperament, and production
- 2.0.2.3 Isolate and observe newly purchased animals
- 2.0.2.4 Restrain animals
- 2.0.2.5 Prepare carriers
- 2.0.2.6 Load and unload animals

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COMPETENCY 2.0.3: Shear sheep

COMPETENCY BUILDERS:

- 2.0.3.1 Determine when to shear sheep
- 2.0.3.2 Contract with wool shearing firm
- 2.0.3.3 Sharpen and adjust shears
- 2.0.3.4 Set up and test shearing equipment
- 2.0.3.5 Repair clippers
- 2.0.3.6 Shear sheep
- 2.0.3.7 Supervise shearing crew
- 2.0.3.8 Prepare fleece for market
- 2.0.3.9 Pack wool
- 2.0.3.10 Store wool

UNIT 3: Genetics, Reproduction, and Breeding

COMPETENCY 3.0.1: Demonstrate knowledge of genetics and reproduction

COMPETENCY BUILDERS:

- 3.0.1.1 Identify parts and understand functions of reproductive system
- 3.0.1.2 Understand genetic principles
- 3.0.1.3 Identify actions of hormones affecting reproduction*

COMPETENCY 3.0.2: Apply prebreeding factors*

COMPETENCY BUILDERS:

- 3.0.2.1 Evaluate body condition*
- 3.0.2.2 Determine flushing program*
- 3.0.2.3 Evaluate sire's fertility and soundness*
- 3.0.2.4 Determine heat synchronization program*

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COMPETENCY 3.0.3: Plan breeding program

COMPETENCY BUILDERS:

- 3.0.3.1 Schedule breeding intervals or times
- 3.0.3.2 Calculate losses caused by pregnancy delays
- 3.0.3.3 Evaluate artificial versus natural insemination
- 3.0.3.4 Determine age and/or weight for breeding
- 3.0.3.5 Arrange semen services
- 3.0.3.6 Determine number of sires needed for herd/flock
- 3.0.3.7 Establish and implement heat detection plan
- 3.0.3.8 Evaluate embryo transfer, embryo transplant, and superovulation program*
- 3.0.3.9 Apply biotechnology processes to reproduction (i.e., transgenic animals)**

COMPETENCY 3.0.4: Select animals

COMPETENCY BUILDERS:

- 3.0.4.1 Determine types, amounts, and grades of livestock
- 3.0.4.2 Evaluate raising versus buying replacements
- 3.0.4.3 Evaluate bull and ram test data
- 3.0.4.4 Analyze production records and pedigrees
- 3.0.4.5 Select for body type and conformation
- 3.0.4.6 Determine guidelines for selecting donor cows/ewes for embryo transfer
- 3.0.4.7 Verify registration papers for purebred animals
- 3.0.4.8 Select for heritability of traits
- 3.0.4.9 Select breeds
- 3.0.4.10 Identify purchase sources
- 3.0.4.11 Evaluate purchase price

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COMPETENCY 3.0.5: Breed animals

COMPETENCY BUILDERS:

- 3.0.5.1 Follow general safety precautions
- 3.0.5.2 Store, handle, and evaluate semen
- 3.0.5.3 Breed using natural insemination
- 3.0.5.4 Schedule pregnancy checks
- 3.0.5.5 Determine calving/lambing dates
- 3.0.5.6 Identify animals unable to conceive
- 3.0.5.7 Arrange medical intervention for slow-to-conceive animals
- 3.0.5.8 Shear rams for breeding
- 3.0.5.9 Tag/shear ewes prior to lambing or breeding
- 3.0.5.10 Regulate heat cycles with hormone manipulation*
- 3.0.5.11 Determine insemination and embryo deposit time*
- 3.0.5.12 Breed using artificial insemination*
- 3.0.5.13 Palpate animals for reproductive evaluation*
- 3.0.5.14 Explain processes of and differences between embryo transplants, embryo transfers, and superovulation*

COMPETENCY 3.0.6: Care for newborn animals, mothers, and young animals

COMPETENCY BUILDERS:

- 3.0.6.1 Follow general safety precautions
- 3.0.6.2 Identify signs of approaching parturition
- 3.0.6.3 Prepare facilities for parturition
- 3.0.6.4 Prepare mothers for parturition
- 3.0.6.5 Recognize calving/lambing disorders
- 3.0.6.6 Assist mothers during delivery
- 3.0.6.7 Check newborn animals for physical deformities or health problems
- 3.0.6.8 Clip navel cords and apply disinfectant
- 3.0.6.9 Check mothers for expelled placentas
- 3.0.6.10 Remove afterbirth from calving/lambing area
- 3.0.6.11 Check udders of mother and assist newborn animals in nursing
- 3.0.6.12 Record animal identification
- 3.0.6.13 Administer preventive health measures
- 3.0.6.14 Use grafting procedures on orphan lambs
- 3.0.6.15 Revive chilled newborns
- 3.0.6.16 Administer artificial respiration to newborns
- 3.0.6.17 Pregnancy test ewes**
- 3.0.6.18 Clone**
- 3.0.6.19 Splice genes**
- 3.0.6.20 Map genes**

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UNIT 4: Waste Handling and Disposal

COMPETENCY 4.0.1: Evaluate, use, and maintain waste handling and disposal system

COMPETENCY BUILDERS:

- 4.0.1.1 Follow general safety precautions
- 4.0.1.2 Identify agencies that control waste handling regulations
- 4.0.1.3 Operate and maintain equipment
- 4.0.1.4 Follow local, state, and federal regulations*
- 4.0.1.5 Determine and manage nutrient value of manure*
- 4.0.1.6 Determine issues involved in water quality*

COMPETENCY 4.0.2: Handle and dispose of waste

COMPETENCY BUILDERS:

- 4.0.2.1 Follow general safety precautions
- 4.0.2.2 Protect underground water sources by controlling runoff from feedlot and housing quarters
- 4.0.2.3 Determine application methods and rates
- 4.0.2.4 Dispose of dead animals according to regulations
- 4.0.2.5 Follow local, state, and federal regulations

UNIT 5: Nutrition, Feeds, and Feeding

COMPETENCY 5.0.1: Compare nutrient requirements

COMPETENCY BUILDERS:

- 5.0.1.1 Evaluate production requirements
- 5.0.1.2 Evaluate reproduction requirements
- 5.0.1.3 Evaluate growth requirements
- 5.0.1.4 Evaluate maintenance requirements
- 5.0.1.5 Evaluate effects of environmental factors on nutritional requirements
- 5.0.1.6 Explain effects of genetic factors on nutritional requirements

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COMPETENCY 5.0.2: Determine nutritive value of feedstuffs

COMPETENCY BUILDERS:

- 5.0.2.1 Classify feeds according to major nutrient groups
- 5.0.2.2 Identify factors influencing feedstuff quality
- 5.0.2.3 Collect grain and forage samples for nutrient analysis
- 5.0.2.4 Interpret nutrient analysis methods and results
- 5.0.2.5 Interpret feed tag and label regulations
- 5.0.2.6 Interpret feed composition tables
- 5.0.2.7 Determine nutrients provided by forage

COMPETENCY 5.0.3: Balance rations*

COMPETENCY BUILDERS:

- 5.0.3.1 Use Pearson square method*
- 5.0.3.2 Perform math calculations*
- 5.0.3.3 Determine costs*
- 5.0.3.4 Select feeds and additives*
- 5.0.3.5 Substitute feedstuffs and evaluate their effects*

COMPETENCY 5.0.4: Feed animals

COMPETENCY BUILDERS:

- 5.0.4.1 Follow general safety precautions
- 5.0.4.2 Follow feeding guidelines
- 5.0.4.3 Identify feeds
- 5.0.4.4 Prepare feedstuffs
- 5.0.4.5 Control feed waste
- 5.0.4.6 Remove spoiled feedstuffs
- 5.0.4.7 Identify factors that cause loss of appetite
- 5.0.4.8 Evaluate and report ration palatability
- 5.0.4.9 Feed colostrum to newborn animals
- 5.0.4.10 Wean calves/lambs
- 5.0.4.11 Feed milk replacer to calves/lambs
- 5.0.4.12 Start calves/lambs on grain and roughage feeding
- 5.0.4.13 Clean and maintain equipment
- 5.0.4.14 Observe animal for loss of appetite
- 5.0.4.15 Identify reactions to flavors, enzymes, molds, and microtoxins*
- 5.0.4.16 Prepare mineral mixes*
- 5.0.4.17 Follow feed additive mixing regulations*

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UNIT 6: Herd Health

COMPETENCY 6.0.1: Monitor health

COMPETENCY BUILDERS:

- 6.0.1.1 Follow general safety precautions
- 6.0.1.2 Follow prescribed health program
- 6.0.1.3 Evaluate condition of animals
- 6.0.1.4 Take animals' temperatures
- 6.0.1.5 Determine when to call veterinarian
- 6.0.1.6 Isolate injured or diseased animals
- 6.0.1.7 Recognize common animal illness
- 6.0.1.8 Identify symptoms of nutritional imbalance
- 6.0.1.9 Develop health program*

COMPETENCY 6.0.2: Follow sanitation program

COMPETENCY BUILDERS:

- 6.0.2.1 Follow general safety precautions
- 6.0.2.2 Identify sanitation problems
- 6.0.2.3 Disinfect buildings and equipment
- 6.0.2.4 Evaluate and use insecticides
- 6.0.2.5 Select cleaning chemicals, insecticides, and equipment

COMPETENCY 6.0.3: Follow preventive parasite control program

COMPETENCY BUILDERS:

- 6.0.3.1 Follow general safety precautions
- 6.0.3.2 Identify problems due to internal and external parasites
- 6.0.3.3 Identify common symptoms of internal and external parasites
- 6.0.3.4 Select materials to control parasites*

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COMPETENCY 6.0.4: Treat minor health problems

COMPETENCY BUILDERS:

- 6.0.4.1 Follow general safety precautions
- 6.0.4.2 Treat cuts and bruises
- 6.0.4.3 Record medication treatments
- 6.0.4.4 Identify types of injections and procedures
- 6.0.4.5 Identify and mark treated animals
- 6.0.4.6 Identify animals suffering from bloat
- 6.0.4.7 Treat animals suffering from bloat*
- 6.0.4.8 Determine amount of medication or material to use*
- 6.0.4.9 Administer medications and antibiotics according to withdrawal requirements*

COMPETENCY 6.0.5: Control bacterial, viral, and fungal diseases

COMPETENCY BUILDERS:

- 6.0.5.1 Follow general safety precautions
- 6.0.5.2 Identify and treat calves/lambs for scours and dehydration
- 6.0.5.3 Define and identify common diseases for each species
- 6.0.5.4 Follow vaccination program
- 6.0.5.5 Provide clean, dry, draft-free environment

COMPETENCY 6.0.6: Manage medications, chemicals, and instruments

COMPETENCY BUILDERS:

- 6.0.6.1 Follow general safety precautions
- 6.0.6.2 Store properly labeled medications and chemicals
- 6.0.6.3 Demonstrate proper use and care of instruments
- 6.0.6.4 Dispose of unused or outdated medications and chemicals
- 6.0.6.5 Dispose of used syringes and needles
- 6.0.6.6 Maintain inventory-and-use record
- 6.0.6.7 Follow government regulations

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COMPETENCY 6.0.7: Perform basic herd and flock practices

COMPETENCY BUILDERS:

- 6.0.7.1 Follow general safety precautions
- 6.0.7.2 Castrate animals
- 6.0.7.3 Dock lambs
- 6.0.7.4 Trim hooves
- 6.0.7.5 Inject implants
- 6.0.7.6 Stomach tube lambs
- 6.0.7.7 Worm animals
- 6.0.7.8 Dehorn animals*

UNIT 7: Marketing

COMPETENCY 7.0.1: Analyze market

COMPETENCY BUILDERS:

- 7.0.1.1 Explore all marketing opportunities
- 7.0.1.2 Research demand for finished product
- 7.0.1.3 Explain marketing terminology
- 7.0.1.4 Evaluate effect market grades have on market prices
- 7.0.1.5 Verify daily cash and future prices and determine local basis
- 7.0.1.6 Calculate net market prices
- 7.0.1.7 Evaluate niche marketing
- 7.0.1.8 Interpret market reports*
- 7.0.1.9 Analyze market cycles and trends*

COMPETENCY 7.0.2: Establish marketing plans

COMPETENCY BUILDERS:

- 7.0.2.1 Evaluate options of feeding grains, purchasing feeds, or marketing grains
- 7.0.2.2 Evaluate marketing options
- 7.0.2.3 Develop marketing plan for farm operation
- 7.0.2.4 Verify marketing plan

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COMPETENCY 7.0.3: Market products

COMPETENCY BUILDERS:

- 7.0.3.1 Determine when to market
- 7.0.3.2 Determine individual buyer requirements
- 7.0.3.3 Verify market grades or classes of products sold
- 7.0.3.4 Consign animals to sales
- 7.0.3.5 Explain purpose of Packer and Stockyards Act
- 7.0.3.6 Explain purpose of checkoff funds
- 7.0.3.7 Prepare advertisements and promotional activities
- 7.0.3.8 Estimate market grades
- 7.0.3.9 Identify USDA grades
- 7.0.3.10 Complete delayed price transaction*
- 7.0.3.11 Complete hedging transaction*
- 7.0.3.12 Complete forward contract transaction*

COMPETENCY 7.0.4: Ship products

COMPETENCY BUILDERS:

- 7.0.4.1 Follow general safety precautions
- 7.0.4.2 Arrange and verify cost of crop or livestock transport
- 7.0.4.3 Prepare vehicle and load crops, livestock, or wool
- 7.0.4.4 Transport and unload crops, livestock, or wool
- 7.0.4.5 Calculate livestock shrinkage
- 7.0.4.6 Verify weights, grades, and prices on sales ticket

UNIT 8: Business Management

COMPETENCY 8.0.1: Perform general office work

COMPETENCY BUILDERS:

- 8.0.1.1 Process incoming and outgoing mail
- 8.0.1.2 Establish filing system
- 8.0.1.3 File materials (e.g., equipment manuals)
- 8.0.1.4 Schedule and hold appointments
- 8.0.1.5 Use telephone
- 8.0.1.6 Write correspondence
- 8.0.1.7 Operate computer
- 8.0.1.8 Use two-way radio

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COMPETENCY 8.0.2: Perform general banking procedures

COMPETENCY BUILDERS:

- 8.0.2.1 Write checks
- 8.0.2.2 Prepare bank deposit slips and make bank deposits
- 8.0.2.3 Balance bank statements
- 8.0.2.4 Explain purpose of electronic transfer of funds

COMPETENCY 8.0.3: Inventory business

COMPETENCY BUILDERS:

- 8.0.3.1 Establish inventory system
- 8.0.3.2 Take physical inventory of structures, facilities, equipment, and livestock
- 8.0.3.3 Calculate amount of grain and forage
- 8.0.3.4 Determine volume or capacity of storage facilities
- 8.0.3.5 Categorize inventory items as current, intermediate, or long-term assets
- 8.0.3.6 Determine current market value for inventory items
- 8.0.3.7 Determine cost of carrying inventory

COMPETENCY 8.0.4: Supervise and manage labor*

COMPETENCY BUILDERS:

- 8.0.4.1 Determine amount of labor needed*
- 8.0.4.2 Evaluate hiring labor versus contracting services*
- 8.0.4.3 Prepare for periods of peak work loads*
- 8.0.4.4 Establish pay scale, benefits, and incentives*
- 8.0.4.5 Follow state and federal wage and labor regulations*
- 8.0.4.6 Hire workers*
- 8.0.4.7 Plan work schedules*
- 8.0.4.8 Train workers*
- 8.0.4.9 Evaluate worker performance*
- 8.0.4.10 Establish job termination procedures*
- 8.0.4.11 Work sheepdogs*

COMPETENCY 8.0.5: Maintain supplies

COMPETENCY BUILDERS:

- 8.0.5.1 Set minimum and maximum inventory levels
- 8.0.5.2 Regulate storage facility environment
- 8.0.5.3 Compare costs and quality of supplies from different sources
- 8.0.5.4 Purchase supplies

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COMPETENCY 8.0.6: Complete financial and tax records

COMPETENCY BUILDERS:

- 8.0.6.1 Maintain record-keeping system
- 8.0.6.2 Record receipts, expenses, and mileage
- 8.0.6.3 Use computer software package to do financial records
- 8.0.6.4 Maintain livestock and crop enterprise records
- 8.0.6.5 Maintain accounts payable and receivable record
- 8.0.6.6 Evaluate cash versus accrual reporting methods
- 8.0.6.7 Maintain payroll records
- 8.0.6.8 Determine depreciation method
- 8.0.6.9 Compute book value of depreciable assets
- 8.0.6.10 Calculate and record depreciation

COMPETENCY 8.0.7: Complete general and production records

COMPETENCY BUILDERS:

- 8.0.7.1 Maintain inventory records
- 8.0.7.2 Maintain crop production records
- 8.0.7.3 Maintain labor records
- 8.0.7.4 Maintain livestock production records
- 8.0.7.5 Maintain accident records
- 8.0.7.6 Maintain pedigree records
- 8.0.7.7 Maintain equipment service records
- 8.0.7.8 Maintain health records
- 8.0.7.9 Determine field acreage using actual measurements and scale maps
- 8.0.7.10 Draw and interpret farm map including field boundaries, major soil types, topography, vegetation, surface drainage, and travel areas
- 8.0.7.11 Draw and interpret farm map of subsurface drainage system

COMPETENCY 8.0.8: Summarize and analyze business records

COMPETENCY BUILDERS:

- 8.0.8.1 Make ten-month summary of cash expenses and receipts
- 8.0.8.2 Calculate efficiency factors
- 8.0.8.3 Calculate family labor and management income
- 8.0.8.4 Determine net income and profit
- 8.0.8.5 Analyze and compare use of capital with standards for similar farms
- 8.0.8.6 Prepare income statement
- 8.0.8.7 Prepare balance sheet
- 8.0.8.8 Determine effectiveness of management practices

* advanced

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COMPETENCY 8.0.9: Apply time management skills*

COMPETENCY BUILDERS:

- 8.0.9.1 Establish time management system*
- 8.0.9.2 Prioritize duties to perform*
- 8.0.9.3 Determine resource management*
- 8.0.9.4 Use technology to enhance management skills*

COMPETENCY 8.0.10: Finance business

COMPETENCY BUILDERS:

- 8.0.10.1 Identify credit strengths and weaknesses that affect credit rating
- 8.0.10.2 Develop cash flow projections
- 8.0.10.3 Establish budget
- 8.0.10.4 Evaluate risks of using borrowed capital
- 8.0.10.5 Plan one-year, intermediate, and long-term credit needs
- 8.0.10.6 Identify and evaluate credit sources
- 8.0.10.7 Evaluate loan repayment terms and conditions
- 8.0.10.8 Negotiate credit plan
- 8.0.10.9 Calculate cost of loan
- 8.0.10.10 Fill out loan application
- 8.0.10.11 Sign loan agreement
- 8.0.10.12 Maintain balance of savings and cash
- 8.0.10.13 Make loan payments

COMPETENCY 8.0.11: Contribute to industry growth

COMPETENCY BUILDERS:

- 8.0.11.1 Conduct promotional activities
- 8.0.11.2 Encourage legislation supporting industry
- 8.0.11.3 Participate in association/industry groups

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COMPETENCY 8.0.12: Prepare and file tax forms

COMPETENCY BUILDERS:

- 8.0.12.1 Calculate property taxes
- 8.0.12.2 Evaluate tax consultant service
- 8.0.12.3 Determine amount of social security to be paid
- 8.0.12.4 Complete tax exemption form
- 8.0.12.5 Estimate income tax
- 8.0.12.6 Prepare federal income tax FICA schedule
- 8.0.12.7 Prepare federal income tax capital gains or loss schedule
- 8.0.12.8 Prepare federal income tax form 1040
- 8.0.12.9 Prepare state income tax form
- 8.0.12.10 Apply for refund for nonhighway use of federal and state fuel tax

COMPETENCY 8.0.13: Plan insurance coverage

COMPETENCY BUILDERS:

- 8.0.13.1 Determine type and amount of insurance needed
- 8.0.13.2 Evaluate different types of insurance
- 8.0.13.3 Identify insurance providers and evaluate programs
- 8.0.13.4 Complete insurance application and purchase insurance
- 8.0.13.5 Complete and file claim forms

COMPETENCY 8.0.14: Follow legal requirements

COMPETENCY BUILDERS:

- 8.0.14.1 Identify government agencies regulating beef and sheep operations
- 8.0.14.2 Comply with employers' and employees' legal responsibilities
- 8.0.14.3 Comply with Workers Compensation responsibilities
- 8.0.14.4 Establish system for government regulation compliance
- 8.0.14.5 Explain debt restructuring purposes and processes

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COMPETENCY 8.0.15: Obtain land

COMPETENCY BUILDERS:

- 8.0.15.1 Determine amount of land needed
- 8.0.15.2 Determine amount of capital available for obtaining land
- 8.0.15.3 Determine cost effectiveness of purchasing, leasing, or renting land
- 8.0.15.4 Appraise available land and identify factors influencing use
- 8.0.15.5 Evaluate and complete lease agreement
- 8.0.15.6 Evaluate land price cycles and determine when to purchase
- 8.0.15.7 Purchase land

COMPETENCY 8.0.16: Plan structures

COMPETENCY BUILDERS:

- 8.0.16.1 Calculate space requirement for various livestock
- 8.0.16.2 Estimate structure needs
- 8.0.16.3 Calculate returns expected from structure investments
- 8.0.16.4 Calculate construction, remodeling, and repair costs
- 8.0.16.5 Determine locations of new structures
- 8.0.16.6 Build or lease structures
- 8.0.16.7 Determine zoning requirements

COMPETENCY 8.0.17: Manage equipment program

COMPETENCY BUILDERS:

- 8.0.17.1 Determine equipment needs
- 8.0.17.2 Determine whether to purchase or lease equipment, or to hire work done
- 8.0.17.3 Determine whether to repair or trade in equipment
- 8.0.17.4 Determine whether to do custom work for others
- 8.0.17.5 Estimate returns expected from equipment investments
- 8.0.17.6 Evaluate advantages and disadvantages of different types and brands of equipment
- 8.0.17.7 Evaluate joint ownership of equipment

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COMPETENCY 8.0.18: Purchase livestock

COMPETENCY BUILDERS:

- 8.0.18.1 Determine types, numbers, and frame size of livestock
- 8.0.18.2 Verify health and soundness of animals
- 8.0.18.3 Identify purchase sources
- 8.0.18.4 Explain regulations pertaining to interstate shipment of livestock
- 8.0.18.5 Evaluate raising versus buying replacements
- 8.0.18.6 Evaluate custom feeding and retained ownership of livestock
- 8.0.18.7 Verify registration papers for purebred animals
- 8.0.18.8 Interpret production records
- 8.0.18.9 Negotiate purchase price

COMPETENCY 8.0.19: Enter, establish, and expand business

COMPETENCY BUILDERS:

- 8.0.19.1 Communicate enterprise goals
- 8.0.19.2 Evaluate costs and returns for various enterprises
- 8.0.19.3 Evaluate options of sole proprietorships, cooperatives, corporations, or partnerships
- 8.0.19.4 Determine type of business organization
- 8.0.19.5 Decide whether to specialize or diversify
- 8.0.19.6 Develop plan for adjusting management practices
- 8.0.19.7 Determine when to secure professional help
- 8.0.19.8 Establish land use plan

COMPETENCY 8.0.20: Plan retirement and estate

COMPETENCY BUILDERS:

- 8.0.20.1 Evaluate retirement program options
- 8.0.20.2 Plan orderly transfer of property
- 8.0.20.3 Transfer ownership or sell farm
- 8.0.20.4 Develop plan for bestowing estate
- 8.0.20.5 Identify payment methods for estate and gift taxes
- 8.0.20.6 Make a will

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UNIT 9: Agricultural Mechanics

COMPETENCY 9.0.1: Operate and maintain small engines

COMPETENCY BUILDERS:

- 9.0.1.1 Follow general safety precautions
- 9.0.1.2 Check fuel and fuel engine
- 9.0.1.3 Schedule fluid and filter changes
- 9.0.1.4 Select oil
- 9.0.1.5 Check oil level and change oil and oil filters
- 9.0.1.6 Start, operate, and shut down engine
- 9.0.1.7 Mix gas and oil for two-cycle engine
- 9.0.1.8 Clean external engine components
- 9.0.1.9 Service air cleaner
- 9.0.1.10 Remove, clean, and regap spark plugs
- 9.0.1.11 Replace starter cord
- 9.0.1.12 Remove manifold carbon deposits
- 9.0.1.13 Service and clean crankcase breathers
- 9.0.1.14 Service and clean fuel strainer
- 9.0.1.15 Check and service battery
- 9.0.1.16 Troubleshoot problems
- 9.0.1.17 Store engine
- 9.0.1.18 Pull and replace flywheel and clutch assembly*
- 9.0.1.19 Clean and adjust carburetor*
- 9.0.1.20 Check engine compression*

COMPETENCY 9.0.2: Service cooling systems for large engines

COMPETENCY BUILDERS:

- 9.0.2.1 Follow general safety precautions
- 9.0.2.2 Test antifreeze
- 9.0.2.3 Add radiator coolant
- 9.0.2.4 Replace hoses
- 9.0.2.5 Flush cooling system
- 9.0.2.6 Test thermostat
- 9.0.2.7 Replace thermostat
- 9.0.2.8 Troubleshoot problems
- 9.0.2.9 Replace water pump*
- 9.0.2.10 Replace radiator*

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COMPETENCY 9.0.3: Service lubrication systems for large engines

COMPETENCY BUILDERS:

- 9.0.3.1 Follow general safety precautions
- 9.0.3.2 Select oil
- 9.0.3.3 Change oil and oil filters
- 9.0.3.4 Lubricate equipment
- 9.0.3.5 Maintain grease fittings
- 9.0.3.6 Troubleshoot problems
- 9.0.3.7 Repack bearings*
- 9.0.3.8 Remove and replace oil seal*

COMPETENCY 9.0.4: Service fuel and air systems for large engines

COMPETENCY BUILDERS:

- 9.0.4.1 Follow general safety precautions
- 9.0.4.2 Service air cleaner
- 9.0.4.3 Bleed diesel fuel system
- 9.0.4.4 Service fuel strainer, filters, and sediment bowl
- 9.0.4.5 Troubleshoot problems
- 9.0.4.6 Clean carburetor*
- 9.0.4.7 Perform basic carburetor overhaul*
- 9.0.4.8 Adjust engine governor*
- 9.0.4.9 Adjust engine valves*
- 9.0.4.10 Replace exhaust system components*
- 9.0.4.11 Replace fuel pump*

COMPETENCY 9.0.5: Maintain and service electrical systems for large engines

COMPETENCY BUILDERS:

- 9.0.5.1 Follow general safety precautions
- 9.0.5.2 Install battery
- 9.0.5.3 Clean and treat battery terminals, cables, and battery box
- 9.0.5.4 Charge battery
- 9.0.5.5 Replace fuses and light bulbs
- 9.0.5.6 Replace distributor cap and rotor
- 9.0.5.7 Replace spark plugs and wires
- 9.0.5.8 Clean and adjust spark plug gap
- 9.0.5.9 Check specific gravity of battery
- 9.0.5.10 Troubleshoot problems
- 9.0.5.11 Check ammeter*
- 9.0.5.12 Time engine*
- 9.0.5.13 Inspect, adjust, or change breaker points*

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COMPETENCY 9.0.6: Service belt and drive chain assemblies*

COMPETENCY BUILDERS:

- 9.0.6.1 Follow general safety precautions*
- 9.0.6.2 Replace belts*
- 9.0.6.3 Maintain gear drives*
- 9.0.6.4 Clean sprockets, chains, and gears*
- 9.0.6.5 Replace gears*
- 9.0.6.6 Replace and adjust chains*
- 9.0.6.7 Replace pulleys*
- 9.0.6.8 Replace rollers*
- 9.0.6.9 Clean and lubricate drive parts*
- 9.0.6.10 Troubleshoot problems*

COMPETENCY 9.0.7: Repair and service wheels, tires, and tracks

COMPETENCY BUILDERS:

- 9.0.7.1 Follow general safety precautions
- 9.0.7.2 Check tire pressure
- 9.0.7.3 Check and tighten lug nuts
- 9.0.7.4 Protect tires during equipment storage
- 9.0.7.5 Replace implement wheels
- 9.0.7.6 Adjust wheel spacing*
- 9.0.7.7 Service wheel bearing assembly*
- 9.0.7.8 Patch tire*

COMPETENCY 9.0.8: Service hydraulic systems

COMPETENCY BUILDERS:

- 9.0.8.1 Follow general safety precautions
- 9.0.8.2 Check and add oil
- 9.0.8.3 Check gauges each operation
- 9.0.8.4 Replace oil filter
- 9.0.8.5 Troubleshoot problems
- 9.0.8.6 Bleed air from system*
- 9.0.8.7 Drain, clean, flush, and refill hydraulic system*

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COMPETENCY 9.0.9: Hitch equipment to power units

COMPETENCY BUILDERS:

- 9.0.9.1 Follow general safety precautions
- 9.0.9.2 Connect front-end-operated equipment
- 9.0.9.3 Connect 3-point-hitch equipment
- 9.0.9.4 Attach and detach PTO equipment
- 9.0.9.5 Hitch towed equipment
- 9.0.9.6 Connect hydraulic systems and equipment
- 9.0.9.7 Connect electrical hookups
- 9.0.9.8 Connect safety chains

COMPETENCY 9.0.10: Operate equipment and vehicles

COMPETENCY BUILDERS:

- 9.0.10.1 Follow general safety precautions
- 9.0.10.2 Identify engine fundamentals
- 9.0.10.3 Refuel power units
- 9.0.10.4 Add wheel and front-end weights
- 9.0.10.5 Check prestart mechanism
- 9.0.10.6 Start engine
- 9.0.10.7 Read equipment gauges
- 9.0.10.8 Operate equipment and vehicles under work conditions and on public roads according to certification standards
- 9.0.10.9 Use hand operating signals
- 9.0.10.10 Adjust equipment and vehicles

COMPETENCY 9.0.11: Identify components of material handling systems

COMPETENCY BUILDERS:

- 9.0.11.1 Identify components of silo loaders
- 9.0.11.2 Identify components of manure handling equipment
- 9.0.11.3 Identify components of grain handling equipment
- 9.0.11.4 Identify components of feed handling equipment
- 9.0.11.5 Identify safety hazards of material handling equipment

COMPETENCY 9.0.12: Operate material handling equipment

COMPETENCY BUILDERS:

- 9.0.12.1 Follow general safety precautions
- 9.0.12.2 Identify equipment
- 9.0.12.3 Adjust equipment

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COMPETENCY 9.0.13: Clean and store equipment

COMPETENCY BUILDERS:

- 9.0.13.1 Follow general safety precautions
- 9.0.13.2 Remove debris from equipment
- 9.0.13.3 Steam or high-pressure wash equipment
- 9.0.13.4 Protect equipment from weather
- 9.0.13.5 Lubricate for storage

COMPETENCY 9.0.14: Plan construction of farm structures

COMPETENCY BUILDERS:

- 9.0.14.1 Follow general safety precautions
- 9.0.14.2 Calculate board footage of lumber
- 9.0.14.3 Identify nominal and dressed sizes of lumber
- 9.0.14.4 Select types of structures required
- 9.0.14.5 Determine space requirements
- 9.0.14.6 Design plans for new structures or improvement or expansion of current structures
- 9.0.14.7 Interpret blueprints
- 9.0.14.8 Develop bill of materials
- 9.0.14.9 Select building materials
- 9.0.14.10 Identify grading categories for softwood and for hardwood
- 9.0.14.11 Excavate structure sites for concrete pouring

COMPETENCY 9.0.15: Construct with concrete

COMPETENCY BUILDERS:

- 9.0.15.1 Follow general safety precautions
- 9.0.15.2 Use survey level
- 9.0.15.3 Calculate volume of concrete to order or mix
- 9.0.15.4 Select concrete materials
- 9.0.15.5 Build and remove concrete forms
- 9.0.15.6 Order concrete
- 9.0.15.7 Mix and pour concrete
- 9.0.15.8 Install concrete reinforcement
- 9.0.15.9 Evaluate concrete slump
- 9.0.15.10 Finish concrete surface
- 9.0.15.11 Cure concrete
- 9.0.15.12 Mix mortar
- 9.0.15.13 Lay blocks*

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COMPETENCY 9.0.16: Construct with wood

COMPETENCY BUILDERS:

- 9.0.16.1 Follow general safety precautions
- 9.0.16.2 Identify types of lumber
- 9.0.16.3 Cut lumber to dimension
- 9.0.16.4 Stack, season, and store lumber
- 9.0.16.5 Install and repair bracing
- 9.0.16.6 Install and repair wood siding
- 9.0.16.7 Install and repair doors and hardware
- 9.0.16.8 Repair minor leaks in roof
- 9.0.16.9 Replace window panes
- 9.0.16.10 Cut and fit joints
- 9.0.16.11 Select and apply metal fasteners
- 9.0.16.12 Assemble joints with glue
- 9.0.16.13 Select and install insulation

COMPETENCY 9.0.17: Plan electrical installations*

COMPETENCY BUILDERS:

- 9.0.17.1 Follow general safety precautions*
- 9.0.17.2 Determine electrical needs*
- 9.0.17.3 Plan wiring layouts*
- 9.0.17.4 Plan distribution system*
- 9.0.17.5 Plan service entrance*
- 9.0.17.6 Select wire and electrical supplies*
- 9.0.17.7 Determine total cost of materials*
- 9.0.17.8 Select alternative electrical sources*

COMPETENCY 9.0.18: Install and maintain electrical systems

COMPETENCY BUILDERS:

- 9.0.18.1 Follow general safety precautions
- 9.0.18.2 Read electric meter
- 9.0.18.3 Replace circuit breakers and fuses
- 9.0.18.4 Repair and replace electrical cord
- 9.0.18.5 Connect and disconnect alternative power sources
- 9.0.18.6 Select and use tools, measuring devices, and other equipment
- 9.0.18.7 Wire electrical circuits
- 9.0.18.8 Replace lighting fixtures
- 9.0.18.9 Clean and lubricate motors
- 9.0.18.10 Maintain records of electrical maintenance
- 9.0.18.11 Install and maintain electric motors on structure
- 9.0.18.12 Troubleshoot problems

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COMPETENCY 9.0.19: Install and maintain water systems

COMPETENCY BUILDERS:

- 9.0.19.1 Follow general safety precautions
- 9.0.19.2 Cut and fit pipe or tubing
- 9.0.19.3 Thread metal pipe
- 9.0.19.4 Install and repair pipe and pipe fittings
- 9.0.19.5 Determine required quantity and quality of water
- 9.0.19.6 Select water source
- 9.0.19.7 Determine tools and equipment needed
- 9.0.19.8 Contract for system installation
- 9.0.19.9 Select pipe, pipe fittings, insulation, and plumbing fixtures
- 9.0.19.10 Determine cost of materials
- 9.0.19.11 Install and repair valves and faucets
- 9.0.19.12 Install insulation and filter
- 9.0.19.13 Maintain plumbing
- 9.0.19.14 Troubleshoot problems
- 9.0.19.15 Troubleshoot and maintain automatic waterers
- 9.0.19.16 Plan system*

COMPETENCY 9.0.20: Install and maintain fencing

COMPETENCY BUILDERS:

- 9.0.20.1 Follow general safety precautions
- 9.0.20.2 Identify options in fencing systems
- 9.0.20.3 Install gates
- 9.0.20.4 Install fasteners
- 9.0.20.5 Determine amount of fence required
- 9.0.20.6 Select fencing materials
- 9.0.20.7 Select posts and braces
- 9.0.20.8 Select finish or preservative
- 9.0.20.9 Select fasteners
- 9.0.20.10 Install posts and braces
- 9.0.20.11 Lay out and stretch fence
- 9.0.20.12 Select and install electric charging units
- 9.0.20.13 Explain legal responsibilities of fence ownership

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COMPETENCY 9.0.21: Use and maintain hand and power tools

COMPETENCY BUILDERS:

- 9.0.21.1 Follow general safety precautions
- 9.0.21.2 Identify tools
- 9.0.21.3 Select tools
- 9.0.21.4 Follow operation instructions
- 9.0.21.5 Set up and adjust tools
- 9.0.21.6 Clean and lubricate tools
- 9.0.21.7 Store tools
- 9.0.21.8 Sharpen and maintain tools

COMPETENCY 9.0.22: Weld with gas

COMPETENCY BUILDERS:

- 9.0.22.1 Follow general safety precautions
- 9.0.22.2 Set up and adjust gas welding equipment
- 9.0.22.3 Select rod
- 9.0.22.4 Select and apply flux
- 9.0.22.5 Cut metal
- 9.0.22.6 Clean and store gas welding equipment
- 9.0.22.7 Secure and store gas cylinders
- 9.0.22.8 Make lap weld*
- 9.0.22.9 Make butt weld*
- 9.0.22.10 Make fillet weld*
- 9.0.22.11 Weld steel in horizontal and nonhorizontal positions*
- 9.0.22.12 Weld steel with filler rod*
- 9.0.22.13 Weld steel by fusion*
- 9.0.22.14 Braze metal*
- 9.0.22.15 Hardsurface metal*

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COMPETENCY 9.0.23: Weld with electric arc and MIG

COMPETENCY BUILDERS:

- 9.0.23.1 Follow general safety precautions
- 9.0.23.2 Select welding equipment and accessories
- 9.0.23.3 Select electrode sizes and types
- 9.0.23.4 Select settings
- 9.0.23.5 Prepare metal
- 9.0.23.6 Weld steel in horizontal positions
- 9.0.23.7 Clean and store welding equipment
- 9.0.23.8 Make lap weld*
- 9.0.23.9 Make butt weld*
- 9.0.23.10 Make fillet weld*
- 9.0.23.11 Weld pipe*
- 9.0.23.12 Cut metal using electrode*
- 9.0.23.13 Hardsurface metal*
- 9.0.23.14 Weld steel in nonhorizontal positions*
- 9.0.23.15 Weld cast iron*

COMPETENCY 9.0.24: Fabricate with metal*

COMPETENCY BUILDERS:

- 9.0.24.1 Follow general safety precautions*
- 9.0.24.2 Design metal project*
- 9.0.24.3 Prepare bill of materials*
- 9.0.24.4 Identify types of metal*
- 9.0.24.5 Identify nominal sizes of metal*
- 9.0.24.6 Determine metal properties*
- 9.0.24.7 Test metal for type and hardness*
- 9.0.24.8 Punch and drill metal*
- 9.0.24.9 Cut metal*
- 9.0.24.10 Select thread and size for tap or die*
- 9.0.24.11 Grind metal*
- 9.0.24.12 Attach hardware to sheet metal*
- 9.0.24.13 Store metal*
- 9.0.24.14 Join metal with pop rivets*
- 9.0.24.15 Bend sheet metal*
- 9.0.24.16 Join metal with spot welder*

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COMPETENCY 9.0.25: Solder*

COMPETENCY BUILDERS:

- 9.0.25.1 Follow general safety precautions*
- 9.0.25.2 Select soldering method*
- 9.0.25.3 Select tools*
- 9.0.25.4 Select flux*
- 9.0.25.5 Select solder*
- 9.0.25.6 Prepare surfaces*
- 9.0.25.7 Apply solder*
- 9.0.25.8 Clean equipment*

COMPETENCY 9.0.26: Apply protective coatings

COMPETENCY BUILDERS:

- 9.0.26.1 Follow general safety precautions
- 9.0.26.2 Determine type of coating
- 9.0.26.3 Select and use application tools
- 9.0.26.4 Use steam cleaner and pressure washer
- 9.0.26.5 Sand surface
- 9.0.26.6 Apply masking tape
- 9.0.26.7 Mix thinner
- 9.0.26.8 Apply primer coat
- 9.0.26.9 Apply finish coat
- 9.0.26.10 Use paint and varnish remover

UNIT 10: Crop/Forage Production

COMPETENCY 10.0.1: Evaluate and manage soil

COMPETENCY BUILDERS:

- 10.0.1.1 Evaluate soil drainage
- 10.0.1.2 Identify soil texture and percent organic matter
- 10.0.1.3 Identify soil structure and type
- 10.0.1.4 Determine slope
- 10.0.1.5 Determine soil use capability for agriculture
- 10.0.1.6 Determine suitability of soil for nonagricultural uses
- 10.0.1.7 Evaluate problems affecting soil use and management
- 10.0.1.8 Determine and implement management and conservation practices
- 10.0.1.9 Follow government regulations and guidelines

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COMPETENCY 10.0.2: Plan crop planting

COMPETENCY BUILDERS:

- 10.0.2.1 Identify seeds
- 10.0.2.2 Interpret seed tag information
- 10.0.2.3 Determine crops to plant
- 10.0.2.4 Establish crop rotation
- 10.0.2.5 Select seed
- 10.0.2.6 Conduct seed germination and vigor tests
- 10.0.2.7 Inoculate seed
- 10.0.2.8 Determine seeding rate
- 10.0.2.9 Store seed

COMPETENCY 10.0.3: Plant and till crops

COMPETENCY BUILDERS:

- 10.0.3.1 Follow general safety precautions
- 10.0.3.2 Select planting or seeding method and date
- 10.0.3.3 Prepare seedbed according to chosen planting method
- 10.0.3.4 Determine planting depth and rate
- 10.0.3.5 Calibrate planting equipment
- 10.0.3.6 Operate planting equipment
- 10.0.3.7 Compact seedbed after seeding
- 10.0.3.8 Cultivate crops
- 10.0.3.9 Identify planting failure problems

COMPETENCY 10.0.4: Test soil and plant tissues

COMPETENCY BUILDERS:

- 10.0.4.1 Take soil samples
- 10.0.4.2 Submit prepared soil samples and forms to analysis laboratory
- 10.0.4.3 Interpret soil analysis results
- 10.0.4.4 Take plant tissue samples
- 10.0.4.5 Submit prepared plant tissue samples and forms to analysis laboratory
- 10.0.4.6 Interpret plant analysis results

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COMPETENCY 10.0.5: Determine fertilization needs

COMPETENCY BUILDERS:

- 10.0.5.1 Identify factors influencing fertilizer requirements
- 10.0.5.2 Define meaning of NPK and trace elements on fertilizer information
- 10.0.5.3 Use soil analysis results to determine nutrient levels
- 10.0.5.4 Determine crop nutrient needs
- 10.0.5.5 Identify plant nutrient deficiency symptoms
- 10.0.5.6 Determine amount and kind of nutrients and lime to apply
- 10.0.5.7 Evaluate effect leaching has on nutrient availability
- 10.0.5.8 Evaluate influence soil pH has on nutrient availability
- 10.0.5.9 Maintain pH levels for crops grown
- 10.0.5.10 Estimate costs of lime and fertilizer recommendations
- 10.0.5.11 Develop fertilization plan

COMPETENCY 10.0.6: Fertilize crops

COMPETENCY BUILDERS:

- 10.0.6.1 Follow general safety precautions
- 10.0.6.2 Analyze and interpret manure sample information
- 10.0.6.3 Interpret fertilization rate charts
- 10.0.6.4 Select fertilizer analysis
- 10.0.6.5 Select fertilizer application method
- 10.0.6.6 Determine time for fertilizer application
- 10.0.6.7 Mix fertilizer solutions
- 10.0.6.8 Calibrate fertilizer application equipment
- 10.0.6.9 Adjust fertilizer application rates
- 10.0.6.10 Identify safety factors involved in handling NH₃
- 10.0.6.11 Apply fertilizer
- 10.0.6.12 Recognize signs of fertilizer injury
- 10.0.6.13 Transfer liquid fertilizer from nurse tank to applicator*

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COMPETENCY 10.0.7: Control insects and diseases

COMPETENCY BUILDERS:

- 10.0.7.1 Follow general safety precautions
- 10.0.7.2 Inspect crops and determine when controls are needed
- 10.0.7.3 Follow chemical use regulations
- 10.0.7.4 Complete prescribed certification requirements
- 10.0.7.5 Calibrate application equipment
- 10.0.7.6 Recognize chemical injury
- 10.0.7.7 Maintain application record
- 10.0.7.8 Recognize insect injury
- 10.0.7.9 Evaluate options and select control method*
- 10.0.7.10 Interpret chemical labels and compatibility charts*
- 10.0.7.11 Select and apply chemicals*
- 10.0.7.12 Apply biological control methods*

COMPETENCY 10.0.8: Control weeds

COMPETENCY BUILDERS:

- 10.0.8.1 Follow general safety precautions
- 10.0.8.2 Identify plants as monocots or dicots
- 10.0.8.3 Identify plants as annuals, biennials, or perennials
- 10.0.8.4 Identify plant parts and functions
- 10.0.8.5 Determine type of control needed
- 10.0.8.6 Interpret chemical labels and compatibility charts
- 10.0.8.7 Calibrate application equipment
- 10.0.8.8 Follow chemical use regulations
- 10.0.8.9 Maintain application record
- 10.0.8.10 Recognize chemical injury
- 10.0.8.11 Cultivate fields
- 10.0.8.12 Clip fields
- 10.0.8.13 Rotate crops
- 10.0.8.14 Select and apply chemicals*
- 10.0.8.15 Apply biological control methods*

COMPETENCY 10.0.9: Apply pesticides

COMPETENCY BUILDERS:

- 10.0.9.1 Follow general safety precautions
- 10.0.9.2 Use proper handling procedures
- 10.0.9.3 Wear protective clothing and equipment
- 10.0.9.4 Follow proper cleaning and storing procedures
- 10.0.9.5 Mix and load chemical application equipment*
- 10.0.9.6 Dispose of containers in proper manner*

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COMPETENCY 10.0.10: Harvest grain crops

COMPETENCY BUILDERS:

- 10.0.10.1 Follow general safety precautions
- 10.0.10.2 Determine crop maturity
- 10.0.10.3 Determine proper conditions for harvesting
- 10.0.10.4 Determine moisture content
- 10.0.10.5 Determine acreage to harvest at one time
- 10.0.10.6 Combine grain crops
- 10.0.10.7 Clip grain stubble after harvesting
- 10.0.10.8 Determine harvest losses
- 10.0.10.9 Determine yields

COMPETENCY 10.0.11: Harvest and manage forages

COMPETENCY BUILDERS:

- 10.0.11.1 Follow general safety precautions
- 10.0.11.2 Determine crop maturity
- 10.0.11.3 Determine moisture content
- 10.0.11.4 Determine forage cuttings to harvest
- 10.0.11.5 Determine acreage to cut at one time
- 10.0.11.6 Determine proper harvesting conditions
- 10.0.11.7 Cut and condition hay
- 10.0.11.8 Rake and ted hay
- 10.0.11.9 Evaluate harvesting methods
- 10.0.11.10 Bale dried forages and bedding materials
- 10.0.11.11 Cut forages for green chop feeding
- 10.0.11.12 Determine harvest yields and nutritional content
- 10.0.11.13 Determine grazing intervals and stocking rates
- 10.0.11.14 Evaluate grazing methods

COMPETENCY 10.0.12: Store crops

COMPETENCY BUILDERS:

- 10.0.12.1 Follow general safety precautions
- 10.0.12.2 Estimate amount of storage needed
- 10.0.12.3 Select storage facilities
- 10.0.12.4 Load and unload bales
- 10.0.12.5 Unload grain wagons
- 10.0.12.6 Unload silage wagons
- 10.0.12.7 Stack bales
- 10.0.12.8 Fill silo, bags and balage
- 10.0.12.9 Evaluate need for silage and hay additives
- 10.0.12.10 Estimate amount of grain in storage
- 10.0.12.11 Estimate amount of forage in storage

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COMPETENCY 10.0.13: Maintain quality of stored crops

COMPETENCY BUILDERS:

- 10.0.13.1 Follow general safety precautions
- 10.0.13.2 Clean storage areas
- 10.0.13.3 Use grain probe to collect crop samples
- 10.0.13.4 Determine moisture content
- 10.0.13.5 Determine condition of stored crops
- 10.0.13.6 Determine safe moisture content for storing grains and forages
- 10.0.13.7 Treat storage areas for pests*
- 10.0.13.8 Control temperature and humidity in storage areas*
- 10.0.13.9 Operate dryer and fans*
- 10.0.13.10 Identify storage problems*

UNIT 11: Employability Skills

SUBUNIT 11.1: Career Development

COMPETENCY 11.1.1: Investigate career options

COMPETENCY BUILDERS:

- 11.1.1.1 Determine interests and aptitudes
- 11.1.1.2 Identify career options
- 11.1.1.3 Research occupations matching interests and aptitudes
- 11.1.1.4 Select career(s) that best match(es) interests and aptitudes
- 11.1.1.5 Identify advantages and disadvantages of career options, including nontraditional careers
- 11.1.1.6 Assess differences in wages, annual incomes, and job opportunities based on geographic location
- 11.1.1.7 Develop a career plan

COMPETENCY 11.1.2: Analyze potential barriers to employment

COMPETENCY BUILDERS:

- 11.1.2.1 Identify common barriers to employment
- 11.1.2.2 Develop strategies to overcome employment barriers

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UNIT 11: Employability Skills

SUBUNIT 11.2: Decision Making and Problem Solving

COMPETENCY 11.2.1: Apply decision-making techniques in the workplace

COMPETENCY BUILDERS:

- 11 2.1.1 Identify the decision to be made
- 11.2.1.2 Compare alternatives
- 11.2.1.3 Determine consequences of each alternative
- 11.2.1.4 Make decisions based on values and goals
- 11.2.1.5 Evaluate the decision made

COMPETENCY 11.2.2: Apply problem-solving techniques in the workplace

COMPETENCY BUILDERS:

- 11.2.2.1 Diagnose the problem and its causes
- 11.2.2.2 Identify alternatives and their consequences in relation to the problem
- 11.2.2.3 Examine multicultural and nonsexist dimensions of problem solving
- 11.2.2.4 Utilize resources to explore possible solutions to the problem
- 11.2.2.5 Compare and contrast the advantages and disadvantages of each solution
- 11.2.2.6 Determine appropriate action
- 11.2.2.7 Evaluate results

UNIT 11: Employability Skills

SUBUNIT 11.3: Work Ethic

COMPETENCY 11.3.1: Evaluate the relationship of self-esteem to work ethic

COMPETENCY BUILDERS:

- 11.3.1.1 Identify special characteristics and abilities in self and others
- 11.3.1.2 Identify internal and external factors that affect self-esteem

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COMPETENCY 11.3.2: Analyze the relationship of personal values and goals to work ethic both in and out of the workplace

COMPETENCY BUILDERS:

- 11.3.2.1 Distinguish between values and goals
- 11.3.2.2 Determine the importance of values and goals
- 11.3.2.3 Evaluate how values affect goals
- 11.3.2.4 Identify short-term and long-term goals
- 11.3.2.5 Prioritize personal goals
- 11.3.2.6 Describe how personal values are reflected in work ethic
- 11.3.2.7 Describe how interactions in the workplace affect personal work ethic
- 11.3.2.8 Examine how life changes affect personal work ethic

COMPETENCY 11.3.3: Demonstrate work ethic

COMPETENCY BUILDERS:

- 11.3.3.1 Examine factors that influence work ethic
- 11.3.3.2 Exhibit characteristics that reflect an appropriate work ethic

UNIT 11: Employability Skills

SUBUNIT 11.4: Job-Seeking Skills

COMPETENCY 11.4.1: Prepare for employment

COMPETENCY BUILDERS:

- 11.4.1.1 Identify traditional and nontraditional employment sources
- 11.4.1.2 Utilize employment sources
- 11.4.1.3 Research job opportunities, including nontraditional careers
- 11.4.1.4 Interpret equal employment opportunity laws
- 11.4.1.5 Explain the critical importance of personal appearance, hygiene, and demeanor throughout the employment process
- 11.4.1.6 Prepare for generic employment tests and those specific to an occupation/organization

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COMPETENCY 11.4.2: Design a résumé

COMPETENCY BUILDERS:

- 11.4.2.1 Identify personal strengths and weaknesses
- 11.4.2.2 List skills and/or abilities, career objective(s), accomplishments/achievements, educational background, and work experience
- 11.4.2.3 Demonstrate legible written communication skills using correct grammar, spelling, and concise wording
- 11.4.2.4 Complete résumé using various formats
- 11.4.2.5 Secure references

COMPETENCY 11.4.3: Complete and process job application forms

COMPETENCY BUILDERS:

- 11.4.3.1 Explain the importance of an application form
- 11.4.3.2 Identify ways to obtain job application forms
- 11.4.3.3 Describe methods for handling illegal questions on job application forms
- 11.4.3.4 Demonstrate legible written communications skills using correct grammar, spelling, and concise wording
- 11.4.3.5 Return application to proper person, request interview, and follow up

COMPETENCY 11.4.4: Demonstrate interviewing skills

COMPETENCY BUILDERS

- 11.4.4.1 Investigate interview environment and procedures
- 11.4.4.2 Explain the critical importance of personal appearance, hygiene, and demeanor
- 11.4.4.3 Demonstrate question and answer techniques
- 11.4.4.4 Demonstrate methods for handling difficult and/or illegal interview questions

COMPETENCY 11.4.5: Secure employment

COMPETENCY BUILDERS:

- 11.4.5.1 Identify present and future employment opportunities within an occupation/organization
- 11.4.5.2 Research the organization/company
- 11.4.5.3 Use follow-up techniques to enhance employment potential
- 11.4.5.4 Compare and evaluate job offers

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UNIT 11: Employability Skills

SUBUNIT 11.5: Job Retention Skills

COMPETENCY 11.5.1: Analyze the organizational structure of the workplace

COMPETENCY BUILDERS:

- 11.5.1.1 Identify and evaluate employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
- 11.5.1.2 Be aware of and obey all company policies and procedures
- 11.5.1.3 Examine the role/relationship between employee and employer
- 11.5.1.4 Recognize opportunities for advancement and reasons for termination

COMPETENCY 11.5.2: Maintain positive relations with others

COMPETENCY BUILDERS:

- 11.5.2.1 Exhibit appropriate work habits and attitude
- 11.5.2.2 Identify behaviors to establish successful working relationships
- 11.5.2.3 Cooperate and compromise through teamwork and group participation
- 11.5.2.4 Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age

UNIT 11: Employability Skills

SUBUNIT 11.6: Job Advancement

COMPETENCY 11.6.1: Analyze opportunities for personal and career growth

COMPETENCY BUILDERS:

- 11.6.1.1 Determine opportunities within an occupation/organization
- 11.6.1.2 Compare and contrast other opportunities
- 11.6.1.3 List benefits of job advancement
- 11.6.1.4 Evaluate factors involved when assuming a new position within or outside an occupation/organization

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COMPETENCY 11.6.2: Exhibit characteristics needed for advancement

COMPETENCY BUILDERS:

- 11.6.2.1 Display a positive attitude
- 11.6.2.2 Demonstrate knowledge of a position
- 11.6.2.3 Perform quality work
- 11.6.2.4 Adapt to changing situations and technology
- 11.6.2.5 Demonstrate capability for different positions
- 11.6.2.6 Participate in continuing education/training programs
- 11.6.2.7 Respect, accept, and work with ALL individuals in the workplace

UNIT 11: Employability Skills

SUBUNIT 11.7: Technology in the Workplace

COMPETENCY 11.7.1: Assess the impact of technology in the workplace

COMPETENCY BUILDERS:

- 11.7.1.1 Cite how past business/industry practices have influenced present business/industry processes
- 11.7.1.2 Investigate the use of technology in the workplace
- 11.7.1.3 Analyze how present skills can be applied to learning new technologies

COMPETENCY 11.7.2: Use a variety of technological applications

COMPETENCY BUILDERS:

- 11.7.2.1 Explore basic mathematical, scientific, computer, and technological principles
- 11.7.2.2 Use technology to accomplish assigned tasks
- 11.7.2.3 Create solutions to problems using technical means

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UNIT 11: Employability Skills

SUBUNIT 11.8: Lifelong Learning

COMPETENCY 11.8.1: Apply lifelong learning to individual situations

COMPETENCY BUILDERS:

- 11.8.1.1 Define lifelong learning
- 11.8.1.2 Identify factors that cause the need for lifelong learning

COMPETENCY 11.8.2: Adapt to change

COMPETENCY BUILDERS:

- 11.8.2.1 Analyze the effects of change
- 11.8.2.2 Identify reasons why goals change
- 11.8.2.3 Describe the importance of flexibility when reevaluating goals
- 11.8.2.4 Evaluate the need for continuing education/training

UNIT 11: Employability Skills

SUBUNIT 11.9: Economic Education

COMPETENCY 11.9.1: Analyze global enterprise systems

COMPETENCY BUILDERS:

- 11.9.1.1 Identify characteristics of various enterprise systems
- 11.9.1.2 Examine the relationship between competition, risk, and profit
- 11.9.1.3 Illustrate how supply and demand influence price

COMPETENCY 11.9.2: Evaluate personal money management

COMPETENCY BUILDERS:

- 11.9.2.1 Describe the need for personal management records
- 11.9.2.2 Identify methods of taxation
- 11.9.2.3 Analyze how credit affects financial security
- 11.9.2.4 Compare types and methods of investments
- 11.9.2.5 Prepare a personal budget
- 11.9.2.6 Be an informed and responsible consumer
- 11.9.2.7 Analyze the effects of advertising on the consumer

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UNIT 11: Employability Skills

SUBUNIT 11.10: Balancing Work and Family

COMPETENCY 11.10.1: Analyze the effects of family on work

COMPETENCY BUILDERS:

- 11.10.1.1 Recognize how family values, goals, and priorities are reflected in the workplace
- 11.10.1.2 Identify present and future family structures and responsibilities
- 11.10.1.3 Describe personal and family roles
- 11.10.1.4 Analyze concerns of working parent(s)
- 11.10.1.5 Examine how family responsibilities can conflict with work
- 11.10.1.6 Resolve family-related conflicts
- 11.10.1.7 Explain how to use support systems/community resources to help resolve family-related conflicts

COMPETENCY 11.10.2: Analyze the effects of work on family

COMPETENCY BUILDERS:

- 11.10.2.1 Identify responsibilities associated with paid and nonpaid work
- 11.10.2.2 Compare the advantages and disadvantages of multiple incomes
- 11.10.2.3 Examine how work can conflict with family responsibilities
- 11.10.2.4 Describe how work-related stress can affect families
- 11.10.2.5 Identify family support systems and resources

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UNIT 11: Employability Skills

SUBUNIT 11.11: Citizenship in the Workplace

COMPETENCY 11.11.1: Exercise the rights and responsibilities of citizenship in the workplace

COMPETENCY BUILDERS:

- 11.11.1.1 Identify the basic rights and responsibilities of citizenship
- 11.11.1.2 Examine the history and contributions of all racial, ethnic, and cultural groups

COMPETENCY 11.11.2: Cooperate with others in the workplace

COMPETENCY BUILDERS:

- 11.11.2.1 Identify situations in which compromise is necessary
- 11.11.2.2 Examine how individuals from various backgrounds contribute to work-related situations
- 11.11.2.3 Demonstrate initiative to facilitate cooperation
- 11.11.2.4 Give and receive constructive criticism to enhance cooperation

UNIT 11: Employability Skills

SUBUNIT 11.12: Leadership

COMPETENCY 11.12.1: Evaluate leadership styles appropriate for the workplace

COMPETENCY BUILDERS:

- 11.12.1.1 Identify characteristics of effective leaders
- 11.12.1.2 Compare leadership styles
- 11.12.1.3 Demonstrate effective delegation skills
- 11.12.1.4 Identify opportunities to lead in the workplace

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COMPETENCY 11.12.2: Demonstrate effective teamwork skills

COMPETENCY BUILDERS:

- 11.12.2.1 Identify the responsibilities of a valuable group member
- 11.12.2.2 Exhibit open-mindedness
- 11.12.2.3 Identify methods of involving each member of a team
- 11.12.2.4 Contribute to the efficiency and success of a group
- 11.12.2.5 Determine ways to motivate others

COMPETENCY 11.12.3: Utilize effective communication skills

COMPETENCY BUILDERS:

- 11.12.3.1 Demonstrate the importance of listening
- 11.12.3.2 Demonstrate assertive communication
- 11.12.3.3 Recognize the importance of verbal and nonverbal cues and messages
- 11.12.3.4 Analyze written material
- 11.12.3.5 Prepare written material
- 11.12.3.6 Give and receive feedback
- 11.12.3.7 Articulate thoughts
- 11.12.3.8 Use appropriate language

UNIT 11: Employability Skills

SUBUNIT 11.13: Entrepreneurship

COMPETENCY 11.13.1: Evaluate the role of small business in the economy

COMPETENCY BUILDERS:

- 11.13.1.1 Identify the benefits of small business to a community
- 11.13.1.2 Analyze opportunities for small business in a community

COMPETENCY 11.13.2: Examine considerations of starting a business

COMPETENCY BUILDERS:

- 11.13.2.1 Research a business idea
- 11.13.2.2 Compare various ways to become a small business owner
- 11.13.2.3 Investigate factors to consider in financing a new business
- 11.13.2.4 Evaluate entrepreneurship as a career option

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