# Minnesota Dual-Training Pipeline Competency Model for Agriculture Occupation: Agriculture Applicator Technician

#### **Employer-Specific** Occupation-Specific Competencies\* Requirements Record and maintain application information Operate applicator machinery Analyze farm data/mapping Initiate applicator materials preparation Demonstrate fertilizer and pesticide purchasing law Perform hazardous material handling safety Utilize personal protective equipment Demonstrate proficiency with applicator sales Maintain and repair applicator equipment Industry-Sector Technical Competencies\* Agribusiness systems of farm cooperatives, Chemical properties of fertilizers and pesticides fertilizer suppliers and herbicide companies Proficiency with water runoff properties Soil science and crop Weather patterns nutrient principles Weed control Commercial driver's license (CDL) training and licensing **Industry-Wide Technical Competencies** Practice High level of Maintain User and Root personal and Excellent data sanitary customer cause environmental driving Compliance read/write environmental support safety at all analysis accuracy conditions times Workplace Competencies **Customer focus** Teamwork Planning and organizing Creative thinking Problem solving and decision making Working with tools and technology Scheduling and coordinating Checking, examining and recording **Academic Competencies** Science and Critical and Basic computer Reading Writing **Mathematics** Communication technology analytical thinking skills Personal Effectiveness Competencies Interpersonal Dependability Adaptability Lifelong Integrity Professionalism Initiative skills and reliability and flexibility learning

Based on: Building Blocks for Competency Models – Foundational Competencies, Employment and Training Administration, United States Department of Labor, February 2025. For more detailed information about competency model creation and sources, visit dli.mn.gov/business/workforce/agriculture.



## Competency Model for Agriculture Applicator Technician

**Agriculture Applicator Technician** – An individual who works to promote the maximum production of the farm. The position primarily focuses on applying fertilizer and crop protection products on farmland using heavy agriculture equipment. Agriculture Applicator Technicians are also responsible for maintaining accurate data and logbooks for chemical application as well as for assisting with general maintenance and repair of agricultural applicator vehicles and machinery.

\*Pipeline recommends the Industry-Sector Technical Competencies as formal training opportunities (provided through related instruction) and the Occupation-Specific Competencies as on-the-job (OJT) training opportunities.

### **Industry-Sector Technical Competencies**

**Related Instruction** for dual training means the organized and systematic form of education resulting in the enhancement of skills and competencies related to the dual trainee's current or intended occupation.

- Agribusiness systems of farm cooperatives, fertilizers, and herbicide suppliers Learn basic
  agricultural business principles and practices of key applicator utilizers including farm
  cooperatives, fertilizers, and herbicide suppliers.
- Soil science and crop nutrient principles Training in soil as a natural resource and principles
  of resource conservation management as well as knowledge of nutrients for healthy,
  productive crops.
- Weather patterns Understanding of the state of the atmosphere (troposphere) and its impact on the degree to which it is hot or cold, wet or dry, calm or stormy, clear or cloudy.
- **Weed control** Understanding of the tools available for weed control.
- Chemical properties of fertilizers and pesticides Understand principles of crop protection and pest control and impact of commonly used fertilizer and pesticide materials.
- Proficiency with water runoff properties Understand maximizing water usage and water flow on soil and crops.

• Commercial Driver's License (CDL) training and licensing — Understand how to operate an agriculture applicator commercial motor vehicle through relevant training and be able to obtain state of Minnesota commercial driver's license. Obtaining a CDL will enable legal operation of appropriate agriculture application technician occupation related vehicles and equipment.

### **Occupation-Specific Competencies**

**On-the-Job Training** is hands-on instruction completed at work to learn the core competencies necessary to succeed in an occupation. Common types of OJT include job shadowing, mentorship, cohort-based training, assignment-based project evaluation and discussion-based training.

- Record and maintain application information Know how to keep track of detailed information on how fertilizer and chemical are applied, how much is applied, where they were applied throughout the farm and on which dates/times that application occurred.
- Operate applicator machinery Know how to run the applicator machinery.
- Analyze farm data/ mapping Ability to read detailed layouts and maps on where precisely to apply chemicals and fertilizers on crops.
- Initiate applicator materials preparation Safely mix and apply chemicals to crops.
- Demonstrate fertilizer and pesticide purchasing law awareness Ability to purchase applicator materials from safe and lawful applicator materials sellers.
- **Perform hazardous material handling safety** Demonstrate knowledge of risks associated with hazardous materials and to take necessary steps to mitigate those risks when interacting with the materials.
- **Utilize personal protective equipment** Demonstrate ability to routinely use gloves, masks, etc. needed to conduct applicator processes safely for the applicator.
- **Demonstrate proficiency with applicator sales** Fundamentals of sales related to the agriculture industry.
- Maintain and repair applicator equipment Serve as a staff person capable of assisting with conducting routine maintenance and repair of farm equipment with particular focus on applicator materials.

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