

Minnesota Dual-Training Pipeline

Competency Model for Agriculture

Occupation: Crop Farm Manager

Employer-Specific Requirements

Occupation-Specific Competencies

Industry collaboration
 Personal safety
 Crop production scheduling
 Farm equipment operation and maintenance
 Harvest handling procedures
 Human relations and employee management
 Biosecurity
 Farm operations/general production practices
 Field preparation

Industry-Sector Technical Competencies*

Facilities maintenance	GPS farming	Organic farm principles (optional)	Record keeping	Employee management/training	Crop production business planning
Crop production ecosystems	Commodity economics	Soil science	Plant propagation		
Farm laws, agriculture policy					
Marketing, customer service					

Industry-Wide Technical Competencies

Principles of agriculture	Maintenance, installation and repair	Supply chain logistics	Quality assurance, continuous improvement	Sustainable and renewable	User and customer support	Health, safety, security
Compliance Production						
Agronomic cropping systems						

Workplace Competencies

Business fundamentals	Teamwork	Adaptability and flexibility	Customer service focus	Planning and organizing	Problem solving, decision making	Working with tools and technology	Checking, examining and inspecting	Sustainable practices
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Academic Competencies

Reading and writing	Science	Technical mathematics skills	Basic computer skills	Communication: listening and speaking	Critical and analytic thinking	Information literacy
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Personal Effectiveness Competencies

Interpersonal skills	Integrity	Professionalism	Initiative	Dependability and reliability	Adaptability and flexibility	Lifelong learning
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Based on: Competency Model Employment and Training Administration, United States Department of Labor.

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



Occupational Competency Summary

Crop Farm Manager

Crop Farm Manager is one who leads a team in administering processes to ensure sound production of large-scale production field crops such as wheat, soybeans, potatoes, sugar beets, hay, etc. to assure optimum productivity. Crop Farm Managers are often responsible for all aspects of crop care, facility repair and maintenance at the site. They also are in-charge of marketing and selling the crop as well.

Industry-Sector Technical Competencies

- Record Keeping – Knowledge of record keeping procedures regarding production, economics and crop issue troubleshooting.
- Employee Management/Training – Understand employee management principles and training techniques.
- Plant Propagation – Know how to seed crops, transplant crops, and maintain fertility as well as how to seed and transplant selections for ongoing genetics and breeding.
- Soil Science – Understanding of the principles of creating optimal soil conditions for crop products.
- Crop Production Ecosystems – Knowledge of principles used to treat farm as an ecosystem and understanding of impact of farm inputs of pesticides, irrigation, fertilizers, etc. to manage productivity and control weeds.
- Organic Farm Principles (Optional) – Understand rules, regulations, necessary paperwork and best practices for operating an organic crop production farm.
- Marketing and Customer Service – Knowledge of the principles of marketing horticulture products and best practices for customer service.
- Crop Production Business Planning – Understand how to write and follow a working business plan to manage production costs, labor, transportation and supplies to maximize potential profits.
- Commodity Economics – Understand how best to buy/ sell / hold onto crop commodities based on fluctuating market prices.
- Facilities Maintenance – Knowledge of how to maintain and repair barns, silos, etc. to ensure best practices for crop production operations.
- Farm Laws and Agriculture Policy – General understanding of the laws that pertain to farm insurance, trade policy, government subsidies, etc.
- GPS Farming – Know how to use global positioning system technology to do things such as farm planning, field mapping, soil sampling, tractor guidance, crop scouting, variable rate applications, and yield mapping.

Occupation-Specific Competencies

- Industry Collaboration – Introduction to opportunities to collaborate with other businesses within the agricultural industry.
- Personal Safety – Ability to use proper industry standards to maintain a safe work environment to ensure personal well-being.
- Crop Production Scheduling – Planning of when to plant, weed, prune, harvest and rotate crops.
- Farm Equipment Operation and Maintenance – Ability to operate and maintain tractor, hand tools, tractor implements, pack tools, etc.
- Harvest Handling Procedures – Ability to harvest crop(s) and then post-harvest properly clean, cool, sort, pack, store, cure and label crop as well as transport crop for processing/sales.
- Human Relations and Employee Management – Understanding of proper human relations and managing staff.
- Biosecurity – Knowledge of procedures intended to protect plants against disease or harmful biological agents
- Farm Operations/General Production Practices – Awareness of general farm production practices and the operations required for successful farm business.
- Field Preparation – Know how to get your field to be in optimal condition for utilizing different equipment, while properly balancing cover crops with farm inputs and also know how that interacts with soil conditions and weather conditions to create best possible prepared field for crop production.

Crop Farm Manager Occupational Competency Training Plan

Related Instruction means an organized and systematic form of instruction designed to provide the dual trainee with the knowledge of the theoretical and technical subjects related to their trade, occupation, or industry.

	Course	Course Description	Credit/Non-Credit	Hours Spent on Competency
Record Keeping				
Employee Management and Training				
Plant Propagation				
Soil Science				
Crop Production Ecosystems				
Organic Farm Principles				
Marketing and Customer Service				
Crop Production Business Planning				
Commodity Economics				
Facilities maintenance				
Farm Laws and Agriculture Policy				
GPS Farming				

On-The-Job Training is the work experience and instruction. Training experience need not be in the exact order as listed below.

	Trainer/Instructor	Name of person responsible for verifying competency mastery	Hours spent on competency
Industry Collaboration			
Personal Safety			

Crop Production Scheduling			
Farm Equipment Operation and Maintenance			
Harvest Handling Procedures			
Human Relations and Employee Management			
Biosecurity			
Farm Operations / General Productions Practices			
Field Preparation			