

AGRICULTURE AND FOOD PRODUCTION SECTOR GUIDE



2020

North Central Workforce Development Area

Funded by Workforce Solutions for North Central Pennsylvania and the PA Department of Labor and Industry.

Table of Contents

Introduction to Sector Guide and Career Pathways	p. 3
Description of Agriculture and Food Production Sector	p. 8
Career Pathways Maps	
Bus and Truck Mechanics and Diesel Engine Specialists	p. 11
Farm Workers	p. 12
Food Preparation Workers	p. 13
Industrial Truck and Tractor Operators	p. 14
Laborers and Freight, Stock and Material Movers	p. 15
Maintenance Workers	p. 16
Packaging and Filling Machine Operators	p. 17
Agriculture and Food Production Sector Job Descriptions	p. 18
Top Foundation Skills Required for Jobs in the Agriculture and Food Production Sector ...	p. 25
Bibliography	p. 29

Introduction to the Sector Guide

The Career Pathways Sector Guides are designed to provide information about career pathways in the North Central Workforce Development Area in Pennsylvania. Each guide presents information that will benefit workforce development professionals, businesses, and job seekers.

Introduction to Career Pathways

This section of the Sector Guide introduces you to career pathways. The information in this section will inform you about why career pathways are important and how the concept can be beneficial to businesses and job seekers. Information in this section can be shared with clients to help them get a better understanding of why we promote pathways.

Sector Description

The sector descriptions provide a brief overview of the sector that the guide presents. Sector descriptions include information from Pennsylvania's Center for Workforce Information and Analysis <https://www.workstats.dli.pa.gov/Pages/default.aspx> that helps to give a snapshot of the sector as well as general information about education and experience levels associated with jobs in the sector and the types of businesses that employ in the sector.

Use the information in this section of the guide to share general information with job seekers, as more detailed information is provided throughout the guide.

Career Pathways Maps

The jobs illustrated on the career pathway maps were identified using the North Central High Priority Occupations list. Information about the jobs was gathered through research using multiple sources to identify the salary, education required, and related occupations. Additionally, industry specific websites that contain career maps were used to inform the career map development. Most of the maps start with an entry-level job that requires less than a 2-year degree and demonstrate the ability to move up

the pathway by on the job training and work experience or through additional formal education and training.

Some occupations occur in multiple sectors and therefore may create a slightly different map for each sector. For example, janitors and cleaners are in manufacturing, healthcare, education, and hospitality. A worker who starts as a janitor and cleaner in education may move into maintenance and may possess the skills to move into a technical teaching role or departmental supervisory role within a school district or university. A janitor in manufacturing might be less likely to leave the sector to move into education and training of maintenance personnel. Technology and transportation related occupations are others that cross over many sectors and may look a little different.

Notice that some pathways seem to start at a higher “entry-level” than others. These would be appropriate for individuals that may have had some technical training while in high school or chose to do training before entering or reentering the workforce. These maps are also appropriate for places of employment that bring everyone in as a “general worker”, and in order to move up, an individual has to get a specialized training and compare multiple options/maps to make that decision.

These maps can be used with job seekers who are currently employed or choosing a career path. While these maps are general for the sector, they provide information about expected training, experience, and skills needed to move along a career path. This example illustrates the information that you will find about each job on every map.

Occupation: First-Line Supervisors of Mechanics, Installers, and Repairers (49-1011)

Education: postsecondary certificate and/or associate’s degree

Training: postsecondary education

Skills: understands process and product or service, demonstrates self-management strategies, lifelong learning

Salary Range: \$25.50-46/hour

Use this information to assist job seekers with career exploration, career planning, and goal setting. It is important to review each map carefully to understand the requirements needed on all steps of the

career path. Each map shows potential opportunities for advancement that may be achieved through additional education and training and experience on-the-job. Additional ways to use career pathways maps can be found at *20 Ways to Use Career Pathways Maps* at <http://www.paadultedresources.org/wp-content/uploads/2017/02/20-ways-to-use-career-pathway-maps-12-18-17.pdf>.

Job Descriptions

The job descriptions in the guide provide details of every job that is mentioned in each of the career pathways maps. Information from O*NET Online <https://www.onetonline.org/> was used to inform the descriptions. Another key component of the job descriptions is the *Sample of reported job titles*. These job titles are important because they are examples that employers might use for the same job. For example, an *energy auditor* at ABC Company might have the job title of *Building Performance Specialist* at DEF Company even though they do essentially the same kind of work.

Job descriptions are helpful for job seekers to get a clearer understanding of the jobs in isolation. More importantly, the descriptions help to provide clarity on how a career pathway builds on the skills and knowledge, and abilities of the jobs on the pathways. Use the information in this section to discuss the general qualifications of the job and the alternative names associated with the work that the job requires. Each job's description includes a citation and reference in the bibliography that can easily be accessed to provide additional information about the job. Use the references to assist job seekers in further career exploration when making decisions about any career path.

Foundation Skills Framework

Selected jobs in this section of the guide are aligned to specific workforce preparation skills detailed in the Foundation Skills Framework (FSF). The FSF is a tool developed by workforce development professionals that identifies skills, competencies, and tasks that individuals need to master to get a job, keep a job, and advance in a job.

The jobs in this section are primarily the entry level jobs identified on each map in the guide. Top *skills* for each job that are identified on O*NET Online were aligned to the FSF and can be used to help job seekers get an understanding of the workforce preparation skills that they will need for a particular job.

While this section provides examples of the workforce preparation skills for some of the jobs in the sector, additional research can be completed for any of the jobs on the pathways. Encourage job seekers to review the skills needed for their jobs of interest and compare them to the FSF. Additional FSF resources, including an assessment and competency lists can be found at <https://www.paadultedresources.org/foundation-skills-framework/>.

Bibliography

This final section of the guide is the bibliography. The bibliography provides a listing of all of the resources that were used to research the information in the guide and can be used to conduct further research on the sector or career pathways.

Introduction to Career Pathways

The Workforce Innovation and Opportunity Act (WIOA) moved career pathways from just a good idea to a mandatory component of workforce development programming. While providing a comprehensive definition of and for career pathways, WIOA does little to describe the “how to” for this strategy. From the development of customized mapping tools for employers to integrated education and training programs for customers who are determined basic skills deficient, career pathways strategies are customized to the local labor market.

At a minimum, career pathways strategies for job seekers need to include opportunities to explore careers and occupations that fall within high priority occupation sectors, develop a career pathway plan that includes charting specific and realistic goals, and learn about and practice key employability skills. A concrete plan with established goals and steps to follow can offer guidance and structure to job seekers’ employment goals. This plan may include, for example, obtaining work while exploring careers, identifying and enrolling in educational or training opportunities, identifying, researching, and preparing for occupations so that they may be ready to begin the job search process immediately.

Workforce development professionals can use the information associated with career pathways to further develop opportunities for job seekers to enter a career path rather than just getting a job. To do this; however, career pathways strategies need to be recognized and embraced by workforce development professionals in order to coordinate service delivery so that individuals can become aware of opportunities and have access to what they need to move along a pathway.

While this guide presents the “nuts and bolts” of career pathways, professionals will need to work together to develop strategies to assist job seekers to move along these paths. Which of the illustrated pathways are most essential to the region? How can workforce development professionals work together to promote these essential pathways? What can we do to include postsecondary education and training partners to assist in these career pathways strategies? How can we include Title II adult education into our strategies? There are answers to all these questions when we work together with career pathways innovations.

Sector Description

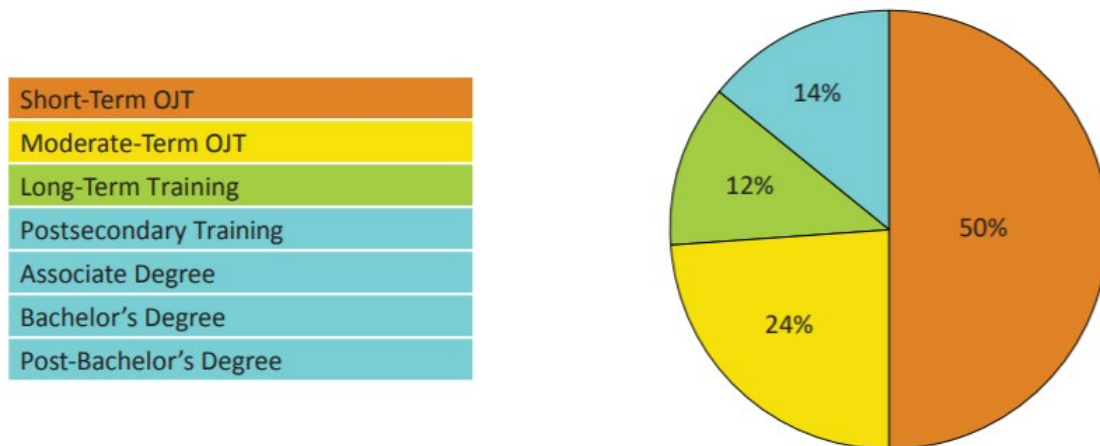
The Center for Workforce Information and Analysis states:

The Agriculture and Food Production (AFP) cluster begins with the growing of food crops, including grains and livestock, and ends with the wholesale distribution of these products. The cluster also includes support industries, such as refrigerated warehousing and fertilizer manufacturing, as well as public agencies that oversee agricultural programs.

The cluster continued to account for three percent of total employment in the Commonwealth. National employment has mirrored state employment closely as the Location Quotient (LQ) has increased just slightly. Notably, however, is the fact that this traditionally low-paying cluster has seen significant gains in average wages; about an eight percent increase since 2012.

The United States Department of Agriculture estimates that expenditures on food account for about 13 percent of the average American household budget. Due to the continued need for food, the AFP sector regularly has entry-level job openings. Individuals can often progress to higher wages through on-the-job training programs offered by AFP employers.

This graph illustrates the minimum educational attainment levels for jobs found in this cluster's various industries. Seventy-four percent of AFP jobs require less than one year of on-the-job training to enter employment. The low-skilled occupations that make up this cluster will most likely remain, with technological advancement only requiring slightly more training.



Additionally, The Center for Workforce Information and Analysis identifies the following top industries:

Top Industries Based on Employment

- Veterinary Services
- General Line Grocery Merchant Wholesalers
- Commercial Bakeries
- Meat Processed from Carcasses
- Other Snack Food Manufacturing
- Other Grocery Product Merchant Wholesalers
- Animal, Except Poultry, Slaughtering
- Mushroom Production
- Confectionery Mfg. from Purchased Chocolate
- Nursery, Garden & Farm Supply Stores
- Poultry Processing
- Fruit & Vegetable Merchant Wholesalers
- Fruit & Vegetable Canning
- Refrigerated Warehousing & Storage
- Beer & Ale Merchant Wholesalers
- Chocolate & Confectionery Mfg. from Cacao Beans
- Fluid Milk Manufacturing
- Dairy Cattle & Milk Production
- Meat Markets
- Breweries

Since 86% of the occupations in the AFP sector require on-the-job training to obtain and retain employment, it is important for individuals to have the work readiness skills that employers are seeking. According to the North Central Multi-year Regional Plan, many employers from all industries throughout the North Central PA Region report that they need all employees to have the following work readiness skills:

- Reliability
- Problem Solving
- Punctuality
- Demonstrating a Positive Attitude
- Honesty
- Dependability
- Communication
- Willingness to Learn New Things – Life Long Learning Skills
- Uses Common Workplace Technologies
- Adaptability

Career Pathways Maps

Agriculture and Food Production-

Bus and Truck Mechanics and Diesel Engine Specialists

Additional training and education



Occupation: Mechanical Engineers (17-2141)

Education: bachelor's degree

Training: on-the-job and vocational training

Skills: applies mathematical concepts and operations, demonstrates quality consciousness, lifelong learning skills

Salary Range: \$26-39/hour

Occupation: Supervisors-Mechanics, Installers, and Repairers (49-1011)

Education: postsecondary education and/or associate's degree

Training: long-term on-the-job training and/or vocational training

Skills: demonstrates effective interpersonal relations, makes decisions, demonstrates quality consciousness

Salary Range: \$20.75-32.50/hour

Occupation: Farm Equipment Mechanics and Service Technicians (49-3041)

Education: high school diploma or equivalent and/or some postsecondary education

Training: short-term on-the-job or vocational training

Skills: observes critically, solves problems, makes decisions

Salary Range: \$12-25/hour

Occupation: Bus and Truck Mechanics and Diesel Engine Specialists (49-3031)

Education: high school diploma or equivalent and/or some postsecondary education

Training: short-term on-the-job or vocational training

Skills: observes critically, listens with understanding, solves problems

Salary Range: \$14.75-21/hour

2019 HPO list retrieved from <https://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>
Binversie, L. & Van Deurzen, S. (2016). *Exploring agricultural careers*. University of Wisconsin: Madison, WI. Retrieved from <https://fyi.extension.wisc.edu/agcareers/files/2016/05/5-24-16-booklet.pdf>

U.S. Department of Labor, Employment and Training Administration. (2019). O*NET OnLine. National Center for O*NET Development. Retrieved from <https://www.onetonline.org/>

Agriculture and Food Production-

Farm Workers

Additional training and education



Occupation: Farm and Ranch Managers (11-9013.02)
Education: high school diploma or equivalent and/or some college
Training: long-term on-the-job training and/or vocational training
Skills: understands process and product or service, demonstrates quality consciousness, lifelong learning skills
Salary Range: \$28-43/hour

Occupation: First-Line Supervisors of Animal Husbandry and Animal Care Workers (45-1011.08)
Education: high school diploma or equivalent and/or some college
Training: long term on-the-job training and/or vocational training
Skills: listens with understanding, demonstrates effective interpersonal relations, solves problems
Salary Range: \$16-26/hour

Occupation: Farmworkers, Farm, Ranch, and Aquacultural Animals (45-2093)
Education: high school diploma or equivalent
Training: short-term on-the-job training
Skills: observes critically, solves problems, makes decisions
Salary Range: \$8.25-12.75/hour

Occupation: Farmworkers and Laborers, Crop (45-2092)
Education: high school diploma or equivalent
Training: short-term on-the-job training
Skills: observes critically, listens with understanding, speaks clearly and concisely
Salary Range: \$8.25-12.75/hour

2019 HPO list retrieved from <https://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>
Binversie, L. & Van Deurzen, S. (2016). *Exploring agricultural careers*. University of Wisconsin: Madison, WI. Retrieved from <https://fyi.extension.wisc.edu/agcareers/files/2016/05/5-24-16-booklet.pdf>

U.S. Department of Labor, Employment and Training Administration. (2019). O*NET OnLine. National Center for O*NET Development. Retrieved from <https://www.onetonline.org/>

Agriculture and Food Production-

Food Preparation Workers

Additional training and education



Occupation: First-Line Supervisors of Food Preparation and Serving Workers (35-1012)

Education: high school diploma or equivalent and/or some college

Training: long term on-the-job training

Skills: solves problems, writes clearly and concisely, demonstrates effective interpersonal relations

Salary Range: \$10-16.75/hour

Occupation: Butchers and Meat Cutters (51-3021)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: demonstrates self-management strategies, observes critically, applies health and safety concepts

Salary Range: \$10-15.25/hour

Occupation: Meat, Poultry, and Fish Cutters and Trimmers (51-3022)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: observes critically, speaks clearly and concisely, listens with understanding

Salary Range: \$10.50-14/hour

Occupation: Food Preparation Workers (35-2021)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: observes critically, listens with understanding, works in teams

Salary Range: \$8.25-10.50 /hour

2019 HPO list retrieved from <https://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>
Binversie, L. & Van Deurzen, S. (2016). *Exploring agricultural careers*. University of Wisconsin: Madison, WI. Retrieved from
<https://fyi.extension.wisc.edu/agcareers/files/2016/05/5-24-16-booklet.pdf>

U.S. Department of Labor, Employment and Training Administration. (2019). O*NET OnLine. National Center for O*NET Development. Retrieved from
<https://www.onetonline.org/>

Agriculture and Food Production-

Industrial Truck and Tractor Operators

Additional training and education



Occupation: Agricultural Inspectors (45-2011)

Education: high school diploma or equivalent and/or some college

Training: long term on-the-job training

Skills: applies health and safety concepts, demonstrates effective interpersonal relations, demonstrates quality consciousness

Salary Range: \$20-26.25/hour

Occupation: First-Line Supervisors of Agricultural Crop and Horticultural Workers (45-1011)

Education: high school diploma or equivalent and/or some postsecondary education

Training: long-term on-the-job training and/or vocational training

Skills: makes decisions, demonstrates quality consciousness, lifelong learning skills

Salary Range: \$17-26/hour

Occupation: Agricultural Equipment Operators (49-2091)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: observes critically, solves problems, listens with understanding

Salary Range: \$10-18/hour

Occupation: Industrial Truck and Tractor Operators (53-7051)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: observes critically, uses technology, applies health and safety concepts

Salary Range: \$13-17/hour

Agriculture and Food Production-

Laborers and Freight, Stock and Material Movers

Additional training and education



Occupation: Storage and Distribution Managers (11-3071)

Education: bachelor's degree or higher

Training: on-the-job and vocational training

Skills: understands finances, lifelong learning, demonstrates effective interpersonal relations

Salary Range: \$33.50-50/hour

Occupation: Supervisors- Helpers, Laborers, and Material Movers (53-1021)

Education: high school diploma or equivalent and/or some postsecondary education

Training: long-term on-the-job training or apprenticeship

Skills: demonstrates self-management strategies, listens with understanding, understands process and product or service

Salary Range: \$16.75-28/hour

Occupation: Laborers and Freight, Stock and Material Movers (53-7062)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: observes critically, uses technology, listens with understanding

Salary Range: \$10-14/hour

Occupation: Stock Clerks- Stockroom, Warehouse, or Storage Yard (43-5081)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: observes critically, writes clearly and concisely, speaks clearly and concisely

Salary Range: \$8.50-12/hour

2019 HPO list retrieved from <https://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>
Binversie, L. & Van Deurzen, S. (2016). *Exploring agricultural careers*. University of Wisconsin: Madison, WI. Retrieved from <https://fyi.extension.wisc.edu/agcareers/files/2016/05/5-24-16-booklet.pdf>

U.S. Department of Labor, Employment and Training Administration. (2019). O*NET OnLine. National Center for O*NET Development. Retrieved from <https://www.onetonline.org/>

Agriculture and Food Production- Maintenance Workers, Machinery

Additional training and education



Occupation: General and Operations Managers (11-1021)

Education: bachelor's degree or higher

Training: long term on-the-job training

Skills: understands finances, lifelong learning, demonstrates effective interpersonal relations

Salary Range: \$25-54/hour

Occupation: Supervisors-Mechanics, Installers, and Repairers (49-1011)

Education: some postsecondary education and/or associate's degree

Training: long-term on-the-job training and/or vocational training

Skills: demonstrates effective interpersonal relations, makes decisions, demonstrates quality consciousness

Salary Range: \$20.75-32.50/hour

Occupation: Maintenance Workers, Machinery (49-9043)

Education: high school diploma or equivalent or some postsecondary

Training: short-term on-the-job and vocational training

Skills: observes critically, solves problems, reads with understanding

Salary Range: \$14.50-22/hour

Occupation: Cooling and Freezing Equipment Operators and Tenders (51-9193)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: observes critically, demonstrates self-management strategies, speaks clearly and concisely

Salary Range: \$10-16.75/hour

2019 HPO list retrieved from <https://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>
Binversie, L. & Van Deurzen, S. (2016). *Exploring agricultural careers*. University of Wisconsin: Madison, WI. Retrieved from
<https://fyi.extension.wisc.edu/agcareers/files/2016/05/5-24-16-booklet.pdf>

U.S. Department of Labor, Employment and Training Administration. (2019). O*NET OnLine. National Center for O*NET Development. Retrieved from
<https://www.onetonline.org/>

Agriculture and Food Production-

Packaging and Filling Machine Operators and Tenders

Additional training and education



Occupation: Occupational Health and Safety Specialists (29-9011)

Education: bachelor's degree or higher

Training: long term on-the-job training and specialty certifications

Skills: solves problems, writes clearly and concisely, demonstrates effective interpersonal relations

Salary Range: \$20-33/hour

Occupation: First-Line Supervisors of Production and Operating Workers (51-1011)

Education: high school diploma or equivalent and/or bachelor's degree

Training: long-term on-the-job training, postsecondary, and/or apprenticeship

Skills: demonstrates effective interpersonal relations, understands process or product and service, makes decisions

Salary Range: \$18-29/hour

Occupation: Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: observes critically, speaks clearly and concisely, reads with understanding

Salary Range: \$11.75-19/hour

Occupation: Packaging and Filling Machine Operators and Tenders (51-9111)

Education: high school diploma or equivalent

Training: short-term on-the-job training

Skills: observes critically, listens with understanding, demonstrates effective interpersonal relations

Salary Range: \$10.50-16 /hour

2019 HPO list retrieved from <https://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>
Binversie, L. & Van Deurzen, S. (2016). *Exploring agricultural careers*. University of Wisconsin: Madison, WI. Retrieved from <https://fyi.extension.wisc.edu/agcareers/files/2016/05/5-24-16-booklet.pdf>

U.S. Department of Labor, Employment and Training Administration. (2019). O*NET OnLine. National Center for O*NET Development. Retrieved from <https://www.onetonline.org/>

Agricultural Equipment Operators

Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking. May operate stationary equipment to perform post-harvest tasks, such as husking, shelling, threshing, and ginning.

Sample of reported job titles: Baler Operator, Cutter Operator, Equipment Operator, Farm Equipment Operator, Hay Baler, Loader Operator, Packing Tractor Machine Operator, Rake Operator, Sprayer, Windrower Operator (U.S. Department of Labor, O*NET, Agricultural Equipment Operators, 2020a)

Agricultural Inspectors

Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety.

Sample of reported job titles: Brand Inspector; Consumer Safety Inspector (CSI); Deputy Brand Inspector; Food Inspector; Food Sanitarian; Grain Inspector; Inspector; Inspector, Food Safety and Inspection Service (Inspector, FSIS); Seed and Fertilizer Specialist; Shipping Point Inspector (U.S. Department of Labor, O*NET, Agricultural Inspectors, 2020b)

Bus and Truck Mechanics and Diesel Engine Specialists

Diagnose, adjust, repair, or overhaul buses and trucks, or maintain and repair any type of diesel engines. Includes mechanics working primarily with automobile or marine diesel engines.

Sample of reported job titles: Bus Mechanic, Diesel Mechanic, Diesel Technician, Fleet Mechanic, General Repair Mechanic, Mechanic, Service Technician, Trailer Mechanic, Transit Mechanic, Truck Mechanic (U.S. Department of Labor, O*NET, Bus and Truck Mechanics and Diesel Engine Specialists, 2020c)

Butchers and Meat Cutters

Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments.

Sample of reported job titles: Butcher, Journeyman Meat Cutter, Meat Clerk, Meat Cutter, Meat Department Manager, Meat Manager, Meat Specialist, Meat Trimmer, Meat Wrapper, Seafood and Service Meat Manager (U.S. Department of Labor, O*NET, Butchers and Meat Cutters, 2020d)

Cooling and Freezing Equipment Operators and Tenders

Operate or tend equipment, such as cooling and freezing units, refrigerators, batch freezers, and freezing tunnels, to cool or freeze products, food, blood plasma, and chemicals.

Sample of reported job titles: Certified Refrigeration Operator, Compressor Operator, Engine Room Operator, Freezer Operator, Freezer Person, Ice Cream Maker, Machine Operator, Refrigeration Operator, Refrigeration Supervisor, Refrigeration Technician (U.S. Department of Labor, O*NET, Cooling and Freezing Equipment Operators and Tenders, 2020e)

Farm and Ranch Managers

Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, or supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, financial, or marketing activities.

Sample of reported job titles: Accredited Farm Manager (AFM), Cash Crop Farmer, Dairy Farmer, Farm Manager, Farm Operator, Farmer, Grain Farmer, Ranch Manager, Rancher, Sow Farm Manager (U.S. Department of Labor, O*NET, Farm and ranch Managers, 2020f)

Farm Equipment Mechanics and Service Technicians

Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.

Sample of reported job titles: Agricultural Mechanic, Agricultural Technician, Agriculture Mechanic, Farm Equipment Mechanic, Farm Equipment Service Technician, Field Technician, Mechanic, Service Technician, Tractor Mechanic, Tractor Technician (U.S. Department of Labor, O*NET, Farm Equipment Mechanics and Service Technicians, 2020g)

Farmworkers and Laborers, Crop

Manually plant, cultivate, and harvest vegetables, fruits, nuts and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; cleaning, packing, and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities.

Sample of reported job titles: Farm Laborer, Farm Worker, Field Irrigation Worker, Field Worker, Harvester, Hired Hand, Hoe Worker, Irrigator, Orchard Worker, Picker (U.S. Department of Labor, O*NET, Farmworkers and laborers, Crop, 2020h)

Farmworkers, Farm, Ranch, and Aquacultural Animals

Attend to live farm, ranch, or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Attend to animals produced for animal products, such as meat, fur, skins, feathers, eggs, milk, and honey. Duties may include feeding, watering, herding, grazing, castrating, branding, de-beaking, weighing, catching, and loading animals. May maintain records on animals; examine animals to detect diseases and injuries; assist in birth deliveries; and administer medications, vaccinations, or insecticides as appropriate. May clean and maintain animal housing areas. Includes workers who shear wool from sheep and collect eggs in hatcheries.

Sample of reported job titles: Cowboy, Farm Hand, Farrowing Worker, Herdsman, Livestock Handler, Milking Worker, Ranch Hand, Rancher, Vaccinator, Wrangler (U.S. Department of Labor, O*NET, Farmworkers, Farm, Ranch, and Aquacultural Animals, 2020i)

First-Line Supervisors of Agricultural Crop and Horticultural Workers

Directly supervise and coordinate activities of agricultural crop or horticultural workers.

Sample of reported job titles: Farm Owner Operator, Field Operations Farm Manager, Grower, Harvest Supervisor, Harvesting Supervisor, Head Grower, Orchard Manager, Pest Management Supervisor, Supervisor Grower, Team Foreman (U.S. Department of Labor, O*NET, First-Line Supervisors of Agricultural Crop and Horticultural Workers, 2020j)

First-Line Supervisors of Animal Husbandry and Animal Care Workers

Directly supervise and coordinate activities of animal husbandry or animal care workers.

Sample of reported job titles: Animal Care Supervisor, Animal Caretaker Supervisor, Broiler Supervisor, Cattle Manager, Facility Manager, Facility Supervisor, Feed Manager, Horse Farm Manager, Research Animal Facility Supervisor, Sow Farm Manager (U.S. Department of Labor, O*NET, First-Line Supervisors of Animal Husbandry and Animal care Workers, 2020k)

First-Line Supervisors of Food Preparation and Serving Workers

Directly supervise and coordinate activities of workers engaged in preparing and serving food.

Sample of reported job titles: Cafeteria Manager, Dietary Supervisor, Food and Nutrition Services Supervisor, Food Production Supervisor, Food Service Director, Food Service Manager, Food Service Supervisor, Kitchen Manager, Kitchen Supervisor, Restaurant Manager (U.S. Department of Labor, O*NET, First-Line Supervisors of Food preparation and Serving Workers, 2020l)

Food Preparation Workers

Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.

Sample of reported job titles: Deli Clerk (Delicatessen Clerk), Diet Aide, Dietary Aide, Dietary Assistant, Food Preparer, Food Service Aide, Food Service Worker, Nutrition Aide, Pantry Cook, Slicer (U.S. Department of Labor, O*NET, Food Preparation Workers, 2020m)

General and Operations Managers

Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services.

Sample of reported job titles: Business Manager, Facility Manager, General Manager (GM), Operations Director, Operations Manager, Plant Superintendent, Store Manager (U.S. Department of Labor, O*NET, General and Operations Managers, 2020n)

Industrial Truck and Tractor Operators

Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location.

Sample of reported job titles: Checker Loader, Fork Lift Technician, Fork Truck Driver, Forklift Driver, Forklift Operator, Lift Truck Operator, Shag Truck Driver, Spotter Driver, Tow Motor Operator, Truck Driver (U.S. Department of Labor, O*NET, Industrial Truck and Tractor Operators, 2020o)

Inspectors, Testers, Sorters, Samplers, and Weighers

Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.

Sample of reported job titles: Inspector, Picker / Packer, Quality Assurance Auditor, Quality Assurance Inspector (QA Inspector), Quality Assurance Technician, Quality Auditor, Quality Control Inspector (QC Inspector), Quality Control Technician (QC Technician), Quality Inspector, Quality Technician (U.S. Department of Labor, O*NET, Inspectors, Testers, Sorters, Samplers, and Weighers, 2020p)

Laborers and Freight, Stock and Material Movers

Manually move freight, stock, or other materials or perform other general labor. Includes all manual laborers not elsewhere classified.

Sample of reported job titles: Dock Worker, Laborer, Line Tender, Loader, Material Handler, Merchandise Pickup/Receiving Associate, Receiver, Receiving Associate, Shipping and Receiving Materials Handler, Warehouse Worker (U.S. Department of Labor, O*NET, Laborers and Freight, Stock and Material Movers, 2020q)

Maintenance Workers, Machinery

Lubricate machinery, change parts, or perform other routine machinery maintenance.

Sample of reported job titles: Lubricator, Machine Repairer, Maintainer, Maintenance Man, Maintenance Technician, Maintenance Worker, Oiler, Overhauler (U.S. Department of Labor, O*NET, Maintenance Workers, Machinery, 2020r)

Meat, Poultry, and Fish Cutters and Trimmers

Use hand or hand tools to perform routine cutting and trimming of meat, poultry, and seafood.

Sample of reported job titles: Beef Trimmer, Breast Trimmer, Chicken Cutter, Deboner, Fish Processor, Meat Cutter, Meat Trimmer, Seafood Processor, Trimmer, Wing Score (U.S. Department of Labor, O*NET, Meat, Poultry, and Fish Cutters and Trimmers, 2020s)

Mechanical Engineers

Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.

Sample of reported job titles: Application Engineer, Design Engineer, Design Maintenance Engineer, Equipment Engineer, Mechanical Design Engineer, Mechanical Engineer, Process Engineer, Product Engineer, Project Engineer, Test Engineer (U.S. Department of Labor, O*NET, Mechanical Engineers, 2020t)

Occupational Health and Safety Specialists

Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals. May be employed in the public or private sector. Includes environmental protection officers.

Sample of reported job titles: Certified Industrial Hygienist (CIH); Chemical Hygiene Officer; Environmental Health and Safety Officer; Environmental, Health, and Safety Officer (EHS Officer); Industrial Hygienist; Industrial Hygienist Consultant; Safety Consultant; Safety Management Consultant; Safety Officer; Safety Specialist (U.S. Department of Labor, O*NET, Occupational Health and safety Specialists, 2020u)

Packaging and Filling Machine Operators and Tenders

Operate or tend machines to prepare industrial or consumer products for storage or shipment. Includes cannery workers who pack food products.

Sample of reported job titles: A-Operator, Bundler, Closing Machine Operator, Computer Numerical Control Machine Operator (CNC Machine Operator), Fabrication Technician, Filler

Operator, Machine Operator, Packaging Operator, Packing Attendant, Packing Machine Operator (U.S. Department of Labor, O*NET, Packaging and Filling Machine Operators and Tenders, 2020v)

Stock Clerks- Stockroom, Warehouse, or Storage Yard

Receive, store, and issue materials, equipment, and other items from stockroom, warehouse, or storage yard. Keep records and compile stock reports.

Sample of reported job titles: Bay Stocker, Material Handler, Receiver, Receiving Lead, Stock Clerk, Stocker, Stockroom Clerk, Warehouse Clerk, Warehouse Representative, Warehouse Worker (U.S. Department of Labor, O*NET, Stock Clerks-Stockroom, Warehouse, or Storage Yard, 2020w)

Storage and Distribution Managers

Plan, direct, or coordinate the storage or distribution operations within an organization or the activities of organizations that are engaged in storing or distributing materials or products.

Sample of reported job titles: Cold Storage Supervisor, Distribution Center Manager, Distribution Manager, Load Out Supervisor, Shipping Manager, Shipping Supervisor, Terminal Manager, Warehouse Manager, Warehouse Operations Manager, Warehouse Supervisor (U.S. Department of Labor, O*NET, Storage and Distribution Managers, 2020x)

Supervisors- Helpers, Laborers, and Material Movers

Directly supervise and coordinate the activities of helpers, laborers, or material movers.

Sample of reported job titles: Floor Supervisor, Front Line Supervisor, Maintenance Supervisor, Parts Manager, Receiving Lead, Receiving Manager, Receiving Supervisor, Shipping Manager, Shipping Supervisor, Terminal Operations Manager (U.S. Department of Labor, O*NET, Supervisors-Helpers, Laborers, and material Movers, 2020y)

Supervisors-Mechanics, Installers, and Repairers

Directly supervise and coordinate the activities of mechanics, installers, and repairers.

Sample of reported job titles: Crew Leader, Electrical Foreman, Facilities Manager, Facility Maintenance Supervisor, Maintenance Foreman, Maintenance Manager, Maintenance Planner, Maintenance Supervisor, Production Crew Supervisor, Superintendent (U.S. Department of Labor, O*NET, Supervisors-Mechanics, Installers, and Repairers, 2020z)

*Top Foundation Skills Required for Jobs in the
Agriculture and Food Production Sector*



Using information from O*NET job summaries, the following skills from the Foundation Skills Framework were identified as important skills for jobs in the agriculture and food production sector.

Farmworkers and Laborers, Crop

Listens with Understanding

Skills needed to comprehend, analyze, and interpret orally presented communications and directions on familiar and unfamiliar topics

Observes Critically

Critical and reflective thinking and discrimination skills needed to notice, analyze, and respond to visual information, especially in irregular or unusual situations

Bus and Truck Mechanics and Diesel Engine Specialists

Demonstrates Self-Management Strategies

Skills and knowledge needed to understand how personal factors contribute to employability and how to manage time and tasks effectively

Observes Critically

Critical and reflective thinking and discrimination skills needed to notice, analyze, and respond to visual information, especially in irregular or unusual situations

Solves Problems

Critical, creative, and reflective thinking skills needed to identify problems, analyze and evaluate various solutions, implement solutions and monitor their effectiveness

Makes Decisions

Critical, creative, and reflective thinking skills needed to consider relevant facts and opinions, evaluate potential risks and benefits of various decisions, make a decision, and analyze its outcome

Food Preparation Workers

Demonstrates Self-Management Strategies

Skills and knowledge needed to understand how personal factors contribute to employability and how to manage time and tasks effectively

Listens with Understanding

Skills needed to comprehend, analyze, and interpret orally presented communications and directions on familiar and unfamiliar topics

Speaks Clearly and Concisely

Skills needed to express ideas and information orally in a clear and understandable manner while sustaining interest and attention

Industrial Truck and Tractor Operators

Demonstrates Self-Management Strategies

Skills and knowledge needed to understand how personal factors contribute to employability and how to manage time and tasks effectively

Observes Critically

Critical and reflective thinking and discrimination skills needed to notice, analyze, and respond to visual information, especially in irregular or unusual situations

Stock Clerks- Stockroom, Warehouse, or Storage Yard

Demonstrates Self-Management Strategies

Skills and knowledge needed to understand how personal factors contribute to employability and how to manage time and tasks effectively

Listens with Understanding

Skills needed to comprehend, analyze, and interpret orally presented communications and directions on familiar and unfamiliar topics

Speaks Clearly and Concisely

Skills needed to express ideas and information orally in a clear and understandable manner while sustaining interest and attention

Cooling and Freezing Equipment Operators and Tenders

Demonstrates Self-Management Strategies

Skills and knowledge needed to understand how personal factors contribute to employability and how to manage time and tasks effectively

Listens with Understanding

Skills needed to comprehend, analyze, and interpret orally presented communications and directions on familiar and unfamiliar topics

Speaks Clearly and Concisely

Skills needed to express ideas and information orally in a clear and understandable manner while sustaining interest and attention

Observes Critically

Critical and reflective thinking and discrimination skills needed to notice, analyze, and respond to visual information, especially in irregular or unusual situations

Solves Problems

Critical, creative, and reflective thinking skills needed to identify problems, analyze and evaluate various solutions, implement solutions and monitor their effectiveness

Packaging and Filling Machine Operators and Tenders

Listens with Understanding

Skills needed to comprehend, analyze, and interpret orally presented communications and directions on familiar and unfamiliar topics

Observes Critically

Critical and reflective thinking and discrimination skills needed to notice, analyze, and respond to visual information, especially in irregular or unusual situations

NOTE: All the information on pages 25-28 of this guide is taken verbatim from the Foundation Skills Framework Competency Lists (2016) accessed at http://www.paadulthoodresources.org/wp-content/uploads/2016/05/FSF-competency_list-12-18-17.pdf

Bibliography

- Institute for the Study of Adult Literacy. (2016). *Foundation skills framework resource guide*.
http://www.paadultedresources.org/wp-content/uploads/2016/05/FSF-competency_list-12-18-17.pdf
- Pennsylvania Department of Labor and Industry. (2019). 2019 HPO list.
<https://www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx>
- U.S. Department of Agriculture (USDA). (2020). *Ag and food sources and the economy*. USDA.
<https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy/>
- U.S. Department of Labor, Employment and Training Administration. (2019). O*NET OnLine. National Center for O*NET Development. <https://www.onetonline.org/>
- U.S. Department of Labor, Employment & Training Administration. (2020). <http://onetonline.org>
- U.S. Department of Labor, Employment and Training Administration. (2020a). O*NET OnLine. *Agricultural Equipment Operators*. <https://www.onetonline.org/link/summary/45-2091.00>
- U.S. Department of Labor, Employment and Training Administration. (2020b). O*NET OnLine. *Agricultural Inspectors*. <https://www.onetonline.org/link/summary/45-2011.00>
- U.S. Department of Labor, Employment and Training Administration. (2020c). O*NET OnLine. *Bus and Truck Mechanics and Diesel Engine Specialists*.
<https://www.onetonline.org/link/summary/49-3031.00>
- U.S. Department of Labor, Employment and Training Administration. (2020d). O*NET OnLine. *Butchers and Meat Cutters*. <https://www.onetonline.org/link/summary/51-3021.00>
- U.S. Department of Labor, Employment and Training Administration. (2020e). O*NET OnLine. *Cooling and Freezing Equipment Operators and Tenders*.
<https://www.onetonline.org/link/summary/51-9193.00>
- U.S. Department of Labor, Employment and Training Administration. (2020f). O*NET OnLine. *Farm and Ranch Managers*. <https://www.onetonline.org/link/summary/11-9013.02>

- U.S. Department of Labor, Employment and Training Administration. (2020g). O*NET OnLine.
Farm Equipment Mechanics and Service Technicians.
<https://www.onetonline.org/link/summary/49-3041.00>
- U.S. Department of Labor, Employment and Training Administration. (2020h). O*NET OnLine.
Farm Workers and Laborers, Crop. <https://www.onetonline.org/link/summary/45-1011.07>
- U.S. Department of Labor, Employment and Training Administration. (2020i). O*NET OnLine.
Farmworkers, Farm, Ranch, and Aquacultural Animals.
<https://www.onetonline.org/link/summary/45-2093.00>
- U.S. Department of Labor, Employment and Training Administration. (2020j). O*NET OnLine.
First-Line Supervisors of Agricultural Crop and Horticultural Workers.
<https://www.onetonline.org/link/summary/45-1011.07>
- U.S. Department of Labor, Employment and Training Administration. (2020k). O*NET OnLine.
First-Line Supervisors of Animal Husbandry and Animal Care Workers.
<https://www.onetonline.org/link/summary/45-1011.08>
- U.S. Department of Labor, Employment and Training Administration. (2020l). O*NET OnLine.
First-Line Supervisors of Food Preparation and Serving Workers.
<https://www.onetonline.org/link/summary/35-1012.00>
- U.S. Department of Labor, Employment and Training Administration. (2020m). O*NET OnLine.
Food Preparation Workers. <https://www.onetonline.org/link/summary/35-2021.00>
- U.S. Department of Labor, Employment and Training Administration. (2020n). O*NET OnLine.
General and Operations Managers. <https://www.onetonline.org/link/summary/11-1021.00>
- U.S. Department of Labor, Employment and Training Administration. (2020o). O*NET OnLine.
Industrial Truck and Tractor Operators. <https://www.onetonline.org/link/summary/53-7051.00>
- U.S. Department of Labor, Employment and Training Administration. (2020p). O*NET OnLine.
Inspectors, Testers, Sorters, Samplers, and Weighers.
<https://www.onetonline.org/link/summary/51-9061.00>

- U.S. Department of Labor, Employment and Training Administration. (2020q). O*NET OnLine.
Laborers and Freight, Stock and Material Movers.
<https://www.onetonline.org/link/summary/53-7062.00>
- U.S. Department of Labor, Employment and Training Administration. (2020r). O*NET OnLine.
Maintenance Workers, Machinery. <https://www.onetonline.org/link/summary/49-9043.00>
- U.S. Department of Labor, Employment and Training Administration. (2020s). O*NET OnLine.
Meat, Poultry, and Fish Cutters and Trimmers. <https://www.onetonline.org/link/summary/51-3022.00>
- U.S. Department of Labor, Employment and Training Administration. (2020t). O*NET OnLine.
Mechanical Engineers. <https://www.onetonline.org/link/summary/17-2141.00>
- U.S. Department of Labor, Employment and Training Administration. (2020u). O*NET OnLine.
Occupational Health and Safety Specialists. <https://www.onetonline.org/link/summary/29-9011.00>
- U.S. Department of Labor, Employment and Training Administration. (2020v). O*NET OnLine.
Packaging and Filling Machine Operators and Tenders.
<https://www.onetonline.org/link/summary/51-9111.00>
- U.S. Department of Labor, Employment and Training Administration. (2020w). O*NET OnLine.
Stock Clerks-Stockroom, Warehouse, or Storage Yard.
<https://www.onetonline.org/link/summary/43-5081.03>
- U.S. Department of Labor, Employment and Training Administration. (2020x). O*NET OnLine.
Storage and Distribution Managers. <https://www.onetonline.org/link/summary/11-3071.02>
- U.S. Department of Labor, Employment and Training Administration. (2020y). O*NET OnLine.
Supervisors-Helpers, Laborers, and Material Movers.
<https://www.onetonline.org/link/summary/53-1021.00>
- U.S. Department of Labor, Employment and Training Administration. (2020z). O*NET OnLine.
Supervisors-Mechanics, Installers, and Repairers.
<https://www.onetonline.org/link/summary/49-1011.00>

Workforce Solutions for North Central Pennsylvania. (2019). *PY 2017- 2019 WIOA multi-year local area plan*. <https://workforcesolutionspa.com/plans/>