



**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF AGRICULTURE**

**Testimony to the Pennsylvania House of Representatives Select Subcommittee on Technical
Education and Career Readiness**

**Dr. Scott Sheely, Special Assistant for Workforce Development,
Pennsylvania Department of Agriculture**

September 16, 2016

Chairman Grove, Chairman Harkins, and distinguished members of the Select Subcommittee on Technical Education and Career Readiness, thank you for the opportunity to discuss the role that agriculture and agriculture education plays in the career and technical education system in Pennsylvania.

The Pennsylvania Department of Agriculture is the agency that helps, among other things, assure that the 12.8 million residents of the commonwealth have an abundant and safe supply of food and that the agriculture and food industry is robust and competitive in the global marketplace. The agriculture and food industry as defined by the mandate of the Department includes food production, food processing, and food distribution, and includes the forest and wood industry, horse racing, horticulture, conservation, supply and service sectors.

Using this definition, the industry in Pennsylvania has \$67 billion in sales, adds \$20.2 billion to the state economy, and employs well over 250,000 people. If we look at the extended supply and distribution chains of the industry, we see almost \$106 billion in sales, \$40 billion in value added to the economy, and almost 500,000 workers. This is a diverse industry that makes a big contribution to the health and well-being of Pennsylvanians. It is a major driver of economic activity in the state and a leading international exporter of products and services.

Of all of the issues that challenge the industry, from profitability to concerns about water quality to avian influenza, the issue about which we hear most often from employers is the concern about finding and retaining the human capital needed to remain competitive.

As we have come to understand, the agriculture and food workforce is like a pyramid when it comes to the skills that employers need and to the challenges that present themselves when recruiting talent.

We will always have the need for the scientists, engineers, researchers, and management that make up the top of the pyramid. These are the people that drive innovation and create knowledge so the industry can remain competitive. Many of these folks receive their education and training at our great universities where a bachelor's degree is a minimum result of their education.

In the middle of the pyramid, we see a much broader range of occupations that are often highly skilled technical or trade-oriented jobs and that do not necessarily require a college education. The gap for jobs as diverse as dairy herdsman, industrial machinery mechanics, large animal veterinary technicians, food batchmakers, lumber graders, team assemblers, and farm equipment service technicians is widening as the demand from industry is growing and the supply of people from our career and technical education programs and other sources is flattening, at best, and declining, at worst. These are the jobs where there is a real skill shortage that is ultimately driven by the fact that we either do not offer such programs in our career and technology education system or, quite often, in which young people are unaware of the options...or both.

At the base of the pyramid is the production-level workforce of the industry, such as farm, landscape, and nursery workers; machine operators; material handlers; truck drivers; meat cutters; bakers; and many other jobs in which employers can typically receive on-the-job training and plan for a certain amount of tolerable turnover. The agriculture and food industry competes with many other businesses, particularly retail and hospitality for these jobs, which are skilled but pay lower wages than the middle tier of the pyramid.

In the midst of this situation and in support of filling the skills gap that we have identified above, the Department has undertaken the following actions under the Wolf Administration:

- Worked with Governor Wolf and Secretary of Labor and Industry Kathy Mandarino to restructure the Workforce Development Board to include for the first time five members of agriculture/food/forest industry and the Secretary of Agriculture
- Hired an experienced workforce development leader to function as the project manager for a wide-ranging study of the human capital needs of the agriculture and food industries, for the identification and validation of the career pathways that exist in the industries, for a survey of the resources and gaps that exist in the current system, and for a plan to implement a re-invented system for knowledge and skill development.
- Identified more than 25 high-demand occupations in the agriculture and food industry and developed companion posters and career development materials for use in career development activities around Pennsylvania. (See attached list of occupations and sampling of posters)
- Created a Desk Guide to Careers in the Agriculture and Food Industry that has been widely distributed for the use of vocational counselors in school, workforce development veterans, and rehabilitation programs.
- Established spaces for career information on the Department's website and in social media outlets.
- Published a list of Ag and Food Careers of the Future where technology is defining new jobs.
- Encouraged and promoted those in the public education system that use agriculture to teach science, technology, engineering, and math.
- Worked with the PA Department of Education to organize the Agriculture Education Advisory Committee, which provides advice and counsel to the Secretaries of Agriculture and Education about agriculture education programming in the Commonwealth and will be providing a report to the Governor and General Assembly later this year.
- Established relationships with more than 50 urban agriculture programs in Philadelphia and Pittsburgh including the W.B. Saul High School of Agriculture and the Fox Chase Farm collaborative in Philadelphia for the purpose of enhancing agriculture education for young people in urban areas.
- Connected with the PA Department of Military and Veterans Affairs, the Office of Vocational Rehabilitation of the PA Department of Labor and Industry, the PA

Department of Human Services, and the PA Department of Drug and Alcohol Programs to explore the use of agriculture placements as transitional jobs for non-traditional agriculture workers.

- Met with employers from the agriculture industry to talk about skill and training needs as well as human capital needs. We are currently exploring the creation of apprenticeships for agriculture equipment service technicians, dairy herdsman, and organic farmers.
- Worked with Governor Wolf and sister agencies to make sure the Commonwealth's Workforce Innovation and Opportunity Act Plan includes agriculture.
- Working with the Department of Labor and Industry to establish high priority occupations in agriculture.

From our experiences over the last 18 months, we offer the following observations that may be useful to this Subcommittee.

- While all jobs in the workforce pyramid are important, we are most concerned about the middle-skill, middle-wage jobs that we identified above and the skill gap that is developing around them. Of the 25 high-demand occupations identified by the Department as the agriculture and food jobs of the future, only eight have established curricula where one can receive skill training through the formal education system. Most rely on their employers for on-the-job training.
- Pennsylvania does have a wide-ranging network of agriculture education programs across the state. There are 153 secondary agriculture education programs approved by the PA Department of Education and more than 30 others that operate without state approval and funding. There are 145 FFA chapters, a key ingredient in high school agriculture education, which involve more than 12,700 members. According to a recent Texas A&M study, students participating in the Supervised Agriculture Experience component of their FFA experience in Pennsylvania in 2015 generated an estimated \$4.5 million in economic value as a result of completing their projects.
- While Penn State University and Delaware Valley University offer undergraduate and graduate-level programs ranging from animal and plant science to conservation and forestry and from food science to turf management, many students find a vast education

and training wilderness between their high school agriculture programs and a four-year degree. Industry credentials during or after high school are hard to find for someone who is looking for skill training but does not want or need a two-year or four-year degree. A recent Bureau of Labor Statistics report showed that Farming, Fishing, and Forestry occupations have the second lowest percentage of people with an industry credential among any occupation group. It appears that the delivery of trade and technical training to people connected to the agriculture and food industry who have graduated high school, who do not wish to pursue a four-year degree, but who need to upgrade their skills and technical knowledge is inadequate. There is room for an increased level of engagement on the part of community colleges and local and regional career and technology centers. Industry and trade groups fill some of the gap but there is a gap nonetheless.

- Partly as a result of this gap, employees who make up the production workforce of the industry are often disconnected from career pathways that lead to advancement within and outside the industries in which they work. Currently, adult-oriented career and technical training does not adequately build on the basic education that workers receive in high school, give credit for the substantial investment made by the employer community in on-the-job training, or put people on career pathways to jobs that pay.
- Career pathways are not a series of courses that lead to a career. Instead, career pathways are a network of interrelated jobs, both within and outside industries, where employees advance more often based on their knowledge and skills rather than any kind of diploma. In many career pathways, work-based learning including on-the-job training, internships, and apprenticeships is a much better way to learn.

Given these observations and challenges, the Department has a number of ideas related to the agriculture and food industry, careers and occupations, and the way in which we provide skill-training to employees.

- The Department began its workforce development initiative with data-driven career information that provides teachers, parents, and students with the information that they need to make career decisions. This is a strategy that requires not only paper-based and

static website promotions, but social media communications and a higher level of intergovernmental collaboration in getting career information out to students.

- We need to ensure that agriculture and food jobs are listed among the state's high priority occupations, design industry specific training programs to support them, and, further, engage industry in the development and design of apprenticeships and credentialing.
- We need to protect our base and ensure that our traditional pipeline for worker training through certified agriculture education and career and technical programming remains strong. Many agriculture teachers have expressed frustration with policies like agriculture classes not being counted toward science credits, making it difficult to attract and retain students in agriculture classes. This is one example of an issue being addressed by the Pennsylvania Agriculture Education Advisory Committee and will be brought forward to the General Assembly in a report at the end of the year.
- Our education enterprise in the commonwealth cannot forget about the adult learner of career and technical topics who has basic skills, who does not have a barrier to learning, and who is looking for education and training but not necessarily in a formal education setting. We need a better network of adult career and technical education in every corner of the state that could provide adult learners with the knowledge and skills that they need as business practice changes and technology advances. Penn State Cooperative Extension and other providers of these services play an important role; however, a larger network would help to keep the workforce trained and the industry competitive.
- A growing number of production agriculture and food workforce have English as their second language. Six of the 25 occupations identified by the Department as in-demand for the next ten years have significant participation by Latino and Asian guest workers, immigrants, or citizens who have migrated to the work. Meeting the needs of these workers for advancement and the needs of their employers for more highly-skilled workers will also challenge our system of adult career and technical education. Over the years, providers have proven that it is possible to combine language training with skill training. However, we need to partner with organizations and companies to provide support for this kind of training in a sustainable way.

This is just a brief overview of the issues involved in the agriculture education part of career and technical education. Most importantly, what we do in career and technical education must reflect the needs of employers for a workforce prepared with basic skills and ready to tackle more sophisticated skills as technology continues to reinvent the workforce. Moving forward, the Department looks forward to engaging the Subcommittee on these issues and the way in which policies are operationalized in local school districts, career and technology education programs, and adult education activities around the commonwealth.

Thank you for the opportunity to comment today.