



Attracting the Best Employees to Pennsylvania Horticultural Enterprises

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**PA Commission for Agricultural
Education Excellence**

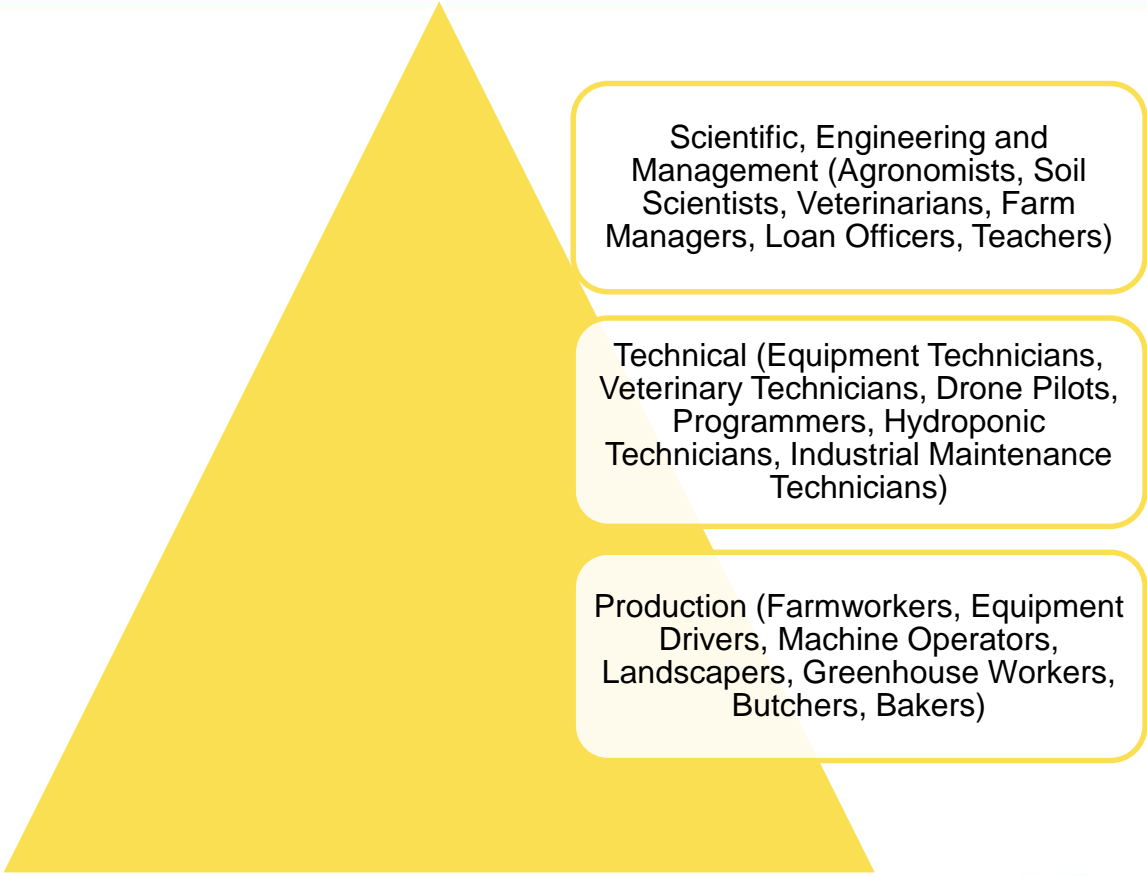
The Agriculture and Food Industry

- Normally, when we think of the agriculture and food industry, we think of production agriculture;
- However, production agriculture is part of a supply and distribution chain that extends to food processing, food distribution, and consumer consumption of food;
- Agriculture and food also includes the horticulture, forestry and wood products industry as well as service industries such as landscaping and veterinary services.
- The geographical footprint of the industry varies with the industry segment.

The Agriculture and Food Workforce

- More than 6.7 million people work in the Agriculture and Food Industry and its supply and distribution chains nationwide
- With an additional 16.6 million people in jobs related to the Industry retail food and food services distribution chains
- Between now and 2028, the PA Department of Agriculture predicts that the Industry nationally will need millions of new workers because of growth and the replacement of workers because of retirements

The Ag and Food Workforce



Scientific, Engineering and Management (Agronomists, Soil Scientists, Veterinarians, Farm Managers, Loan Officers, Teachers)

Technical (Equipment Technicians, Veterinary Technicians, Drone Pilots, Programmers, Hydroponic Technicians, Industrial Maintenance Technicians)

Production (Farmworkers, Equipment Drivers, Machine Operators, Landscapers, Greenhouse Workers, Butchers, Bakers)

Scientific, Engineering and Management

- At the top of the pyramid are the knowledge generators...the people who bring innovation from the lab to the industry...absolutely essential for the survival of the industry.
- They are the agronomists, the economists, the engineers, the animal scientists, and the managers.
- Nearly everyone needs to get a bachelor's degree or higher for these jobs.
- However, the numbers are relatively small given the overall workforce of the industry.

Technical Workers

- As innovation drives technology, many jobs are being created or reinvented to bring the advances from the lab and the classroom to the practice of agriculture production and food processing. These are technology jobs.
- Ag equipment service technicians, veterinary technicians, drone operators, farmers, precision agriculture technicians, hydroponic operators, and many others fall into this category. The numbers are growing.
- They definitely require technical knowledge and skills beyond high school but they often do not require a bachelor's degree.

Production Workers

- At the foundation of the pyramid are our production workers.
- Whether they are employed on a dairy farm, a greenhouse, a poultry processing plant, a mushroom growing facility, a landscape crew, or an orchard, they are the core of our ag and food workforce.
- **Many of our production workers are foreign-born whether citizens, people on a work visa, seasonal guest workers, or, in some cases, here illegally.**
- There is an extreme shortage of production workers with few opportunities for them to engage ag and food career pathways.

Challenges

- At the Scientific, Engineering, and Management level, we need to keep this STEM-heavy pipeline of talent full in a time when there is intense competition for these college-educated workers among all industries.
- For the Technical workforce...
 - There is a problem of career information as we see new and reinvented jobs that are available;
 - We also see the education and training system trying to align itself to the industry need of skill training that these technology jobs require.
 - Formal education systems may not be able to deliver this training in a cost-effective way;
 - Apprenticeships and microcredentials are relevant here

Challenges

- With the Production workforce...
 - Many of the workers have English as a second language;
 - Some of basic skills and literacy issues;
 - They may be a pool of potential workers for Technical jobs but they typically don't engage career pathways;
 - There is not enough bi-lingual skill training available.

Gaps in Pennsylvania

- Only eight of the In-Demand Occupations have formal education and training programs connected with them
- There is training available after high school for practitioners through Cooperative Extension and other providers
- No community colleges in PA are involved in any meaningful way with agriculture skills
- There are many emerging occupations for which no training exists

More Traditional Solutions

- Better career information about ag and food occupations;
- Work with traditional sources of workers in ag and food (4-H, FFA);
- Organize occupations into career pathways for the sake of program development;
- Registered apprenticeship and microcredentials;
- More bi-lingual skill training in agriculture and food careers.

Supply-Side Issues

- The workforce participation rate in many rural areas is very low.
- That is driven by...
 - Small numbers in lower age cohorts
 - High percentage of people over 65
 - High percentage of drug use (not just opiod)
 - Large number of people who are incarcerated
 - Limited participation by people with handicaps

Non-Traditional Solutions

- Initiatives to re-employ retired workers
- Transitional programs from prison to work
- Continued development of programs for people with handicaps

Other Resources

In-Demand Occupations

- Farming and Agricultural Operations
 - Farmers and Farm Managers
 - Dairy Herdsmen, Flock Managers
 - Farm Equipment Service Technicians
 - Farmworkers
- Landscaping
 - Landscaping and Groundskeeping Workers
- Food Manufacturing
 - Food Batchmakers
 - Packaging Machine Operators
 - Bakers and Meat Cutters
 - Maintenance Mechanics
 - Forklift Drivers
 - Truck Drivers

In-Demand Occupations

- Forestry, Lumber, and Wood Products
 - Fallers and Equipment Operators
 - Sawing Machine Operators
 - Team Assemblers
 - Machine Operators
 - Sales Representatives
- Conservation and Natural Resources
 - Soil and Water Conservationists
 - Agriculture Technician
- Animal Health and Veterinary Services
 - Veterinarians
 - Veterinary Technicians and Assistants

Career Information Resource

<https://www.agexplorer.com/>

Traditional Supply Networks

- More than 150 high school agriculture programs around PA with 16,000 agriculture students
- More than 12,000 young people involved in FFA
- Two institutions of higher education – Delaware Valley University and Penn State University – provide nearly 900 graduates in ag and food careers yearly
- Six of the 26 In-Demand Occupations have substantial numbers of Latino workers
- Evaluation of traditional agriculture education system... <https://www.agriculture.pa.gov/Documents/Agriculture%20Education%20Report.pdf>

Commission for Ag Ed Excellence

- Established by the General Assembly in 2017 as a joint project of the PA Departments of Agriculture and Education;
- Mission to develop “a Statewide plan for agricultural education and coordinating the implementation of related agricultural education programming;
- Commissioners and Executive Director appointed with first meeting in January 2019

Production Agriculture



Landscaping



Registered Apprenticeship

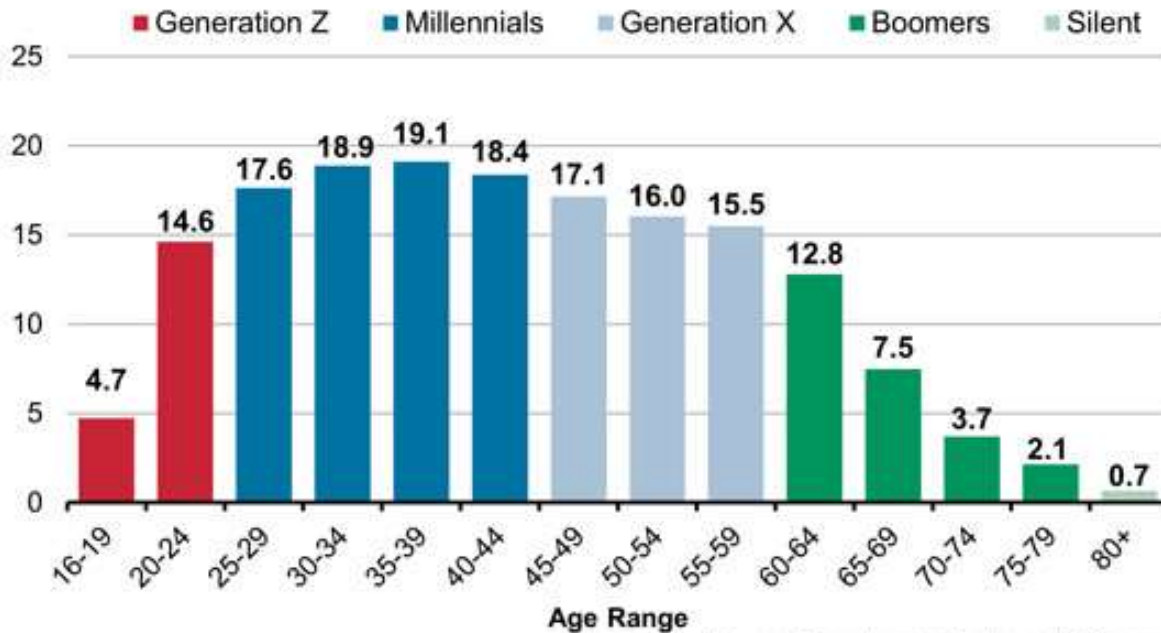
- Program sponsored by the NE Equipment Dealers Associations with four equipment dealers currently in the employer consortium;
- Competency-based with four levels requiring on-the-job training and classroom work;
- Employer directed curriculum;
- Employers hire apprentice; not an internship.
- First class enrolling for May 2018.

The Four Generation Workforce

The Workforce in 2025

The Workforce in 2025

Projected size of U.S. labor force (in millions) by age, for the year 2025



Source: Department of Labor | WSJ.com

Baby Boomers (1946-1964)

- Strong work ethic, workaholics who get personal fulfillment from work.
- Goal-oriented, competitive
- Prefer one-on-one communication
- Suspicious of authoritarian systems
- Believe in formal feedback with fair and consistent processes
- 63% plan to work at least part-time in retirement, prefer contract work

Generation X (1965-1980)

- Work/life balance
- Believe the person with the best skills and most experience should make decisions
- Think real-time feedback is critical to getting work done efficiently
- Independent and self-sufficient, prefer fewer rules
- Feel rules were meant to be broken and it is easier to ask for forgiveness than permission
- Adaptive to job instability
- Embrace new technology, strong technical skills
- Value freedom
- Shun micromanagement in the workplace

Generation Y (1981-1996)

- Work/life balance
- Flexibility in the workplace
- Think of policy as guidelines
- Most resilient in navigating change, take an entrepreneurial approach to work
- Most team-centric, make decisions in teams without any one person being in charge
- Prefer direct communication and feedback
- Work smarter rather than harder
- Value diversity and inclusion
- Self-involved
- Overly dependent on technology

Generation Z (1997-2015)

- Creative, flexible, self-reliant
- Want to make the world a better place and have a global mindset
- The “always-on” generation
- More cautious, somewhat fragile
- Have large networks but not much job experience
- Concerned with career stability
- Shorter attention spans at work
- Require bite-sized, immediate feedback

Across Generations

CRESTCOM®

www.crestcomleadership.com



Generation B
"Boomers"
1946 - 1960



Generation X
"Gen X"
1961 - 1980



Generation Y
"Millennials" or "Gen Y"
1981 - 1995



Generation Z
"Gen Z" or "iGen"
1996 - 2015



Personality

Optimistic
Cause Oriented
Collaborative
Driven

Independent
Self-Reliant
Skeptical

Continuously Learning
High Self-Esteem
Achievement-Oriented

Resilient
Technology-Savvy
Less Entitled



Work Ethic

Quality Minded
Team Oriented
Company Loyalty

Work/Life Balance
Efficient
Focus on Results

Collaborative
Desires Feedback
Flexible Work
Arrangements

Resourceful
Meaningful Work
Strong Work Ethic



Communication

Rotary Dial Telephone
Face-to-Face

Email
Text

Instant Message
Text

Text
Social Media



Technology

Touch-tone Telephone
TV
Calculator

Touch-tone Telephone
Pager
Word Processor

Desktops
Cell Phones
Internet

Tablets
Smartphones
Social Media



pennsylvania
DEPARTMENT OF AGRICULTURE

Problems from Generational Diversity

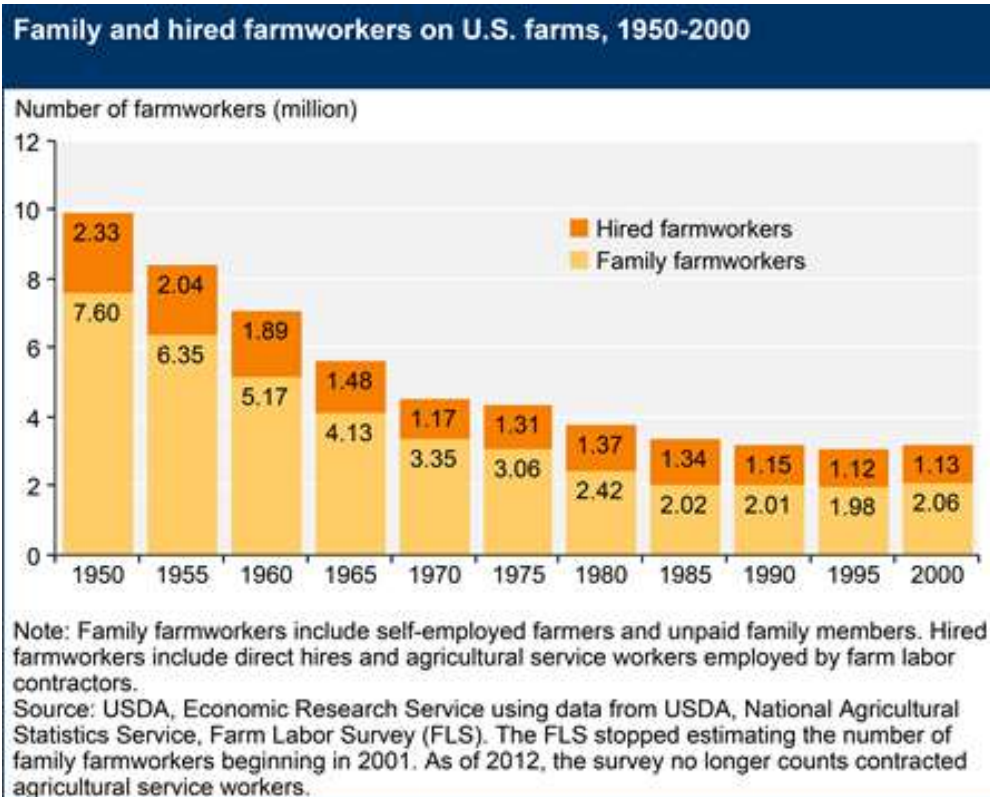
- Risk of Conflicts
- Lack of Mutual Understanding
- Different Working Styles
- Communication Gaps

Recruiting Multi-Gen Talent

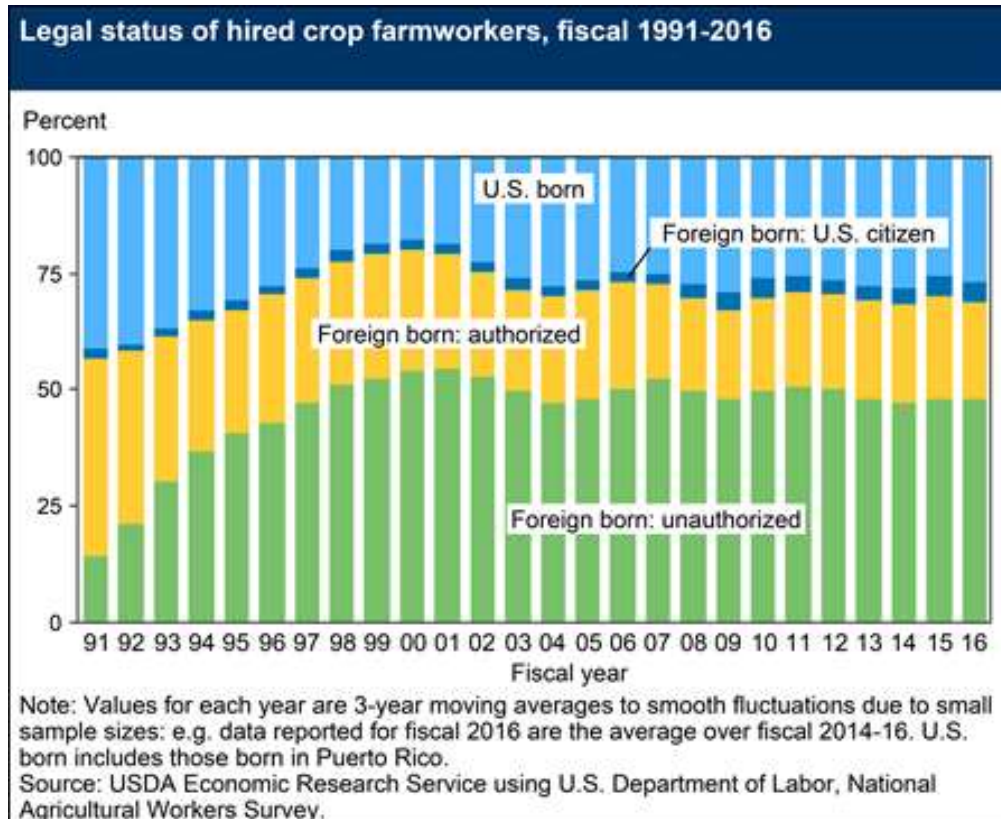
- Re-examine Your Compensation and Benefits
- Expand Your Communication Strategies
- Foster Relationships before Hiring

Foreign-Born Workers in the Ag and Food Workforce

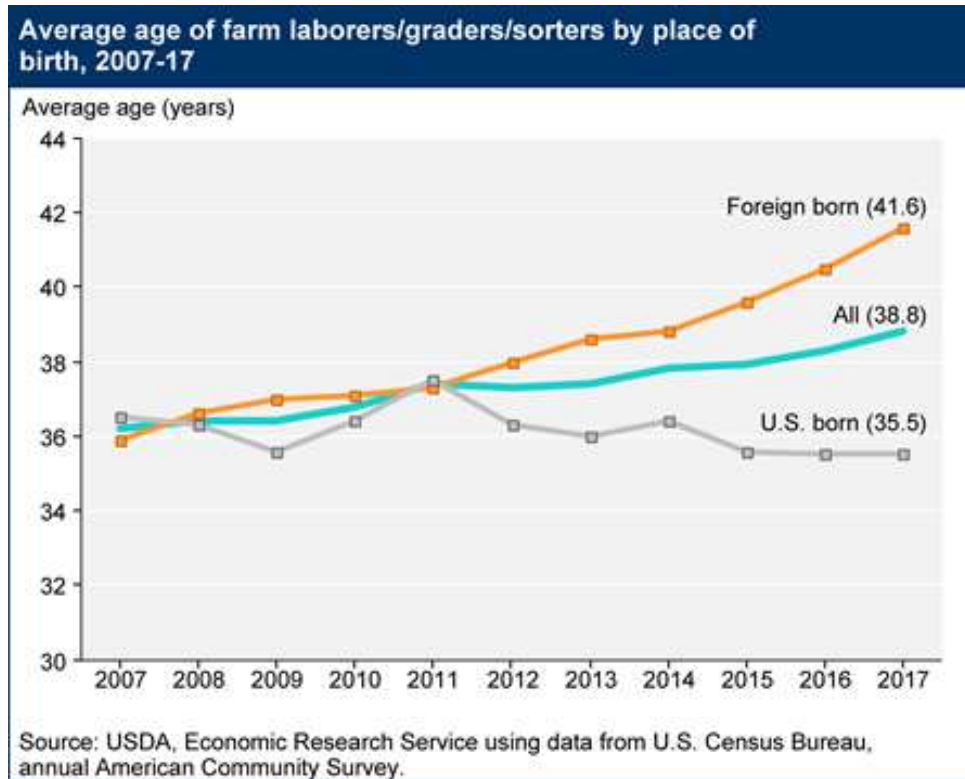
Family and Hired Farmworkers



Legal Status of Hired Farmworkers



Average Age by Place of Birth



Women are an Increasing Share of the WF



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