Cornell Cooperative Extension
Lake Erie Regional Grape Program

PennState Extension

Lake Erie Regional Grape Program

Jennifer Phillips Russo and Dan Sprague in the vineyard- *photo credit, Kim Knappenberger*

LERGP H-2A Information Newsletter

Building Strong and Vibrant New York Communities

Diversity and Inclusion are a part of Cornell University's heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities.

In this Issue:

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The Lake Erie Regional Grape Program is a partnership between Cornell University, Penn State University and the Cornell Cooperative Extension Associations in Chautauqua, Erie and Niagara County NY and Penn State Extension in Erie County PA.

H-2A Meeting

Where: CLEREL
Time: 9:15am-12:30pm

July 11, 2022

AGENDA:

9:15 Coffee and light food

9:30 – 10:15 Round-table – Andy Knight, Andrew Nichols and more
Grower Experiences with H-2A Labor

10:15 – 10:45 F. Brandon Mallory Specialty Crop Farm Labor Contractors, LLC (SCFLC)
Farm Labor Contractors and H-2A

10:45 – 11:00 Break

11:00 – 11:15 Kevin Martin
State of the Labor Market

11:15 – 11:45 Harris Beach LJ D'Arrigo
H2-A Regulations and Filing Process

11:45 – 12:15 Kevin Martin
Reducing Labor Requirements
in Grape Production

This event is FREE but please register so we know how many will be in attendance.

https://lergp.cce.cornell.edu/event_preregistration_new.php?id=559


Chautauqua County Farm Bureau®
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protect the future vineyards and
all farms in the Lake Erie Region
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Business Management

Kevin Martin, Penn State University, LERGP, Business Management Educator

Labor: Linking Decisions and Strategy to Cost

Approach labor costs with a chain, linking the costs to the strategy. As costs rise, the things we need evolve. As we've mentioned vineyard labor cost continues to rise. There are two ways to index prices to measure their rise. Traditional indexing would pool the common labor activities of vineyard management and measure changes in cost based on the assumption that practices are not evolving simply because the price of labor is changing. A chained index attempts to measure changes in price based on a more realistic world view. The chained index attempts to capture changes in labor cost as behavior evolves because of changes in price. What behaviors might evolve because of labor costs? Vineyard labor consists of both paid and unpaid labor. Unpaid labor, or the effort of the owner has decreased dramatically over the last 20 years. No, owners are not suddenly working less. Rather, the number of owners has fallen by nearly 50%. So unless you've upped your regular work week from 80 hours to 160, the amount of unpaid labor per acre has declined because all of the unpaid owners are managing more acres. Running a harvester, for example, was almost always unpaid labor 30 years ago. On a per acreage basis, there is a significant amount of acreage that pays even the harvest operator. As labor prices rise we would expect much slower change in activities that are unpaid. While the operator may be working for less than minimum wage, at least he isn't violating laws to do it.

Potential savings for mechanical pre-pruning

Pruning and renewal work represents about 70% of labor costs before mechanization. After mechanization, that drops to 60% of total labor cost.

From a cost perspective, mechanical pre-pruning savings vary significantly from farm to farm. Per vine costs for hand follow-up range between $0 and $.44 per vine. While some vineyards realize no savings, most save about $90 per acre with effective training and the right workforce. Increased cost in other practices generally reduce gross savings from $120 to a net savings of $55 per acre. Savings do vary based on market as well. Below is a discussion regarding cost and strategy changes that come along with pre-pruning.

Capital investment for mechanical pre-pruning is extremely small relative to saving. It is why we have seen a majority of owners (measured by acreage) at least experiment with the practice. More important than the actual machine, is the comprehensive change in management strategy that has to be effectively implemented to get the same results.

The biggest challenge is effectively developing and maintaining a supply of paid labor to efficiently complete hand follow-up and renewal activities. Higher hourly rates for hand pruning usually incentivize paid labor away from mechanically oriented operations. Maintaining reliable labor force will be more expensive. Growers may also need to plan on more pruning rehabilitation efforts, depending on the extent of the hand follow up that is completed annually.

Disease and insect pressure has the potential to be harder to control in these systems. Budgeting at least $60 per acre seems to be effective in many years. For $60 a grower can make an additional spray application with highly effective materials in the post-bloom period. Effective canopy coverage may be very difficult and it is somewhat more likely that pressure can get out of hand as late season

spray coverage is even less effective at cleaning up early season misses.

Mechanical pre-pruning may also result in an overhaul in crop load management strategies. With less actual cash being spent on managing crop, growers may push bud counts and yields higher. This is not a requirement of a mechanical strategy but it can be effectively implemented to increase average yields. If higher yields are part of the strategy, more frequent fruit thinning will also need to be budgeted for. Net revenue is highly variable because of a complete shift in risk management. In general, it should be possible to ripen at least an extra 2 tons per year, on average. The added expense being fruit thinning at least once every five years. Effective implementation will take into account vine size and health as well as site specific risk like the probability of a spring frost event. It is possible to implement this strategy without mechanical pre-pruning and increases in net revenue do not tie directly to the labor savings.

Potential Savings for multi-row equipment

Typical total labor cost for a farm that has not increased labor efficiency since 1995 is approximately $575 per acre. Where all possible tasks have transitioned to large multi-row capabilities, labor costs have fallen to approximately $515 per acre. Yield, vineyard passes and year to year variation can change these costs and these represent costs in a year with average conditions. With some fairly significant capital investments labor costs can drop by about $60 per acre. Cost of obtaining operators skilled enough to operate variable rate equipment does vary. While some owners see no increase in hourly rates, others have seen significant increases. While the average savings is $60, knowing the capabilities of existing employees will help you understand if you will save more or less than average.

The savings of multi-row equipment is very farm specific and does tend to favor the very large and sometimes very small farms (with less expensive custom applications). It is particularly important to look and individual farm practice and when size justifies an upgrade typically that upgrade should be fairly well timed with both high income years and the normal cycle of equipment replacement. Older newsletter articles have dealt in this specific topic in more detail and can be found on our website. There have been some changes in the market since those articles were written.

- Multi-row fungicide sprayers are much more available in the used equipment market.
- The cost of new single row sprayers has increased in price much faster than multi-row sprayers.
- Developments in multi-row trellis equipment have expanded significantly in the last five years.
- Tractor and skid-steer mounts have increased the commercial availability of these post driving units and increased the speed of the operation.
- In NY the 7-day work week for over-time rules may help justify multi-row fungicide equipment

For growers that have been on the edge of transitioning an additional practice to multi-row, these factors may impact the expected return on investment going forward.

Bulk Harvest Cost

Harvest labor represents a significant portion of total labor costs. Whether an operation is hiring a custom harvester or doing it himself, the grapes need to pay for the labor required to complete harvest. A few factors have changed the cost of adopting bulk harvesting. In particular, changes in NYS regulations, like overtime, that are easily avoidable will not be so avoidable during the harvest

season. Also, USDA can provide inexpensive financing for the purchase of bulk equipment. The capacity limits for a minimal venture into bulk harvest would involve two field gondolas and two bins for a flat-bed trailer. Total upfront cost of the equipment is $55,000. This investment would provide enough capacity to harvest 1,300 ton of grapes in a season with a crew of 3. Farms with a close proximity to a processing facility would likely find such an investment would provide enough capacity to harvest 1625 tons per year.

For farms harvesting more than 175 acres of grapes, the capital investment would increase to $83,000. By adding two bins to equip a second flat-bed trailer the capacity of the operation would increase to 3,100 tons per year. This would still be accomplished by a crew of 3.

Theoretically additional trailers would be needed to service plants that did not accept bulk and the cost of that would depend on the split the grower has between markets and how many trailers are necessary. Additionally, significantly more trailer bins would be required if distant plants began to accept bulk (i.e. Gallo). For the time being these numbers make sense for anyone within the Lake Erie Region other than Niagara County growers.

If two flatbed trailers do not max out the capacity of a single harvester, three certainly would. Growers delivering grapes in the same or adjacent counties would have no need to own more than 3 bulk trailers and in almost all cases two would be adequate. For large operations the time spent securing loads adds enough turn time to each load that one less trailer is needed to haul the same amount of grapes per week. The average harvest crew brings in under 1,000 tons per year and the investment of 43,000.

USDA offers low interest financing for bulk harvest equipment as it qualifies for the on farm storage Facility Loan Program. Loans have an application fee of $100 and 15% down. Annual payments would be just under $4,000 per year given current interest rates. Assuming a 5-week harvest program, reducing harvest labor by 40 hours per week would justify the $43,000 investment. https://www.fsa.usda.gov/Internet/FSA_File/frm_storage_facility_lns.pdf

While the capacity of this investment is a harvest of 1,300 tons, breakeven is a different story. Break-even is likely around ½ of that at 700 tons harvested per year. This is a conservative estimate and bulk harvesting offers more savings in extreme years. Savings will be greater than $6 per ton when yields are below 3 or above 8. At very high yields speed and capacity increases result in more savings and truck turn times become more important. At very low yields harvest crews can be reduced even further.

It has probably been said too much over the last three years but labor prices are edging higher. Often the analysis of labor savings technology is based on the current price of labor. It is important to keep in mind, when technology eliminates the need for labor that cost becomes somewhat fixed for the life of the equipment. More importantly, current trends show much of this technology to have price inflation significantly lower than labor. Investments that look good now will look even better with hindsight as labor prices rise much faster than 2%.

Many growers have done some or all of these things already. As the largest growers wear out these expensive investments all of these labor saving ideas can save more labor (with more money). Multi-row pre-pruners, GVWR trucks at 100,000lbs, and 4-6 row sprayers are pushing the cost and engineering further.

H-2A: A Non-Exhaustive List of What It Takes

Kevin Martin

This article focuses on a non-exhaustive list of H-2A requirements. Experts in the field can provide specific information, such as when job descriptions veer too far from agriculture or exactly what housing requirements entail.

Recruiting

Jobs first need to be offered to American workers. H-2A jobs no longer need to be advertised in print media, as before. The costly method of recruitment has not been effective for decades and rules were finally updated in 2019. The Department of Labor advertises jobs at seasonaljobs.dol.gov
Recruitment must be focused on seasonal jobs and must be temporary in nature. Permanent jobs are not eligible for H-2A. This has always been a problem for dairy, as many labor needs are constant and cows are milked whether it is December or June. Grape labor needs are much more seasonal in nature. Labor issues begin with Harvest in August or September and extend through the dormant renewal season until early or mid-spring.

Wage Rates for H-2A

Jobs cannot adversely (decrease) U.S. wages for similar jobs.
In order to prevent harm to wage rates the DOL implements the adverse wage rate. This is the minimum wage for workers. It ensures H2-A workers are paid at least as much, if not more, than local workers. Given the other requirements of the program this means that H2-A workers will always cost more than local workers. The purpose of the program is to supply workers when there is simply a lack of skill and ability.
Adverse wages will continue to rise as farm wages rise. While not directly linked to minimum wage, to the extent that minimum wage impacts workers, it can raise the adverse wage.
Adverse wages have gone up significantly in PA. They're rapidly catching up to NY. This indicates, to me, that farm wages are also catching up. The lower minimum wage in PA is no longer providing significant cost savings for labor. As these wage rates are linked to the labor market, these rates should continue to rise.

State	AEWR
Average	$15.03
New York	15.66
Pennsylvania	15.54
Ohio	15.89
Michigan	15.37
Washington	17.41

Figure *1*: Adverse Wage Rates

H-2A employers must guarantee to offer each covered worker employment for a total number of hours equal to at least 75% of the workdays in the contract period." For example, if the contract includes 10 hour workdays, 6 days a week for 15 weeks, the worker would need to be guaranteed 675 hours of work.

Transportation

Employers are required to provide transportation free of charge to H2-A workers. This transportation includes local transportation to worksites, housing and stores. Insurance will likely need to be changed so that drivers and vehicles are properly ensured for this transportation.

Inbound and Outbound Travel

Most H-2A workers have inbound and outbound travel arranged for and paid by the employer. Technically the employee can pay for these expenses but must be reimbursed once the contract is 50% complete. Outbound expenses must be reimbursed at the conclusion of the contract. By following H-2A rules to the letter, FLSA can be violated and minimum wage rules may not be met. This, among other reasons, is why the reimbursement for inbound travel is usually avoided in favor of

employer sponsored travel.

Housing

Housing must be provided to workers. There are a number of requirements involved in housing and inspections are to be expected. One could summarize the housing requirements as a generally okay place to live with certain safety regulations that might not be available in your personal home. Also, there is more responsibility on the employer in regards to cleanliness as compared to a landlord. The following are a few examples of requirements to highlight this more general observation.

- Safety
    - Fire Extinguisher properly charged in kitchen
    - Up to date first aid kit
- Housing
    - Screens on all doors and windows
    - Well maintained exterior
    - Laundry facilities on site
- Bathrooms
    - Gender separation
    - Clean and functional
- Bedrooms
    - 40 – 50 sq ft
    - Gender Separation
- Kitchen
    - Stove
    - Fridge
    - Reasonable items needed for cooking and eating
    - Avoid storage near heat

One take-away from all of this is that H-2A is not easy. One might even go as far to say that H-2A should be avoided at all costs. So what is the point of this July meeting, anyway? The point is, there is real chance in the medium term this is the only legitimate option. An experienced grape pruning crew will always be less expensive than the H-2A model. Do not fire them and get H-2A workers, not only is it illegal, it will cost you significantly. No, the point is that we simply no longer have enough experience to fill our labor needs locally at current pay rates. There is strong evidence that higher pay rates may also not provide a complete solution in the years to come.

Another take-away from these requirements, you can do this. This might not be fun or inexpensive but it is not an impossible task. While we think hand follow-up costs might rise to 65 cents with H2-A and then fall as your workers gain experience to 30 cents, at least grapes are getting pruned. We know pruning and renewal work is critical to long-term profitability and sustainability. H2-A is a very good option when other options are exhausted; as is rapidly becoming the case.

March 2019 **EB 2019-01**

The State of the Agricultural Workforce in New York

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Introduction

The agricultural workforce is critically important to the current and future success of New York's agricultural industry and, by extension, rural communities across the state. The workforce is very diverse with people from many cultures, languages, experiential and educational backgrounds, and job types all contributing to the agricultural economy and to our local, regional, and international food networks. This publication summarizes the current state of New York's agricultural workforce based on available data, research reports, and the knowledge of the authors. It also provides a brief review of previous research into the effects of new overtime requirements.

Why is Agriculture Important?

Agriculture contributes over $5.4 Billion dollars to the New York State economy (DiNapoli, 2015). Most of that income is concentrated in rural areas of the state that may lack other sources of income. The money is circulated in small towns and communities where it supports other businesses and jobs. Farms directly create jobs in rural communities, and support other economic activities that create even more jobs. Of course, the farms of New York produce fresh, quality, local food to support the health and well-being of all New Yorkers.

Why is the Agricultural Workforce Important?

Modern agriculture depends on people to make it run. From large dairy operations that help to grow our yogurt industry to local vegetable farms that depend on seasonal labor, the agricultural workforce is essential to farms of all kinds in our state. Farms differ dramatically in how much labor they use depending on their type of production. Fruit and vegetable farms depend on more labor than dairy farms and much more than grain farming. Table 1 depicts how labor makes up a different share of total operating expenses for different types of farms. Nurseries, fruit, vegetable and dairy farming are all important in New York and highly dependent on labor, beef cattle ranching and grain farming are more typical of Midwestern states, more mechanized and less dependent on labor.

Table 1. Labor's share of operating expenses for selected agricultural sectors in the U.S. (Zahniser, 2018).

Sector	Share of total operating expenses		
	Contract labor*	Hired labor	Total (contract plus hired)
Greenhouse, nursery, and floriculture production	2.8	37.6	40.4
Fruit and tree nut farming	14.7	24.0	38.7
Vegetable and melon farming	8.3	18.8	27.1
Dairy cattle and milk production	0.5	9.6	10.2
Beef cattle ranching and farming	1.0	4.9	5.9
Oilseed and grain farming	0.5	4.0	4.5

* Contract labor is defined as workers indirectly hired through farm labor contractors.

What Types of Farm Employers are in New York?

According to the 2012 USDA Census of Agriculture (www.nass.usda.gov), the most recent data available, New York had 35,537 farms, with 18,652 in crop production and 16,885 in animal production. Most farms in the state (34,356) were family-owned and family members worked in all types of positions. The state's farms were operated by 55,970 principal farm operators, and of that group 37,220 were men and 18,750 were women. Over 12,000 of them were younger than 44 years of age. Table 2 provides a summary of the 35,537 farm businesses in New York by farm type, quite small operations such as small hay farms are included in this data and account for the relatively large number of "other crop farms."

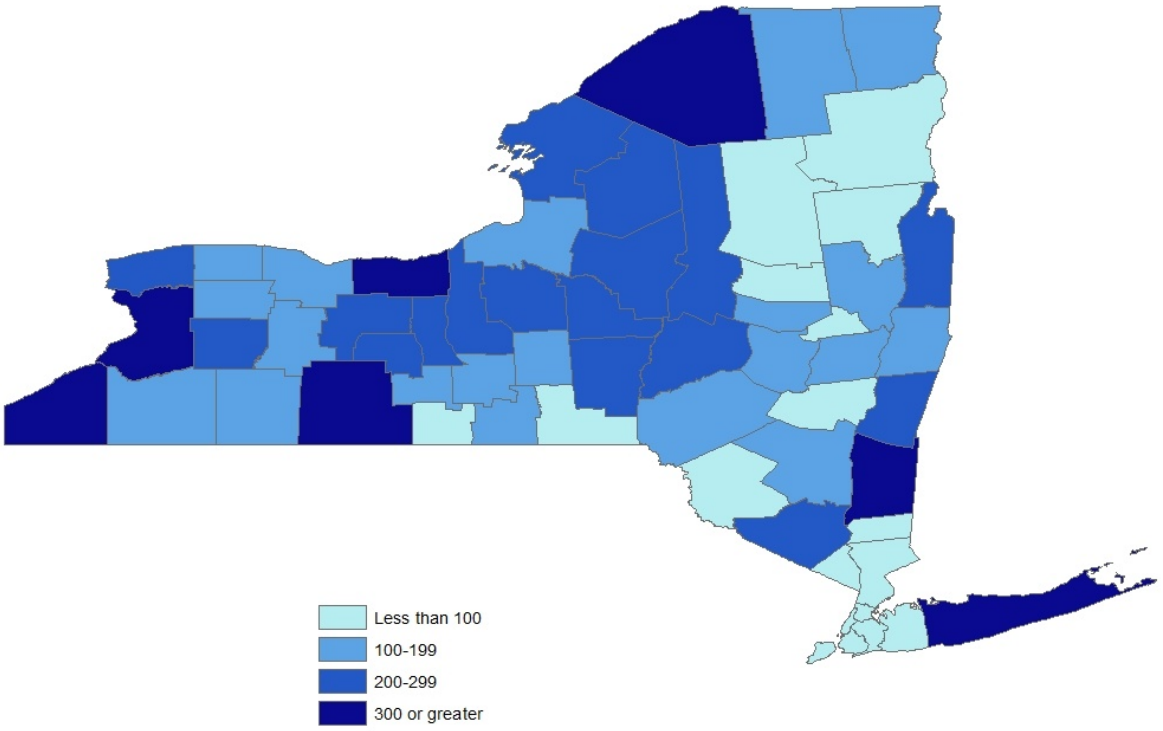
Table 2. Number of farms in New York by farm type. (2012 USDA Census of Agriculture)

Farm type	Number of operations
Other crop farms (includes hay farms)	9,335
Dairy farms	4,694
Beef farms and feedlots	4,596
Horse farms	4,079
Oilseed and grain farms	2,686
Greenhouse, nursery, and floriculture operations	2,322
Fruit and tree nut farms (includes grapes)	2,278
Vegetable and melon farms	2,031
Sheep and goat farms	1,120
Poultry and egg farms	882
All other animal operations	846
Hog farms	422
Apiculture operations	187
Aquaculture farms	59

Not all types of farms depend on hired farm employees in the same way. As we learn from Table 1, greenhouses and nurseries, fruit, vegetable, and dairy farms all have relatively high expenditures for labor and these industries also have the largest numbers of hired farm employees. Farms that produce commodities such as hay and grains are more mechanized and less dependent on labor.

Figure 1 provides a visual display of how the number of farm operations with hired farm employees are distributed across the state. The darker shaded counties represent those with higher numbers of farm employers and roughly correspond with concentrations of dairy, fruit, vegetable, and nursery operations.

Figure 1. Number of farms with hired farm employees. (2012 USDA Census of Agriculture)



What is the Nature of Farm Jobs in New York?

Farms in New York vary in the types of jobs they offer. The size of the farm business and the kind of products grown or produced are major factors determining the nature of the workforce. Farms are small businesses and they typically offer jobs that fit into three general types: senior- and middle-managers, and frontline employees. Senior managers are often also owners and they are responsible for overall strategy and management of the business. Middle managers are skilled employees who use their specialized knowledge and make decisions in the production of crops and livestock, they often are responsible for supervising other employees. Senior- and middle-managers are usually year-round jobs on all types of farms.

Frontline employees perform most of the physical and hand labor that farm work still requires. In dairy farms most frontline jobs are year-round but there are also some jobs in crop production that are more seasonal in nature. In fruit, vegetable, and crop farms many frontline jobs are seasonal. For example, an apple orchard may have a small group of workers who start production by pruning trees in February and March, then continue with fertilizing, spraying, and other general farm tasks in the spring and summer months. Apples become ready for harvest and packing in the fall, but harvest is too much work for the small group of employees who started in late winter and worked through the summer. A large group of employees must be assembled in the fall to harvest apples and other tree fruits. Vegetable farms may need a relatively large group

of employees starting in the spring for field preparation and planting, and that large group may be needed all summer and into fall for ongoing weeding, spraying, fertilizing, harvesting, processing and packing of the vegetables.

What are the Sources of Hired Farm Labor?

While most farms are family owned and operated in New York, the families do not provide all of the labor. Like other small businesses, farms grow over time to stay competitive and help meet the business goals of the family. This growth creates jobs and stimulates economic activity, a critical process for rural communities that have a limited number of employment generators. The farm workforce is not measured by the U.S. Bureau of Labor Statistics so we must rely on other sources to help describe it. Again, the best source is USDA's Census of Agriculture. Table 3 is a snapshot of hired farm labor in New York.

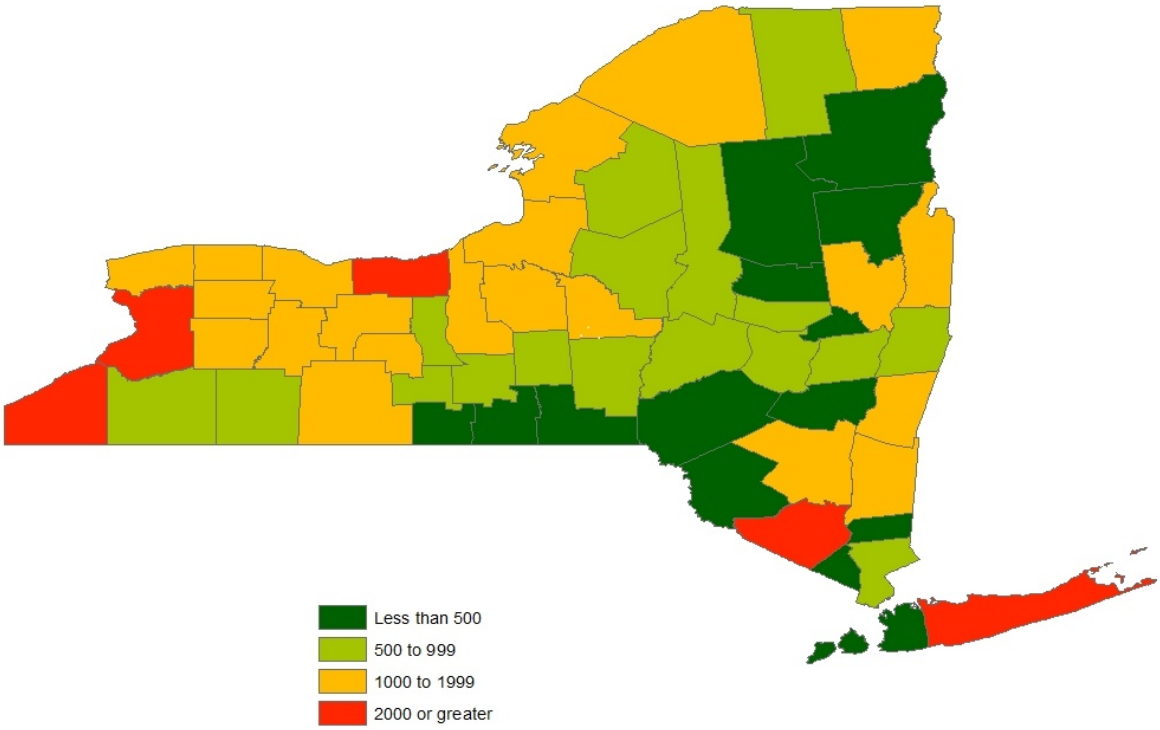
Table 3. Hired farm labor in New York (2012 USDA Census of Agriculture).

Labor type	Number of farms	Number of workers
Hired farm labor	10,345	60,944
Hired workers employed 150 days or more	5,990	27,148
Hired workers employed less than 150 days	7,304	33,796
Migrant labor on farms with hired labor	807	Data not available
Migrant labor on farms reporting only contract labor	48	Data not available

Note: Migrant farm labor means that the employment required travel that prevented the worker from returning to his/her permanent residence on the same day.

Figure 2 below provides a visual representation of where the highest numbers of hired farm employees are concentrated and how workers are distributed across the state.

Figure 2. Number of hired farm workers in New York by county. (2012 USDA Census of Agriculture)



Local Labor

Local labor is a very important part of the agricultural workforce. Many farms hire local employees for frontline and middle manager jobs. In many cases farms and organizations engage with local communities and organizations such as FFA (National FFA Organization, formerly Future Farmers of America) to create interest among young people in agriculture and build local job pipelines of new employees. Various efforts are underway to strengthen public knowledge of agricultural career opportunities and increase the flow of prospective farm employees. Cornell University has programs in place for dairy apprenticeships and for training employees in controlled environment agriculture. Cornell's Small Farms program provides leadership skills training in English and Spanish for prospective supervisors and has led efforts to help refugees find employment in agriculture. Finger Lakes Community College is offering an associate's degree in viticulture and wine technology to help develop the wine industry workforce.

Unauthorized Labor

Unauthorized labor forms a significant part of the agricultural workforce, the National Agricultural Worker Survey (NAWS) found that 49% of the hired crop workforce in the U.S. was not authorized to work (Hernandez & Gabbard, 2018). Farmers seek out any employees who are available in their local labor markets. There are many in the local labor markets who were

born in other countries such as Mexico and Guatemala. Farmers, like all other employers, must comply with the federal government requirement to determine that prospective employees are authorized to work in the U.S. If applicants are from another country but have documentation that authorizes them to work and they are qualified, then many of them will be hired on farms. Employers cannot legally discriminate against job applicants who appear to be from another country. In reality, many foreign employees in the domestic labor market have improper documents but employers must accept documents that appear to be authentic and relate to the job applicant.

The Pew Research Center estimates that unauthorized immigrants make up about 24% of the overall agricultural workforce in the U.S. (Pew 2018). We have no specific data for New York but we also have no reason to believe this percentage is greatly different in New York versus the U.S. as a whole. Pew also reports that the overall unauthorized immigrant population in New York declined by over 25% from about 1,000,000 people in 2007 to 725,000 in 2016. These trends help to explain farm employers' frequent observation that the availability of immigrant workers is much lower than in previous years.

Temporary and Seasonal H-2A Labor

Some farms, orchards and vineyards require a temporary or seasonal workforce. Examples include vineyards that need pruning during the spring and summer, orchards that need a large amount of help for the fall harvest, and dairy farms that need skilled machine operators and truck drivers for crop operations. If a farm can demonstrate that they have a labor need and can't find enough help locally, then they may qualify for a federal program to bring in labor from another country to meet the temporary or seasonal need. This long-standing program is known as the H-2A Temporary Agricultural Visa program (https://www.foreignlaborcert.doleta.gov/h-2a.cfm). New York has a long and often successful history with H-2A, it is common for some H-2A employees to return to the same farm for 20 or more years.

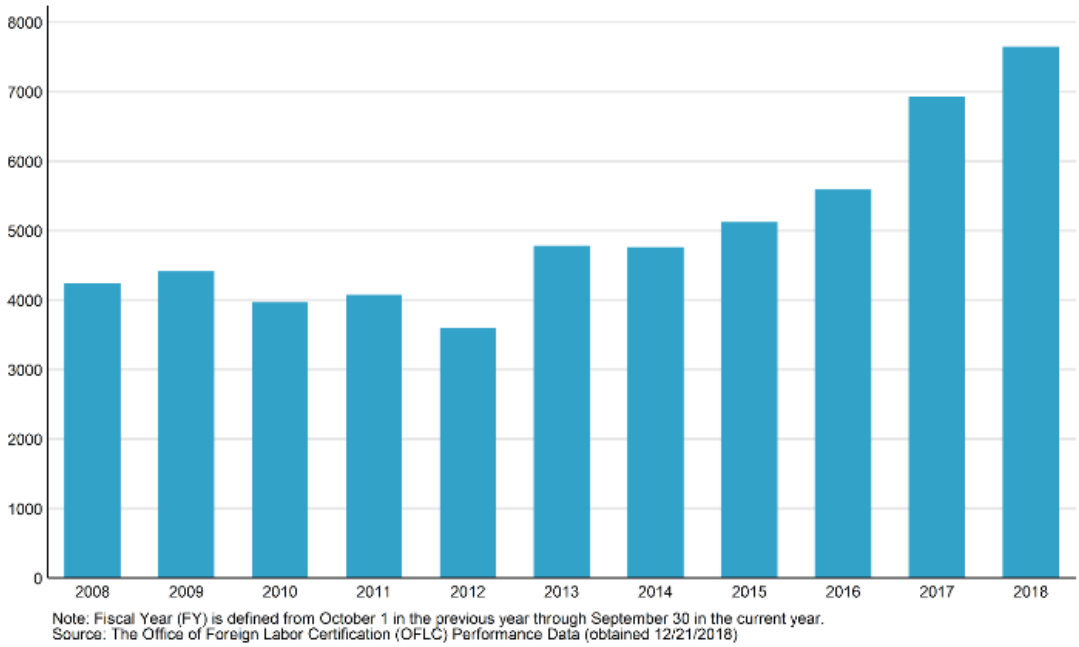
Growth of the H-2A Program

Given increasing labor shortages, New York farms are continuously seeking new labor sources. The H-2A program provides the only lawful admission to the U.S. for temporary, nonimmigrant seasonal agriculture workers. H-2A is not a simple solution for farm employers, it involves significant regulatory and administrative barriers that discourage many employers from using the program. These barriers include the requirements to document a labor shortage, state inspections of employee housing, the cost of recruiting foreign workers, federally mandated minimum wage rates, provision of all housing and transportation for employees while in the country, and transportation both from and to the home country at the beginning and end of the work period. In spite of these barriers, many employers say that the reliability of the H-2A workforce is worth the additional effort and cost.

The past 12 years witnessed a quadrupling of H-2A employment nationally (USDA-ERS, 2018). To better understand the impact of the H-2A program in New York State, we analyzed H-2A

applications using available data[1] from FY 2008 to FY 2018[2]. The number of H-2A positions approved in New York State increased by 80% from FY 2008 to FY 2018, as shown in Figure 3.

Figure 3. Number of H-2A positions approved to work on New York farms from 2008 to 2018.



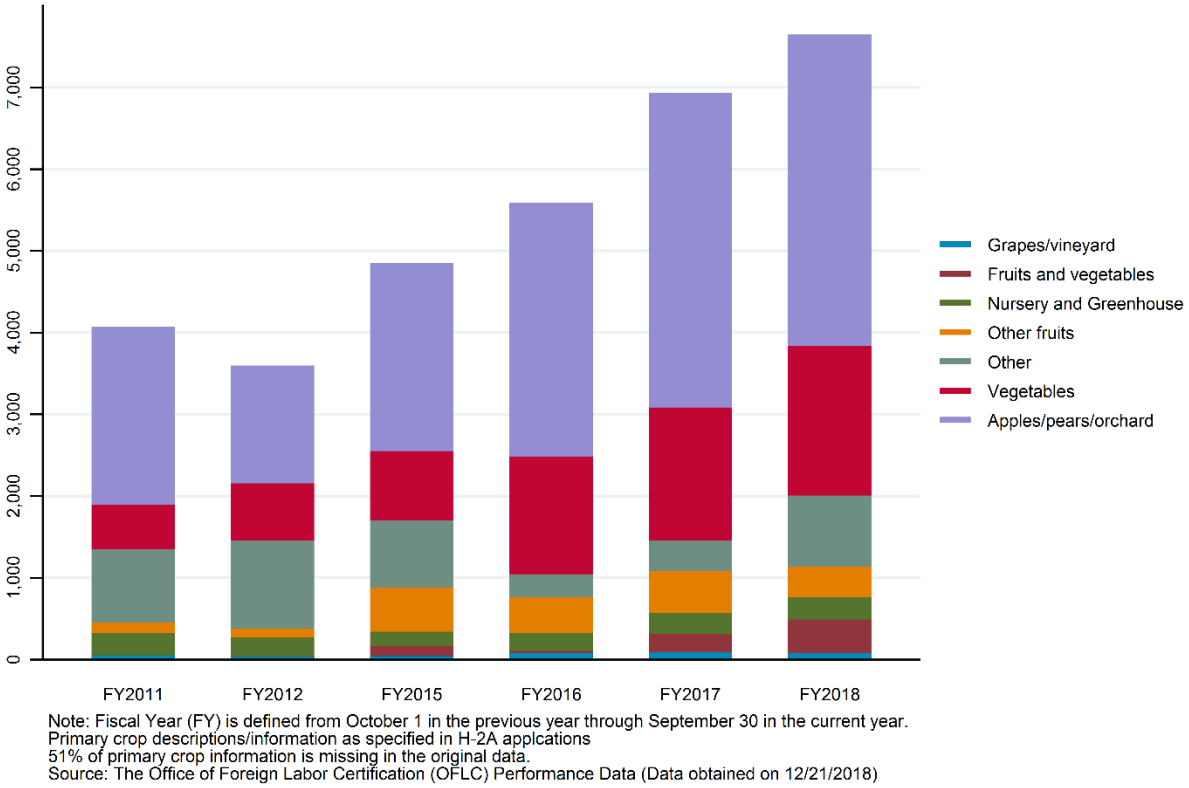
Note: Fiscal Year (FY) is defined from October 1 in the previous year through September 30 in the current year.
Source: The Office of Foreign Labor Certification (OFLC) Performance Data (obtained 12/21/2018)

The length of working period approved and rate of application approvals didn't change significantly over this time. Generally, time certified per worker ranges from five to seven months, and almost all H-2A applications (99% of total applications) were approved in the past 12 years. H-2A workers were employed in all of the leading fruit and vegetable crops in New York. Figure 4 presents the distribution of New York's' H-2A employees by the primary crop grown.

[1] Data Source: United States Department of Labor-OFLC Performance Data; United States Department of Agriculture-National Agricultural Statistics Service; New York State Department of Labor-Minimum Wage Standards for Farm Workers

[2] Fiscal Year (FY) is defined as from October 1 in the previous year through September 30 in the current year. Data obtained on 12/21/2018.

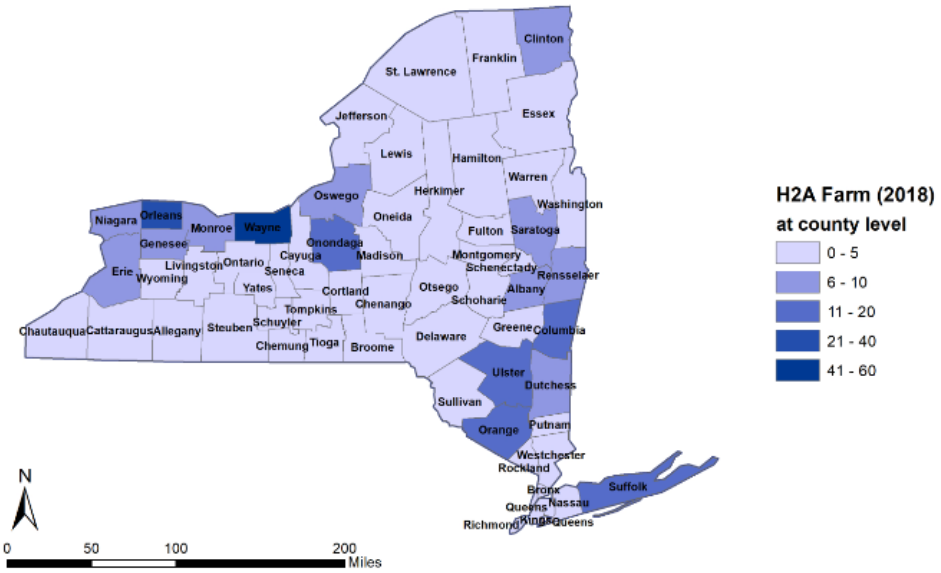
Figure 4. Number of approved New York H-2A employees from 2011 to 2018 by primary crop.



Note: Fiscal Year (FY) is defined from October 1 in the previous year through September 30 in the current year.
Primary crop descriptions/information as specified in H-2A applcations
51% of primary crop information is missing in the original data.
Source: The Office of Foreign Labor Certification (OFLC) Performance Data (Data obtained on 12/21/2018)

Farms that employ H-2A employees are found across the state but there are certainly counties with higher concentrations. Concentrations of farms using H2-A correspond with the fruit and vegetable producing regions as presented in Figure 5.

Figure 5. Map of New York farms using the H-2A guest worker program in 2018.



Note: Fiscal Year (FY) is defined from October 1 in the previous year through September 30 in the current year;
Source: The Office of Foriegn Labor Certification (OFLC) Perfromance Data (Data obtained on 10/01/2018)
Projection Infromation: NAD 1983 State Plane New York Central FIPS 3102 Feet

How are Farm Employees Compensated?

Farm employee compensation is a topic of much interest to farm operators, employees, and other stakeholders. There are several sources of data that help us to develop a clearer picture of farm employee compensation.

USDA's National Agricultural Statistics Services (NASS) publishes a farm labor report two times each year. This report includes wage rates for farm employees broken out by field and livestock operations and by region of the country. New York and the New England states make up the Northeast I region for this report. In the October 2018 report, NASS lists average hourly wage rates for Northeast I field employees as $13.58 and for livestock employees as $12.81. Note that this hourly wage rate reflects regular pay only and does not include the value of any bonus pay or benefits provided to employees.

Farm employers are, of course, subject to the same minimum wage laws as all other New York employers. Most farms are in upstate New York where minimum wage currently stands at $11.10 per hour, and in Long Island where minimum wage is at $12.00 per hour. These wages will continue to increase each year until they reach $15.00 per hour.

Farm employees typically receive a whole compensation package in addition to regular pay in the form of hourly or salary-based compensation. Total compensation includes any bonus or incentive pay received by employees and the value of other benefits received. In 2018, the Cornell Agricultural Workforce Development program conducted a benchmark study to better understand how farm employees are compensated. Data collection was open to farm employers

who wanted to participate and compare their compensation package to other farms. The study was not designed to be random or representative of New York farms but it does shed light on the typical compensation practices that farm employers use. Table 4 provides a summary of the total compensation packages, average hours worked, and calculated total compensation received by full-time frontline employees and managers in the benchmark project. (Access the full report here: http://agworkforce.cals.cornell.edu/research-reports/)

Table 4. Average tenure, compensation and hours worked for full time employees in the 2017 Farm Employee Compensation Benchmark.

	Employee type	
	Frontline employees	**Managers**
Tenure with current employer, years	7.2	11
Annual wages	$38,250	$47,881
Bonus or incentive	$1,440	$2,561
Total value of benefits	$6,758	$9,387
Total compensation	$46,399	$59,764
Total hours worked	2,787	2,696
Wages per hour	$13.93	$17.93
Total compensation per hour	$16.90	$22.48

H-2A employees are a special case as they are temporary contract employees, not regular "at-will" employees like most others. The U.S. Department of Labor calculates and establishes a minimum pay rate that is intended to discourage farm employers from bringing in low-paid foreign labor that would adversely affect domestic employees, this special H2-A wage rate is called the adverse effect wage rate (AEWR) and it varies by location across the country. For New York the 2018 AEWR was $12.83 per hour and the published rate for 2019 is $13.25 per hour (See U.S. Department of Labor's website: https://www.foreignlaborcert.doleta.gov/adverse.cfm).

How Many Hours Do Farm Employees Work?

Full-time frontline employees in the 2017 Farm Employee Compensation benchmark worked on average about 2,787 hours per year and managers worked about 2,696 hours per year. Based on 50 weeks worked in a year this would equal about 56 hours per week for frontline employees and 54 hours per week for managers. Some farm employees work far more hours, the highest reported employee had 4,242 hours in 2017, or over 80 hours per week (Stup, 2019).

In their 2016 survey of Hispanic dairy employees in New York state, Maloney, Eiholzer and Ryan (2016) asked employees three questions about the hours they worked per week: 1) how much they actually worked, 2) how much they would like to work, and 3) the minimum hours they need to work in order to keep them from looking for another job. They found that employees "insisted on working at least 57 hours per week, are actually working 67.2 hours per week, and would like to work 67.6 hours per week." Because the hours actually worked and hours they wanted were nearly identical, the researchers concluded that employees were already getting the number of hours they wanted.

Work hours in highly seasonal agricultural sectors such as fruits and vegetables are a special situation. Because of the perishable nature of these crops and the variability of weather, farm work sometimes must be completed when the opportunity is available. Consider vine crops such as summer squash for example, these crops must be harvested 2 to 3 times a week when they are ready (Schultheis, 2005). Fruiting crops such as apples and grapes are ready at optimal times, when the weather is right, growers must harvest no matter how many hours of labor it takes. Harvests delayed by labor issues can result in reduced farm profitability, lower quality produce, or even loss of an entire crop (Calvin & Martin, 2010). Even dairy farms that grow crops to feed their cattle must work long days when weather and crop schedules permit.

What Impact Might Overtime Have on the Workforce?

Given the seasonal demands of farming and reported worker demand (Maloney, Eiholzer and Ryan 2016), many farm employees work more than 40 hours per week and would be affected by overtime regulations. If overtime hours do not change, employees will receive higher income under mandatory overtime. However, if farms (1) decrease hours through downsizing or mechanization or (2) hire additional employees, the impact of mandatory overtime on take-home wages is indeterminate. Recent studies suggest that employers would be under pressure to take these types of actions under mandatory overtime, due to substantial decreases in farm income if hours were to be held constant. Wells and Ifft (2017) considered the impact of overtime on New York fruit farms and found that wages could increase up to 19 percent depending on rules and that farm costs could increase substantially. Farm Credit East (2019) recently estimated that farm income could decline over 23 percent due to combined minimum wage and overtime rules.

Although there is very little direct evidence from the farm sector, other studies have considered the impact of overtime regulations in other industries. Results are mixed--most research suggests a decline in hours worked with overtime legislation--with the main exception being a study using annual time series data from the 70s and 80s. Specifically, the increase in the proportion of employees covered under the Fair Labor Standards Act (FLSA), which requires covered employees to be paid more for their overtime, did not reduce overtime incidence and overtime hours in several industries, including agriculture (Trejo, 2003).

Hamermesh and Trejo (2000) found that the extension of overtime law to male workers in California in 1980 led to a substantial decline in daily overtime, but the agricultural sector was excluded from their analysis. To compensate for shorter workdays, California men worked more days per week according to data from 1973, 1985 and 1991. Supporting this, Friesen (2001)

found that overtime pay regulation leads to moonlighting by analyzing the 1997 Canadian Labor Force Survey. To compensate for declining hours, employees often respond by picking up part-time second jobs (Boudreaux, 2016). Likewise, farm employees may choose to work 2nd or 3rd jobs if there is a reduction in work hours with their primary employer. The German manufacturing sector data for 1994 and 1996 shows that overtime work responds to short-term shocks (Jirjahn, 2008). Despite new overtime regulations, overtime might still be used in response to short-term needs, such as harvesting.

Overtime laws may have a greater impact on minimum-wage employees, partially due to higher prevalence of a 40-hour work week in the U.S. (Trejo, 1991). This is especially true in the farm sector, where front-line employees often work in excess of 40 hours a week. Overall, the economics literature suggests that a variety of responses to overtime laws are possible. The net benefit to farm employees is uncertain over the long-run, given that reduction of hours or shiftwork is an option that farm employers may need to consider to remain profitable.

What is the Nature of Employer-Provided Farm Employee Housing?

Housing varies widely depending on the type of farm and type of labor used. Local workers who work year-round and in all sectors of agriculture most commonly do not receive farm employer-provided housing, they typically live in the local communities and find their own homes. However, almost 40% of full-time farm employees received farm-provided housing as a benefit in the 2017 Farm Employee Compensation Benchmark (Stup, 2019). Farms that have grown over the years often own adjacent farms that include a house, it is common for a farm employer to provide that house to a local employee as part of his or her compensation. It is also not uncommon for farm employers to assist their key local employees to finance and purchase a home of their own.

Foreign born employees often require employer-provided housing because they do not own a home locally and they frequently have difficulty finding properties to rent. It is now also a customary and long-established practice for farms to provide housing as an employment benefit for their foreign born employees. Maloney, Eiholzer, and Ryan (2016) found that among Hispanic dairy farm employees 79% had housing fully provided by the farm, 8.8% shared the cost of housing with the farm, and 12.2% provided their own housing. The quality of farm-provided housing varies widely. There certainly have been incidents of poor quality, farm-provided housing situations that have been reported in the popular press. Fortunately, this is not the norm, based on the author's own experience visiting farm employee housing, much farm-provided housing is of similar quality to other rental properties and some is newly constructed or recently remodeled and of excellent quality.

Housing provided for permanent, year-round farm employees is regulated by the building and fire safety regulations that govern most other types of housing in the state. Most housing problems stem from poor communication and unclear expectations between farm management and housing occupants (Dudley, undated). These communication problems can lead to serious issues such as poor housing sanitation and delayed property maintenance. Cornell Agricultural Workforce Development is working with the industry to develop training and management

programs that address the ongoing need for better housing management, maintenance and sanitation (Find more here: http://agworkforce.cals.cornell.edu/human-resource-management/worker-housing/). The Cornell Farmworker Program developed Creating Positive Workplaces: A Guidebook for Dairy Producers (Find it here: https://cardi.cals.cornell.edu/sites/cardi.cals.cornell.edu/files/shared/CreatingPositiveWorkplaces-AGuidebookforDairyProducers%20November%202017.pdf)

Housing provided for migrant and seasonal employees, including H-2A employees, is strictly regulated by federal and state laws. This housing must be inspected annually in New York either by the NY State Department of Labor for housing with 4 or fewer occupants or by the local or NY State Department of Health for housing with 5 or more occupants. Regulations of migrant and seasonal housing must meet standards addressing the size, capacity, facilities, safety, and sanitation. Part 15 of the New York Sanitary Regulations covers migrant farm worker housing (Access Part 15 here: https://www.health.ny.gov/regulations/nycrr/title_10/part_15/).

What Challenges Face New York's Agricultural Workforce?

In recent years, a number of factors have made it difficult to retain qualified, productive employees on New York farms. At the same time labor costs have steadily risen. Farm owners face a number of labor challenges related to operating their businesses and they are discussed here.

1) Tight Agricultural Labor Markets

Attracting a steady supply of reliable and productive employees is one of the greatest challenges facing U.S. agriculture today. Recently a number of factors have combined to make recruiting and hiring qualified agricultural employees more difficult. After the economy recovered from the most recent recession, job growth in the United States increased and the unemployment rate dropped steadily, ending 2018 at 3.9% and creating significant competition for employees (U.S. Bureau of Labor Statistics, https://www.bls.gov/cps/). Farm employers now find themselves competing with other business sectors such as construction and transportation where jobs are being added and wages have traditionally been higher than those provided in production agriculture. While agriculture has employed many workers from Mexico in the last two decades the numbers of these employees have diminished due to an improving Mexican economy and decreasing birth rates (CoBank, 2018; Zahniser and Taylor, 2018). In addition, border crossings of undocumented immigrants looking for work have declined dramatically as a result of stepped-up U.S. border enforcement and risks posed by dangerous drug traffickers. These difficulties in attracting and hiring qualified agricultural employees combined with a steadily increasing New York State minimum wage are likely to continue to put upward pressure on farm employee wages.

2) Local Employees Not Interested in Farm Work

Farm employers indicate that finding domestic, local employees to do physically demanding farm jobs is difficult. Farm employers report that when they advertise for local employees in their communities there may be no applicants. Even if local job candidates do apply, farmers

report that many don't stay on the job for more than a day or two. Consequently many farm employers believe that foreign-born employees are the agricultural workforce of the future and want to focus their efforts on identifying and hiring those who come to the U.S. legally (Maloney & Eiholzer, 2017). More work is needed to help the agricultural industry become more competitive in attracting and retaining employees from local labor markets.

3) Adoption of Labor-Saving Equipment and Technology

One approach to dealing with tight labor supplies and increasing wage rates is the adoption of labor-saving technology. For decades farmers have invested capital in equipment and technology to reduce labor costs and make farm employees more productive and efficient. Farm owners will continue to adopt technology and mechanize to reduce the number of hired employees required (Calvin & Martin, 2010). However not all farm employers will be able to take advantage of new innovations because of their cost to the business. Capital remains a significant barrier to entry with the adoption of new technology. To invest in new equipment and technology the farm business has to either find the capital within the business or borrow the money to cover the upfront costs of technology adoption. Not all farmers possess the capital or the borrowing ability to finance large investments in labor saving innovations. For example, a robotic milking system that will handle approximately 60 cows currently costs about $200,000 (Salfer et al., 2017). So, if owners of a 500-cow dairy wanted to install a robotic system to replace the current milking staff, the upfront capital investment in the milking equipment alone would be more than $1.6 million. Since not all farm owners can afford these investments, technology adoption is likely to be gradual and limited to those who can access the capital required.

Conclusion

New York's agricultural workforce is extremely diverse across a variety of dimensions: culturally, linguistically, in educational status, in skills demanded, in residential patterns, in work schedules, and in working seasons. Yet, all sectors of agriculture share a common difficulty in securing enough employees to meet the demand for frontline, middle-manager, and senior-manager positions. Supporting the agricultural industry and the many employees who earn their livelihoods from it is crucial to the well-being of New York's agricultural workforce, its farm businesses, the job-creating food industry, rural communities, and the many New York citizens who benefit from a safe and local food supply.

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OTHER A.E.M. EXTENSION BULLETINS

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2018-07	Production Agriculture Diversification for Each State in the United States		Tauer W., L
2018-06	Dairy Farm Business Summary New York State 2017		Karszes, J., Christman, A., Howlett, A., Knoblauch, W.
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The Cornell Lake Erie Research and Extension Laboratory Research Demonstration Day

AUGUST 2, 2022

Agenda

8:30 AM – Registration and Check In

9:00-10:45 AM – Welcome and Indoor Flash Talks

Dr. Terry Bates, Director of the Cornell Lake Erie Research and Extension Laboratory, will give the Welcome Opening, history of CLEREL, and Research Overview.

- Dr. Lynn Sosnoskie, Assistant Professor, School of Integrative Plant Science Horticulture Section Cornell AgriTech, will discuss her work with the weed precision spot sprayer.

- Dr. Rob Chancia, Post Doctoral Researcher, Rochester Institute of Technology, Chester F. Carlson Center for Imaging Science, to discuss work on sensor imaging for nutrient deficiency detection.

- Dr. Abhisesh Silwal, Carnegie Mellon University, Robotics Institute Project Scientist, will introduce his work with the robotic pruner.

- Nick Gunner, CEO, Chief Platform Engineer & Lead Designer for Orbitist, to discuss the **Efficient Vineyard Project** and the **MyEV tool**.

- Dr. Debbie Aller, New York Soil Health Alliance Extension Associate, will discuss sustainable soil management practices.

- Nicole Kubiczki, Resource Soil Scientist for the Natural Resources Conservation Service (NRCS), will discuss what to expect at our soil pits.

10:50-12:30 PM - Vendor Show and Lunch

12:30-4:00 PM – Afternoon Tour of Research Blocks and NRCS Gravel and Heavy Soil Pit Presentations

Register On-line Here

or mail in the hard copy form on next page.

2022 SUMMER DEMONSTRATION CONFERENCE REGISTRATION FORM

to be held at CLEREL
on Tuesday, August 2, 2022
Deadline for registration is Friday, July 29, 2022

Name (1st attendee) _____ **$**_____

Farm Name _____

Address, City, State, Zip Code _____

_____

Phone_____ **E-mail**_____

Are you enrolled in Lake Erie Regional Grape Program (LERGP)? **Yes**_____**No**_____

REGISTRATION FEES	
LERGP Member attendee	$ 25.00
Non- member	$50.00

Additional Attendees: (Member/non-member fees apply)

*Please add a **$10.00 late fee** for each reservation made after July 29, 2022.

TOTAL $_____

Please make check payable to **LERGP (Lake Erie Regional Grape Program)** and mail to:
(*US funds only*)

Kate Robinson
LERGP
6592 W Main Rd
Portland NY 14769

Name _____NY DEC/PA PDA NUMBER_____

Name _____ NY DEC/PA PDA NUMBER_____

Name _____ NY DEC/PA PDA NUMBER_____

Date Ck. Rec'd	**Amount**

Call Kate at 716-792-2800 ext 201 with any questions,
Or e-mail at kjr45@cornell.edu.

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