Summary of the 2024 Michigan State University Farm Labor Conference



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Summary of 2024 Michigan State University Farm Labor Conference: By Zachariah Rutledge, Anna Hooks, and Clare McGrady¹

On November 6th, 2024, the Michigan State University Department of Agricultural, Food, and Resource Economics held a farm labor conference to investigate labor challenges that domestic agricultural employers and employees are facing, discuss potential solutions, and provide Michigan's agricultural stakeholders with information and resources to help address these challenges. The conference was sponsored by the United States Department of Agriculture's Office of the Chief Economist (award number 58-0111-23-002), the Stephen B. and Karen L. Harsh Agribusiness Outreach Endowment, and the Elton R. Smith Chair in Food and Agricultural Policy.² One hundred and thirty individuals registered for the conference and roughly 100 guests attended in person.

The conference brought together academics, government officials, industry professionals, and stakeholders to discuss farm labor issues and potential policy solutions. The major themes of the conference were (1) agricultural labor supply and demographic changes within the farm labor force, (2) agricultural wage rates and the Adverse Effect Wage Rate (AEWR), and (3) farmwork health and well-being. The conference began with an overview of farm labor in Michigan, presented by Dr. Zachariah Rutledge. A diverse set of speakers provided local and national expertise, with presenters from universities around the country, Michigan farmers and state government officials, and USDA representatives.

The table on the next page summarizes the agricultural labor challenges that were discussed at the conference and the potential policy actions recommended by the speakers. A short summary of each speaker's presentation can be found on the following pages.

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² The findings and conclusions in this publication are those of the author and should not be construed to represent any official United States Department of Agriculture or United States government determination policy.

Challenges	Potential Policy Solutions
H-2A program costs	Housing benefit recognition system (e.g., tax credits)
Adverse Effect Wage	Cap AEWR growth and improve the survey used to construct the
Rate growth	AEWRs
H-2A processing	Prioritize H-2A visa appointments, increase availability of
challenges	appointments, and allow expedited processing for returning
	workers
Modernizing the H-2A	Reduce the recruitment period, offer a two-year visa, digitize the
program	application process, increase flexibility in contract assignment,
	and eliminate seasonality
Farmworker health and	Short-term: Increase rest times and greater access to shade and
well-being during	water, climate-controlled recovery areas, implement temperature
extreme weather events	thresholds, provide personal protection equipment and training
	opportunities
	Long-term: Develop adverse weather resilient technologies and
	automate the most high-risk tasks
Increasing agricultural	Utilize more mechanical aids like hydraulic platforms, conveyor
wages and higher farm	belts, and robot carriers; advance the development of new
payrolls	automated technologies
Nationwide farm labor	Proposed FWMA legislation would secure legal status for
shortages	unauthorized farmworkers, have them continue working on farms
	for several more years, and streamline the H-2A process
Lack of affordable	Seek out the National Farmworkers Job Program and reach out to
housing, access to	state workforce agencies for assistance
workforce protections,	
and support for	
dependents	

 Table 1. Farm Employee and Employer Challenges and Proposed Solutions

Sarah Black: H2A Labor in Michigan

Sarah Black, Director of Business Operations for Michigan Farm Bureau and General Manager for Great Lakes Ag Labor Services, LLC, offered a summary of H-2A programs nation-wide, with a focus on H-2A usage in the Midwest and Michigan. Black summarized the H-2A program as a visa program established for a temporary/seasonal agricultural workforce. The H-2A program is supposed to serve as a supplemental labor source that does not have a set cap on how many laborers can be issued the visa.

Black discussed some of the H-2A visa program's requirements, which include paying a superminimum wage known as the Adverse Effect Wage Rate (AEWR), providing free housing that is inspected and licensed by the government, providing daily transportation to and from the worksite, and guaranteeing H-2A employees 75% of the contracted hours (known commonly as the "75% rule").

As shown in the graph below, the uptake of this program has been consistently increasing nationwide. In the Midwest, H-2A applications have grown by 126% and workers by 97% in the past five years. Black offered a snapshot of H-2A utilization in Michigan, where the Department of Labor has certified 570 H-2A applications and 13,507 workers. Overall, Michigan is the sixth largest H-2A state in the nation. 567 of the H-2A applications were submitted by individual employers, two by joint employers, and one by an association. Seventy-two percent of Michigan applications were assigned to the farmworker and laborer, crop, nursery, and greenhouse SOC codes, while 19% were assigned agricultural equipment operators, and the remaining nine percent fell into several categories.





Black provided details about the different types of H-2A application models, which are summarized in the bullets below:

- Fixed Site
 - Grower maintains control of the workforce
 - Grower pays fees and handles payroll
 - Grower handles day-to-day management
- Farm Labor Contractor
 - o Grower contracts with FLC for all employment services
 - FLC manages and controls workforce
 - Grower pays total payroll amount plus the FLC service fees
- Joint Employer
 - Multiple growers file application together and share fixed site fees
 - Each grower shares control of the workforce and the liabilities involved
 - Each grower must employ workers for a maximum of 34 hours per week
- Association
 - Multiple growers form an association
 - File one application
 - Workers work for any association member
 - Growers share liability

Black detailed several policy issues concerning the H-2A program, including the rising AEWR, visa processing challenges, and the need for program modernization. Black explained that the AEWR is currently on an unsustainable path, with a 60% increase over the last ten years, which is not in sync with the labor market. Black also explained that the AEWR outpaces other labor indices, as the Farm Labor Survey (FLS) was not designed as a wage discovery mechanism for the H-2A program, uses gross average wages instead of hourly wage rates, does not include employees of farm labor contractors (FLCs), and has questionable data validity.

Black highlighted the new issues caused by a 2023 AEWR rule, which resulted in the disaggregation of AEWRs and higher AEWRs for some H-2A employees. She predicts these issues will skew the 2024 data in FLS. Black argued the 2023 rule has created an unfair competitive advantage. Black recommended an immediate pause of AEWR, followed by fixing or replacing of the 2023 rule, such as introducing a limit or cap to the wage increases and taking steps to improve the Farm Labor Survey while ensuring better data quality.

Black also proposed solutions to increasing farm costs, H-2A processing challenges, and potential ways to modernize the program. Black recommended creating a housing benefit recognition system, where farmers would receive a tax credit or some other benefit to help offset H-2A program costs. To address processing challenges, Black proposed prioritizing visa appointments at consulates for visas targeted towards food security rather than tourism or other categories, increasing availability of appointments, increasing staffing for consulates, the Department of Labor, and the State Department to better handle growth of H (H-2A and H-2B) programs, and allowing expedited processing for returning workers.

In terms of modernizing the H-2A program, Black offered several ideas, including offering twoyear visas (instead of the current 10 month maximum), allowing for staggered H-2A employee arrivals, reducing the recruitment period, digitizing the USCIS application process, increasing flexibility in contract assignments, and eliminating the seasonality requirement. Black closed by highlighting the importance of food security and the contributions H-2A workers make to US agricultural production.



National Average AEWR (2005 – 2024)

Marcelo Castillo: Insights from ERS Research on the H-2A Program

Marcelo Castillo, Research Economist at the USDA Economic Research Service (ERS), shared insights from ERS reports that focus on the H-2A visa program. These reports explore how H-2A program usage varies across agricultural sectors, geographical locations, and the types of firms requesting H-2As. Castillo notes some limitations of these reports, which do not cover H-2A working conditions, demographics, or violations of employment agreements.

Castillo provided background information about the US farm labor supply, which appears to be declining. Seventy percent of agricultural labor is supplied by immigrants (primarily from Mexico), with approximately 60% being unauthorized. Produce, greenhouse/nursery, and dairy are the most susceptible to labor shortages due to the labor-intensive nature of the work.

Five states accounted for 51% of H-2A jobs in 2023: Florida, California, Georgia, Washington, and North Carolina. Increasing reports of farm labor shortages, rising wages, and increased utilization of the H-2A program all point to a falling labor supply. As shown in the graph below, H-2A certifications have increased eightfold since 2005.



Castillo also offered an overview of ERS report findings. He shared that producers of fruits and vegetables are now the top users of H-2A, increasing from 49% of total H-2A usage in 2010 to 67% in 2019, shown in the graph below. There were also considerable increases in labor-intensive field crops, such as tobacco, sugarcane, and seed corn. Greenhouse/nursery and dairy industries saw smaller increases, likely because these jobs tend to be year-round.



H-2A Workers by Sector (2010-2019)

Castillo discussed the farm-labor contractor (FLC) share in H-2A usage. As shown in the graph below, most H-2A growth stems from individual farmers and FLC employment, with the share of FLC employment increasing from 10% to 42% from 2006-2023. This share varies across states, with Florida FLCs certified to fill 36,000 jobs in Florida and 30,500 in other states in 2023 alone. Castillo ended by summarizing the geographical differences in the AEWR. Wages tend to be the highest in the Midwest and the Pacific Coast and the lowest in the Southeast. However, H-2A wages have increased across all states. On average, AEWRs have risen by about four percent per year.





Diane Charlton: Economic Viability of Robotic Fruit Harvesters to Reduce Large Seasonal Labor Demands: Analysis of Gala and Honeycrisp Apples

Diane Charlton, Associate Professor at Montana State University, presented research on the economic viability of robotic fruit harvesters. Charlton started off by discussing recent trends in farm labor supply and explaining that farmers are raising wages and attempting to adopt new labor-saving technologies to address labor shortage issues. Charlton mentioned that labor aids in the apple industry include technologies such as hydraulic platforms and asks whether robotic apple harvesters are economically feasible.

Diane's research compared net revenues per acre of Gala apples in the state of Washington using data from the 2019 production budgets and robotic performance measures taken from the literature. She calculated the amount per acre that farmers could pay to rent or buy a robot and break even by comparing those estimates to values obtained through hand harvesting.

Her findings suggest that Gala growers could spend \$248.42 per acre per year on a robotic harvester and obtain the same profits as a manual labor harvest. That translates to about \$80,000 for a 40-acre farm assuming amortization over a 10-year period. If wages rise by 25%, growers could afford a robot that is 127% more expensive without being made worse off. For varieties such as Honey Crisp, which are more prone to bruising, robotic harvesters would not be as profitable unless the robots are developed to become gentler.

Charlton performed back of the envelope calculations that suggest if only 90% of the fruit is detected by the robot, only 90% of what is detected makes it into the harvest bin, and only 90% of what makes it into the bin is marketable, the overall harvest efficiency is only 73%.

Jamie Clover Adams: Michigan Asparagus

Jamie Clover Adams, Executive Director of Michigan Asparagus, discussed the domestic specialty crop industry and how it has been impacted by changing labor markets. Clover Adams offered an overview of Michigan's specialty crop industry and economic significance, which is responsible for six billion dollars in economic activity and supports 40,000 jobs. This industry is comprised of fifty major fruits and vegetables, including, but not limited to, asparagus, broccoli, carrots, cucumbers, onions, zucchini, tomatoes, apples, and tart cherries. Despite this significance, Clover Adams pointed out that Michigan has lost 15,500 acres of specialty crop production between 2012 and 2022.

Clover Adams also discussed the challenges US growers face, including increasing labor costs, flat consumer demand, and increasing imports coinciding with domestic seasonal windows. Clover Adams detailed trends in the agricultural labor industry, such as a decline in local labor, increased H-2A usage, and higher costs associated with foreign labor and utilization of the H-2A program. She noted that labor is associated with 40-55% of production costs in specialty crop agriculture, notably higher than other industries. She further explained that Michigan's AEWR has also risen 60% over the past ten years, exacerbating the situation. These escalating costs threaten to make domestic agriculture uncompetitive.

Clover Adams explained that the share in imports has risen, accounting for 60% of fruit consumption and 40% of vegetable consumption nationwide. The competitive disadvantage US growers face due to higher labor costs and how the rise in imports has reduced profitability. The graphs below show how imported asparagus and blueberries there were from 2011 to 2022, which is significant.



Imports in the Asparagus Industry (2011-2022)



Clover Adams closed with recommended policy reforms. She highlighted how current agricultural policies were developed forty years ago and do not meet modern needs. She recommends a balanced approach to offer growers relief from rising labor costs and policies to protect domestic growers to ensure long-term US food security, as a heavy reliance on imports would leave the US vulnerable to international crises impacts on food growth.

Scott Prince: Croft Technologies

Scott Prince, CEO and founder of Croft Technology, a digital H-2A manager, gave a presentation about digital solutions to existing agribusiness issues. Scott highlighted the disparities in digitization between the agriculture industry and other industries. As shown below, agriculture falls last in the McKinsey Global Institute Industry Digitization Index.

Prince discussed the need for a more digitized workplace in farms and agribusiness, highlighting their company, Croft Technology, as a solution. Croft Technology is built with the H-2A visa process at the forefront. Its collaborative platform allows growers, H-2A workers, and H-2A agents to work together, saving time on compliance paperwork, employee onboarding, and other year-round tasks. He closed with a breakdown of the three pillars of Croft Technology: Connect, Business Intelligence, and Case Manager. Croft Connect allows for digitization of worker data and documents, while Croft Business Intelligence provides insights to optimize profits and productivity. Finally, Croft Case Manager automates H-2A processes and allows for easy access of client data and documents.

McKinsey Global Institute Industry Digitization Index



Alejandro Gutierrez-Li: Extreme Weather and Agricultural Labor

Alejandro Gutierrez-Li, Assistant Professor at North Carolina State University, presented on changing extreme weather conditions and their potential impacts on agricultural labor and the agricultural industry. Dr. Gutierrez-Li provided an overview of different extreme weather threats, including fires, heat waves, droughts, floods, hurricanes, and tornadoes. He outlined short-term consequences of these threats, including an increase in "unsafe" working days, where workers are either entirely unable to work or their productivity is reduced by poor environmental conditions. Long-term consequences of extreme weather events could include sizable production and economic losses, increased insurance costs, permanent land and infrastructure damage, and growers being pushed out of the industry due to loss of revenue.

Dr. Gutierrez-Li detailed why agricultural workers are at greater risk due to extreme weather. The nature of the work itself, including the need to be outside long hours, leaves agricultural workers more exposed to poor conditions such as low air quality and extreme heat. As shown in the graph below, many workers also do not have legal protections as they are unauthorized to work in the US. Other risks include a lack of formal safety nets, language and technological barriers, incentives to work long hours despite unsafe conditions, and a lack of regulations.



Gutierrez-Li proposed solutions to these risks, including the introduction of "abnormal shifts," increased resting time, greater access to shade and water, climate-controlled recovery areas, temperature working thresholds, provision of personal protection equipment, and training opportunities. For the long-run, he recommends developing adverse weather resilient technologies and automating the most high-risk tasks. He concluded by highlighting that extreme weather events are likely to become increasingly more common, and farm labor shortages are likely to continue being a major problem. However, he points out that general precautionary measures can be taken despite weather patterns being unpredictable.

Alexandra Hill: The US Farm Workforce Outlook

Alexandra Hill, Assistant Professor of Cooperative Extension at the University of California, Berkley, gave a presentation about changing labor patterns in the agriculture industry. She started with a current outlook for the domestic labor force, stating that domestic farmworkers will be increasingly expensive to employ and harder to find. She proposes the H-2A program as a potential solution to address worker shortages. However, high H-2A wage costs could reduce agriculture competitiveness, forcing employers to find ways to reduce labor and increase revenues.

Hill discussed why farmworkers are more difficult to find, highlighting that workers are more settled and that there are fewer new immigrant workers. Farmworker shortages are not due to farmworkers wanting to leave the industry, but rather to declining numbers of immigrant workers who are less migratory since they have US-born kids and are generally settled in the US. Additionally, the US farm workforce is aging and is not being replenished by young immigrant workers. Changing workforce trends in Mexico could have huge implications for the US

agricultural workforce. In 2022, 90% of the foreign-born workforce were born in Mexico. However, as shown in the graphs below, the Mexican share of the labor force engaging in agricultural work has been on a steep decline.



Percent of Mexican Workforce in Agriculture (1970 - 2020)

Hill pointed out that the US offers higher wages for Mexican farmworkers, with the minimum H-2A wage rate (\$11.99/hr) that is \$9.46 dollars higher than the maximum a farmworker could have received in Mexico in 2022. However, this may not be beneficial for US farm employers, as farm payrolls have risen by 236% in the past 20 years.

Depending on which state a farm is located, the increase in farm sales may offset or be eclipsed by increasing labor costs. In Michigan, farms have higher labor costs relative to sales when compared to the national average. This trade-off is also crop dependent, as payroll percentage of total farm sales is lower in the US than Mexico for oilseed and grains and higher for fruits and tree nuts. Hill predicts that labor costs will continue to increase as state and H-2A minimum wages continue to rise.

Hill closed by pointing out that production trends have been shifting to Mexico. As shown in the graph below, this is also true for exports to the US, as berry exports to the US from Mexico has increased significantly. However, for crops that the US has a growing advantage in, such as soybeans and maize, the US still dominates. Hill emphasized the fact that farm employees will be increasingly hard to find and more expensive, which creates a need for finding new workers, increasing productivity, and finding ways to replace workers through automation as well as increasing farm revenue.



Mexico Berry Exports to the US (1994 – 2022)

Margaret Jodlowski: Are Agricultural Wages Compressing?

Margaret Jodlowski, Assistant Professor at Ohio State University, gave a presentation about wage compression in the agricultural industry and its implications. She first offered background information about the issue, pointing out that labor shortages are receiving a lot of attention, and that the composition of the workforce is changing. She also discussed how she has received feedback including "good workers are leaving" and "all workers are costing more, including bad ones." She points out that this could mean agricultural wages are compressing. Jodlowski argues that compressed wage rates imply a disruption in the relationship between wages and worker quality and a change in the overall worker quality distribution.

She examines wage compression by observing the wage distribution using real wage decile ratios over time from occupational and worker level data sets (OEWS & NAWS). As shown in the graphs above, Jodlowski shows changing wage ratios for crop workers, equipment operators, and managers. Jodlowski offers one possible mechanism for the trend in wage compression: changes in skill distribution. As experience and education levels increase, so do wages. She closed with some key takeaways from her findings, including pronounced top-mid wage rate compression, particularly after 2020. Additionally, she notes there has been an acceleration in the mid-bottom wage compression, particularly in "skilled" positions. However, Jodlowski points out that we are

unsure how "good" workers respond to non-wage amenities and if there is an effective policy response to this issue.



Wage Ratios for Agricultural Crop Workers

Wage Ratios for Agricultural Equipment Operators





Wage Ratios for Agricultural Managers

Michael Marsh: Farm Labor Scarcity and Food Security in the United States Michael Marsh, president and CEO of the National Council of Agricultural Employers, discussed changing wage rates in the agricultural industry. Marsh first looked at differences between the US AEWRs in different states compared to other wage averages for farmworkers internationally. These differences are highlighted in the graphic below, showing that AEWRs are consistently higher than competing international wage rates.



Marsh compared wage rate increases with the Employment Cost Index (ECI) and the Consumer Price Index (CPI) increases, showing that the average AEWR increased at a consistently higher rate than the ECI or CPI. Marsh discussed political impacts on wage rates and different litigation that has occurred surrounding the issue, including the Department of Labor's Worker Protection Rule. He closed with a graph depicting trends in food insecurity from 2013 to 2023, as shown below, suggesting that food insecurity has risen in the face of rising labor costs.



Philip Martin: Farm Labor - Machines, Migrants, and Imports

Philip Martin, Professor Emeritus at the University of California, Davis, gave a presentation on changes in the farm labor system and potential policy impacts with a focus on mechanization, rising labor costs, and imports. He opened by projecting potential increases in hourly farm earnings as compared to nonfarm earnings, showing that farm earnings are projected to be 65% of nonfarm earnings by 2030 (see graph below). He also discussed how shrinking labor supply but a consistent demand for agricultural products has driven up wage costs. He highlighted the demographics of farm laborers, with roughly 80% of farm workers being born in Mexico and 50% being unauthorized to work in the US. Out of the two million Mexican-born workers, 300,000 of them are employed through the H-2A visa program.

Along with wage increases, Martin predicts that labor outsourcing through FLCs will increase, making FLCs harder to regulate and H-2A workers harder to protect. He also predicts settled farmworkers will work longer and US-educated farmworker children will climb the US job ladder instead of becoming seasonal farmworkers. He highlighted potential issues with utilizing FLCs, for example, while FLCs could increase efficiency of worker-job matching, it could also function as a risk absorber for labor law violations.



To address rising labor costs, Martin proposes that three solutions will emerge: more machines, more migrant H-2A workers, and more imports. He discussed different robot pickers, including strawberry harvesters and apple pickers, as well as their challenges. In the graph below, he offers a "break-even" point on substituting manual labor with mechanization in harvest, suggesting at a certain wage rate, it would make sense to mechanize highly labor-intensive tasks. He also discussed other mechanical aids, including hydraulic harvest platforms, conveyor belts, and robot carriers.



Martin notes that H-2A jobs are concentrated in the Southeast, but half of domestic farmworkers hired are in western states, with California and Washington making up 45 percent of these hires. He shared information about the benefits of hiring H-2A workers, such as higher productivity than domestic workers, no social security tax, and more loyalty to their employers. He explained how with rising H-2A utilization, the Department of Labor (DOL) has gone on to pass several regulations, including disaggregated AEWRs for higher skilled occupations and new worker protections. Along with the DOL, the Farm Workforce Modernization Act (HR 1603) passed the House in 2019 and 2021, proposing immigration channels for unauthorized farmworkers, a

streamlining of the H-2A program, and having farmers use E-Verify to check the legal status of newly hired employees.



H-2A Visas and Jobs Certified (2013 – 2024)

Martin closed with a discussion of imports, pointing out that 60% of US fresh fruit and 40% of fresh vegetables are imported, with the majority of these imports coming from Mexico. Mexico's main exports to the US include tomatoes, avocados, and berries. However, Mexico is also a major exporter of cucumbers, asparagus, broccoli, strawberries, and lettuce to the US.

Andrew Padovani: The Changing Farm Labor Force – Data from the National Agricultural Workers Survey

Andrew Padovani, JBS International Director of the National Agricultural Workers Survey, presented on changes in the agricultural labor force. He provided background about the survey itself, which is as a national survey of crop workers that excludes H-2A workers and is the primary source of national and regional information about crop worker demographics, employment, and health.

Padovani discussed the changing demographics of farmworkers, as highlighted in the graphs below. Crop workers are aging, with about half of crop workers aged 39 years or older. Additionally, crop workers 34 years and older are working more than their younger counterparts. The share of workers by type of work authorization is also changing. While unauthorized workers continue to be the largest group, it is starting to shrink. In general, fewer crop workers are born in Mexico, with an increasing share of workers coming from Southern Mexico and fewer from North Mexico.



In the 1990s, farm workers authorized under IRCA worked relatively more farm workdays than other groups. However, today, unauthorized workers work relatively more. Workers legalized under IRCA are the oldest workers, but as shown in the graph below, unauthorized workers are also aging. In the 1990s, one in three workers were new to farm work. This number has declined in recent years, with only one in seven workers being new to the industry.

2002-2005

Family program

2006-2009

Period

2010-2013

Other work authorization

2014-2017

2018-2022

Unauthorized

1998-2001

IRCA Legalized

1994-1997

15

1989-1993

Citizen

Hugo Pantoja: Michigan Department of Labor & Economic Opportunity, Workforce Development: Agricultural Employment Services

Hugo Pantoja from the Michigan Department of Labor and Economic Opportunity presented on the tenets and challenges faced by their organization, as well as the National Farmworkers Job Program (NFJP) implementation and offerings. He provided some legal background about issues they seek to address and highlighted a ruling in NAACP vs. Brennan mandating that the United States Employment Services provide migrant or seasonal farmworkers the same services given to non-farmworkers. The guiding principles of this organization include innovation, collaboration, and facilitating a better way forward. They seek to address labor challenges on both the employer and employee side, including issues such as affordable housing, labor force availability, childcare, transportation, medical care, and English proficiency. He discussed the NFJP implementation, which largely aligns with the Statewide Workforce Plan. He explained that discussions around NFJP implementation should include developing clear roles, identifying key partners and stakeholders, and drafting program policy and a manual as well as developing training for staff and enrollment forms. The NFJP offers a variety of services, including career, youth, business, supportive, training, and housing services.

Pantoja closed with a discussion about NFJP participants and eligibility. Migrant Seasonal Farmworkers (MSFWs) can register as youth (14 - 24) or adults (18+), and MSFWs can claim a dependent through the program. To be eligible, an individual must be either an eligible seasonal farmworker adult, migrant farmworker adult, MSFW youth, or a dependent of an MSFW as well as a low-income individual who faces multiple barriers to economic self-sufficiency. All male applicants must also meet the selective service registration requirement.

Timothy J. Richards: Impact of Increasing Agricultural Minimum Wages

Timothy J. Richards, Morrison Chair of Agribusiness and Professor at Arizona State University, presented on the implications of raising the minimum wage in the agricultural sector. He opened by reviewing the proposed rule making around the topic. Farmworker groups have conducted a study to determine a living wage for farmworkers in Santa Barbara County, which they found to be \$26.00 per hour. This proposal is predicted to be discussed and voted on by the County Board of Supervisors in the near future. Richards discussed the underlying assumptions of this proposal, as it assumes farmers are currently profitable and can pass on these gains, are non-mobile, and that their land has no secondary uses. It also assumes workers are a "captive market" and that Santa Barbara County is siloed from surrounding areas. He then outlined some potential positive impacts, including increased labor supply and improved quality of life for workers, as well as some negative ones, such as loss of value across the industry and growers exiting due to higher input costs.

Dr. Richards presented research on the impacts of introducing this hyper-local, single industry minimum wage. Through his research, he sought to understand the macro impacts of changes in minimum wage, how producers were likely to respond to this policy, and different options on both side of the labor market. He answered these questions by conducting economic simulations to estimate the impacts of such an increase in the minimum wage, followed by an input/output simulation to show the ultimate effect on GDP, worker income, employment, and taxes. From his first simulation, he found that a considerable proportion of growers from Santa Barbara's largest agricultural industries would exit, and hundreds of thousands of dollars would be lost across industries.

Through his second simulation, Dr. Richards projected 16,084 jobs lost due to this policy and millions of dollars lost in economic output, as shown in the graphs below. The model also predicted increases in county, state, and federal tax rates as well as increases in retail prices to adjust for the higher minimum wage.



Figure 1. Percent Exiting, by Commodity

Figure 3. Jobs Lost in Santa Barbara County





Figure 4. Labor Income Lost

Richards closed by discussing farmer viability and macroeconomic impacts. Farmer viability is impacted by the labor-intensive nature of specialty crops, the main agricultural outputs of Santa Barbara. Economic viability of farms depends on labor costs, and minimum wages can cause the wage-scale to ratchet upwards. These higher minimum wages will likely result in farmers exiting the industry, as farms already struggle with profitability. On a macro level, farmers can sell out to developers, resulting in a loss of agricultural land and up to two thirds of agricultural jobs in Santa Barbara being lost. Nearly \$20 billion in state output could be lost, with additional value lost throughout the value chain.

Daniel Oropeza, Amanda Villa, and Sofia Aceveda: UFW Foundation

Representatives from the UFW Foundation shared a presentation about their foundation and the issues they seek to address regarding farmworkers rights and conditions. The UFW Foundation is a nonprofit organization dedicated to improving the lives of farm workers, immigrants, and Latinos through legislative advocacy, community outreach, and organizing. Their core value is to empower communities to ensure human dignity. They are working to create tools and promote an environment that betters farm workers' lives through innovation and adopting a 'Si Se Puede' (yes, we can) attitude. After sharing their aims, they discussed the breadth of their outreach. They have served 34,925 individuals through organizing, education, and outreach and engaged 29,607 farm workers through text in a new digital initiative that connects farm workers to resources and gathers data through surveys. Additionally, they have served 10,204 farm workers through their direct help call center. They have also implemented on the USDA Farm and Food Worker Relief Program (FFWR) and provided storm recovery and disaster relief in response to severe storms across the state of California.

They outlined the population they serve, which are predominantly farm workers. Four out of five farm workers are Hispanic/Latino and fall in an income range of \$17,500 to \$24,999 per year. Farmworkers in some areas experience food insecurity and often rely on emergency food programs to feed themselves and their families. Additionally, three quarters of farm workers are immigrants, and more than half are undocumented or rely on work visas. The UFW Foundation closed by discussing heat regulations. Farm workers are adversely impacted by a lack of heat regulations, with elevated temperatures even resulting in worker deaths. Despite fatalities, only the five states shown in the map below have heat regulations protecting farm workers.



States with Heat Regulations Enacted

Zach Rutledge: Farm Labor Overview

Zach Rutledge, Assistant Professor at Michigan State University, gave an overview of agricultural labor and Michigan's employment trends, as well as H-2A program and changes in the labor market. Rutledge provided a general overview of the US agricultural sector, which is comprised of 1.9 million farms, with the sector producing about \$200 billion per year. In addition, agriculture, food, and related industries contribute 1.5 trillion per year to the economy. However, Dr. Rutledge points out, the US is consuming more imported foods, with high value products tending to be imported most frequently. As shown in the graph below, specialty crop imports are rising, with Mexico being the biggest specialty crop exporter to the US. He also provided a summary of agricultural labor nationally, which has had similar employment levels for the past 25 years and is spread across several different industries, including crop, agricultural support, animal, forestry, and fishing/hunting.

Rutledge provided insights about Michigan agriculture, highlighting that the state has 45,000 farms and 9.5 million acres of agricultural land. Michigan's top industries are dairy, corn, and soy, but the state also has a large specialty crop industry. These specialty crops are labor intensive and require a large seasonal workforce. Over the past 25 years, Michigan non-H-2A labor has been on the rise, with non-H-2A employment being spread across a number of industries.





In general, the domestic supply of farm labor is declining. Rutledge outlined a variety of contributing factors, including an aging US workforce, significant reductions in "follow-the-crop" migration, and reduced migration flows from Mexico. Labor shortages are commonly reported in the US agriculture industry, with the average labor shortage around 21%.



Farm Employer Reported Labor Shortage

Rutledge pointed out that the H-2A Visa Program helps to address these shortages by allowing agricultural employers to hire legal foreign workers. However, this program is expensive, and employers must demonstrate that they tried recruiting domestic workers and failed. Additionally, employers must provide free housing and meals, pay for transportation, and pay the AEWR. The H-2A program usage has expanded both nationally and in the state of Michigan. The map below shows variation in H-2A usage across the state of Michigan.



Despite helping to address the labor shortage, the H-2A program remains controversial. Employee advocates argue that H-2As displace domestic workers, while employers argue that AEWRs are too high. Recent legislation has proposed to freeze the AEWR for one year, put a 3.25% cap on AEWR growth, provide legal authorization to undocumented farmworkers, and allow for some year-round H-2A visas. Currently, dairy/livestock producers cannot access the H-2A program. Dr. Rutledge closed with information about the potential implications of labor changes and H-2A usage. He projects that we will likely see more imports from Mexico, as they have a comparative advantage in labor. While the H-2A program will continue to be used to fill labor gaps, rising costs of this program may stunt growth in the future. While technology adoption will continue to rise over time, it is unclear if it will happen fast enough to address the labor crisis.