

Background

Agriculture is of great importance to national economies (ILO, 2017). However, it is one of the most hazardous occupations worldwide for hired workers as well as manager and operators (Villarejo, McCurdy, Bade, Samuels, Lighthall, & Williams III, 2010). The International Labor Organization (ILO) reported in 2017 that up to 170,000 agricultural workers die at work each year, representing approximately half of all fatal occupational accidents because of various job accidents and diseases caused by their job (Yalcin et al. 2016). Per the Census for Occupational Injuries (CFOI, 2018), in the U.S., farming, forestry, fishery, and hunting engender together 574 fatal work injuries, namely 23.4 fatalities per 100,000 workers as opposed to 6.62 fatalities per 100,000 workers in all industries.

On top of the already fragile state of health and safety implementation in agriculture, the global pandemic, known as COVID-19 aggravated the situation. As of June 14, 2020, preliminary statistics revealed 7.69 million confirmed cases of Coronavirus, with 428 thousand deaths worldwide. The United States alone registered 2.14 million confirmed cases with 117 thousand deaths. Ullrich and Muller (2020) reported that 8.1% of registered cases and 5.2% of deaths came from non-metropolitan areas. That would mean that rural areas are also affected by COVID-19, although to lesser degrees, than urban areas.

This study seeks to answer the following research questions: 1) What is the farmers/fishers/foresters' perception of the COVID-19 pandemic from an occupational health and safety standpoint? 2) What are the barriers faced by farmers/fishers/foresters to implementing the CDC guidelines requirement? 3) What can be done to facilitate the implementation of such guidelines?

Research Methods

We interviewed eleven people who are well versed in the domain. Five of them were purposefully selected and six were referred by key informants, which added a snowball sampling approach on top of the purposeful sampling method adopted. The respondents included extension agents, farmworker's advocates, a forestry association's representative, a fruit and vegetable association's representative, worker safety program's representative, growers, and farm labor contractors. The vast majority came from Florida (9/11). Also, 7 of them represented the farm industry and the remaining 4 were in the forestry sector. The breadth of knowledge of the participants allowed fruitful conversations that, put together, led to a comprehensive understanding about the virus' impacts on the agricultural industry from a health and safety standpoint, the barriers to implementing the CDC COVID-19 guidelines and recommendations to overcome some of the barriers.

Preliminary Research Findings

Barriers

Overall the participants think that the CDC COVID guidelines are in the realm of things possible despite their inherent challenges. The latter seems to be determined by the size of the businesses, the type of operations, and the amount of required labor force. That means the bigger a company the stronger it is financially and the more capable it is to implement the CDC COVID-19 guidelines. Also, the less labor intensive the business is equates to less challenges. However, besides the previous factors there exist some crosscutting general barriers:

- **Culture:** Some cultures and, to some extent, society in general, create a stigma which defines men as undefeatable. So, wearing a mask may symbolize weaknesses. Therefore, male workers seem reluctant not only to wear a mask but also to even admit that they are sick.
- **Cost factors**
 - **Loss in income/decrease in profitability** because of lower production and productivity while all the company's fixed cost remain constant.
 - **Transportation:** Generally the conditions of the buses which carry the workers and the way the passengers are crammed into the buses do not help in the implementation of the guidelines. Therefore, investing in additional transportation facilities is a big hit on farmers, particularly the small ones. At the same time such an investment is important because the danger in the contamination for workers does not seem to be so much in the workplace but after work, during transportation and at home.
 - **Housing:** The lack of affordable housing, particularly in Florida, leads workers who rent live in a high level of proximity that in a sense may constitute a vector for the multiplication of the virus. It also generates additional cost to businesses, which use H2A and H2B workers.
- **People's attitude:** Some people are not totally convinced about the importance of certain guidelines such as wearing masks for outdoor activities and having to continually wash hands that will get dirty again.
- **Temperature:** Because of the high temperature it may be uncomfortable for workers to wear masks. Mask wearing might also increase conditions for heat related illnesses, especially when we consider the quality of the materials used.
- **Cost on the workers' side:** The masks are expensive (about \$1 each). The companies do not provide enough for workers to be able to change them as needed. Some community organizations have distributed some but not in sufficient quantity to totally fill the gap because of their financial limitations.
- **Flaw in the CDC guidelines mechanism:** The CDC guidelines are recommendations but not regulations. Therefore, nobody can enforce something, which is not mandatory. There is nothing that people can do to enforce them in case they are not respected. People are complaining about that but that is the reality. That explains why most of the time workers are not paid when they get sick. As a result, rumor says that some workers would hide that they are sick so they can be accepted at work. It would seem that some would even pay to have negative tests done because a positive test means at least 15 days without work, the quarantine period. Workers cannot afford such a luxury.

Impact on future business model

While some people attribute COVID-19 to politics, the agricultural industry, overall, takes it seriously and believes that it won't go away over night. Therefore, AG companies, as the entire business world, will need to adjust to the new paradigm shift because business can't operate as before. The pandemic offers unprecedented opportunities to do business differently and more efficiently. Taking care of workers and protecting them is a guaranteed investment for the companies and an asset for the whole country. Therefore, we may expect some short, mid and long term changes in the business model for agriculture:

- Some companies may start implementing H2A programs on their farm and make improvements of such a program by those who already have it, as a way to improve their labor force.
- They may in the long run try to move many operations from the mechanical to industrial phase, which will eventually reduce the workforce.
- Big companies may end up using technology for distance learning, marketing and sales. Virtual meetings may become a staple.
- Business owners may be more alert about the sanitation part of their program and may include training in their priority list.
- Business owners may change their harvesting skim, by adopting specific workers' dispatching layouts conducive to social distancing. They may also modify their processes.
- Business owners may do more to protect their labor force and to educate them more. We may observe a new reengineering of the agricultural sector particularly with newly design tools and equipment.

Conclusions

The COVID-19 pandemic offers a unique opportunity for training providers and extension specialists to revamp their services and to adapt their approach. It motivates politicians, decision makers, and business owners to strategize better when it comes to the agricultural system in general and affordable healthcare for all. Participants echoed education, financial assistance, and affordable healthcare as three pivotal points to help overcome the challenges associated with this unprecedented situation. They also stressed the necessity to immediately start conversing with growers, using local radio stations, community leaders, social networks etcetera, as the Fall season is approaching.

Implications

This snapshot on how COVID-19 is affecting agriculture is intended to help decision makers, community leaders, extension services, agricultural stakeholders, including advocacy groups, to shape their health and safety plans and strategies to find the best way possible to face and combat this challenging plague.

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