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# Identifying “Vulnerable Agricultural Populations” at Risk for Occupational Injuries and Illnesses: A European Perspective

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## ABSTRACT

**Objectives:** A common understanding of the term “vulnerable populations” in the European agricultural context is needed. Therefore, the purpose of this paper was to identify vulnerable populations working in European agriculture.

**Methods:** Participatory dialogue with members of the Safety Culture and Risk Management in Agriculture (SACURIMA) network was used to identify and build consensus on the major vulnerable groups of people who work in European agriculture.

**Results:** Five groups of vulnerable people were identified, which included: (1) foreign-born farmworkers (including both immigrants and refugees); (2) migrant and seasonal farmworkers; (3) beginning farmers (those with <5 years of experience); (4) farm families (including women, children, and older adults), and (5) farmers and farmworkers who have physical, mental health, or intellectual disabilities.

**Conclusion:** By developing a consistent understanding of vulnerable populations working in European agriculture, we can promote consistency in health and safety messaging, measurement of health and safety constructs, and implementation and dissemination of health and safety programs and information.

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## Introduction

Agriculture, including food-related industries and associated services, provide over 44 million jobs throughout the European Union (EU), including regular full-time work for 20 million people within the agricultural sector.<sup>1</sup> Poland, Romania, Italy, Spain, and France led the EU with the highest number of Annual Work Units (1800 h/year) in agriculture in 2017.<sup>2</sup> Regrettably, agriculture is also consistently ranked as one of the most dangerous industry sectors in Europe, having high rates of both fatal and non-fatal occupational injuries and illnesses.<sup>3</sup> This is still true, even though there is gross underreporting and serious discrepancies among member states in reporting injuries, particularly those that occur to self-employed individuals. For example, Eurostat data from 2013 on agricultural workplace fatalities indicates that Greece reported zero fatalities, France reported

one, and Poland reported four; however, in that same year, Germany reported 76 fatalities and Austria reported 49.<sup>4</sup>

Agricultural employers (excluding self-employed farmers in most countries) have a legal obligation to ensure a safe and healthy working environment. They also have other legal requirements to abide by including conducting risk assessments, consulting workers on health and safety issues, and providing appropriate job-related training.<sup>3,5</sup> Unfortunately, there are substantial disparities in funding for prevention-focused programming to improve safety culture and risk management at the EU, country, and local levels.

## SACURIMA network

The Safety Culture and Risk Management in Agriculture (SACURIMA) network was established through funding from the European Cooperation in

Science and Technology (COST, [www.cost.eu](http://www.cost.eu)), a funding organization that supports the creation of research networks to enhance scientific cooperation, innovation, and exchange, in 2017 to explore how to improve agricultural health and safety throughout Europe thereby reducing the associated burden of work-related injuries and illnesses. As of November 2019, there were 37 countries participating in the network including some outside of the EU, such as Australia, Bosnia and Herzegovina, Egypt, Israel, Jordan, North Macedonia, Montenegro, Serbia, Turkey, and the United States. The SACURIMA network has five major goals:

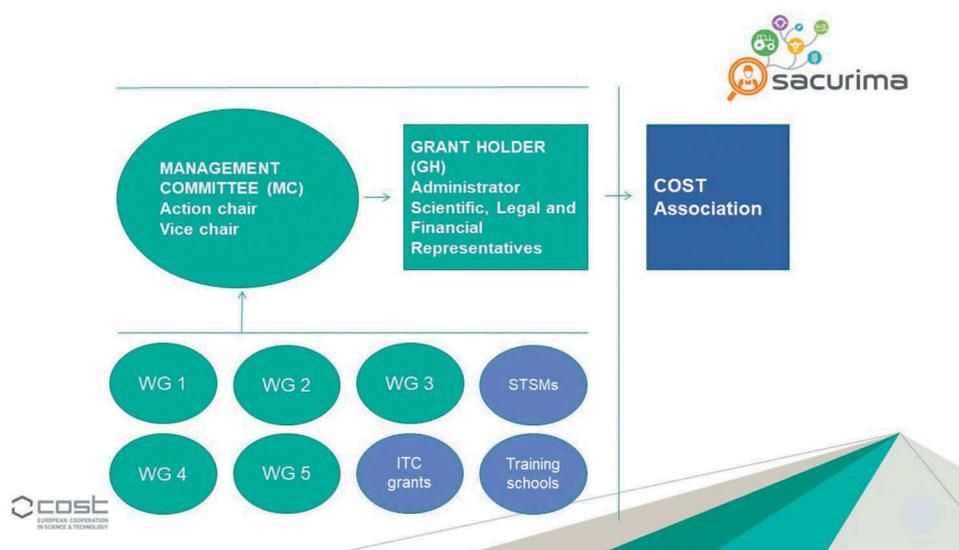
- (1) Characterize national health and safety programs in agriculture
- (2) Identify safety, health, and risk management knowledge, attitudes, behaviors, and priorities among farmers
- (3) Identify effective approaches to training and integrating vulnerable workers
- (4) Monitor and evaluate agriculture-related injuries and illnesses
- (5) Disseminate results to stakeholders

Participants of the SACURIMA network include agricultural safety and health professionals, academic faculty in related disciplines, government

agency representatives, and other interested parties such as elected officials and medical professionals. The network consists of five working groups (WG), each one addressing one of the five major goals; a management committee; and the grant holder (Natural Resources Institute, Finland). Each working group reports back to the management committee and the network membership on a regular basis. The structure of the network is displayed in Figure 1.

Working Group 3 (WG 3) is responsible for identifying effective approaches to training and integrating vulnerable workers; however, there is no consistent definition of who are considered “vulnerable agricultural populations” in Europe even though such definitions exist in other parts of the world like in the United States. Therefore, one of the primary goals of WG 3 was to identify and build a consistent understanding of “vulnerable agricultural populations” that could be used for developing and tailoring preventive initiatives throughout Europe.

WG 3 was formed in late 2017 and consists of 11 active participants representing six countries. From its inception in 2017 through early 2019, WG 3 met four times in person and discussed the topic of vulnerable workers. Members suggested which groups should be considered vulnerable and the implications to agricultural workers,



**Figure 1.** Structure and management of the SACURIMA network.

NOTE: The European Cooperation in Science and Technology (COST) is a funding organization that provides a platform for scientists to cooperate and exchange expertise.

employers, and policy. The group also conducted a literature review to understand what the data suggested about vulnerable populations, and an additional investigation was conducted by WG 3 members about the situation of vulnerable populations in their home countries. A draft list of vulnerable populations was developed, and all members of the SACURIMA network were encouraged to provide feedback or propose other vulnerable populations for consideration.

On April 25–26, 2019, a special SACURIMA network workshop consisting of WG 3 members, representatives from each of the other four working groups, and members of the management committee was held to clarify, agree on the identification of vulnerable agricultural populations at risk for occupational injuries and illnesses within the European context, and discuss effective approaches to training and integrating these individuals. Participants presented information on vulnerable populations from within their countries as well as data from some of the other working groups. A result of this meeting is a consensus identification of “vulnerable agricultural populations” in Europe based on the expertise from SACURIMA network members. The term “vulnerable” refers to individuals engaged in agriculture who are at a higher risk for occupational injuries and illnesses and who may have fewer protections and resources to mitigate such risks. The term “farmers” refers to individuals who own or operate a farm, and “farmworkers” refers to individuals hired to work on farms.

### **Vulnerable Agricultural Populations**

Vulnerable agricultural populations in Europe were identified to include: (1) foreign-born farmworkers (including both immigrants and refugees); (2) migrant and seasonal farmworkers; (3) beginning farmers (those with <5 years of experience); (4) farm families (including women, children, and older adults); and (5) farmers and farmworkers with physical, mental health, or intellectual disabilities. These categories are not mutually exclusive, and an individual may belong to multiple vulnerable groups thereby potentially increasing their risk. Each of the groups is described in more detail below.

**Foreign-born farmworkers:** Limited data exist on this population of workers. However, people tend to move to countries with higher salaries and greater social protections. Given the political instability in neighboring regions, foreign-born workers are entering the EU as refugees as well as some without legal documentation or authorization to work.<sup>6</sup> These workers may face communication challenges due to lack of local language proficiency, cultural misunderstandings, and often limited formal education.<sup>3,7</sup> They may also engage in different work practices based on experiences from their country of origin and have limited formal safety training. Furthermore, they may not report hazardous conditions for fear of losing their job or being deported.<sup>7</sup> All of these conditions place foreign-born farmworkers at greater risk for occupational illnesses and injuries.

**Migrant and seasonal farmworkers:** Limited data exist on seasonal farmworkers (i.e., those who conduct temporary agricultural work) and migrant farmworkers (i.e., those who are seasonal farmworkers but who are unable to return to their permanent residence within the same day). According to data from 2013, there were 777,910 non-regular (i.e., seasonal farmworkers) Annual Work Units in Europe. Spain, Italy, Romania, France, and Germany had the highest number.<sup>3,8</sup> Migrant and seasonal farmworkers are vulnerable because of the contingent nature of the work, including short-term employment and oftentimes not having any employment contract, being underpaid, and being subject to labor abuses.<sup>7,9</sup> These workers are not afforded the same types of protections and training as regular workers.<sup>7</sup> For example, migrant and seasonal workers may not have access to safe and sanitary housing. Even though most countries have standards for worker housing, many labor camps are still in poor condition.<sup>10</sup>

**Beginning farmers:** Farmers with <5 years of experience, regardless of age, are at greater risk for job-related injuries. A study from 2012 revealed that beginning farmers lacked safety training and emergency preparedness skills.<sup>11</sup> Limited experience, performing unfamiliar tasks, being unaware of safety risks, and economic pressure from major investments may increase risk among those starting out in the industry.<sup>3,12</sup>

Farm families: Of the 10.8 million farms in the EU in 2013, the vast majority (96.2%) were classified as family farms.<sup>13</sup> Poland, Romania, Italy, Spain, and Greece had the greatest numbers of family members working on farms, and family labor accounted for over 90% of agricultural work in Ireland, Croatia, Greece, Poland, Romania, and Slovenia.<sup>8</sup> Farm families are a vulnerable population that requires special protections for a number of reasons including the lack of safety and health regulations and formal inspections, lack of health and safety training, and the presence of children or older adults who may have age-related and developmental differences in physical strength, speed, agility, sight, hearing, and cognitive reasoning.<sup>3</sup> Although children may not be involved in agricultural tasks, they may be exposed to a variety of risks inherent in the farming environment.<sup>3,14</sup> Women may be at risk due to chemical and veterinary pharmaceutical exposures resulting in serious reproductive health concerns, infection-causing pathogens during pregnancy that may cause miscarriage or fetal abnormalities, and ergonomic challenges when using machinery, equipment, and tools. Furthermore, because farming may only be a part-time occupation, family members may engage in off-farm employment, which may increase their stress and limit their time to focus on agricultural safety concerns.<sup>15</sup>

Farmers and farmworkers with physical, mental health, or intellectual disabilities: Working in agriculture can provide a sense of fulfillment, particularly for those who have physical, mental health, or intellectual disabilities; however, because of such health conditions, these individuals are vulnerable.<sup>3</sup> A recent systematic review found that history of previous injury, having health problems, stress and depression, and hearing loss were significant risk factors for agricultural injury.<sup>16</sup> Depending on the nature of the disability, some changes in the farm work environment may be required including introduction of assistive technologies or rehabilitation services.<sup>17</sup>

Although vulnerable workers have been identified by the EU Agency for Safety and Health at Work,<sup>18</sup> a clear identification of “vulnerable populations” specifically related to agriculture has been overdue. By developing consensus about who are considered vulnerable populations in European

agriculture, we can promote consistency in health and safety messaging, measurement of health and safety constructs, and implementation and dissemination of health and safety programs and information. This type of consensus-building and collaboration may improve access to information, tools, and resources that may otherwise not be available. We believe this identification is also important for developing effective policies both at a governmental level and at the employer level to promote health, safety, and well-being among vulnerable agricultural populations.

### **Next Steps for SACURIMA**

WG 3 is planning to develop a short video in English, which is a common language in Europe, on best practices for training hired farmworkers including the need for training at the time of hire and at regular intervals of employment; the importance of using multiple training methodologies (including both high- and low-engaging methods); the value in engaging the end-users in the development of a training plan; and understanding the critical nature of culture, language, legal, and other logistic concerns and how they may impact the relevance of training initiatives with vulnerable populations. This video will be targeted for Extension services, government agencies, and others who conduct training and outreach with vulnerable populations and agricultural employers. The group has initiated collaborative research initiatives to further define and describe each of the identified categories of vulnerable agricultural populations. Evidence-based and promising practices for training vulnerable agricultural workers from around the world will be studied and adapted for use in the EU.

### **Conclusions**

Creating a common understanding of vulnerable populations in European agriculture is critical not only for improving safety culture and risk management, but also for strengthening research capacity and designing health and safety promotion strategies for optimal farmer and farmworker well-being. Because countries throughout Europe and beyond face similar challenges, it makes sense to work together to create, share, and tailor existing agricultural safety and health resources to address local concerns related

to vulnerable agricultural populations. This paper represents a key contribution from WG 3 and the SACURIMA network project to the field. Interdisciplinary, international collaboration, like the SACURIMA network, is critical to solving complex problems such as the high rates of occupational injuries and illnesses among vulnerable workers in industries such as agriculture.

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