

## Addressing Farm Stress: Essential Insights for Agricultural Economists

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*JEL Classifications: I10, I15, I31*

*Keywords: General welfare, Health, Health and economic development, Well-being*

Farmers are uniquely experiencing the mental health crisis in the United States. Of all the occupations and industries in the United States, farming has the fourth highest rate of suicide among males (Peterson, et al., 2020). Although not necessarily the direct cause of suicide, risk factors like mental health challenges, social isolation, financial problems, substance misuse, physical injuries or illnesses, and job problems increase the risk of suicide (CDC, 2021). In addition, previous literature suggests that farmers who do not produce a profitable harvest are at greater risk of dying by suicide (Rosmann, 2010). Therefore, suicide risk among farmers is greater than in other occupations (Milner et al., 2013). This paper focuses on the stressors unique to farming, the connection between those stressors and negative health outcomes, and the need for a systems-change approach to address farmer stress and well-being. Figure 1 demonstrates the relationships between farm stressors, economic impacts, societal impacts, and farmer stress and well-being. While not all the responsibility of agricultural economists, understanding these relationships may help those in this profession better serve farmers.

### Farm Stress

#### **Stressors Out of Farmers' Control**

Farmers experience some of the same stressors experienced by the general population, such as family and health issues. However, farmers also experience stressors specific to their field such as changing weather patterns, labor shortages, supply shortages, volatile markets, livestock illnesses, and specific concerns about family issues such as succession planning (Raine, 1999; Thelin and Donham, 2016; Yazd, Wheeler, and Zuo, 2019). These additional stressors may increase the risk of negative health outcomes and extend beyond farmers' locus of control, which has been validated as a moderating factor for reported stress symptoms and physical health and safety concerns (Elkind, 2008). For example, farmers cannot control when or how much it rains, nor can they control the market fluctuations that

impact their operating expenses and potential profits. The latter issue is of particular salience given that financial matters are among the most prevalent and commonly reported stressors among farmers (Dinterman, Katchova, and Harris, 2018; American Farm Bureau Federation, 2019).

#### **Contribution of Agriculture to Family Income**

The size of one's farm can impact a producer's positive income from farming. While farmers from operations of all sizes can experience financial stress, small and intermediate farmers are most dependent on off-farm income (Whitt, MacDonald, and Todd, 2019; USDA, 2021a). As demonstrated in Table 1, reported positive income from farming in 2020 increases by farm size, as does the portion of total household income at the median in 2020 coming from farming (USDA, 2021a). Therefore, smaller-scale operations may function with tighter financial margins, leaving less room to remain resilient in the face of external farming strains beyond farmers' control. Financial stress can put a strain on families, relationships, and parenting (Lee, Lee, and August, 2011), leading to an iterative loop of persistent concern. While many Americans experience some type of personal financial stress, it is important to note that when experienced by farmers, financial strain impacts the viability of their occupation and personal well-being in a unique way.

#### **The Agrarian Imperative**

In addition to common business owner stressors, farmers typically have a deep connection to the land. Therefore, it can be extremely difficult for a farmer to sell their land. To an outsider, selling the land makes sense if the farmer is in a difficult financial situation. However, losing the land to which their identity is so closely tied can feel like the ultimate loss for a farmer, a concept referred to as the agrarian imperative (Rosmann, 2010). Land is meaningful across generations—from first generation to tenth generation—and to farmers from both large and small operations. Although the literature suggests that succession plans can prevent land loss

Figure 1



Table 1. Contribution of Agriculture to Family Income by Farm Size

Farm Size	USDA ERS Definition	Reported Positive Income from Farming in 2020	Reported Portion of Total Household Income from Farming at the Median in 2020
Residence	“Farms with less than \$350,000 in gross cash farm income and where the principal operator is either retired from farming or has a primary occupation other than farming.”	36%	10%
Intermediate	“Farms with less than \$350,000 in gross cash farm income and a principal operator whose primary occupation is farming.”	47%	28%
Commercial	“Farms with \$350,000 or more gross cash farm income and nonfamily farms.”	87%	82%

Note: Definitions are from USDA (2021a).

and family disagreements, this deep connection to the land can make it even more difficult to discuss plans with family (Suess-Reyes and Fuetsch, 2016). The future of the land is always on the farmer’s mind, further exacerbating stress associated with farming.

## Health Problems

While few, if any, studies have examined the connections between stress and health in farming populations, many studies have examined the connections between stress and health in the general population. Previous literature suggests that stressors can accrue and lead to bigger problems—specifically health problems—for individuals. Stress is strongly associated with poor mental and physical health among those in this sector (Schneiderman, Ironson, and Siegel,

2005; Cohen, Janicki-Deverts, and Miller, 2007; Toussaint et al., 2016). In fact, stress has a greater influence on one’s health than tobacco use and physical inactivity (Holt-Lunstad, Smith, and Layton, 2010).

## Stress and Physical Health Outcomes

Previous studies have found connections between stress and multiple health problems, including heart disease, Alzheimer’s disease, skin conditions, diabetes, and depression (Mariotti, 2015; Ouanes and Popp, 2019; Chengane et al., 2021). More intense, longer-term (i.e., chronic) stressors have a greater impact on one’s health. Chronic stress contributes to physiological changes like increased plaque buildup, high blood sugar levels, hyperlipidemia, and hypertension, all of which can lead

to heart disease (Yao et al., 2019). Further complicating the issue is that farming sometimes requires high-intensity physical activity, like climbing up and down machinery and working in extreme heat conditions. This high-intensity physical activity can be extremely dangerous for someone with heart disease. Farmers who are not physically healthy cannot properly tend to their farms, further compounding their stress and increasing the likelihood of mental health concerns.

### ***Stress and Mental Health Outcomes***

Stress can contribute to poor mental health outcomes and behaviors such as depression, substance misuse, anxiety, and suicidal tendency (Mariotti, 2015; U.S. Department of Health and Human Services, n.d.). Generally, stress is a response to an external cause, while anxiety is typically an internal response to stress (U.S. Department of Health and Human Services, n.d.). There is a positive correlation between stress and the presence of mental health symptoms, meaning that the risk of developing a mental health challenge increases with increased stress. With farming being one of the most hazardous and stressful occupations, farmers are more likely to self-medicate by using alcohol or opioids as a “quick fix” for getting back to their crops or herd (National Institute for Occupational Safety and Health, 2021). For example, if a farmer breaks their arm while working, the farmer may be prescribed an opioid medicine (painkiller) so they can return to work as quickly as possible. After the farmer’s physical injury heals, the farmer might develop a reliance or even a long-term opioid addiction because the medicine also reduces the farmer’s stress. Results from a national survey administered by the American Farm Bureau Federation (2017) suggest that three out of four farmers or farmworkers are directly impacted by the opioid epidemic. The misuse of opioids, along with the documented misuse of alcohol as a coping tool, further place farmers—and thereby our economy—at risk. It is critical for farmers to have quality mental and physical health.

## **Addressing Farm Stress**

Farm stress is a serious problem in the United States that is increasingly being addressed at local, state, and national levels. Some local farming communities across the United States are engaging professionals to discuss farm stress and offer stress reduction resources at commodity, civic club, and community meetings. The Minnesota Department of Agriculture (MDA) offers one example of how states are addressing the issue of farmer stress. MDA has a full-time mental health professional who specifically works with farmers experiencing challenges, which allows farmers and their family members to talk to someone who understands farming in addition to having the knowledge and access to resources to mitigate concerns. Engaging with this resource permits farmers to regain a sense of their locus of control during times when it may feel as though there is none.

The federal government is also taking farm stress seriously by investing in strategies to remediate farmers’ stress in the short, medium, and long term. For instance, the U.S. Department of Agriculture National Institute of Food and Agriculture (USDA/NIFA) implemented four regional Farm and Ranch Stress Assistance Networks (FRSAN). Each regional network brings together key agricultural contributors (e.g., land-grant institutions, government agencies, commodity and lending groups, and nonprofits) in each state to collaboratively address farm stress (U.S. Department of Agriculture, 2020). Each network is tasked with coordinating regional efforts such as the creation of a farmer stress hotline, support groups, and education for those in and proximal to agriculture. Key to these efforts is the curation and dissemination of resources through interactive and dynamic online repositories. Coordination on this scale requires a holistic view of agriculture that respects the interconnectedness of agricultural issues.

### ***A Systems-Change Approach***

Taking a systems-change approach may be effective in addressing farm stress. A systems approach will increase resource leveraging. For example, 13 states partner with the Farm and Ranch Stress Assistance Network: Southern Region (FRSAN:SR) based at the University of Tennessee Institute of Agriculture (Sedges, 2020). FRSAN:SR allows for more collaboration and leveraging of resources across state lines. Diversified teams comprised of representatives from multiple states ensures the engagement of multiple perspectives needed to address the chronic nature of farmers’ stress.

In all fields, it is easy to adopt a zero-sum game mentality of winners and losers. Nevertheless, it is critical to contextualize data beyond red-and-black ledger sheets. Consideration for the emotional strain farming takes may be a measure not previously calculated by agricultural economists. Given that financial stress is common among farmers, perhaps it is time that economists become allies in addressing the issue.

Agricultural economists, like most professionals who work in and around agriculture, are not trained as mental health interventionists; nor should they be. Instead, in addition to considering systemic change, these professionals can be equipped to recognize the signs and symptoms of mental health challenges and connect individuals to appropriate professional help, a role often called gatekeeping. Increasing the number of mental health gatekeepers can expand the safety net for farmers and their families, help destigmatize those seeking appropriate professional help, and prevent negative outcomes of serious mental health challenges, such as suicide (Hossain et al., 2009, 2010; Mendenhall, Jackson, and Hase, 2013).

One program dedicated to equipping people with the skills needed to intervene and address mental health issues is Mental Health First Aid (MHFA). MHFA is an evidence-based mental health gatekeeper training program that teaches adults how to better understand, recognize, and respond to signs of mental health challenges. In other words, MHFA teaches adults how to be “expert noticers” and serve as a bridge to care for mental health challenges. Mississippi State University Extension Service has had great success in training all Extension agents as MHFAs in Mississippi. The training can positively change the way that organizations approach mental health and well-being situations, such as farm stress or mental health crises. Most of the Extension agents who participate in the MHFA training reported using the skills learned from the training (60%), and nearly a sixth of agents reported having an encounter with someone in crisis after completing the training (15%) (Robertson et al., 2021).

A systems-change approach allows for farmers to be met where they are, sparking connections along the way. Providing preventative services can help farmers

cope with stress using a healthier approach, in turn improving their physical and mental health. Healthy farmers lead to more productive workdays, bountiful harvests, and, ultimately, may boost rural community morale and economies. All of these systems influence the others in some way. Taking a systems-change approach allows for more leveraging and better use of resources.

To conclude, stress impacts the physical and mental health of farmers across America. Without healthy farmers, productivity decreases, and America is without many resources to sustain the economy and health and well-being of Americans. Agricultural economists can help reduce farm stress through contextualizing the data in light of the humans (farmers) who are connected to each number. Awareness and knowledge of mental health challenges among farmers has a lot of power. It is important that agricultural economists have the toolset necessary to understand, recognize, and respond to signs of mental health challenges and crises both through their traditional economic work and in newfound ways like MHFA.

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## For More Information

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**Acknowledgments:**

This project is supported by Rural Health and Safety Education Grant No. 2020-46100-32841 from the USDA National Institute of Food and Agriculture (NIFA), Rural Opioids Technical Assistance (ROTA) Grant No. 5H79TI083275-02 from the DHHS Substance Abuse and Mental Health Services Administration, USDA NIFA Farm and Ranch Stress Assistance Network: Southern Region Grant No. 2020-70028-32730 from the University of Tennessee at Knoxville, and USDA NIFA Farm and Ranch Stress Assistance Network—State Department of Agriculture Grant No. 2021-70035-35566 from the Mississippi Department of Agriculture and Commerce.