

# New study examines importance and unique characteristics of U.S. female farmers

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Researchers studying the importance and unique characteristics of U.S. female farmers have found that female-owned farms in the U.S. are more common in areas that are closer to urban markets, that engage in agritourism activity, and that offer greater access to childcare. Credit: Goodluz via Bigstockphoto.com

While women can be drawn into farming for many reasons, researchers

in Penn State's College of Agricultural Sciences have found that female-owned farms in the U.S. are more common in areas that are closer to urban markets, that engage in agritourism activity, and that offer greater access to childcare.

The number of farms operated by women has risen over the past two decades, said Claudia Schmidt, assistant professor of marketing and local/regional food systems.

The U.S. Department of Agriculture changed the way it counts the operators of farms in its most recent Census of Agriculture, allowing for up to four principal operators per farm. This has inflated the number of female operators somewhat, but female participation in agriculture is nonetheless at an all-time high, said Schmidt.

"This type of research is needed not just for reasons of equity, but also to support a more diverse and resilient agricultural sector in general," said Schmidt. "Without knowing more about female farm-operators' decision making, agricultural service providers have had to make assumptions about the type of information and products that are useful to them. Our analysis shows some of the ways in which female-owned farms are unique and it can offer important insights into how best to serve this population."

Using data from the U.S. Census of Agriculture from 2002-2017, Schmidt and her colleagues developed a statistical model to examine the relationship between a county's share of female-operated farms and the conditions in the county. Their goal was to shed light on aspects of the local economic and agricultural ecosystems that are most strongly associated with female-owned farms.

The researchers identified 10 [economic variables](#) hypothesized to matter, including unemployment, non-farm wages, availability of

childcare, and the rate of female participation in the labor force. They also examined the total number of farms, average farm size and annual sales, average farmer age, and the types of farm activities carried out. They looked at each variable in isolation to determine which variables are independently and most strongly associated with the share of female-operated farms.

"We wanted to understand why women are drawn to farming," said Stephan Goetz, professor of agricultural and regional economics and director of the Northeast Regional Center for Rural Development (NERCRD). "Is it because they want to engage in this kind of work, or is it because they are pushed into farming due to a lack of other economic opportunities locally? We also wanted to examine how local agricultural conditions—what farming generally looks like in a given place—relate to women's participation in agriculture."

The analysis, which was recently published in *Food Policy*, shows that more female-owned farms are found where average farm size is below 50 acres, where annual farm sales average less than \$10,000 per [farm](#), where more farms specialize in grazing sheep or goats, and where agritourism activities—which attract visitors to farms—are more common.

The researchers also found that direct-to-consumer sales are more prevalent in counties with more female-owned farms. It is therefore not surprising that urban areas with [high population densities](#) have more female-owned farms than more rural areas do, said Goetz.

"Our findings suggest that females are more likely to engage in the type of farming that benefits from being in or near urban locations," said Goetz. "In addition to offering more opportunities to market directly to consumers, urban and suburban locations also offer greater access to childcare than rural areas, and our research showed the availability of

childcare is correlated with the number of female-owned farms in a county."

The researchers also noted that the share of farms with female operators is higher in counties with a greater total number of farms, which could reflect increased opportunities for networking and learning through knowledge-sharing networks.

"Our research suggests that female-owned farms are more common in certain economic and agricultural ecosystems," Schmidt said.

"Therefore, they likely have different needs in terms of education and support, and this research is an important step in identifying these differences."

Among other questions, future research will look at the impact of female-owned farms on local economic and agricultural conditions.

**More information:** Claudia Schmidt et al. Female farmers in the United States: Research needs and policy questions, *Food Policy* (2021). [DOI: 10.1016/j.foodpol.2021.102039](https://doi.org/10.1016/j.foodpol.2021.102039)

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