

Barriers/Drivers of Diverse Perennial Systems: Policy Recommendations

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Abstract

Despite growing documentation of perennial- and grass-based systems' importance in addressing many ecological, infrastructural, farmer profitability, and climate concerns, these systems do not predominate on most United States farm and ranch lands. To better understand what impedes their wider adoption, we undertook four focus groups of diverse current and potential farmers using perennial systems. We were especially interested in how these farmers access, or don't, insurance, credit, and federal programs, identifying patterns among farmers embracing more sustainable practices. Our virtual focus groups comprised 16 farmers in ten states, transecting climate zones and representing both rural and urban production systems and diversity in ethnicity, gender, and farm size. We committed to maintaining participants' anonymity and paid them a modest stipend. Some clear trends emerged as motivations for adopting perennial farming systems, including their ecosystem benefits to farms and to society, relative simplicity and ease of implementation, and lesser capital requirements for entry. Participants described numerous barriers to adoption, including woody perennials' longer establishment period before becoming productive and cash-flow challenges during that period. Some farmers experienced a lack of understanding of perennials by federal agency staff and challenges accessing federal programs. Some desired easy-to-access support in navigating agency options and an easier process to appeal agency decisions. Many participants perceived perennials to be inherently risk-reducing, but few considered federal crop insurance useful. Similarly, challenges in accessing credit required many participants to self-finance or grow their operations slowly. Federal conservation programs had served some participants, but farmers of color reported difficulty in accessing them, partly due to agency staff's restricted hours. Direct markets were easier for some perennial farmers, although time-consuming, but processing delays and impediments could be problematic, including for meat animals grown on managed pasture. Many farmers would profit from technical assistance and nationally-available reliable information on perennial production systems.

Introduction

There is increasing documentation of the important roles of grass-based and perennial systems in addressing urgent societal needs. These include increasing water infiltration and reducing soil erosion, thereby improving water quality and reducing flooding, (Lal, 2020; Nunes et al., 2020) increasing biological diversity (Picasso, 2018), sequestering carbon and mitigating as well as adapting to climate change and associated climate variability (Ramankutty et al., 2018; King and Blesh, 2018; Osterholz et al., 2019), and increasing farmer profitability, among others.

In order to identify and better understand the barriers to adoption of these more sustainable practices, (Montgomery, 2017), a team within the nationwide AFRI SAS-CAP project, "Fostering Resilience and Ecosystem Services in Landscapes by Integrating Diverse Perennial Circular Systems" conducted four focus group sessions in March and April of 2022 to learn more about the drivers and constraints to farmers' adopting diverse perennial farming systems. We particularly sought input in time to include highlights and policy recommendations in 2023 US Farm Bill policy discussions and will follow up with a more extensive set of interviews, focus groups, and farmer surveys during 2023.

Methods

Potential participants in policy-centered focus groups, or group interviews, were initially identified through professional networks, and then contacted by researchers. They were given a description of the project, along with an explanation of how data confidentiality is maintained. We recruited 16 farmers from across the United States to participate in this first round of virtual focus groups.

We conducted four focus groups with diverse participants around the nation, with four participants and at least two members of our team facilitating each. We recruited participants through the assistance of 16 farm, Black, Indigenous, People of Color (BIPOC)-led, food system, university, or community-based groups (see acknowledgments below). We received informed consent from all participants, and participants were paid a modest honorarium of US\$50 for their participation in a group interview, taking approximately an hour and a half. Focus groups were conducted virtually, using Zoom video conference technology.

Focus groups were recorded, and transcripts were created using the transcription functionality of the Zoom software, and then refined by researchers. All recordings, transcripts, notes, participant contact information, and all other data related to the focus groups is stored on password protected laptops or cloud storage. Data was analyzed using traditional qualitative analysis methods. The results and analysis presented here were developed through systematic analysis of the focus group data, starting with the specific research questions. Additional patterns were also identified and explored in the analysis.

States represented included Illinois, Maryland, Mississippi, Missouri, Montana, Oregon, Texas, Virginia, Wisconsin, Wyoming. Farming systems include managed grazing, forest and mushroom farming, silvopasture, agroforestry, perennial urban agriculture, systems producing woody perennial/medicinals, Kernza, hay, fruit/livestock, and berries and vegetables. Many of our participants are in the process of starting farming or started within the past five years, but some are longer-established. Of our 16 participants, at least five participants are people of color, and five are women. Farm sizes range from 4 ha. to over 405 ha.

Results and Discussion: Lack of access to resources and expertise constrain farmer opportunities

Farmer Motivations - Perennial farmers plant perennials for many reasons, including their contribution to clean water, soil conservation, and biodiversity, as well as their role in benefitting the climate. Also, perennials can simplify farming, with less labor, and less investment in equipment. However, despite all these benefits, farmers interviewed concluded that reasonably good prices for annual crops constitute an obstacle to most farmers' considering switching to perennials.

Challenges - Some perennials take years to produce a harvestable product. Many perennial farmers say they need financial support to tide them over in those early years, before yielding a profit. And not every lender or US Department of Agriculture (USDA) staff understands the nature or value of perennials. Lenders, crop insurance agents, and Natural Resource Conservation Service (NRCS) agency staff need education about perennials, and farmers receive inconsistent, and sometimes erroneous, guidance about which federal programs best meet their needs.

Access to Federal programs - Farmers who are college educated, have capital, have existing relationships with USDA and lenders, and know how to navigate agencies, are better able to get the help they need from USDA than producers without those advantages. Some perennial farmers wish that federal programs would support entire diverse perennial production systems rather than just individual products.

Risk Management - Crop insurance agents and lenders are not always aware of the merits and actual (minimal) risks associated with diverse perennial systems. Their lack of familiarity with these systems sometimes obstructs farmers' ability to adopt such practices. Perennial farmers also noted the inherent risk mitigation associated with planting diverse perennials, which are less affected by annual market fluctuations or climate impacts.

Credit - Many farmers of diverse perennial systems are obliged to self-finance, use personal credit, subsidize their operations with off-farm jobs, or use income from annuals to pay for perennial planting

investments. For some, not all, avoiding credit is a personal preference due to debt-aversion. But many are forced to invest more slowly in perennials than they would if they had readier access to credit (both for land and operations) suitable to diverse perennial operations.

The land-affordability option that helps many annual farmers (leasing rather than owning land) can present challenges for some perennial farmers, due to the heavy investment and long pay-back period inherent in many perennial systems.

Conservation - Some farmers have had excellent experiences with NRCS programs, which have helped them pay for fencing, water lines, or other crucial infrastructure, primarily through EQIP. Others have found staff unsympathetic to and unknowledgeable about perennials, with restrictions making available funding impractical to their situations. The quality and utility of technical assistance is very location-specific, as is program access.

Some respondents report that staff sometimes seem less willing to assist BIPOC or low-resource farmers. Many NRCS offices make themselves available only during standard office hours, when many BIPOC farmers work other jobs, and staff isn't trusted or always readily understood when they speak "USDA speak."

Markets, Processing - Some farmers have easier market access than others. Direct markets are generally easiest but can be time-consuming. Many farmers experience unreliable processing, especially for meat, which of course affects animals grazed on perennial forages. Organic farmers seeking processing of organic grains sometimes have to wait and can't capture market premiums. Very few processing and marketing resources are available for non-traditional perennial crops such as medicinal plants or those processed for teas and supplements.

Accessible information - It's hard for many people to find reliable information and technical assistance they need for particular perennial farming topics; where they exist, networks and information-sharing with other farmers doing something similar is valued. Some people use the internet, but that may not be as accessible for older farmers. Also, several farmers expressed the need for national-level support on many different topics. Few people referred to Extension as a source of crucial help in providing technical assistance for their operation.

Agency access - The complexity of federal agencies and programs impedes many farmers using diverse perennial systems from investigating or certainly applying for resources that could serve them. Farmers need easy-to-access navigational support.

Appeals - When farmers don't receive satisfaction from an agency (whether Farm Services Agency (FSA) on credit or NRCS on a contract or other agency), they need an appeals process that works in real time.

Conclusions and/or Implications

Although our results have implications for both federal and state policy, with the 2023 US Farm Bill under development during spring, summer and fall of 2022, this early component of our analysis focuses on the federal policy implications of these results, identifying eight principal conclusions, which are as follows.

- Provision of financial support to tide perennial farmers over in early years can help overcome challenges with delayed production. Examples of support might include NRCS providing a payment for perennial establishment; lenders offering longer - no less than 2-3 years - payback periods for loans for perennials, rather than for annuals); or possible interest deferment over an extended term for operating loans.
- A paradigm shift is needed within USDA to fully embrace perennials; education is needed for USDA program staff, lenders, and crop insurance agents of the value of perennials, as well as programmatic changes to loan, crop insurance and conservation programs to support perennial production.

- To better serve perennial farmers of color, NRCS offices need to be more flexible, with extended hours, and use trusted community leaders or institutions to provide technical assistance.
- NRCS should make Environmental Quality Incentives Program more accessible for new perennial farmers who are using a whole-farm approach and make Conservation Stewardship Program more useful to newer perennial farmers.
- Processing infrastructure for goods produced in perennial systems needs to be expanded (e.g., Kernza, livestock processing for grass-based meats, and organic grains)
- USDA's Local Agricultural and Marketing Production program could be expanded and adjusted to further support perennial farmers who want to sell directly.
- There is a need for a one-stop national information source for farmers on many perennial topics. One option for meeting the need might be the National Sustainable Information Service (also known as the Appropriate Technology Transfer for Rural Areas (ATTRA) program, but its offerings should be more widely-disseminated and its funding increased to help it meet the needs of perennial farmers/growers.
- Extension staff need to be more broadly educated about and trained to assist with many aspects of perennials, and the system overall should increase its capacity and reach in this area.

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References

- King, A.E. and Blesh, J. 2018. Crop rotations for increased soil carbon: perenniality as a guiding principle. *Ecological Applications* 28:249-261. doi.org/10.1002/eap.1648
- Lal, R. 2020. Regenerative agriculture for food and climate. *Journal of Soil and Water Conservation* 75(3):123A-124A. doi.org/10.2489/jswc.2020.0620A
- Montgomery, D.R. 2017. *Growing a Revolution: Bringing Our Soil Back to Life*. W.W. Norton and Company, Inc, New York.
- Nunes, M.R., van Es, H.M., Schindelbeck, R., Ristow, A.J., and Ryana, M. 2018. No-till and cropping system diversification improve soil health and crop yield. *Geoderma* 328:30-43. doi.org/10.1016/j.geoderma.2018.04.031
- Osterholz, W.R., Renz, M.J., Jokela, W.E., Grabber, J.H. 2019. Interseeded alfalfa reduces soil and nutrient runoff losses during and after corn silage production. *Journal of Soil and Water Conservation* 74: 85-90. doi.org/10.2489/jswc.74.1.85.
- Picasso, V. 2018. The biodiversity-ecosystem function debate: An interdisciplinary dialogue between ecology, agriculture and agroecology. *Agroecology and Sustainable Food Systems* 42:264-273. doi.org/10.1080/21683565.2017.1359806
- Ramankutty, N., Mehrabi, Z., Waha, K., Jarvis, L., Kremen, C., Herrero, M., Rieseberg, L.H. 2018. Trends in global agricultural land use: Implications for environmental health and food security. *Annual Review of Plant Biology* 69:789-815. doi.org/10.1146/annurev-arplant-042817-040256.