

Fiber Farming in West Virginia: A Qualitative Analysis to Measure its Prospects and Challenges

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A fibershed is a geographical area that connects farmers, fiber producers, processors, and consumers through its network of fiber flows (Barr, 2020). The phrase "fibershed" was first used by Rebecca Burgess in 2010 when she set out to create and wear a wardrobe entirely made of products manufactured no more than 150 miles around her house (Trejo et al., 2019). After completing a 150-mile wardrobe, she developed Northern California Fibershed to collaborate with local farmers, mill owners, and artisans whose contributions were critical in developing a local fibershed wardrobe (Trejo, 2018). This has inspired the development of fifty-nine fibershed communities worldwide, thirty-three of them in the United States. The Central Appalachia Fibershed is one of those, and its shared goal is to support and advance a regionalized textile and clothing supply chain. It comprises a 150-mile radius, including the border counties of West Virginia, Maryland, Pennsylvania, Virginia, Ohio, and Kentucky. The concept was to draw attention to using local resources to help the local communities develop economically. In the United States, fiber farming has evolved as a component of diversified agriculture, a subset of traditional agricultural practices (Burgess & White, 2019). The agricultural system that fiber crops are a part of is interlinked with environmental effects, social justice, and health. These fibers are used to fuel a \$1.6 trillion worldwide fiber, textile, and leather market in 2022, which is projected to grow further (Burgess & Kelley, 2021).

Traditionally, the Appalachian region has suffered from the exploitation of natural resources, commonly coal and timber. West Virginia farmers have increasingly expressed interest in value-added processing to increase agricultural farms' annual income (Shorrocks, 2020). Therefore, it is critical to measure the efficacy of fiber farming as a stable business in West Virginia. Despite their importance to the economy, the fiber farmers did not attract much attention from the researchers. Previously, researchers aimed to find out barriers to sustainable and regional fibershed development (LeHew et al., 2022), ecological literacy of the fiber farmers (Trejo & Lewis, 2017), prospects of building fibershed in New York (Trejo et al., 2014) and development of a collaborative slow fashion model (Trejo et al., 2019). However, little is known about the social and economic aspects of fiber farming. Most importantly, there is no information on fiber farming in West Virginia. To address the research gap, this study aims to explore the fiber farmers in West Virginia and their farming activities to better understand their motivation in fiber farming and the social and economic aspects of this business.

The actor-network theory (ANT) is used as the theoretical framework of the study. The theory states that everything exists in a network of interactive relationships, including people, technology, and non-living objects (Latour, 1996). A fiber farm involves farmers, processors,

customers, farm equipment, electricity, and a variety of other things that play a role in the farm's functioning. According to Latour (1996), each of these things in this system is equally important, and understanding how a fiber farm functions is best understood by looking at each part of the overall system. Multiple studies have used the ANT theory to understand the growth of fibershed movement and fiber farmers (Trejo et al., 2019; Trejo & Lewis, 2017, 2018). An in-depth, semi-structured qualitative interview was conducted with six fiber farmers in West Virginia in March 2023. A purposive sampling method was used to select the participant farmers. Each interview took 45-60 minutes and was conducted in person or via Zoom. The interviews were recorded, transcribed, and analyzed for recurring themes.

Most fiber farmers described fiber farming as a (i) supplemental or secondary job: "I have a full-time job; I could not do farming only to pay my bills." They had access to (ii) regional trade shows and fiber festivals, which helped them to showcase their products and gain trust from customers for repeated sales as described by "we normally do a lot of festivals that are primary and then actually once you get out to the festivals, I have people that just randomly call me for products." To describe their strength, they mentioned (i) education as "I have had enough education to, you know, to keep my animals healthy," (ii) product quality as "I have had people come back repeatedly because they know I have spent hours to make the products," (iii) product differentiation as "I always come up with new designs, I try to design my products which nobody can imitate," and (iv) adaptation according to customer needs as "I always change things up as my customer wants if I keep doing the same things, they are not going to come back, they always want to see something new" as their primary strengths.

The main challenges faced by the fiber farmers were (i) unpredictable weather, described as "the weather is always a challenge for us, especially rain and mud is a big problem to deal with," (ii) problematic law as "the laws have not been very friendly to farmers such as we cannot get antibiotics for our livestock after July," (iii) increased operating costs as "cost of things have increased that make no sense to me," (iv) no nearby processing facility as "we need to send our stuff to Harrisburg for processing and getting them fit in your car is a hassle. Also, Harrisburg is not a quick drive", and (v) lack of regional fiber festivals as "there is no West Virginia fiber festival, there is no way to show we are here."

The participants also described the state and federal policies as (i) irrelevant, stated as "we have grants to apply for, but we do not need a greenhouse, we do not need a windmill. We need fencing or a water system, we could use a brand-new hay wagon", and (ii) insufficient stated as "we would get a wool incentive but that has been ended for 20 years at least. So, I do not have any grants or any government help". The participants were optimistic about fiber farming in the state and shared (i) increasing the volume as "we could do more of the same, just more volume, I would like to get more wool available to sell to people," (ii) having more equipment as "we desperately need more fencing, I would like to see my business being self-supportive," (iii) having local fiber festivals, (iv) technical workshops, (v) local fiber mills, and, (vi) farmer-friendly policies as some of the needs of the state.

Fiber farming in West Virginia was described as an economically unstable business. Factors like lack of networks, increased operating costs, no nearby processing facilities, and lack of regional

fiber festivals have made this business challenging. Regional fiber festivals could help promote the products, local fiber mills could help process the fibers, workshops could educate them on the latest technologies, and friendly policies could support them financially.

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