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Beyond Wool: New York’s Diverse Fibershed for Textiles and Clothing

Helen Trejo, Dr. Tasha Lewis, Dr. Michael Thonney

This study explores the prospective development of Fibersheds in the strong fiber community of New York. It draws inspiration from the Northern California Fibershed project founded by Rebecca Burgess in 2010. “Fibershed” is a reference to fiber farms, mills, and artisan studios that support regional clothing cultures and economies. A survey of New York fiber farmers helped explore the diverse fiber resources in NY, marketing strategies implemented by farmers, benefits, and challenges of having a fiber farm. Fiber farms have emerged as a lifestyle choice (Parry 2013; Tapper and Zucker 2008). Personal narratives from fiber farmers reflect their commitment to the development of local clothing and textile economies. This study strives to convey prospects to develop a Fibershed based on the strong physical and social infrastructure that supports the rich culture of fibers, clothing, and textiles in New York State.



Figure 1: Twin angora kids at the Laughing Goat Fiber Farm; Ithaca NY, 2014

Diversified Agriculture: U.S. Fiber Farms

An agricultural landscape may seem largely distanced from urban areas; however, fiber farms with sheep, alpacas, and goats are emerging in urban, rural, and “in-between” spaces. Ithaca is housed in Tompkins County, and is considered an urban metropolitan community with a population of approximately 30,335 people (US Census Bureau 2012). Although Ithaca is urban, it can also be considered a space “in between” since it is a college town, and the population varies based on the student population throughout the year (Green, Lewis, and Jirousek 2013). Figure 1 conveys a fiber farm within the Town of Ithaca NY. In Northern California, the city of Marin in Mendocino County is considered urban based on population; however, 45% of the county is classified as rural (City-Data 2013). Within this urban-rural-“in between” space, Slow Fashion pioneer Rebecca Burgess created an entire wardrobe from fiber resources within a 150-mile radius. In the *Soil to Skin: 150 Mile Wardrobe* project, regional artisans, fiber farmers, and mill owners collaborated to create one-of-a-kind clothing. Materials including organic cotton, wool, and alpaca fibers were locally sourced, and artisans added value to them through

their high quality craftsmanship. The success of the *Soil to Skin* project led to the development of the first Fibershed in Northern California, Mendocino County California.

The concept of a “Fibershed” is not new. All communities have drawn knowledge and made use of local resources in the past, and many continue to do so.¹ What distinguishes Fibershed is the effort to create a clothing and textiles economy to meet 21st century expectations of healthy clothing value chains as an alternative to the Fast Fashion paradigm. The ecological component includes a vibrant discussion about low carbon emissions, carbon sequestration, and fiber animals as valuable ecosystem contributors (DeLonge 2014; Bieg et al. 2014). The social and cultural aspect is community-based through education in fiber arts, and collective engagement to garner visibility for fiber farmers, mill owners, and artisans. Additionally, Fibershed highlights the significance of harvesting diverse fiber resources in a regional landscape to create a self-sustaining clothing and textiles economy.

U.S. Fiber Farm & Mill Infrastructure

Fiber farmers and mill owners are primarily “in between” urban and rural areas, which blurs their accessibility based on geographic location. To address this, farmers have increased their community visibility by attending Farmer’s Markets and community festivals. Farmers also have open farm days and invite the public to visit their fiber animals. Farmers convey their expertise in direct conversations with visitors (Tapper and Zucker 2008). In tours at the *Tregelly’s Fiber Farm* in Massachusetts, farmers discuss the animal’s native country, and narrate information about the animal’s personality. In the *Misty Meadow Icelandic Farm* in Minnesota, farmers invite the public to learn about shearing sheep for wool. At the *Victory Ranch* in New Mexico, farmers host spinning, knitting, and weaving workshops to expand education in fiber arts.

Micro-scale mills have emerged to support small fiber farms and the larger fiber community (Parry 2013). One aspect of managing a mill is harnessing extensive knowledge about fleeces to create valuable products that can generate revenue for customers. *Stonehedge Fiber Mill* in Jordan Michigan was established in 1999; the owner, Deborah McDermott also has a sheep farm and is an expert in making yarns.² In 2014, *Stonehedge Fiber Mill* was awarded “Business of the Year” by the East Jordan Area Chamber of Commerce for “Outstanding dedication and service to the community.” This suggests that fiber processing infrastructure can add social and cultural value while stimulating economic growth in a community.

¹ Founder of *Wild Fibers* magazine, Linda Cortright, raises awareness of rich historical traditions and continued uses

² *Stonehedge Fiber Mill* received national attention for providing 4,000 pounds of yarn to *Ralph Lauren*, which was used to create sweaters and caps for the 2014 Winter Olympics closing ceremony in “Local Company Makes Olympic Closing Ceremony Sweaters.” *WLNS.com*. December 13, 2013. Accessed October 21, 2014.

Apparel & Textile Industry Partnerships

Partnerships among U.S.-based fiber farmers and textile-apparel brands suggest momentum to support the existing and emerging domestic infrastructure. *Pendleton Woolen Mills* has partnered with domestic sheep farmers to produce high quality clothing and textiles over the past 150 years (Trinidad 2012). Charles Bishop, Vice President of mill production, explained that customers have an interest in sustainability and are eager to know the story of their clothing. Since *Pendleton* is vertically integrated with a strong domestic textile legacy, they are able to expand knowledge about domestic wool processing during mill tours in the United States.

Pendleton also supports the economic growth and stability of U.S. alpaca fiber farms. Alpaca farmers, Erin and Paul Egan, manage the “Alpaca Blanket Project,” which involves sourcing alpaca fibers from over 700 farms in 35 states (Adams 2013). Farmers earn \$3 to \$5 per pound of high quality alpaca fleece. *Pendleton* produces blankets and scarves with fibers sourced from the cooperative alpaca fiber pools. Scarves range from \$15 to \$60, and blankets are over \$200. The products are sold on the “Alpaca Blanket” website, Farmer’s Markets, and farmer’s retail stores. The partnership between *Pendleton* and the “Alpaca Blanket Project” exemplifies a successful collaboration between the textile industry, and fiber farmers.

Ramblers Way, a small clothing company, also supports the economic stability and development of fiber farmers in the United States. Fibers are sourced from domestic Rambouillet sheep farms and manufactured in U.S. mills. Joseph Redman, President of the retail outlet “Joseph’s of Portland” in Maine, explains that customers specifically seek *Ramblers Way* clothes. Customers support the company’s goal to rejuvenate the domestic clothing and textile industry with environmental standards that foster the growth of U.S. fiber farms, and offer economic and community development opportunities. The existence of these domestic fiber farm-apparel-textile partnerships provides optimism for future growth and stability.

Local Fiber Consumer Studies

Several studies suggest consumer interest in domestic, in-state natural fiber products. American consumers prefer wool clothing manufactured in the U.S. with a reasonable price point that are from independent brands (Sneedon, Soutar, and Lee 2014). There is a preference for domestically produced wool products rather than acrylic (Peterson, Hustvedt, and Chen 2012). Consumers are also willing to pay a higher price for wool sweaters with a state label like Texas, compared to U.S. or Australian labeled sweaters (Hustvedt, Carroll, and Bernard 2013). Consumers from Texas, Georgia, and Virginia are willing to pay a higher amount for socks knitted in the U.S. with wool, alpaca fibers, and mohair harvested in their respective state (Hustvedt, Bernard, and Peterson 2012). In a mid-Atlantic U.S. University, students preferred wool fibers and natural plant dyes harvested at the University (Cao et al. 2014). These studies suggest a demand for locally produced fiber products.

New York “Fibershed”: Social Infrastructure

New York fiber farmers, mill owners, and artisans have developed extensive social

infrastructure to support the fiber community overtime. During the late 19th and early 20th centuries, the U.S. wool industry shifted from the Northeast to the West and raising sheep for wool was a declining part of New York's agricultural economy.³ Sheep farmers sought to improve revenues earned for wool through the development of cooperatives that expanded their market access. Generally, farmer cooperatives developed further away from urban centers because farmers had less bargaining power than farmers close to urban communities (Booth 1928). Cooperatives were important because Eastern wool growers often had to compete for market access with finer quality Western U.S. wool, and international imports (Smith 1926). By 1918 in New York, there were 18 wool associations in NY, and approximately 500,000 pounds of wool were sold collectively (Booth 1928). This involved collective engagement among sheep farmers and wool buyers who sorted the wool by quality. The development of cooperative marketing led to the creation of the wool grading system that determines profits based on wool fineness. Sheep farmers were able to make more revenues based on their attentiveness to wool quality and selective breeding of sheep.

There continues to be a strong presence of NY sheep and wool cooperatives, and an emergence of associations and fiber festivals to support the cultivation of diverse fibers. Festivals provide an initial meeting point for fiber farmers who want to learn about fiber animals from experienced farmers, shearers, and mill owners (Parry 2013). They can engage and support each other socially and economically with informal sharing of knowledge and peer-to-peer workshops.

New York “Fibershed”: Physical Infrastructure

New York State is unique because New York City is the leading fashion capital of the world (Rantisi 2006). Fashion entrepreneurs in NYC are also striving to re-vitalize a local apparel industry, including Maker's Row and Manufacture NY. Major apparel companies including Eileen Fisher and Rag & Bone manufacture “Made in America” clothing lines. Smaller NY brands like Where, Farm2Fashion, and Simply Natural Clothing include animal fibers in their lines. Drawing attention to the fiber, clothing, and textile resources beyond NYC can expand our understanding of the contributions of rural and “in between” spaces throughout NYS. Although an official “fibershed” has not been developed in New York, the fiber farm and mill infrastructure exists to support it.

Additionally, the annual *Washington County Fiber Tour* in NY promotes holistic community engagement. Figure 2 shows the highest concentration of fiber farms—17—in Washington County; this particular county also hosts the *Southern Adirondack Fiber Producers Cooperative* and the *Southern Adirondack Fiber Festival*. Historically, the county housed several cotton and wool mills that spurred the community's economic prosperity along the Hudson River (Wright 2013). With the fiber tour, the public is able to visit different fiber farms and mills to develop their own expertise about the local clothing and textiles economy.

³ In New England states—New York, New Jersey, Pennsylvania, Delaware, and Maryland—about 66% of 1924 earned income for sheep farmers came from mutton and lamb sales for the NYC market; about 33% of income was from wool (Smith 1926).

As Figure 2 illustrates, over 230 fiber farms exist throughout New York with high concentrations throughout central, western, eastern, and southern NYS. There are approximately 14 mills to process fibers into yarn; they exist primarily in central NY, while nine knitting factories are largely centered in NYC. There is a fragmentation in NYS fiber processing and knitting infrastructure for fiber farms.⁴

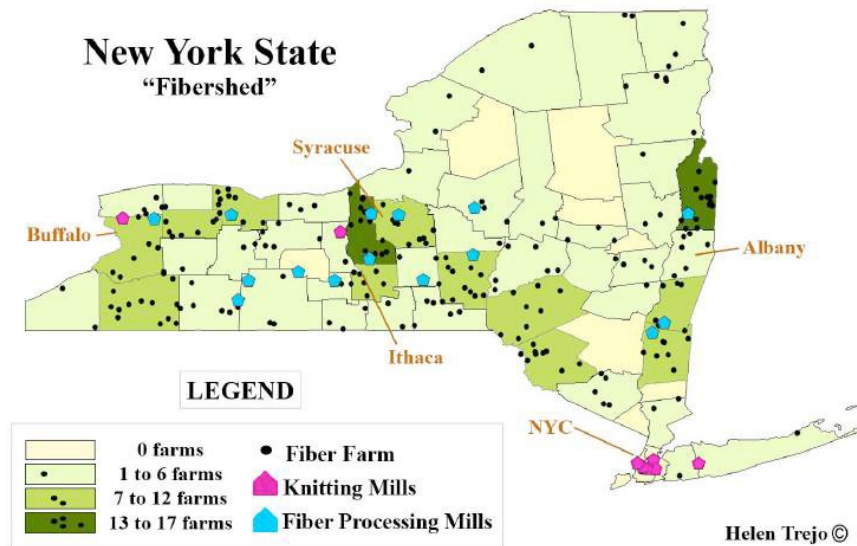


Figure 2: Visualization of the NYS Fibershed

New York Fiber Farm Survey

The purpose of the survey was to learn more about existing New York fiber resources, explore marketing strategies implemented by fiber farmers to sell their fiber products, and to learn about the challenges, and benefits of having a fiber farm. To create the fiber farm survey, the *California Fibershed Wool Inventory* online survey was referenced, and scholars with expertise in sheep farming, marketing, and apparel supply chains provided feedback. The fiber farm survey consisted of open and closed ended questions to provide a forum for fiber farmers to express their thoughts and obtain quantitative data. Open-ended responses were analyzed and coded using Atlas.ti software. The survey was distributed between July and August 2013. One-hundred forty-four NY fiber farms were contacted to complete the survey, and 67 responses were fully complete for a response rate of 46.5%. Some farms had both fiber farms and on-site mill infrastructure, which enriched findings. On-farm site visits to three fiber farms and mills enhanced survey findings with semi-structured interviews.

⁴ California’s physical infrastructure for Fibersheds is also fragmented with fiber mills in Northern California and knitting factories in Southern California near Los Angeles, another fashion city.

Sample

Table 1: Income distribution reported by 57 NY fiber farmers

Income earned from Fiber Farm	Frequency (N= 57)	Percent
Less than \$10,000	37	63.2%
\$10,000-\$24,999	11	19.3%
\$25,000-\$49,000	5	8.8%
\$50,000-\$74,999	2	3.5%
\$75,000 and over	2	5.3%

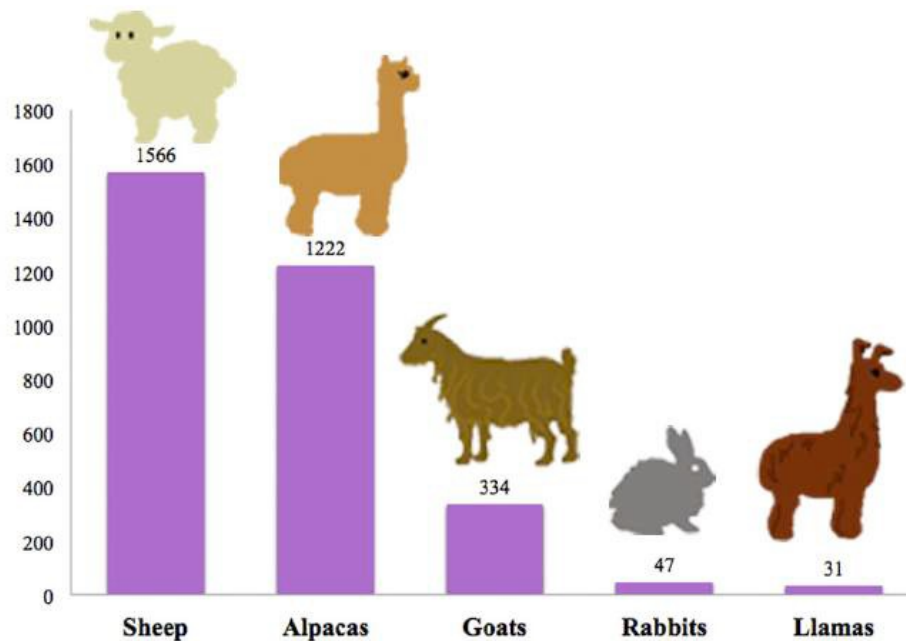


Figure 3: Diversity of Fiber Animals in New York State; Aug 2013

The following describes the study sample. Approximately 70% of survey respondents were female. This reflects the emerging trend of female-operated farms in the U.S., but women also tend to respond to surveys more than men. A majority of respondents reported working on the farm full time (62.7%), and fewer worked part-time (37.2%). Respondent's fiber farm experiences ranged from 1 to 5 years. The work force included family members and professional shearers. On average, income earned from fiber farms was less than \$10,000 (Table 1).

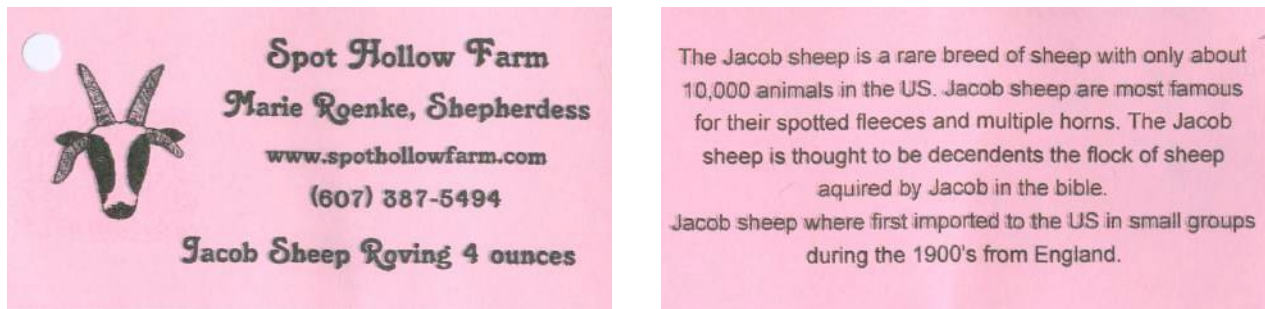
Findings Overview

Responses from 67 fiber farmers revealed that there are a wide range of animal fibers available in New York including wool, alpaca, mohair, cashmere, angora, and llama fibers. The amount of fiber animals fluctuates throughout the year based on sales of the animals,

and births of new animals.⁵ Farmers sell yarn (76%), roving (73%), clothing and/ or accessories (64%), household textiles (50%), and other products including raw fleece. Marketing platforms include informative labels on products, direct conversations with customers, and the Internet. Major challenges fiber farmers experience are identifying a target market, and selling “tactile” fiber products online. Benefits include supporting a sub-culture of people interested in fibers, animals, sustainability, and agriculture. Farmers welcome the public to visit their farms as part of agro-tourism, which fosters social and community development among farmers, local community members, and tourists. The following section will provide detailed findings.

Marketing Strategies

Approximately 76% of 64 farmers communicate information about their fiber animals to sell fiber products. Marketing platforms include direct conversations with customers (68.7%), conveying information through the Internet (55.2%), and informative labels on products (53.7%) (Figure 3). The category “direct conversations” included interactions with customers at farm tours and fiber festivals as well as marketing platforms on the Internet included farm websites, blogs, Etsy.com, Facebook, and Twitter pages. Farmers add value to their fiber products by highlighting the significance of their animals as a marketing strategy. Forty-four fiber farmers provided detailed responses about their marketing strategies. The following provides detailed explanations of the information they communicate.



*Figure 4: Front and Back of marketing label for sheep’s roving from survey respondent, 2013.
Image Courtesy Marie Roenke.*

Fiber characteristics

The most frequent marketing information communicated by the sample of fiber farmers was fiber characteristics. Farmers tell customers about performance benefits associated with specific fibers to expand knowledge about the fiber’s unique features. Information that farmers communicated about sheep’s wool, goat’s mohair, and alpaca fibers is shown in Table 2.

⁵ Approximately 1566 sheep; 1222 alpacas; 334 goats; 47 rabbits; 31 llamas reported between July & August 2013.

Table 2: Representative Statements Reflecting Fiber Characteristics

NY Farm & Location	Fiber Farment Responses
Dashing Star Farm Millerton, NY	“I . . . inform consumers about the health benefits of wool bedding products unique characteristics of the fibre itself (natural flame retardancy, moisture wicking capability, temperature moderating and insulating capacity, and natural colors, crimp and curl).”
Laughing Goat Fiber Farm Ithaca, NY	“I tell customers about how mohair has been used in upholstery, suiting, rugs, socks etc because of its durability and the length of the fiber. It has luster, and it takes dye very well, two factors which make items seem attractive.”
Not Available	“I like to tell people the advantages of alpaca fibe(r) . . . non Allergenic, warmth, doesn’t itch, natural product.”

Although the farmers reference home textiles (bedding and upholstery), fiber characteristics highlighted are also relevant to clothing. The information provided aligns with efforts of clothing brands, like *Icebreaker* and *Smartwool*, to communicate information about wool’s valuable functional characteristics. Apparel brands emphasize wool’s insulative, cooling, and wicking properties. Additionally, clothing brands *Eileen Fisher*, *Purely Alpaca*, and *Simply Natural Clothing* highlight the alpaca fiber’s hypoallergenic quality, diversity of natural shades, and the hollow fiber feature that makes clothing lightweight.

Fiber Animal Heritage

The second frequent marketing information communicated by fiber farmers was the fiber animal’s breed, history on the farm, and lineage. Farmers described whether the animal is a unique cross, the rarity aspect, or selective breeding practices that help increase fiber quality for specific breeds. Farmers also take pride if a fiber animal won a ribbon at a fiber festival. Selected statements that reflect pride in raising unique fiber animals are in Table 3.

Table 3: Representative Statements Reflecting Fiber Animal Heritage Stories

NY Farm & Location	Fiber Farmer Responses
8 Hands Farm Cutchogue, NY	“Icelandics (sheep) have a unique dual coat, so we explain that information to knitters and spinners.”
Ellis Hollow Farm Ithaca, NY	“Suri Alpaca – This is currently a rare fleece to obtain – there are about 30 animals of this type in NY at this time. My stud’s fleece has won Champion at competition.”
Windsong Farm Burdett, NY	“Wensleydale and Cotswold sheep are rare breeds that produce lovely lustrous longwools.”

As part of the history and legacy of sheep, farmers also highlight conservation efforts. The farmer from the *Hog Island Sheep Farm* in Genoa NY uses labels that convey conservation aspects of the sheep. In a farm tour, he explained that Hog Island sheep were isolated for several generations on a barrier island near Virginia (personal communication). It is believed that the Hog Island sheep have genetics similar to sheep of the 1600s. The *Nature Conservancy* found the sheep in the 1970s, and gave the sheep to farmers to raise. A fiber farmer from the *Hog Island Sheep Farm* explained:

The first conservation group that got them was actually Williamsburg, colonial Williamsburg, because they figured that that sheep would have been more indicative of what a sheep would have been back in the colonial days before man really kept heavily, heavily breeding the sheep to get to what worked for men. These sheep had been bred backwards for what worked for sheep. Obviously the strong ones survived, the weak ones died...

The farmers work with the *American Livestock Breeds Conservancy* to help maintain genetic diversity among the 22 sheep of the estimated 200 that remain in the world. The farmers indicate that they are able to sell all of their Hog Island fiber products because of the sheep heritage story.

Individualization of Fiber Animals

Farmers also individualize their fiber animals by communicating information about the animal’s name, personality, and providing photographs of the animals. Individualization is typically done in direct conversations with customers at fiber festivals or farm tours. One farmer commented, “I tell them how sweet angoras are, and that the cashmeres are rascals.” Farmers provide extensive information about their fiber animals, which adds value to their fiber products, and to the customer’s experience of observing or buying the products (Parry 2013). A fiber farmer from the *AREA Criations Alpaca Farm* in Fort Ann, New York discussed

challenges with including individualized information about each animal (personal communication). In the past, she processed each fleece individually to honestly match a specific animal with a product, but explained that the overall costs were too high. Processing a 3 pound alpaca fleece costs more than a 10 pound fleece because fibers got consumed in the large processing machinery.⁶ Due to cost issues, the farmer began organizing fleeces by color and micron count to process a larger amount. It is vital to consider the different outcomes from an economic and business perspective.

Ecological Significance & Animal Welfare

Farmers also highlighted environmental benefits of using animal fibers. Farmers emphasized natural aspects and “the sustainability of wool as a renewable resource.” Some also mentioned that the fiber animals are “100% grassfed, humanely raised.” Farmers from the *Hog Island Sheep Farm* explained concerns in labeling fiber products organic; no farmers in this study reported having “organic” certification. The largest concern about organic certification was not being able to administer chemical dewormers to sheep to prevent internal parasites. Since medicines contain synthetic ingredients, using them would violate organic standards. Ironically, organic certification can induce health risks for sheep, and conflicts with the animal’s well-being. Hustvedt, Peterson, and Chen (2008) suggest that consumers have a greater concern for animal rights and animal welfare, compared to organic environmental attributes of wool.

Few sheep farmers produce organic wool because of the health risks it causes for sheep (Druchunas 2002).⁷ The criteria for organic certification is based on livestock food processing standards developed by the *National Organic Program* under the USDA; there are currently no standards for wool as a by-product of sheep. As a result, alternative labels are used that reflect environmental benefits of raising sheep for wool, including “sustainable,” “eco-friendly,” and “all natural” (Bernard, Hustvedt, and Carroll 2013). These claims are ambiguous and consumers may not have a clear definition of what each one entails. Findings from Peterson’s study indicate that American consumers have the highest willingness to pay for wool products labeled “organic” compared to alternative labels; however, the standard definition does not reflect animal health implications that farmers communicate.⁸ Based on

⁶ The mill owners of the Fingerlakes Woolen Mill explained that approximately 30% of a small amount of fleece can be lost in picking, carding, and de-hairing machinery. It is more economically feasible to process more fleece because the machinery will consume less overall; half a pound of 100 pounds for example.

⁷ It is possible for sheep farmers to obtain organic certification for wool (Druchunas 2002). Becky Weed from the *Thirteen Lamb and Wool Company* in Idaho explained that she uses diverse pest management strategies to reduce internal parasites of her sheep. Methods range from genetic selection to resist parasites to rotational grazing. However, internal parasites are not completely eliminated, there are risks for of high sheep losses, and higher costs for organic feed.

⁸ Definition of “Organic:” Items must be certified to the USDA’s organic standards, and must be inspected and certified before labeling. This means no synthetic pesticides, hormones or antibiotics, no irradiation, no artificial coloring or genetically modified (GM) ingredients, and no petroleum or sewage sludge fertilizers. Organic also

greater consumer interest in “organic” wool, the researchers suggest that the *National Organic Program* develop organic standards for wool producing sheep, rather than applying livestock standards.



Figure 3: Hog Island Sheep Farm, Genoa NY; Photo Credit David Arellanes

Local Production

Fiber farmers expressed gratitude for the mill infrastructure available in New York. Two mills will be highlighted based on site visits and the in-depth information from the semi-structured interviews.⁹ In Genoa New York, the *Fingerlakes Woolen Mill* was established in the 1990s and purchased by the current owners in 2001. Mill equipment was inherited from an existing mill, and are remnants of the New England textile mill industry. The oldest equipment was a wool opener from 1925, carders from the 1930s, and a spinning frame from 1946 (personal communication). Approximately 2,000 to 4,000 pounds of fibers are

means that animals were grass fed organic fed, and had access to pasture or the outdoors (Peterson, Hustvedt, and Carroll 2013).

⁹ There are several mills that provide fiber processing services for NY fiber farmers.

processed annually into roving and yarns. *Battenkill Fibers Carding and Spinning Mill* in Greenwich NY was established in 2009 to continue the 200 year legacy of fiber processing in the Upper Hudson Valley (Wright 2013). Their existence supports the economic development of small family fiber farms with the creation of value-added fiber products (personal communication).

Farmers commonly use more than one mill to create final fiber products. Fibers are also sent to regional fiber pool cooperatives where they are processed on a commercial scale. Farmer’s comments on their expertise of domestic mill infrastructure are in Table 4.

Table 4: Representative Statements Regarding Different Mills

NY Farm & Location	Fiber Farmer Responses
Springside Farm Pompey, NY	“(V)ery few prime (high quality fibers) are sent to the New England Fiber Pool. Our yarns and most of the rovings are made here in this county by Salt City Fibers...or by A+ Fiber Mill in Jordan (NY)...Salt city also does alpaca/wool blends...A+ can do blends very well, but she’s stellar at doing heathered color mixing in alpaca, no one better, and I like to support both mills.”
Dashing Star Farm Millerton, NY	“We find that the demand for our wool product in general has increased steadily over the past nearly 20 years we have Been operation. The very high quality semi-worsted Process employed by Battenkill fiber & Carding Mill Has made our yarns even more marketable. We are especially happy to have been able to reduce our carbon Footprint by having the ability to have our wool processed Here in NY state.”

Local production labels and manufacturing information are also important marketing features. Farmers use the slogan “New York USA bred and raised,” and note specific state landmarks like the Hudson Valley, or use the “Pride of New York” logo. Farmers also make broader references to USA or domestic production.

New York Fiber Farm Benefits

Fiber farmers and mill owners are assets to each other as they symbiotically contribute to each other’s economic growth and stability. They have developed strong social networks and take pride in their contributions to the New York local textile and clothing industry. There

seems to be a strong fiber culture that values connections with people, especially with the wide array of opportunities to collectively interact during festivals and tours. The farmer from the *AREA Criations Alpaca Farm* indicated that participation in county-wide fiber tours creates a “close knit family.” She explained, “we’re always there to take care of each other, which is nice.” Another alpaca farmer values connections made with other farmers, fiber artists, and has a leadership position in a large fiber organization that nourishes the cultivation of fiber animals nationally:

I enjoy attending fiber festivals and sharing my production with other farmers, felters, spinners, weavers, knitters and crocheters. I also enjoy being able to participate in (and am a director of) our national Cooperative (the Alpaca Fiber Cooperative of North America), and taking advantage of the benefits of our cooperative's products.

Educational outreach is instrumental to both fiber farmers and mill owners. An alpaca farmer indicated:

Alpacas in the field stop traffic on the road. Visitors then often come in for a tour of the farm. Because we also sell eggs, honey, and other farm products, our visitors often go home with more than just fiber products. Plus, the local school loves a fiber farm field trip. :) (*Eagle Hollow Farm*, Walton NY)

Additionally, the owner of the *Fingerlakes Woolen Mill* explained that both fiber farmers and members of the community appreciate their availability. He explained:

I’m probably helping to keep a service alive for local people and there are quite a few locals that bring their wool here, and even I’m amazed that people will drive hours to bring it to the mill... (*Hog Island Sheep Farm*, Genoa NY)

He further explained that home schooled children and interested community members visit the mill and are amazed at the industrial machinery since it is not commonly seen. These comments suggest that the novelty of both fiber farms and the mill physical infrastructure attracts community attention. With the rich social and physical infrastructure, the New York “Fibershed” conveys prospects for future growth.

New York Fiber Farm Challenges

The most common challenge farmers identified was in marketing fiber products successfully. Farmers identified difficulties finding the target market, extensive time commitment to market products, marketing tactile products online, and limits to create a “strong loyal following.” One respondent discussed the challenges regarding income, marketing, and the current U.S. textile industry:

Poor economics, virtually no domestic textile industry left to which to market fiber. L[i]ke many small-scale fiber producers [we] have to vertically integrate to sell [fiber] product[s]. (*Little Creek Farm*, Salem NY)

Part of the issue is a lack of consumer awareness of the inherent value of the fibers, and significance in sustaining local textile economies. A sheep farmer explained that her yarns are generally more expensive than those offered in yarn stores and consumers need to appreciate "...the benefits of buying from a small farm practicing sustainable farming methods and based locally." A farmer with sheep, alpaca, and angora rabbits expressed the challenge of selling fiber products while competing with the mass-produced low-cost fiber products in the American consumer culture that expects low prices:

Some years having to work harder to sell product because of the economy and [W]almart selling those che[a]p non animal fiber or fake animal fiber items for 10 bucks when we need to sell sweaters for well over a hundred or even two. When all people are looking at [is] the price not the quality.

This farmer alludes to the impact of the fast system that emphasizes quantity over quality. In response to this, fiber farmers are striving to highlight the value of their processes and expand consumer understanding of their work.

Farmer's efforts to connect their customers with their fiber animals reflect transparency in their value chain. It also connotes care in their work as they take time to communicate heritage stories and individualize their fiber animals. In the survey, marketing was identified as a primary challenge; however, these farmers are very active in keeping potential customers informed, especially with stories that add sentimental appeal. The time fiber farmers take to develop marketing strategies and directly interact with their customers reflects a passion and commitment to their entrepreneurial fiber farm business that is part of diversified agriculture. The re-development of a domestic clothing and textile industry can stimulate greater availability and demand for local clothing. Fashion industry partnerships can help relieve farmers of managing every single aspect of their value chain, especially in reaching the target market with retail in urban centers like New York City.

Conclusions

New York State has the physical and social infrastructure to support at least one, and maybe several Fibersheds. New York has over 230 diverse fiber farms, and over 20 mills that add value to fibers. Fiber farmers and mill owners optimistically welcome the public as a strategy to expand awareness of their work, and the agricultural clothing and textile economy in New York. Although economic earnings are relatively low, collective networking through New York fiber festivals and fiber associations provides empowerment that strengthens the fiber community. Marketing fiber products is a major challenge that can limit revenues earned, especially since the customer base is currently a community that prefers to see and touch products before purchasing. Fiber artisanship, agro-tourism efforts, and apparel-textile industry partnerships can help sustain New York fiber farms as the fiber resources currently seem to be an untapped resource with potential increased economic revenues for fiber farmers.

The development of a New York "Fibershed" or several Fibersheds with affiliation to the larger

Fibershed network, could help build brand identity especially with an online Fibershed Marketplace that can help expand the customer base beyond the fiber community. Additionally, the establishment of official NY “Fibershed/s” can shed light on the social, cultural, and ecological contributions fiber farmers make in the rural, urban, and “in-between” spaces. New York clothing and textile economies are not just limited to New York City.

More broadly, the adoption of the Fibershed model in different geographic regions exemplifies the growth of a Fibershed sustainable brand. Since hand-made, custom Fibershed clothing can have higher price points and may not be able to tap consumer demand, there will be a need to develop Fibershed ready-to-wear clothing for a larger consumer market (Bieg et al. 2014). The presence of New York City, a major fashion city, provides hope for viable relationships between fiber farmers-mills-and the fashion industry in the future.

References

- Adams, Barry. "A Farm Full of Fleece." *Wisconsin State Journal*, November 9, 2013. Accessed October 21, 2014. http://host.madison.com/business/a-farm-full-of-fleece/article_3458efc-a91d-579f-97eb-74089fc4e8f3.html
- Bernard, John, Gwendolyn Hustvedt, and Kathryn Carroll. "What is a Label Worth? Defining Alternatives to Organic for US Wool Producers." *Journal of Fashion Marketing and Management* 17, no. 3 (2013): 266-279.
- Bieg, Amber, Rebecca Burgess, Dustin Kahn, Erin Axlerod, Jenny Kassin, Marcia DeLonge, and Lydia Wendt. "Fibershed Feasibility Study for a California Wool Mill." *Fibershed*, February 2014. <http://www.fibershed.com/wp-content/uploads/2014/01/Wool-Mill-Feasibility-Study-Feb2014.pdf>
- Booth, John. *Farmers' Cooperative Business Organizations in New York*. Ph.D., Cornell University: Ithaca, 1928. Cao, Huantian, Crescent Scudder, Christine Howard, Karen Piro, Hillary Tattersall, and John Frett.
- "Locally Produced Textiles: Product Development and Evaluation of Consumers' Acceptance." *International Journal of Fashion Design, Technology, and Education* 7, no. 3 (2014): 189-197.
- DeLonge, Marcia. *Greenhouse Gas Costs and Benefits from Land-Based Textile Production*: Fibershed, 2014. Druchunas, Donna. "Have you any organic wool?" 2002. Accessed October 21, 2014. <http://sheeptoshawl.com/organic-wool/>
- Green, Denise, Van Dyk Lewis, and Charlotte Jirousek. "Fashion Cultures in a Small Town: An Analysis of Fashion and Place-Making." *Critical Studies in Fashion & Beauty* 4, no. 1 (2013): 71-106.
- Hustvedt, Gwendolyn, John Bernard, and Hikaru Peterson. "Marketing of Locally Produced Sustainable Animal Fiber." *USDA: Sustainable Agriculture Research and Education*. 2012. Accessed October 21, 2014. <http://mysare.sare.org/mySARE/ProjectReport.aspx?do=viewProj&pn=LS08-208>
- Hustvedt, Gwendolyn, Kathryn Carroll, and John Bernard. "Consumer Ethnocentricity and Preferences for Wool Products by Country of Origin and Manufacture." *International Journal of Consumer Studies* 37, no. 5 (2013): 498-506.
- Hustvedt, Gwendolyn, Hikaru Peterson, and Yun-Ju Chen. "Labeling Wool Products for Animal Welfare and Environmental Impact." *International Journal of Consumer Studies* 32, no. 5 (2008): 427-437.
- "Mendocino County, California." *City-Data*. Accessed October

- 21, 2014. http://www.city-data.com/county/Mendocino_County-CA.html
- Parry, Barbara. *Adventures in Yarn Farming: Four Seasons on a New England Fiber Farm*. Roost Books: Boston, 2013.
- Peterson, Hikaru, Gwendolyn Hustvedt, and Yun-Ju Chen. "Consumer Preferences for Sustainable Wool Products in the United States." *Clothing and Textiles Research Journal* 30, no. 1 (2012): 35-50.
- Rantisi, Norma. "How New York Stole Modern Fashion." In *Fashion's World Cities*, edited by C. Breward and D. Gilbert, 109-122. Berg: Oxford, 2006.
- Sneedon, Joanne, Geoffrey Soutar, and Julie Lee. "Exploring Wool Apparel Consumers' Ethical Concerns and Preferences." *Journal of Fashion Marketing and Management* 18, no. 2 (2014): 169-186.
- Smith, Mark. *The Tariff on Wool*. The Macmillan Company: New York, 1926.
- Tapper, Joan and Gale Zucker. *Shear Spirit: Ten Fiber Farms, Twenty Patterns, and Miles of Yarn*. Potter Craft: New York, 2008.
- Trinidad, Amy. "Weaving America's Spirit for Over a Century." *Sheep Industry News* 16, no. 12: 25-26. December 2012. Accessed October 21, 2014
https://www.sheepusa.org/NewsMedia_SheepIndustryNews_PastIssues_2012_December2012_WeavingAmericasSpiritForOverACentury
- Wright, Jennifer. "200 Years of Textile Production." Accessed October 21, 2014.
<http://www.battenkillfibers.com/documents/historyoftextilespanels.pdf>

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