



**Agriculture
and Markets**

Natural Fiber Textile Development Workgroup 2023 Report



Photo Credit: Kathryn Davis

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Introduction and Reporting Requirements

The New York State Department of Agriculture and Markets (Department) submits the following annual report to the Governor and Honorable Members of the Legislature. This report constitutes the annual report as required by Section 226 of the Agriculture and Markets Law, as amended in 2023. The information contained in this annual report reflects activities that occurred between March 3, 2023 and December 31, 2023.

The Natural Fiber Textile Development Workgroup (Workgroup) was created by Section 226 of the Agriculture and Markets Law to study, evaluate, and develop ways to increase the natural fiber textile industry's contribution to the New York State economy and increase private investment in the industry within, and outside of, New York State. The Workgroup is convened jointly by the Commissioners of Agriculture and Markets and Economic Development, or their designees. The Workgroup is required to submit recommendations within one year of the effective date of the legislation and every two years thereafter.

For the purposes of this workgroup, "animal fiber" means natural fibers that have formed the covering, or fleece, of sheep or other hairy animals such as goats or alpacas, shorn for the purpose of creating textile products. "Plant fiber" means natural fibers that are obtained from plants and used to create textile products including, but not limited to, hemp.

The Workgroup is tasked with studying and identifying ways to increase the natural fiber and textile industry's contribution to the New York State economy and increase the number of jobs within the textile industry. In addition, the Workgroup will identify ways to support and increase private investment in New York State enterprises that produce and process natural fiber and textiles, while encouraging the development of new businesses within and supporting the natural textile industry. Finally, the Workgroup will develop ways to improve public knowledge of, and appreciation for, the benefits of natural fiber textiles and increase sales opportunities for New York-produced natural fiber textiles both within, and outside of, New York State.

To fulfill the statutory priorities, Department of Agriculture and Markets Commissioner Richard Ball and Empire State Development Commissioner Hope Knight, or their designees, convened the Workgroup to develop recommendations to strengthen the natural fiber textile industry in New York. In preparation for this report, the Workgroup convened on October 11, 2023 and again on November 17, 2023. The Workgroup meetings were publicly available and recordings were posted on the Department website along with meeting minutes.

The Workgroup is comprised of stakeholders in different areas of the textile and related industries. These are outlined in the statute and include, but are not limited to: a producer of animal-based fibers; a producer of plant-based fibers; a representative of a statewide agricultural organization; a representative of a statewide or regional organization of animal- or plant-based fiber producers; a representative of fiber and textile manufacturers, which is defined as a fiber processor or spinning mill, a knitting mill, a weaving studio, or wet finishing (dyeing, printing or fabric finishing); a representative from designers/producers, which is defined as including apparel, home textile products, industrial textiles and healthcare

products; a representative of an academic institution offering textile or design education; and a representative of an academic institution offering fiber-producing livestock education. The Workgroup is chaired by the Commissioners of Agriculture and Markets and Economic Development, or their designees. Members of the Workgroup during the time covered in this report are:

- Cecilia Tkaczyk of Barton Hill Jacobs
- Steve Halton of CNY Hemp
- Renee St. Jacques of New York Farm Bureau
- Mary Jeanne Packer of Empire Sheep Producers Association
- Gail Parrinello of the Hudson Valley Textile Project
- Jeff Silberman of the Hudson Valley Textile Project
- Rabbit Goody of Thistle Hill Weavers
- Lilly Marsh of Lilly Marsh Studios
- Mimi Prober of Mimi Prober Designs
- Dr. KeunYoung Oh of Buffalo State University
- Stephen Hadcock of the CCE Livestock Team

Executive Summary

The Workgroup discussed the current landscape of both the animal and plant fiber industries in the state and identified the strengths and challenges facing the growth, processing, usage, and adoption of natural fiber products by consumers. While data on this industry in New York is not comprehensive, staff researched and compiled the background information below to provide context to understand the findings and recommendations of the Workgroup.

The Workgroup focused its discussion on the mission to increase the economic impact and number of jobs created by natural fibers, support private investment and new businesses, and increase public awareness and sales of natural fibers. It found that the significant issues preventing the industry from moving forward were supply chain challenges of limited processing and aggregation capabilities in the state and the need for education and workforce development programs around natural fibers and fiber arts. As a result, the Workgroup developed 18 recommendations in three broad areas: Capacity Building, Education, and Market Development and Promotion.

Industry Background

Animal Fiber Farming

The most widely available natural fiber in New York State is wool from various breeds of sheep. There are 801 sheep farms producing wool in New York State and 699 of those are small flocks with fewer than 100 head of sheep.¹ The value of the wool clip in 2017 (most

¹ 2017 Census of Agriculture, USDA National Agriculture Statistics Service https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_State_Level/New_York/st36_1_0024_0027.pdf. Accessed 15 Nov. 2023.

recent data available) was \$215,000 for 253,460 pounds of wool harvested.² New York State also has smaller amounts of animal fiber available from alpaca, goat, and rabbits. Mohair (goat) production had a value of \$5,000 with 4,500 pounds of fiber from 50 farms.³ There were 462 alpaca farms with just over 6,000 alpacas. There is no USDA data available for pounds of alpaca fiber, however estimating 7.5 pounds per animal, there would be just over 45,500 pounds a year.⁴ Wool can be separated into four categories based on fiber diameter, which translates into how the wool feels and functions. These categories are fine, medium, coarse, and carpet. In New York State, 75% of the wool produced falls into the medium category⁵ which is suitable for uses such as gloves, socks, outerwear, bedding, yarn, and upholstery.⁶

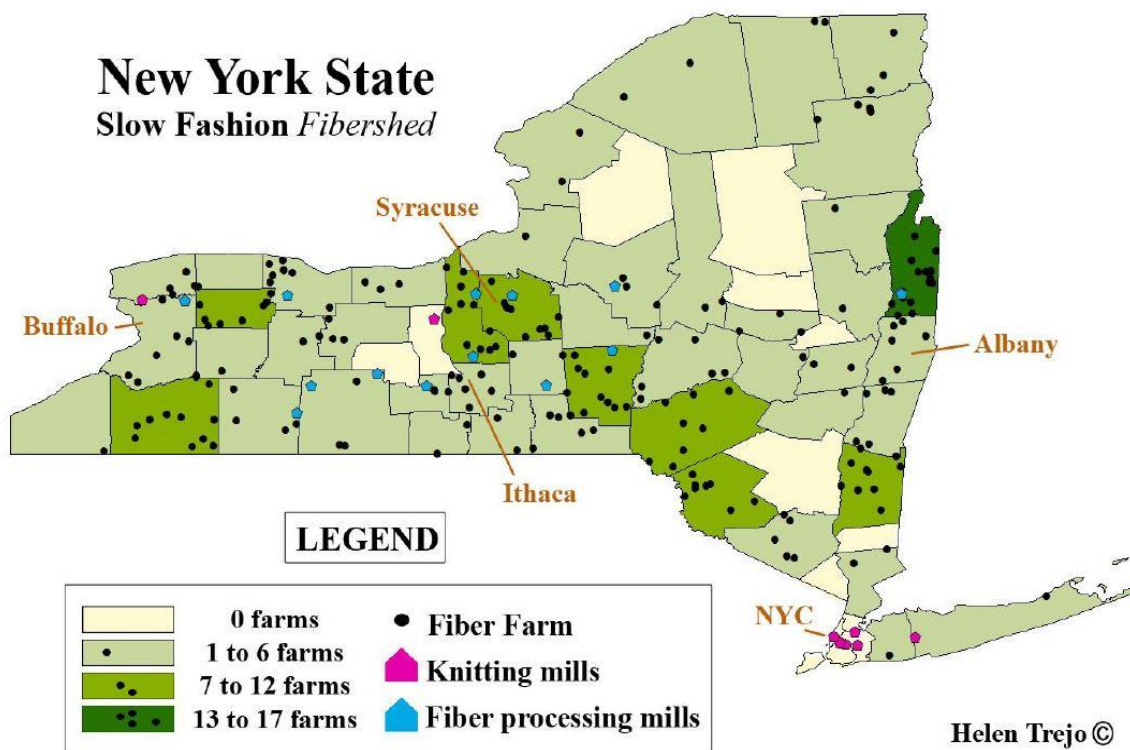


Figure 1: Exploring The New York Slow Fashion Value Chain: Local Animals, Fibers, And Knitwear⁷

² Ibid

³ Havas, Dana Aug 2020 “Analyzing Farm Level Practices and Policies For a Financially Viable Sheep Farm Enterprise Using System Dynamics: Focusing on Fiber Production and Marketing” pg. 7 *A Thesis Presented to the Faculty of the Graduate School of Cornell University* <https://ecommons.cornell.edu/items/e2cc1a29-3cb8-4f79-b511-8faf3768fea6> Accessed 15 Nov. 2023.

⁴ Ibid

⁵ Hohman, Andrea and Havas, Dana 2020 “NYS Regional Wool Branding & Marketing Report” pg. 16, figure 4 *Cornell Johnson School of Business Center for Sustainable Global Enterprise* <https://bpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/f/6685/files/2015/09/NYS-Wool-Branding-Report.pdf> Accessed 15 Nov. 2023

⁶ Hohman, Andrea and Havas, Dana 2020 “NYS Regional Wool Branding & Marketing Report” pg. 17, figure 5 *Cornell Johnson School of Business Center for Sustainable Global Enterprise* <https://bpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/f/6685/files/2015/09/NYS-Wool-Branding-Report.pdf> Accessed 15 Nov. 2023

⁷ Trejo, Helen August 2014 “Exploring The New York Slow Fashion Value Chain: Local Animals, Fibers, And

Many fiber farmers are part-time farmers and have additional off-farm occupations.⁸ Unlike other sectors of farming, fiber farmers are predominantly female.⁹ These fiber farms are typically small farms with annual revenues of \$10,000 or less.¹⁰ Many producers don't have the time or desire to direct market their product(s), since farming is only a part-time activity for them. Traditionally, these farmers would bring their wool to a local wool pool that had a wholesale buyer arranged in advance. Farmers would deliver the wool which would then be aggregated and sorted prior to being shipped to the buyer. Payment could be as low as \$0.55 per pound.¹¹ Unfortunately, there were no wool pools held in 2023 so farmers who relied on these had no outlet for their wool. Many either stored their wool in a barn or discarded it.

The other option for fiber farmers is to direct market their fiber and/or have value-added products made with their fiber. Workgroup members report wool prices ranging from \$2-\$8 per pound, which is considerably more than what is being paid for wool in the commodity market. Much of this value may be unaccounted for in the official data because of the nature of the typically smaller scale and diverse supply chains used by these more specialized markets. While the price per pound is much higher with this option, the cost of having wool processed combined with the time it takes to market makes this option unappealing to some farmers. In addition, the small size of many of these farms means that they lack the efficiencies of larger farms located in the western United States and other countries and can struggle to compete in the market.¹² Despite the higher price per pound they tend to receive, most small fiber farmers still don't break even from the production of fiber alone.¹³ The total expenses for a 25-head sheep farm in Central New York are just under \$8,500, while the wool income for the same size farm is only \$452.¹⁴

Knitwear" pg 46 figure 14 *A Thesis Presented to the Faculty of the Graduate School of Cornell University* <https://ecommons.cornell.edu/items/aeb7bf03-b15a-4191-bee9-6528feeb07c4> Accessed 15 Nov. 2023

⁸ Trejo, Helen August 2014 "Exploring The New York Slow Fashion Value Chain: Local Animals, Fibers, And Knitwear" pg 11 *A Thesis Presented to the Faculty of the Graduate School of Cornell University* <https://ecommons.cornell.edu/items/aeb7bf03-b15a-4191-bee9-6528feeb07c4> Accessed 15 Nov. 2023

⁹ Ibid

¹⁰ Ibid

¹¹ Havas, Dana Aug 2020 "Analyzing Farm Level Practices and Policies For a Financially Viable Sheep Farm Enterprise Using System Dynamics: Focusing on Fiber Production and Marketing" pg. 8 *A Thesis Presented to the Faculty of the Graduate School of Cornell University* <https://ecommons.cornell.edu/items/e2cc1a29-3cb8-4f79-b511-8faf3768fea6> Accessed 15 Nov. 2023.

¹² Hohman, Andrea and Havas, Dana 2020 "NYS Regional Wool Branding & Marketing Report" pg. 2 *Cornell Johnson School of Business Center for Sustainable Global Enterprise* <https://bpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/f/6685/files/2015/09/NYS-Wool-Branding-Report.pdf> Accessed 15 Nov. 2023

¹³ Havas, Dana Aug 2020 "Analyzing Farm Level Practices and Policies For a Financially Viable Sheep Farm Enterprise Using System Dynamics: Focusing on Fiber Production and Marketing" pg. 11 *A Thesis Presented to the Faculty of the Graduate School of Cornell University* <https://ecommons.cornell.edu/items/e2cc1a29-3cb8-4f79-b511-8faf3768fea6> Accessed 15 Nov. 2023.

¹⁴ Ibid

There are roughly nine fiber processing mills in New York State¹⁵ and six knitting mills.¹⁶ There are currently no large-scale dye houses. A new medium-sized scouring facility opened in 2023 in the state. Due to the lack of infrastructure and processing options, the wait for a farmer to receive their finished yarn/product back from a mill can be 12 months or more. Most farmers shear or harvest once yearly, so that means it can take up to two years before a farmer has any product to sell. This is one barrier facing new and aspiring fiber farmers. As an alternative to in-state processing, some farmers may ship their wool out of state to be processed for faster turn-around times. However, it is very expensive to ship wool.

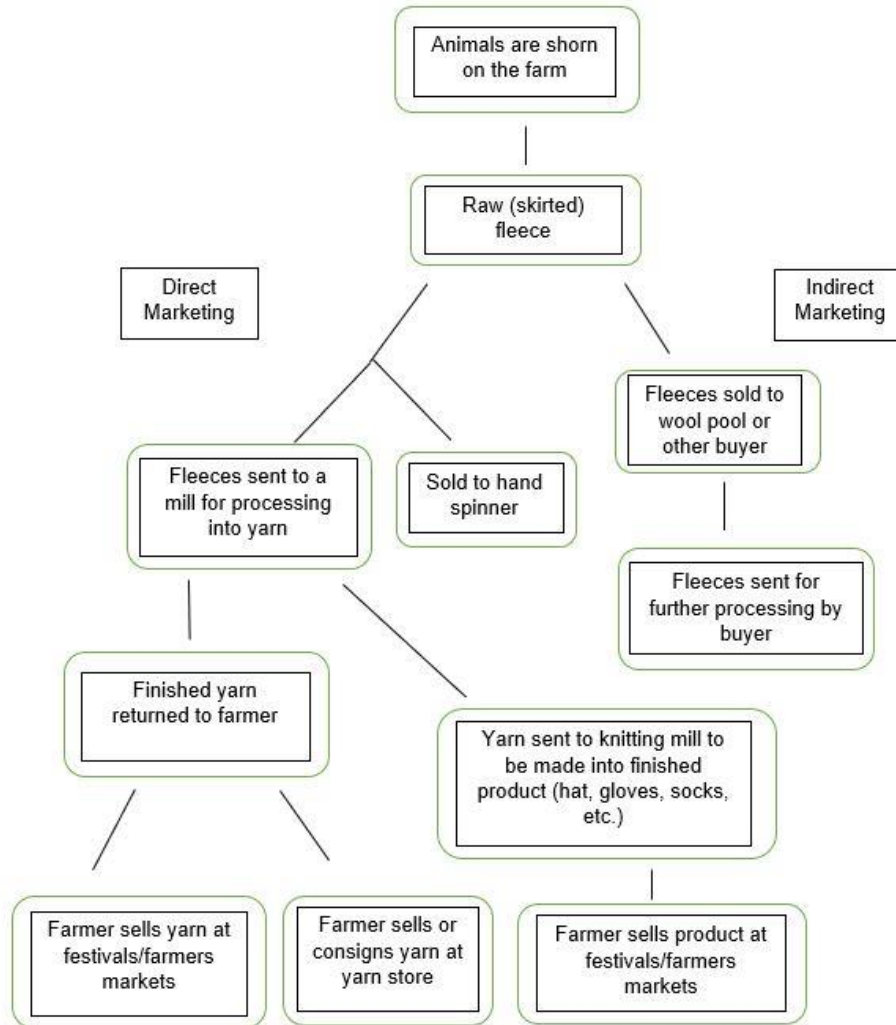


Figure 2: Diagram of Marketing Channels for Animal Fiber¹⁷

¹⁵ Trejo, Helen August 2014 “Exploring The New York Slow Fashion Value Chain: Local Animals, Fibers, And Knitwear” pg 124 Appendix D A Thesis Presented to the Faculty of the Graduate School of Cornell University <https://ecommons.cornell.edu/items/aeb7bf03-b15a-4191-bee9-6528feeb07c4> Accessed 15 Nov. 2023

¹⁶ Trejo, Helen August 2014 “Exploring The New York Slow Fashion Value Chain: Local Animals, Fibers, And Knitwear” pg 125 Appendix E A Thesis Presented to the Faculty of the Graduate School of Cornell University <https://ecommons.cornell.edu/items/aeb7bf03-b15a-4191-bee9-6528feeb07c4> Accessed 15 Nov. 2023

¹⁷ NYS Dept. of Agriculture and Markets Nov. 2023

Plant Fiber Farming

Hemp fiber was previously a very common natural fiber utilized in products like rope, clothing, and boat sails, but hemp cultivation was severely restricted by the federal government in the 1930s and then later banned as part of the Cannabis family. However, the 2018 Farm Bill authorized the growing of hemp as an agricultural crop and New York State passed legislation permitting its growth. Initially, there was a lot of interest by New York farmers in growing hemp and in 2021, there were 600 acres of hemp planted, according to Department data, and 310 acres harvested according to Department and USDA data.¹⁸ However, in 2022, according to Department data, there were 115 acres of hemp planted and approximately a third of that was harvested as reliable markets and processing capacity for the hemp crop is still developing. Additionally, further crop research and education has been identified as a need by the agricultural community. Research is currently focused on identifying and breeding varieties that are suitable to New York's climate and latitude. Researchers at Cornell University and SUNY Morrisville are working on developing cultivars that are resistant to fungal diseases and that don't flower too early, since hemp growth is dependent upon day length.¹⁹

Researchers recommend that farmers who are interested in growing hemp start small and plant hemp in rotation with another crop, which helps prevent disease and pests and offers an alternative opportunity to ensure income diversity on the farm.²⁰ Hemp farmers are required to apply for a Hemp Grower License²¹ with the Department. There are also inspection, testing, and reporting requirements that must be followed,²² which can create a burden for hemp farmers.²³ Cornell is currently working on developing hemp varieties that wouldn't require testing, but those are still in the early stages. As with any agricultural crop, and particularly hemp given the vagaries of the emerging hemp market, it is advisable for hemp growers to have a known market for their crop prior to planting.²⁴

The lack of knowledge and experience on the side of manufacturers is another barrier to the widespread use of hemp. Workgroup members discussed the challenge of lack of access to capital and a reliable market demand for hemp products. There is growing interest in utilizing hemp, however companies tailor their equipment and methods to the material they are using and there will need to be changes or modifications to both equipment and processes to accommodate hemp.²⁵ Workgroup members also identified the lack of a commercial scale

¹⁸ USDA NASS National Hemp Report April 19, 2023

https://www.nass.usda.gov/Statistics_by_State/New_York/Publications/Latest_Releases/2023/hempan23.pdf
Accessed 15 Dec. 2023

¹⁹ Barraco III, Anthony August 2021 "Developing the New York Hemp Fiber Industry" pg 9 *A Thesis Presented to the Faculty of the Graduate School of Cornell University* <https://ecommons.cornell.edu/items/bb06d7ad-2d08-471a-9398-5d42cd701ae7> Accessed 22 Nov. 2023

²⁰ Ibid

²¹ <https://agriculture.ny.gov/plant-industry/hemp-grower-licensing>

²² <https://www.ams.usda.gov/sites/default/files/media/NYHempProgramPlan.pdf>

²³ O'Neil, Kitty February 2020 "The NYS Hemp Industry – 2020 Update" pg 1 *CCE North Country Regional Ag Team* https://nydairyadmin.cce.cornell.edu/uploads/doc_727.pdf Accessed 22 Nov. 2023

²⁴ Ibid

²⁵ Barraco III, Anthony August 2021 "Developing the New York Hemp Fiber Industry" pg 23 *A Thesis Presented to the Faculty of the Graduate School of Cornell University* <https://ecommons.cornell.edu/items/bb06d7ad-2d08-471a-9398-5d42cd701ae7>

decortication facility as a significant barrier to the state's hemp industry. This will require experimentation and new product development on the part of industry and research and other testing by academia.²⁶ There is also the potential to blend hemp and other natural fibers such as wool to get the benefits of both in finished products.

Working with Natural Fibers

There are currently designers using natural fibers in their products, however the cost for natural fibers can be high for several reasons (see above). This makes it difficult for middle of the supply chain processors/manufacturers/designers to use natural fibers and still be able to make sufficient profit. For these businesses, often “yarn is an ingredient, not a final product.”²⁷ There is the opportunity to embrace the expense and build a luxury brand by appealing to that market, however that may limit the pool of buyers. There are knitting and weaving mills and studios that work with natural fibers for either custom or commission work (many do both) to produce finished goods such as clothing and home textiles. This adds a considerable amount of value to both the product and the industry. However, not all designers agree that natural fibers should be a luxury item; some would like them to be available to a wider audience but currently the cost can be prohibitive depending on the product.

In 2022, Governor Hochul [announced](#) the Fashion Innovation Center to advance the production of New York State-produced smart and sustainable textiles like hemp, flax, wool, and other materials to be used by the fashion industry. The Fashion Innovation Center will give leaders from the agricultural community and the fashion industry the opportunity to work hand-in-hand to develop innovative ways to support New York farms, reduce environmental waste, and improve sustainability across the fashion industry.

In 2023, Governor Hochul [announced](#) that a consortium of six universities, businesses, farmers, fashion industry leaders, and non-profit organizations, led by the Rensselaer Polytechnic Institute, was selected to manage New York's Fashion Innovation Center. The consortium will conduct research to bolster the Center's mission of building a smarter, more sustainable fashion industry. In addition to research on the processing, prototyping, material characterization and testing capabilities, the consortium will also create an accelerator housed within the Fashion Innovation Center to provide space to early-stage companies working on promising developments in the field and candidates for commercialization.

There are a few members of the Workgroup who are part of the Consortium that will be managing the Fashion Innovation Center. The Workgroup plans to meet with representatives from the Fashion Innovation Center and Empire State Development in 2024 to discuss and develop strategies to work together and build on these most recent accomplishments.

[9398-5d42cd701ae7](#) Accessed 22 Nov. 2023

²⁶ Ibid

²⁷ Goody, Rabbit NFTD Workgroup meeting 10/11/23

<https://meetny.webex.com/recordingservice/sites/meetny/recording/db6ba6654a8f103cb7d3005056814772/playback>

Benefits of Natural Fibers

The Intergovernmental Panel on Climate Change (IPCC) has calculated the fashion industry produces 10% of global carbon dioxide emissions every year, while it is estimated to use around 79 trillion liters of water annually.²⁸ Synthetics such as nylon, polyester, and rayon constitute about 60% of all new garments made today, according to the United Nations.²⁹ With every washing, friction causes tiny tears in the fabric and small fibers to break away. These fibers are washed down the drain and enter waterways. Microplastics shed by synthetic clothing are one of the main sources of pollution in waterways and 35% of the microplastics found in the ocean can be traced back to synthetic clothing.³⁰ Natural fibers also shed particles as they break down over time; however, these particles are biodegradable and disappear from the environment in a matter of months as opposed to synthetic fibers that can persist in the environment for decades.³¹

Fiber animals, such as sheep and alpacas, can play an important role in sequestering carbon. Carbon makes up 50 percent of wool's weight and at the end of its lifecycle, wool clothing can be composted, further locking the carbon and valuable nutrients away in the soil.³² In addition, sheep that are used for vegetation management around solar panels instead of traditional mechanical landscaping can drastically reduce the amount of CO₂ released into the atmosphere.³³ The Workgroup did identify that those solar panel pasture acres should be managed to optimize wool health for the grazing animals. Hemp can also play an important role in carbon sequestration. Research suggests hemp is twice as effective as trees at storing carbon, with 2.5 acres of hemp able to absorb eight to 22 tons of CO₂ a year, more than any forest.³⁴ Based on New York's climate and natural resources, the state is ideally suited to the raising of fiber animals and hemp.

Natural fibers can also improve the health of the individuals wearing them. Wool is known for its ability to absorb moisture both from the wearer and the environment, which creates a stable microclimate and maintains wearer comfort.³⁵ Studies have shown that children and

²⁸ Niinimäki, Peters, Dahlbo, Perry, Rissanen, Gwilt "The Environmental Price of Fast Fashion," *Nature Reviews Earth & Environment* Volume 1 April 2020 page 189
https://www.researchgate.net/publication/340635670_The_environmental_price_of_fast_fashion Accessed 18 Dec. 2023

²⁹ Thomson, Rebecca *The Guardian* "Could a chemical found in many household products help alleviate fashion's microplastics problem?" <https://www.theguardian.com/whats-possible-ask-toronto/2023/sep/07/could-an-innovative-new-substance-solve-fashion-microplastics-problem> Accessed 3 Nov. 2023

³⁰ Doyle, Emma, Preston, James, McGregor, Bruce, Hynd, Phil *Animal Frontiers* "The science behind the wool industry. The importance and value of wool production from sheep" Vol. 11, No. 2 Mar. 2021 pg 21
<https://academic.oup.com/af/article/11/2/15/6276818> Accessed Dec. 18 2023

³¹ Ibid

³² Thanhauser, Sofi January 25, 2022 "Worn: A People's History of Clothing" *Pantheon Books* pg 217

³³ Kochendoerfer, Nikola and Thonney, Michael February 2021 "Grazing Sheep on Solar Sites in New York State: Opportunities and Challenges" *Department of Animal Science, Cornell University* pg 5 <https://solargrazing.org/wp-content/uploads/2021/02/Solar-Site-Sheep-Grazing-in-NY.pdf> Accessed 22 Nov. 2023

³⁴ Plester, Jeremy "Could hemp be a key tool in fight against climate change?" *The Guardian*
<https://www.theguardian.com/environment/2022/nov/24/could-hemp-be-a-key-tool-in-fight-against-climate-change>
Accessed 3 Nov 2023

³⁵ Doyle, Emma, Preston, James, McGregor, Bruce, Hynd, Phil *Animal Frontiers* "The science behind the wool industry. The importance and value of wool production from sheep" Vol. 11, No. 2 Mar. 2021 pg 21

adults who suffer from eczema experienced relief while wearing fine wool clothing. The authors concluded that fine wool clothing could be used as one way to manage the condition.³⁶ In addition, patients with fibromyalgia who used wool bedding experienced reduced pain levels and improved sleep quality.³⁷

Natural Fiber Textile Development Workgroup Findings

Processing

One of the main challenges identified by the Workgroup was the lack of in-state processing capacity available for natural fibers. There are a few mills in the state that process animal fiber; however, they are generally small and can have long wait times due to the volume of fiber. This creates difficulties for fiber farmers because the longer they wait to receive their processed fiber the longer they must wait to sell their products and receive payment. The processing available for plant fiber is even more limited, with no dedicated mills and only a few small pieces of equipment available. In addition, the lack of processing increases prices for consumers and makes local natural fibers less appealing due to the expense.

Aggregation of Natural Fibers

Another challenge identified by the Workgroup is the lack of aggregation and sorting of fibers. There is currently no central physical location where fiber is stored. Most farmers store their fiber on-farm prior to processing and/or selling. Some level of aggregation would be useful so that designers and other buyers looking to source wool from within New York State can know what is currently available, request certain types of fibers, and have access to the quantity that they need. Many fiber farms are small and could potentially benefit from partnering with other farms to combine their raw fiber to create a finished product. This would help farmers because their costs would decrease with economies of scale. It would also benefit the end consumer because prices would decrease as more efficiency is built into the system. In addition to a lack of aggregation, there is a lack of trained sorters to sort and grade natural fibers. Sorting and grading are helpful because different types of natural fibers are best suited for different end uses. Creating a database of available fibers will allow buyers to know the specific type and quality of fiber that can be purchased for desired products.

Education

The Workgroup also identified a need for farmer training and education on fiber best practices. Many fiber farmers are new farmers and may not be aware of the many variables that can affect fiber quality. From feed to bedding/housing and best practices for shearing day, there are many factors that can affect fiber quality. In addition, many sheep farmers, in

<https://academic.oup.com/af/article/11/2/15/6276818> Accessed Dec. 18 2023

³⁶ Ibid

³⁷ Ibid

particular, may not treat wool as their primary product; however, even wool that is not of the highest quality can still be useful in various applications. By educating farmers, it may encourage them to take very basic steps to increase the value of their wool while maintaining the current use of their sheep for protein production and other uses. Currently, the Cornell Small Farms program does offer educational courses on Sheep Production and Goat Production; however, quality fiber production is not a key component of these courses³⁸. In addition, the Workgroup identified the need to build out fiber education through different avenues for farmers.

For plant fiber, there are also many factors that can affect quality, including plant breed/type selection and storage. It is important that hemp farmers understand the differences in hemp plant varieties and the best practices for growing, harvesting, and storing for fiber utilization. Cornell Hemp, which is housed in the School of Integrative Plant Science, offers educational resources for hemp farmers and others interested in hemp farming in New York.³⁹

The Workgroup also identified the need for public education to combat misconceptions about the fiber industry and promote the benefits of natural fibers. There are some groups that perpetuate misconceptions about fiber farming, so consumer and public education are very important. In addition, many members of the public may not be aware of the benefits associated with natural fibers and textiles made with them. At this time, most natural fibers are more expensive than synthetic fibers so consumer education would be beneficial to the industry. Additional marketing and promotion can help communicate with buyers (both end-product consumers and designers) the reasons for the price point and the benefits of natural fibers, both to the environment and the local economy.

Workforce Development

Education coupled with workforce development was identified by the Workgroup as an area of opportunity. Providing children in 4-H and FFA with the opportunity to learn fiber arts such as sewing, knitting, and weaving is important, but the Workgroup noted that there is a drop off once those young people age out of the program and go on to college. Finding a way to communicate that these skills can be part of viable career opportunities is critical. For college students who do enroll in fiber and/or textile programs, the Workgroup identified a lack of workforce training for students interested in textiles to learn additional hands-on skills for use after graduation. Closing that gap by developing internship and apprenticeship programs is important so that these graduates can further develop their skills to go on to become skilled artisans.

The Workgroup identified that finding skilled and knowledgeable employees is a challenge for some processors in the state. Many larger scale fiber processors and mills are located in the southeastern part of the country where labor is less expensive. In addition, that area of the country has a more robust history of investing in workforce development for the fiber industry, giving them a competitive advantage. Shipping fiber is expensive and increases the overall cost, so finding a way to attract fiber businesses (either existing or new) to New

³⁸ <https://smallfarms.cornell.edu/online-courses/>

³⁹ <https://hemp.cals.cornell.edu/resources/hemp-growing-info/>

York State would help decrease the cost of natural fiber and would create new jobs within the industry. However, without skilled and knowledgeable employees, those businesses cannot function. There is a need for workforce development and training programs for the fiber industry within New York State to meet existing and expanding needs.

Recommendations and Action Items

Capacity Building

Infrastructure

To increase capacity and build infrastructure within the natural fiber industry, the Workgroup recommends a two-pronged approach of working with both existing businesses to help encourage expansion and encouraging new businesses to operate in New York State. While there is currently some processing capacity in the state, many fiber farmers send their fiber out of state for either some or all their processing needs. Expanding processing capacity within the state would be an excellent opportunity to increase employment within the industry and the economic contributions of the industry to the larger New York State economy. The Workgroup offered the following recommendations:

1. Support grant opportunities for projects to expand existing or establish new fiber processing facilities and supply chain needs in the state.
2. Work alongside Empire State Development to highlight existing incentives and support that would assist in recruiting new or expanding natural fiber businesses in New York State.
3. Support expanded funding for Cornell Cooperative Extension specialists to conduct research and facilitate collaboration and coordination between members of the fiber supply chain, including producers, processors, designers, and manufacturers.

Aggregation

The Workgroup felt strongly that one or more centrally located storage warehouses would be beneficial to the fiber industry. However, there is a need for funding to initiate such a venture as well as a plan for how to manage it sustainably long term. Prior to beginning a project of this size and scope, the Workgroup felt that studying the best way to initiate and organize this venture would be critical to its success:

4. Support an economic impact and feasibility study to determine the best way to develop a warehouse and its management to ensure long-term economic viability. A central facility for aggregation and sorting has the potential to increase the value of fiber produced in New York State as well as market opportunities for New York State fibers.

Education

Farmer Education

The Workgroup felt that there was a need for easily accessible farmer education and recommended the following:

5. Develop a series of educational videos and other digital “how-tos” compiled in one location on best practices for fiber farmers. The series could include for animals: fiber breed selection, feeding and other husbandry practices, and shearing day and post-shearing practices. Similar resources should be available for plant fiber in an easy to access location. This could make a large impact on the quality of fiber produced in the state and, in turn, farmer profits.
6. Support the CCE Livestock team continuing to host and build on the New York State Fiber Conference for new and beginning farmers to provide education about raising and marketing fiber.
7. Support development of a mentorship program with more experienced fiber farmers matched up with new and beginning fiber farmers to ensure a transfer of knowledge within the industry.

Youth Education

The Workgroup made recommendations to encourage youth and young adults in education and career opportunities around natural fibers and textiles by:

8. Development of educational curriculum and classroom resources for school-aged children on natural fibers and textiles.
9. Support development of an internship program at the college level that would partner designers and manufacturers looking for interns with colleges that offer textile design and other similar courses to encourage students to explore a career in the textile industry. Once developed, all internships should be compiled in one online location.

Post College Training/Workforce Development

To build on the education initiatives, the Workgroup recommended not losing sight of the need to connect recent graduates to continuing educational opportunities. The Governor recently invested \$2 million to support pre-apprenticeship programs to help grow registered apprenticeships across the state, which provides an opportunity for designers or others wanting to start apprenticeship programs. The Workgroup recommends:

10. Outreach to connect textile designers and farmers to the Department of Labor’s (DOL) apprenticeship programs. The industry can also explore approval of a textile trades apprenticeship with DOL.

11. Coordination between the Office of Strategic Workforce Development, housed with Empire State Development, to identify and address workforce needs in the natural fiber textile industry and, specifically, manufacturing.

Consumer Education

With a new sheep barn and wool center planned at the New York State Fair, there is an opportunity to increase public awareness of, and appreciation for, the benefits and uses of natural fibers. The Workgroup recommends:

12. Incorporating competitions such as the national Make It With Wool Contest, demonstrations and events at the State Fair that engage and educate the public on natural fibers and their use.
13. Development of consumer-facing materials that identify the benefits of natural fibers that can be distributed by stakeholders for education.

Market Development and Promotion

Institutional Purchasing

The Workgroup felt that there was a strong opportunity to increase the use of natural fibers by state agencies and other institutional buyers by:

14. Encouraging state agencies that purchase fibers or textiles to source those products from within the state and utilize products produced with natural fibers grown in New York State.

New York State Grown and Certified Labeling

The New York State Grown and Certified Program provides a label that assures consumers that what they are buying is local and produced to a higher standard by requiring participating producers to enroll in an environmental management program. The program released its Animal and Plant Fiber application early in 2023 and currently has 15 fiber farms participating. The program actively conducts outreach year-round to recruit new farms, processors, and retailers to the program and the following recommendations were developed:

15. Encourage continued collaboration with New York State Grown and Certified and fiber farmers, fiber-related organizations, and retailers to increase the representation of natural fiber products in the program.
16. The Grown and Certified program should continue to explore new outlets for marketing New York fiber products under the label, including at trade shows and events. Furthermore, the program should continue to collaborate with the Workgroup to develop messaging that promotes the benefits of locally produced fiber.

Taste NY

The Taste NY program has a statewide reach with product available at over 70 locations across the state. Although food and beverage products are the focus, non-food products are also represented in a number of Taste NY locations. There are currently a small number of fiber producers in the program and there is opportunity for more. The Workgroup recommends:

17. Working with the Taste NY program to evaluate sales data and refine the type of products that are likely to be successful in Taste NY stores. In addition, the Workgroup recommends that Taste NY feature a fiber and textile month to highlight the natural fiber items produced in New York State that are available in stores.

I Love NY

The Workgroup is also interested in exploring utilization of the I Love NY logo and the associated brand recognition. I Love NY items are some of the top selling items in Taste NY stores and visitor locations around the state but often are not made from New York fibers. Empire State Development licenses the logo and has begun a conversation with the Workgroup, recommending:

18. Continued conversations with Empire State Development regarding a strategy for licensing the I Love NY logo to create I Love NY natural fiber textile products created in New York State.

Conclusion

The Natural Fiber Textile Development Workgroup will continue to meet twice a year to learn and discuss opportunities to advance the industry, as outlined in its mission. In 2024, the Workgroup will focus on opportunities to implement recommendations above. It will prepare its next report with updated recommendations to support the natural fiber textile industry in 2025.

Glossary of Terms

Term	Definition
Decortication	The first step in hemp processing, which separates the outer and inner parts of the stem. ⁴⁰
Fiber Diameter (Fineness)	The actual measurement of the thickness of a fiber. ⁴¹
Fleece	The fiber from a single animal in the shorn grease (raw) state. ⁴²
Grading	The classification of fleeces according to grade (fineness) and length. ⁴³
Micron	The unit of measurement used to measure fiber diameter (equal to one millionth of a meter). ⁴⁴
Scouring	Washing to remove grease, dirt, and other contaminants. ⁴⁵
Skirting	The act of removing the undesirable parts of the fleece, including hay, bedding, and any other undesirable material. ⁴⁶
Sorting	The separation of the whole fleece into parts. ⁴⁷
Wool clip	The total amount of wool shorn from a particular flock, or from flocks in a particular region or country, in one year. ⁴⁸
Wool pool	A group of producers who combine their wool for marketing. ⁴⁹

⁴⁰ <https://cals.ncsu.edu/psi/news/field-to-fabric-the-journey-of-fiber-hemp-from-tobacco-to-textiles/> Accessed 26 Dec 2023

⁴¹ <https://www.sheep101.info/201/woolmarketing.html#:~:text=A%20wool%20pool%20is%20a,according%20to%20t ype%20and%20quality>. Accessed 18 Dec. 2023

⁴² <https://extension.colostate.edu/docs/pubs/livestk/01400.pdf> Accessed 18 Dec. 2023

⁴³ Ibid

⁴⁴ <https://www.sheep101.info/201/woolmarketing.html#:~:text=A%20wool%20pool%20is%20a,according%20to%20t ype%20and%20quality>. Accessed 18 Dec. 2023

⁴⁵ <https://www.woolmark.com/industry/product-development/wool-processing/woollen-scouring-carbonising/> Accessed 18. Dec 2023

⁴⁶ <https://www.sheep101.info/201/woolmarketing.html#:~:text=A%20wool%20pool%20is%20a,according%20to%20t ype%20and%20quality>. Accessed 18 Dec. 2023

⁴⁷ <https://extension.colostate.edu/docs/pubs/livestk/01400.pdf> Accessed 18 Dec. 2023

⁴⁸ <https://www.dictionary.com/browse/wool-clip> Accessed 18 Dec. 2023

⁴⁹ <https://www.sheep101.info/201/woolmarketing.html#:~:text=A%20wool%20pool%20is%20a,according%20to%20t ype%20and%20quality>. Accessed 18 Dec. 2023