



Farm to Fashion Camp: Educating Students on Animal Fiber Production for the Fashion Supply Chain
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Introduction

There are unique opportunities in animal fiber production that are highly sustainable and affordable, not to mention feasible for the next generation of farmers and ranchers (Doyle et al., 2021; USDA, 1993). The overarching purpose of this project was to stimulate interest in youth ages 13-18 in careers supportive of regional and circular textile economies and their general awareness of the fiber, textile, and clothing supply chain and sustainable textile production practices. To accomplish this, we started the Farm to Fashion Camp, a multi-day summer program for youth in grades 8th-12th designed to introduce them to animal fiber production for the fashion supply chain. This project started in 2021 and is currently funded by an USDA grant until 2024.

Overview of Farm to Fashion Camp

Our goal for the first year of the Farm to Fashion Camp was to increase campers' knowledge of sheep wool and its sustainability impacts. Our innovative strategy used an active learning approach to provide campers the opportunity to interact directly with sheep, shearing, textile science, spinning, dyeing, and weaving. We also partnered with an animal science extension faculty member who specializes in goats and sheep and with a local sheep farmer. Over the course of three days, from June 28th-30th 2021, nineteen camp participants (17 females and 2 males, ranging in age from 13 to 18) completed a series of active learning modules led by faculty members from fashion studies and animal science. The camp began with students learning how to care for and handle sheep, along with a hands-on experience with sheep shearing. Later in the first day, campers learned about cleaning, carding, and spinning wool into yarn and used drop spindles to practice spinning and create art yarns. Campers spent the morning of the second day in a textile science lab. Through hands-on lab activities, the campers explored the chemistry and composition of various fibers (including wool), how to identify fibers using visual and chemical procedures, and how fiber structure and properties affect the performance and comfort of fibers. The afternoon of the second day of camp the campers used naturally colored and naturally dyed wool to weave a small project on a rigid heddle loom and naturally dyed wool yarn and cotton scarves. On the last day of the camp, students learned the basics of fashion illustration and designed a garment inspired by a wool textile sample. Campers finished their experience with a visit from a local sheep farmer and his wife, a world renowned handweaver of wool and linen textiles. The local farm serves as one supplier of wool for their textile company.

Evaluation of Farm to Fashion Camp

To evaluate the success of the program and whether campers increased their knowledge regarding sustainable aspects of wool fiber, a pre- and post-test was administered to all 19 campers. The test included a series of items focused on assessing an individuals' understanding of the environmental impacts of sheep ranching and wool fiber, yarns, and textiles. Examples of questions on the assessment

include, “Sheep can graze on grasses and can live in places that are not suitable for other forms of agricultural production,” and, “Wool products need to be washed frequently and in hot water.” Response categories for the questions were *True*, *False*, and *I don’t know*. Between the pre- and post-test, the number of correct responses improved by 21% on average, with some campers experiencing greater and others lesser knowledge gain. Additionally, confidence levels regarding their knowledge increased. On the post-test, campers chose the “I don’t know” response 23% less often on average compared to the pre-test. Areas of greatest knowledge gain were related to a) the antibacterial and flame-resistant properties of wool, b) that sheep farming can be a carbon neutral farming strategy, and c) that wool is considered a renewable fiber.

Farm to Fashion Continuation Plans

As this is a three-year project, further feedback was collected by asking campers to reflect on the camp experience and respond to a series of open-ended questions. Such input is a valuable part of the project refinement process. Feedback findings will be used to improve and expand camp experiences in subsequent years. Questions asked participants to identify the key knowledge and skills learned from the camp, whether the experience changed perceptions of wool products, and how they might use new knowledge/skills in the future. Campers’ list of knowledge and skills learned indicate they were engaged and left the experience with a new understanding of sheep, wool, properties, and fashion applications of wool. However, only two participants focused on sustainability knowledge indicating an area for refinement and expansion for next year’s camp. Seventy percent of participants indicated a positive change in their perception of wool products and will consider making or purchasing such products in the future. As for how these young people intend to use what they gained from the experience, 38% plan to continue exploring fiber arts (e.g., dyeing, spinning, weaving, knitting, sewing), 19% intend to share their new knowledge with others, and an additional 19% want to raise sheep for wool. The second offering of the Farm to Fashion camp occurred in June 2022 and was three and a half days (compared to the previous camp of two and a half days). The intention of expanding the length of the camp was to provide time for additional hands-on experiences with the sheep and fiber and to integrate more sustainability and science concepts into the camp. The camp will also run summer of 2023 and will be scheduled for five days.

Conclusion

Informal observations and conversations with participants (and attending parents) revealed strong interest in this type of camp. Offering interactive learning experiences and reaching out to external communities provide opportunities to recruit prospective students into our discipline as well as educate the public about sustainability issues related to the textile and clothing supply chain, how purchase decisions can lead to positive or negative impacts, and the viability of a local, regional textile supply chain. A planned output of this project is published modules that will be available for utilization by other textile and apparel programs interested in developing similar programming for outreach and recruitment purposes.

Reference

- Doyle, E. K., Preston, J. W., McGregor, B. A., & Hynd, P. I. (2021). The science behind the wool industry: The importance and value of wool production from sheep. *Animal Frontiers*, 11(2), 15-23.
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