

# COTTONWOOD IN COTTON CANDY

32" X 28"

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## Intro

Cottonwood in Cotton Candy is an artistic expression in experimental textile design. This piece is intended to be displayed as a dual-sided table cover. This research employs combining poplar seed hair fibers (cottonwood) with textile felting utilizing wool roving on dyed silk chiffon. The color scheme is inspired by cotton candy which shares the open, light and airy nature of cottonwood seed hairs. The fibers were cleaned, carded and dyed. In addition, decorative fabric manipulation methods include fold and clamp dye resist techniques, dye discharge, and felting.

## Lit Review

According to Chen and Cluver, poplar seed hair fibers are the fruit of one of the most common trees grown in the United States (2010). Poplar trees are derived from the *Populus* genus, which includes cottonwood trees (Jensen & Ross, 1995). In addition, these seed hair fibers are biodegradable and come from a renewable resource (Chen & Cluver, 2010). Furthermore, when writing about poplar trees, Chen and Cluver posited, "There is little appreciation for the potential value of their seed hair fibers" (2010, p. 256). The results from the knowledge of Chen & Culvers study guided the laundering and drying techniques employed in the authors work. Another mention of cottonwood fibers was found on an online crafting thread which stated that cottonwood fibers have been carded and spun to create yarn (Berman, 2014). This finding inspired the utilization of cotton cards and the carding process to separate the seeds from the fibers. Other than these two resources, there was a lack of research or documented experimentation with poplar (cottonwood) seed hair fibers. Therefore, the objective of this design research was to demonstrate the ability of cottonwood seed hair fibers to be incorporated into an artistic textile piece.

## Methodology

The poplar seed hair fibers employed in this study are cottonwood. The fibers were found near a cottonwood tree grove in Tulsa, Oklahoma. Experimentation with the cottonwood included washing and drying, seed and hair fiber separation, and fiber-reactive dye saturation.

### Cottonwood Preparation

**Washing and drying.** The cottonwood hair fibers and its trash were hand washed in warm water. The samples were dried in the oven at 100°C for 30 minutes. The remaining damp samples were placed in a mesh bag and mechanically dried.

**Seed separation.** Cottonwood seeds fibers are attached to seeds. The seeds were not desired for this research, therefore experimentation on seed separation occurred. The first trash removal method was a visual inspection and manual removal. Next, the cottonwood seeds were carded with cotton cards to separate the seeds and trash from the fibers. Further experimentation with a random tumbler pilling machine occurred. The pilling machine was used to remove the remaining seeds and fluff up the seed fibers after carding.

### Decorative Fabric Techniques

**Scouring, dyeing and color discharge.** The silk chiffon was scoured and prepared which allowed the silk to accept the fiber-reactive dyes (Brackmann, 2006). Fiber-reactive dyes and color discharge were mixed using the proportions recommended by Brackmann (2016). Dye was applied to both the silk chiffon and the poplar seed hair fibers and the color discharge was utilized on the silk fabric.

**Fold and clamp resist technique.** The decorative fabric technique was employed as a foundation for the piece. Three rounds of fold and clamp resist techniques then intermittent color discharge was used when creating the silk foundation.

**Felting.** The final step in the textile experiment was felting the silk, wool, and cottonwood. The wet felting method was used (Houghton, 2009). In addition to the combined wool and cottonwood fibers, threads of recycled double-cloth lamé fabric were incorporated into the top layers to add depth, texture and visual interest.

## Results

The design techniques employed illustrated design principals and elements including color, texture, space, balance, emphasis and contrast. The cottonwood fibers were overdyed so that a deep color was achieved and therefore the cottonwood would stand out against the other fibers and enhance the design. The poplar seed hairs accepted fiber-reactive dye. The cottonwood fibers were kept in small bunches so that the texture can be seen from both the front and back of the piece. The cottonwood was mixed with wool and felted into the silk. The researcher determined that the best presentation for this piece is one where the textile can be interacted with by touching, flipping and examining. Experimentation with mounting methods occurred. First, the textile was sandwiched between two panes of glass. Although striking, the piece lost depth and the "cotton candy quality." Next, the researcher experimented with hanging the design from the wall. This method was not chosen because both sides of the textile could not be seen.

## Conclusion

This decorative textile submission contributes to what is known, by building on existing poplar seed separation techniques; and adds to the existing knowledge and research by utilizing the poplar seed hairs as not just a functional experimental fiber, but as a decorative textile fiber. Poplar seed hairs accept dye well, and lend themselves to felting when mixed with wool roving.

Berman, D. (2014). Using cottonwood fiber. Retrieved from <http://www.permies.com/t/26904/trees/Cottonwood-Fiber>

Brackmann, H. (2006). *The surface designer's handbook*: " F+ W Media, Inc."

Chen, H.-L., & Cluver, B. (2010). Assessment of poplar seed hair fibers as a potential bulk textile thermal insulation material. *Clothing and Textiles Research Journal*, 28(4), 255-262.

Houghton, L. (2009). *Felting Fashion: Creative and Inspirational Techniques for Feltmakers*: Anova Books.

Jensen, E. C., & Ross, C. R. (1995). *Trees to know in Oregon*. Corvallis, OR: Oregon State University Extension Service and Oregon Department of Forestry.

