

12-1-2017

Cow/Calf Hutch: Portable, Pasture Calving Solution Designed by Farmers for Farmers

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Recommended Citation

Benzing, Tyler; Findley, Morgan; Golinghorst, Derek; and Reeves, Tom, "Cow/Calf Hutch: Portable, Pasture Calving Solution Designed by Farmers for Farmers" (2017). *TSM 415 Technology Capstone Posters*. 19.
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Cow/Calf Hutch Portable, Pasture Calving Solution Designed by Farmers for Farmers

Client: Mills Mid-Iowa Machinery, LLC, Otley, IA

Problem Statement

- There is currently not a portable calving shelter on the market that is designed for one cow to have her calf by herself every time

Scope

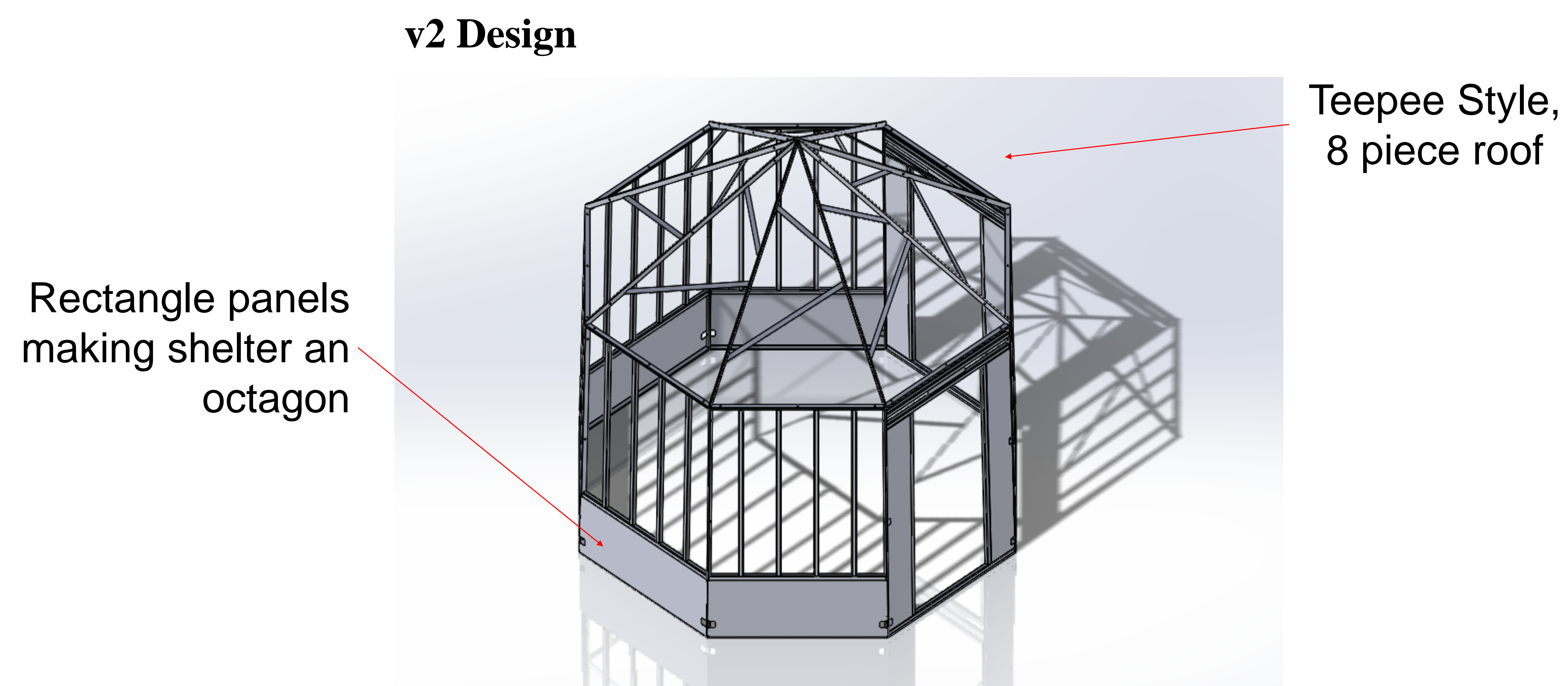
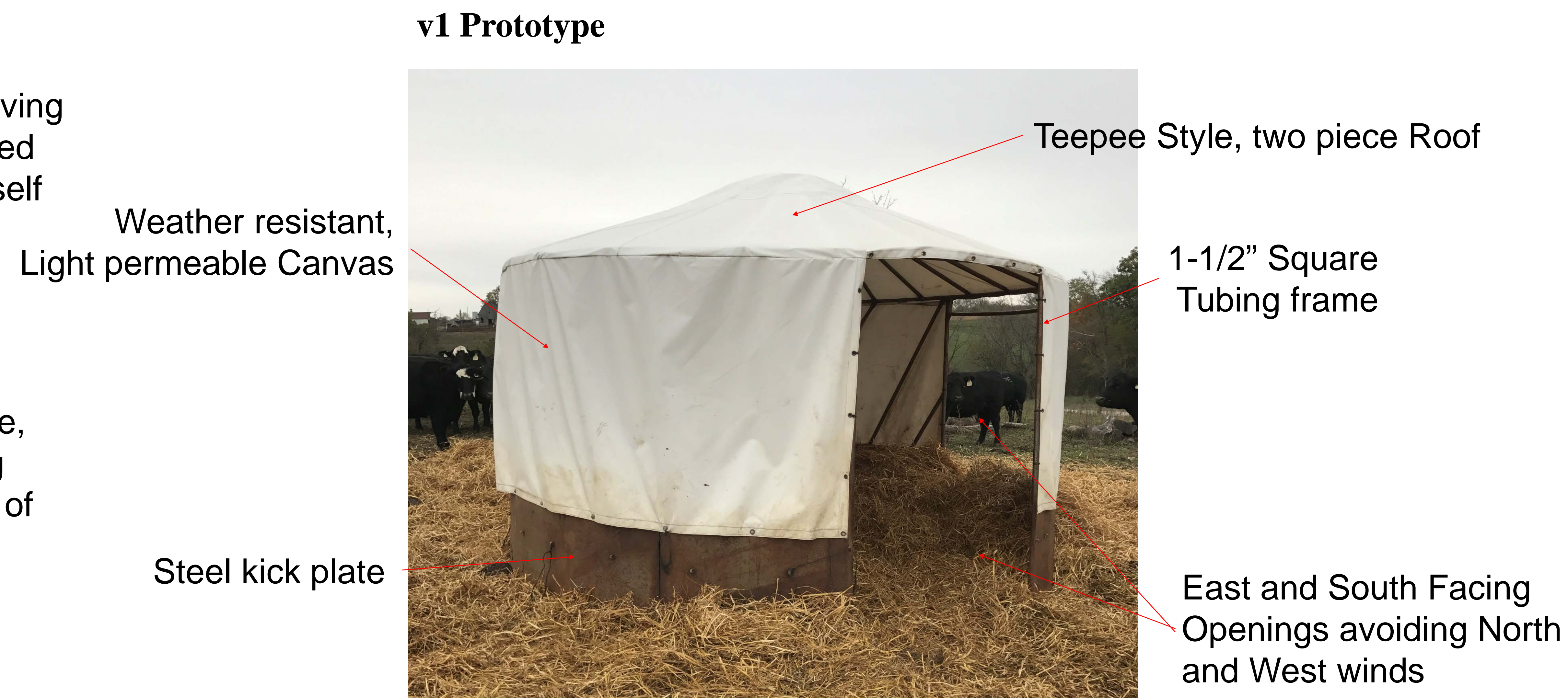
- Analyze v1 prototype for manufacturing inefficiencies
- Redesign and prototype v2 structure, develop a Design for Manufacturing Plan, and instructions for assembly of calf tree in field

Objective(s)

- Design v2 prototype
- Make design manufacturing plan
- Construct v2 prototype
- Develop assembly instructions for shipping of prototypes
- Analyze solutions for durability, ventilation, manufacturability, portability, and cost

Constraints

- \$1,500 purchase price is the goal
- Design and manufacturing plan developed by April 2017
- Materials: square tubing steel, rolled sheet steel, weather resistant, light permeable canvas, and standard fasteners



Methods

- CAD drawings to design v2 prototype
- Octagon paneling for easy assembly and manufacturing
- Compare tarp variations for amount of sunlight let in vs durability

Proposed Solutions

- Circular w/teepee roof
- Octagon w/bolted side panel
- Sloped vs Teepee roof

Benefit to Client

- Cows are able to calf by themselves, calves are born out of the elements and have the potential to be healthier
- Reduction in property taxes
- Lower mortality rates during calving