FIELD TESTED

Flexible Infrastructure for Increased Efficiency

Field Tested is a series of reports about farm tools that have been tested by Montana farmers to enhance their specialty crop production. The reports describe these farmers' findings to help others make informed decisions about their specialty crop businesses. Visit FarmLinkMontana.org/fieldtested to read more Field Tested reports. This project is administered by the Community Food & Agriculture Coalition with funding from the Montana Department of Agriculture Specialty Crop Block Grant Program.

BLUE EYED DOG FARM | MISSOULA

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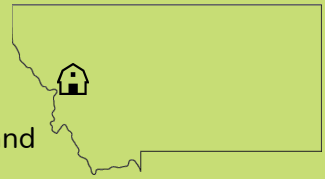
Blue Eyed Dog Farm Snapshot

Location: Missoula, MT
Operator: Leah Proctor
Acres: 3/4 acre
Crops: Mixed Vegetables and Edible Flowers



INTRODUCTION

In 2017, Leah Proctor purchased materials to build a new propagation space, expand her farm's fenced growing area and improve her tillage and bed preparation efficiency. These projects have enabled Leah to enhance the edible flower production on Blue Eyed Dog Farm while also maintaining infrastructure flexibility as she grows her young farm. Leah hopes that her strategies for increasing efficiency, with temporary, flexible improvements will help other beginning farmers as they grow their businesses.

BLUE EYED DOG FARM

Blue Eyed Dog (BED) Farm is a ¾ acre vegetable and flower farm just outside city limits of Missoula. Founded in 2015, BED Farm continues to develop and grow production systems. Primary market

channels include a small community supported agriculture program (CSA), a weekly farm stand at a local brewery, and direct sales to restaurants. In addition to specialty crops, the farm raises a small flock of layer hens, ducks and turkeys each season.

Blue Eyed Dog Farm sits on leased land in a peri-urban neighborhood that is home to many small-scale fruit and vegetable operations. Leah has set up several work-trades and equipment shares to take advantage of the resources in her community, including sharing her propagation space in the modular greenhouse with another farmer. Due to her land tenure arrangement, Leah has prioritized infrastructure that is mobile and adaptable if her operation moves to a new site.

INCREASED EFFICIENCY TO EXPAND PRODUCTION

The project at BED focused on increasing efficiency to expand and enhance the production of edible flowers for fine dining restaurants and caterers. The enhancements were made in three ways: improved propagation space, expanded production fields, and more efficient tillage equipment.

Modular Greenhouse

Leah chose a mobile, modular greenhouse design for her farm. The tunnel is constructed from 16' Cattle Panels, bent over, covered with greenhouse plastic, and held in place by hand clamps. This simple design allowed Leah to expand the size of the tunnel as she needed more space, helping to minimize her heating costs throughout the spring. The panels are well sized to create a tunnel tall enough to stand in and wide enough to hold two pallet tables. They are sturdy, but also light enough that Leah can move them by herself.

The modular greenhouse at BED Farm. Foam blocks space the double wall

The larger tunnel had enough space for Leah to accommodate another farmer's transplants in the spring. This enabled the two farmers to share greenhouse chores. While watering the larger number of plants took longer each time, Leah reports the flexibility she gained by not having to do greenhouse chores every day was a significant benefit.

After spring propagation was complete, some of the panels were converted to trellising for cucumbers and temporary fencing to keep the chickens out of crop areas. Due to the strength of this trellis, Leah tried a more intensive Cucumber density, cutting spacing in half from one foot to 6 inches. This increased production enabled BED Farm to meet the order size at a juice bar, which became a new customer. Throughout the main growing season, the greenhouse film was used as a cover for a seating area, where Leah held farm brunches for CSA customers.

In the fall, Leah used the panels and film for season extension, building low tunnels to protect field peppers and eggplants from overnight cold temperatures. Built by bending the panels and staking them in place in the walkways, each tunnel covers two adjacent beds, and allows for an additional layer of row cover underneath for improved frost protection. Once temperatures drop too low for field production, the low tunnels are moved inside the high tunnel to provide an additional layer of protection for winter greens such as spinach and mache.

Greenhouse Supplies

- 12’ 2x4 for base
- 16’ x 50” Cattle Panel 10LN
- 20’ x 55’ Greenhouse Film 6 mil
- Fasteners and clamps
- Foam blocks

The wood frame holds the shape of the greenhouse and foam pipe insulation protects the plastic from sharp edges.

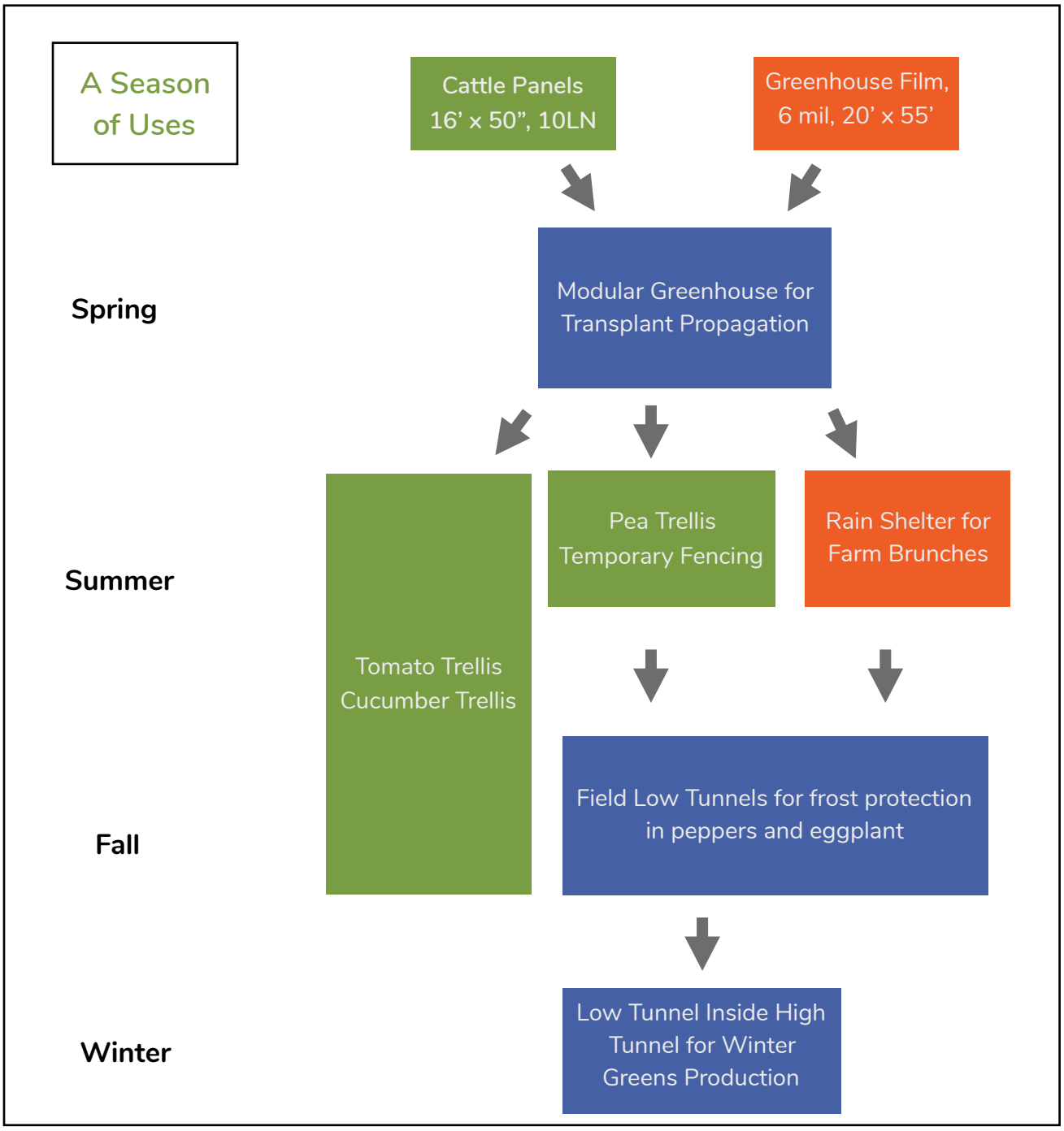
Rotary Plow

Leah purchased a Berta rotary plow for bed prep with a BCS tractor. The tool turns soil sideways, working to a depth of 12 to 18 inches, without mixing soil layers. The Berta leaves the soil at BED Farm so smooth that Leah can skip raking, and plant right into the plowed soil. Leah has found this strong tillage tool easy to operate as it easily rips through roots, even after hearty brassicas in her rotation. See video of the tool in action in the additional resources.

Berta rotary plow at BED Farm

IMPACT OF FLEXIBLE INFRASTRUCTURE

By selecting materials that could perform multiple jobs, Leah was able to increase the impact of her investments across the whole season. As BED Farm continues to grow it's business, Leah will be able to utilize these materials even if she outgrows her modular greenhouse propagation space. The diagram below shows the use of the cattle panels and greenhouse film throughout the season.



EXPANDING PRODUCTION

Fencing

Deer pressure is an important concern at BED Farm. While a deer fence provides necessary protection, the farm's land tenure arrangement does not allow Leah to build a permanent fence around the field perimeter. Instead she chose a simple design using 96" metal game fence hung on T posts. Tethers were used to reinforce the corner posts as seen in the picture.

Tethers provide the necessary support corner support in the temporary fence at BED Farm.

Leah found a gate that swings both ways at a reclaimed materials store. She reports that this has been very useful in increasing efficiency for her small operation, allowing her to always push the gate open when her hands are full. A gate that is easier to operate also helps ensure that it always gets closed. This is an important part of the farm's food safety plan as it keeps the dogs and chickens out of the crop fields.

Fence Supplies

- 96" Game Fencing, 330' Roll
- 10' T Posts
- Fence Clips
- Webbing

Additional Resources

Montana Department of Agriculture Specialty Crop Block Grant Program: The purpose of this program is solely to enhance the competitiveness of specialty crops in Montana. Visit their website to find funding opportunities and more information. Search Montana SCBG.

Field Tested Reports and Videos: Find more reports about other projects and see videos of tools in action at the Field Tested webpage, under Resources on FarmLinkMontana.org

Farm Link Montana: A project of the Community Food and Agriculture Coalition to connect Montana's beginning farmers and ranchers with the tools they need to succeed: farmlinkmontana.org