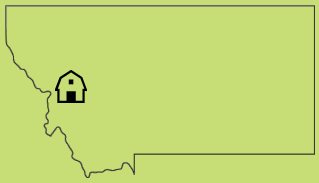
Cut Flower Cold Storage

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.

Millay and Meadowlark Flower Farm | Missoula

Farm Snapshot

Location: Missoula, MT
Operator: Jennifer Barnard
Acres: 1 acre
Crops: Cut Flowers



Jennifer Barnard
millayandmeadowlark@gmail.com

INTRODUCTION

There are many up-front costs associated with starting any business, and it can be overwhelming to decide what purchases to prioritize. If you are new to growing cut flowers as a commodity you will quickly learn that having a cooler is necessary for the success of your business. As part of their Field Tested Grant Millay and Meadowlark Flower Farm decided to purchase a cooler with their funds, and share their recommendations in this report.

FARM BIO

Millay and Meadowlark Flower Farm was conceived out of the desire to provide meaningful employment for Jennifer's son, who has special needs and graduated high school. When Millay and

Meadowlark Flower Farm received the grant they were located on a 1 acre lot in Missoula County and focused on natural and organic methods to grow flowers. They started with 4,000 square feed of dedicated growing space and planned to add a 3-season hoop house in the spring of 2021. They grow a variety of crops including: narcissus, tulips, peonies, ornamental grasses, sweet peas, anemones, dahlias, sunflowers, zinnia, snapdragons, cosmos, aster, phlox and much more. As of 2022 Millay and Meadowlark has grown and now has a second location, increasing their ability to grow more flowers.

IMPORTANCE OF COOL STORAGE FOR CUT FLOWERS

Equipment Purchased

- Two Section Reach-in Refrigerator

Some of the important benefits of a cooler are that it removes heat from harvested plants, slows water loss from plants, slows the maturity/deterioration/aging of cut plant material, and helps condition your flowers. An additional advantage of having a flower cooler is it allows you to harvest your flowers and store them for a future date/sale. You post-harvest handling of cut flowers is very important if you want to provide a quality product to your costumers. There are many resources out there for post-harvest handling of cut flowers, but Jennifer recommends a book from ASCFG entitled 'The Post Harvest Handling of Cut Flowers and Greens' to get started.

A flower cooler can also act as a germination chamber during seed starting. It can be used for cold stratification, which is required for many cold season hardy annuals. Seed trays can be planted, dated, and placed in a cooler for the recommended time to trick your seeds into thinking they have experienced winter. In the off season, a flower cooler can be used to store bulbs, tubers, roots, etc. Finally, one of Jennifer's favorite fall uses of their flower cooler is using it for dried flowers. Dried flowers can be put into a cooler overnight and are less brittle and easier to handle when using for a dried flower project. The humidity of the cooler helps add some temporary flexibility into your dried products.

FLOWER COOLER FEATURE CONSIDERATIONS

Size

Jennifer purchased a 50.37 cu/ft cooler from a local restaurant supplier in Missoula. At the time they purchased this cooler, with the help of their Field Tested mini-grant, they were growing cut flowers on a micro-scale; approximately 4,000 sq ft or almost 1/8th of an acre. The size of the cooler was adequate for their product, but just barely. They had to rotate and distribute product almost daily to make it work. They could fit up to 17, 13 L flower harvest buckets into their cooler or 12, 5-gallon buckets. Buckets generally hold 4-6 bunches of flowers, for a total of 68-102 total bunches of cut flowers. Since growing their business they have had to significantly increase their cooler space, building a new separate cooler space.

Jennifer using their first, smaller cooler.

Shelving

When selecting a cooler, a few important features are: adjustable shelving, good insulation, humidity control, ground protection against electrical surging, adjustable thermostat, airtight, and a drain if possible (spills happen). It is also important not to have absorbent surfaces inside a cooler and that you able to completely sanitize the interior of your cooler at least twice a year (once in the spring and again in the fall).

Millay and Meadowlark's second, larger cooler.

Temperature

The ideal temperature of your cooler can vary based on the time of year and crops it is being used for, but generally you want to keep your cooler at 38 degrees F. However, the temperature can range from 34-40 degrees F.

Other Considerations

It is important that you do not store produce, especially fruit, in a flower cooler, with cut flowers. The production of ethylene is increased and can damage your flowers. Cut flowers are generally stored in clean, sanitized flower buckets with water and flower preservative. Some cut flowers (such as peonies or tulips still attached to their bulb) can be stored "dry" or without water. It is also important to keep you flower cooler clean of

petals, leaves, dirt, and other debris that will break down and could cause disease. Make a routine of sweeping out your cooler weekly.

One last item of importance, Jennifer recommends coming up with a good system of rotation and dating of your harvested products. Keep sticky notes and a sharpie nearby to put the harvest date on your buckets or a wipeable grease pen that can be used to write directly on the buckets. This will ensure that you are always rotating your product accordingly and using it in a way that will result in the highest quality, locally grown cut flowers for your customers.

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, Videos, and Podcasts: 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