Tools for Weed Reduction and Season Extension

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.

HOOT OWL FARM | LIBBY

Bonnie and Rudy Geber
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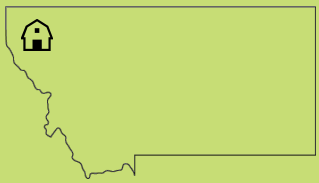
Hoot Owl Farm Snapshot

Location: Libby, MT
Operator: Bonnie and Rudy Geber
Acres: 1 acre
Crops: Vegetables, herbs, flowers



INTRODUCTION

Bonnie and Rudy Geber focused on two main areas with their Field Tested mini-grant purchases: weed control and plant growth through season extension methods. 2019 was a big year of expansion for the small farm nestled just outside of Libby, MT. The two added an additional plot that, in their words, had formerly been a weed patch, and have since made many improvements. For growing season 2020, they made purchases that included different types of mulches and a wheel hoe with attachments. Typical to most Montana growers, they also focused on extending the short growing season and purchased a propane heater to warm their hoop house.

HOOT OWL FARM

Hoot Owl Farm is a small, one acre farm owned and operated by Rudy and Bonnie Geber. 2020 marked their third major season in business. They had a 50 member CSA, are vendors at the Libby farmers market, supply several restaurants, and have recently begun working with two local stores to stock some of their products. They grow a wide range of vegetables, herbs, and flowers.

Hoot Owl Farm outside of Libby. Their new plot is across from one of their restaurants, The River Bend Restaurant.

PURCHASES

Improved Plant Growth

Bonnie and Rudy installed the propane heater in their hoop house in Spring 2020. Due to the timing of the installation, they felt like they didn't see the full potential of what the heater will eventually offer, but did see several improvements in their plant growth. They anticipate they will see market improvements the following year. This year, they mainly planted tomatoes in the hoop house. On average, they were able to transplant their seedlings a full three weeks earlier than previous years. Despite the damp and cool spring, they observed earlier ripening of their crops in the hoop house. Their first ripe tomatoes occurred roughly four weeks earlier than the previous two years and their significant harvest occurred four weeks earlier. They installed automatic roll up sides in addition to the grant projects. They believe this consistent temperature control led to their best tomato season yet.

Equipment Purchased

- Hoop House Propane Heater
- Milwaukee Sprayer
- Landscape Fabric
- Biodegradable Plastic Mulch
- Battery Powered Tiller
- Wheel Hoe with Attachments

Modine Heater, 200,000btu, installed in the hoop house.

Weed Control

The weeding and cultivation tools that Bonnie and Rudy purchased allowed them to "get on top of the weeds" at their new plot. The plot has many invasive weeds and the two knew that getting the weeds under control was going to take diligence and patience, and likely a couple of years. They hoped the purchases

they made of the various tools and mulches would amount to incremental gains each season. They hoped to increase their crop production and allow them time for other farm tasks. Their goal with these purchases was to better increase their work/life balance. The type of materials and methods depended on the specific location on their farm. They used landscape fabric, biodegradable mulch, a wheel hoe, a battery powered tiller, and other methods not purchased with a Field Tested Grant (i.e. tine rake, collinear hoe, stirrup hoe, flame weeder). Observations included how effective the implement was immediately, how effective it was about a week later, how long the method took, and how physically demanding the method was to implement.

Bonnie talks mulching.

Rudy demos the wheel hoe.

IMPACT

Rudy and Bonnie tracked a lot of different impacts that their purchases had on their farm. The graphic below showcases some of the main takeaways and suggestions for other producers based on their purchases.

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

Weeding Zone/Tool	Landscape fabric	Biodegradable mulch	Wheel hoe	Tarps	Flame Weeder	Battery Tiller
Walkways Between Beds	2' fabric between plastic mulch to cover the soil exposed works well.	Makes the walkways hard to manage, i.e. any mechanical weeding will likely disrupt the plastic mulch.	Works great, unless you have overhead sprinkler lines going down walkways.	X	30" flame weeder is too big to manage walkways.	Too aggressive for cultivating. Can be used to mix in amendmen-ts.
Field Block Edges	Very helpful around edges.	X	X	X	X	X
Fast Direct Seeded Crops (i.e. radish)	X	X	X	Use tarps enough time prior to seeding and you can leave crop alone until harvest.	Great to use prior to seeding, but not enough time to use a 2nd time prior to germinati-on.	X
Slow direct seeded crops (i.e. carrots)	X	X	Useful for flipping beds and removing debris. Makes raking debris easy.	Not as effective early in the spring.	Great if used both prior to seeding and prior to germinati-on.	X

Transplant in fabric - (i.e. salad)	Good coverage, but have to 'collar' weed sometimes. Depending on spacing it might not cover walkway.	This could be tried, but when weeds are a big issue having the necessary exposed soil between beds to hold down mulch becomes unmanageable quickly.	X	Limited effective ness in early spring, when temps are low.	Best in early spring, but still is not ideal. Best results take time and multiple cycles.	X
Transplant - mulch (i.e. alliums)	Terrible for leek harvest (effective holes are too small for root ball) and also will cut off onion bulbing.	Good for allium weed control. Good for early beets. Too labor intensive for later beets and not necessary with effective tarping.	X	X	X	X