FIELD TESTED

Urban Farm Fence Design

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.

WICKED GOOD FARM | WHITEFISH

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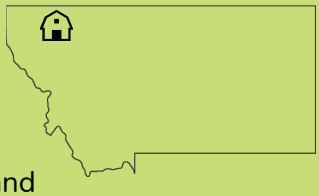
Wicked Good Farm Snapshot

Location: Whitefish, MT

Operators: Brooke Bohannon & Sean Hard

Acres: 1.34

Crops: Vegetables, Greens, and Flowers



INTRODUCTION

An urban setting presents unique challenges for farming operations due to the proximity of neighbors. As the Wicked Good farm planned an expansion to their urban growing operation, they identified an additional growing site that required new fencing to protect the crops from deer and other large pests. Because the neighbors are close by, it was imperative to design a fence that was effective and also visually pleasing. They have shared their design and some of the key considerations for such a project in this guide, and hope that the information will be useful to other specialty crop producers in urban or suburban settings.

WICKED GOOD FARM

The Wicked Good Farm is the result of two New Englanders moving to Whitefish, Montana in 2004 and starting an urban farm. Brooke Bohannon and Sean Hard grow vegetables for

sale to their “very immediate community.” They sell their produce at a Tuesday farmers market and through an online store. The online store also includes Montana grown grains from other farms, and all products are delivered by custom bike cart. The term Wicked alludes to their New England heritage where the term is equivalent to “very” only stronger.

URBAN FARM FENCE DESIGN

Brooke designed a fence for Wicked Good Farm to address multiple objectives: “to integrate food production within populated areas, while excluding domestic and wild animals.” In other words the fence needed to be inclusive for neighbors and exclusive for animals. Excluding animals protects their crops from loss and is also a key part of the farm’s food safety plan, keeping animals and manure out of the production area where they can be vectors for food-borne illness.

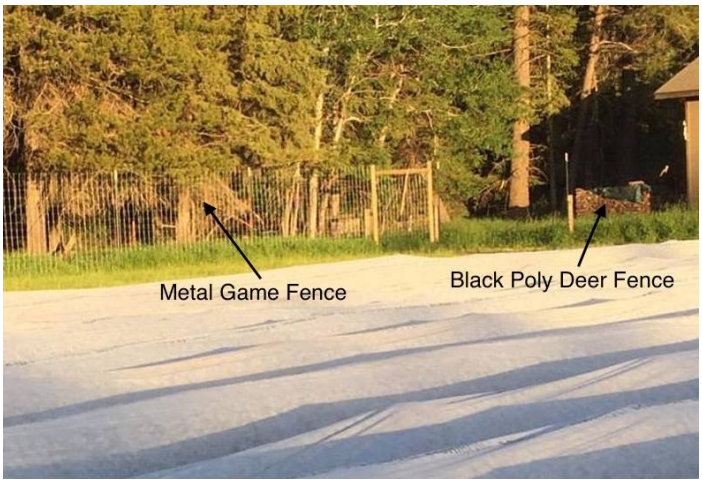
Brooke’s fence excludes deer from growing areas, reducing crop loss and food safety concerns

Fence Materials

Brooke created a design that used two different fencing materials. For the sides facing open space, where she anticipated more animal pressure, she used 8 ft metal game fence, and on the sides facing neighbors she used 7.6 ft black poly fencing that is visually more transparent.

The fence corners were constructed with wooden fence posts set in concrete as the light soil did not provide enough support for the posts. Between the corners, the fence is supported by 10’ T-Posts placed about every 15 feet.

Brooke chose to install two gates at opposite corners of the fence to allow easy access for equipment. The gates are metal framed and covered with poly fencing,



The durability of metal game fence makes it a good choice for the farm/forest interface, while the black poly fence is nearly invisible, inviting the neighbors to enjoy the view.

making them very lightweight and easy to use. The fencing was fastened with fence staples, wire clips, and zip ties depending on the combination of post and fence material.

Brooke's Design Steps

Here are Brooke's steps for the fence building process:

1. Measure perimeter of area to be fenced to determine how many feet of material is needed.
2. Identify where certain objects are or will be, such as gates, water supply, physical structures (both current and future), area to be cultivated, and buffer area between beds and fence. When establishing the buffer area, it needs to be big enough to accommodate the turning needs of the longest implement or tool you will be using.
3. Determine how wide gates need to be. Base this off of the largest object that will need to fit through them (truck, tractor, wheelbarrow...). Decide if gates will be homemade or purchased as this will affect size options.
4. Determine type of fence post to be used (round metal, wooden, T-post or a combination).
5. Determine the total number of posts needed. Use 15ft as the average spacing between posts to provide sufficient support. In some cases, the spacing won't be exactly 15 feet. For example: One side of the fence measures 125ft 125/15= 8.3 posts. Obviously, there cannot be 0.3 of a post. This means that the spacing will not be exactly 15ft. Round the number of posts up to 9, and 125ft / 9 = 13ft 11 inches or close to 14ft spacing. Don't forget that the zero mark will also need a post, for a total of 10 posts for this length.
6. Create a map using all of this information (See Brooke's map on the next page).

Supplies

- 8' x 330' Bekaert High Tensile Game Fence
- 7'6" x 330' Black Deer Netting
- 108 - 10' T-Posts
- 14 - 4-5" x 8' Blunt Wood Posts
- 170' Coil Bekaert 10# Low Carbon, Smooth Wire
- 7' 6" x 16' 3/8" Gate Frame
- 4 - 3/8" Heavy Duty Gate Frame Hinges
- 4 - 3/8" Carriage Bolts
- 8 lb - 1 3/4" Brightbarb Staples
- 5 lb - 7" Black Zip Ties
- 4 1/2" x 5/8" Lag Screw Hinge
- 400 - 8" Cable Ties
- 9 qt - Boiled Linseed Oil
- 800 lbs - Premix Concrete
- Orange String Line
- 2 - 2" x 6" x 8' Boards

The Wicked Good Farm Fence Design

Irrigation source

FENCE INSTALLATION

There are many steps to installing a fence and this publication is not intended to be a comprehensive guide. The following sections include instructions and tips from Brooke based on her fencing experience. For more information, refer to the additional resources at the end of the guide and fencing experts in your area, or send Brooke an email.

Fence Posts

The corner post systems provide strength and stability to the fence. The corner posts need to be well-anchored to withstand the pull of the fence when installing, and this required concrete at Wicked Good's site. Brooke followed the Coastal Farm guide, *Coastal 101 – Building a Fence Corner*, to construct the corners (link found in Additional Resources).

Sean installing a corner post system based on the Coastal Farm Guide

Once the corner posts are set, run a string line from one to the next to give you a straight line for T-Post placement. The T-Posts were driven 2 feet into the ground, and Brooke recommends measuring 2 feet from the bottom of each post and making a mark to show when the post is in far enough.

Brooke uses a ladder to safely pound a 10' T-Post

Metal Game Fence

Roll out the metal game fence next to the line of posts. Brooke used a tractor to stretch the metal fencing and sandwiched the end that was attached

to the tractor between two 2”x6” boards to get an even pull and avoid damaging the material. First, mount the “free” end by cutting out two or three runs of vertical wire and wrapping the horizontal wires around the corner post. Use a fence tool to twist the wire around itself to secure. Once all the horizontals are secure, pull the fence with the tractor. The fence must be pulled past the final post to have a section to cut and twist the wire as you did on the first post. Attach the fence to the T-Posts using the clips.

Brooke’s notes for attaching the fence to the post after stretching

Black Poly Fence

The black poly fence can be hung by hand, and Brooke recommends two people for the job. Roll out the fence first, and start at one end attaching with heavy duty zip ties. The second person should be a few posts ahead keeping the material taut. At Wicked Good Farm, the fence was cut at each corner, and a new piece used for the next side, helping to keep each run as tight as possible.

Brooke’s Recommended Resources

Fence Design Idea Gallery from Mild Fence Company: https://www.mildfence.com/gallery/farm-ranch-garden-fence.php

Coastal 101 – Building a Fence Corner: https://www.coastalfarm.com/coastal-101-building-a-fence-corner/

Attaching Fence Clips: https://www.youtube.com/watch?v=vwNxF_Bx_BY

MT Dept of Agriculture Specialty Crop Block Grants: The purpose of this program is solely to enhance the competitiveness of specialty crops in Montana. To find funding opportunities and more information, visit: agr.mt.gov/SpecialtyCropBlockGrants