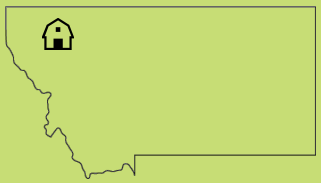
Berry Trellis Systems

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.

Snow Country Gardens | Whitefish

Farm Snapshot

Location: Whitefish, MT
Operator: Hans Helmstetler
Acres: 7 acres
Crops: Vegetables, alfalfa, and berries



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INTRODUCTION

Snow Country Gardens decided to use their grant funds to trial some berry trellis systems. They set out to look at the impact of three different trellising systems (and no trellis as a control) on berry production (volume & quality), ease of picking, ease of pruning, new cane production, and time to maturity.

FARM BIO

Snow Country Gardens, is a small, diversified vegetable and fruit farm run by a husband and wife team. They are currently using about 4 of their 7 acres for production with the remainder being in pollinator habitat, alfalfa, and a homesite. They also grow potatoes and alfalfa on adjoining family

property and lease a couple high tunnels at another location. At the moment, the farm is their "side" job, but the eventual goal is for the farm to be the primary job with an on farm store in addition to their market, CSA, and restaurant sales.

BERRY TRELLIS SYSTEMS

Snow Country Gardens initial plan for their trellis system was to trial a "T trellis" and a "V trellis". In talking to several different trellis suppliers they all advised them to stick with the T system and just change the width of the cross arms to create a more V like shape, rather than trying to set support posts at an angle. This was because driving posts in at an angle is much harder, which after their experience, Hans agrees.

Equipment Purchased

- Trellis Wire
- 8' Metal Posts
- Spinning Jenny
- Wire Cutting Tool
- Trellis Crossbars and Hardware
- Line tensioners
- End row anchors

They also ran a non-trellised patch as a control. In the non-trellised area the berries are much harder to manage because they are more likely to lay down, which causes damage to the canes from being trampled and damage to the fruit from coming in contact with the soil. The areas where they established a trellis are doing much better, with this years primocanes growing rapidly upward.

INSTALLATION TIPS AND NOTES

Height

For installation Hans set their cross-arms at 30 and 54 inches. Which was more based on human size than plant size. The 30 inches is roughly waist height which means there isn't a lot of unnecessary bending over when you take a quick pass through the field to make sure the new primocanes are tucked within the wires or stop to fiddle with irrigation. The 54 inches is in the range of shoulder height for most people. Picking much above shoulder height is less efficient than picking at mid body height. So it is ok if the canes start to lean over past this height as it brings them back into picking range.

Posts

Hans paid the extra couple cents and got the T-post specific U-bolts, as they hold the crossarms much more securely. He bought their crossarms and bolts from JSC out of Bakersfield, CA because their service and cost was fantastic. Even with shipping it came out cheaper than any of the online style suppliers. T-posts came from a local fence supplier.

They opted to put a tensioning ratchet on each end of each trellis line because they were told it would be easier to maintain a balanced trellis. They are a couple bucks each so it does add cost, but it definitely helps save time. Hans estimates that by the end of year 3 the extra cost will have been paid back in time saved.

Ground Anchors

Hans found installing ground anchors to be difficult, they are basically a 4 foot long screw that you have to get into the ground. There are a ton of different ideas on YouTube on how to get them into the ground and some are better than others. Hans recommends talking with some local professionals or farmers before doing it yourself, as it can be dangerous if not done well.

Tools

Hans specifically asked his local fence shop what wire cutters they used and they all personally recommended a pair of Knipex compact bolt cutters, roughly the size of a pair of pliers. They were about $50 and worked really well. Trellis wire is really hard and the cutters never struggled. Hans tried normal wire cutters as a comparison, and he would definitely recommend spending the extra money for the cutters.

Hans also highly recommends using a Spinning Jenny/Wire dereeler and a wire splicing tool – again he went with what they personally use at the fence shop.

FINAL RESULTS

Overall, Hans has not noticed much of a difference between the T trellis and the modified V trellis. He thinks that maybe if they had a more pronounced V it would be easier to see a difference, but with only a 6 inch difference between the width of the bottom and top cross arms it has not been significant. Having a trellis in place however, has helped tremendously in multiple ways. First, the canes are not falling down. This means that canes are not getting trampled and damaged. It also means that the fruit is not getting ruined by coming in contact with the soil. Second, the trellis system makes it much easier to decide where the rows are and are not, which makes managing the alleys between the rows easier. This year they are digging out the escapees and transplanting them into empty patches in the rows. In the future they will probably mow them down and the trellis system will provide a nice boundary line between patch and path. Third, the trellis system has made irrigation much easier. They were advised to string an extra trellis wire down the center (against the post) just above the lower cross arm as an irrigation support. This has helped tremendously. By having the irrigation suspended up at roughly waist level it has been much easier to check for plugged emitters and leaks. Having the irrigation up off the ground and suspended on the trellis has also made it easier to manage the weeds without risking damaging the irrigation line.

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

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