ORGANIC Fruit Growers ASSOCIATION

JUST PICKED!

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Growing Diverse Organic Berries at Blue Fruit Farm

by Chris McGuire, OFGA Coordinator

On June 14, approximately 50 attendees attended OFGA's summer field day at Blue Fruit Farm near Winona MN. We are grateful to hosts Ben and Natalie McAvoy for sharing their time and knowledge with us. Here is a summary of the event for those who could not attend.

Blue Fruit Farm is on land owned by the Wiscoy Valley Community Land Cooperative, an intentional community outside of Winona MN. The farm site has an extensive history of organic farming: long-time organic farmers and advocates Jim Riddle and Joyce Ford started growing organic vegetables on the site of the current farm in the 1980s. By 2000, Jim and Joyce had moved on to focus on organic advocacy, the development of the national organic standards, and the organic certification process, and Jack Hedin from Featherstone Farm began growing vegetables on the farm site and enclosed four acres there within a deer fence which is still in use today. When Jack moved his farming operation, the four acres were abandoned. In 2008, Jim and Joyce started farming anew on the land, planted the first berries, and founded Blue Fruit Farm. Over the years they developed the fruit plantings and farm business with the intent of handing it over to another family. Their crops included aronia berries, black currants, blueberries, elderberries, honeyberries, Juneberries and plums. The current farmers, Ben and Natalie McAvoy, began working with Jim and Joyce in 2021 and became the farm owners in 2023.

Today Ben and Natalie are the owner-operators of the farm and provide almost all of the farm labor, although they do hire limited help for berry harvest. With a five-year old daughter, their labor time is limited, and the need to conserve labor is a main factor in their decision-making.

Since taking over ownership of the farm, the McAvoys have redirected the farm's marketing towards U-pick. In 2023, approximately 20% of the farm's production was marketed through U-pick and this

Co-host Ben McAvoy addresses field day attendees

year they hope to increase that. The McAvoys appreciate that U-pick sales help to reduce the need for hired harvest labor. The remainder of their berries are primarily sold through pre-picked on-farm sales, with some limited sales to area restaurants and CSAs.

The berry planting at Blue Fruit Farm is surrounded by approximately 30 acres of mature tallgrass prairie planted in the 1980s and 1990s. Ben highlighted how the prairie provides abundant yearlong food and habitat for pollinators. In early spring, the berry plantings bloom, followed by a succession of blooming plants within the prairie from late spring through early fall. Beyond the surrounding prairie, forest is also common in the nearby landscape.

Bird and Mammal Pests

The natural habitat surrounding Blue Fruit Farm fosters animals who can damage fruit crops at the farm. To protect against mammalian farm pests, the farm's four acres of berry plantings are enclosed within a deer fence constructed from 8' high fixed knot wire fencing and treated wood posts. The lower half of the fence is covered with woven-wore panels for additional security, and there is an electrified wire outside the fence to deter racoons.

Cedar waxwings and other birds will eat ripe berries and can be extremely destructive pests at the farm. The McAvoys have experimented with numerous deterrents, including fake owls, broadcast distress calls and raptor calls, and a laser deterrent system. However, they have found that bird netting suspended overhead on a post and wire system is the most reliable defense. When the McAvoys came to the farm, the entire berry planting was covered under one continuous canopy of bird netting. The McAvoys found that with their limited labor it was logistically very difficult to install the single continuous canopy each year and take it down for

Bird netting covers berry plants at Blue Fruit Farm

winter. Moreover, when a bird did penetrate the continuous canopy and entered a 4-acre enclosed space, it was almost impossible to force the bird to exit from such a large area by opening a hole and "shooing" it out. Therefore a focus for the McAvoys has been to redesign the netting so that smaller areas of several rows each are covered independently with netting stretched overhead and brought down to the ground on each side. In addition, the original bird netting was suspended over cedar posts embedded in the ground. Many of the cedar posts are now fifteen years old and rotting at the base. As time permits, the McAvoys have replaced them with metal posts embedded in concrete.

Fruit Crops

The McAvoys are working to streamline the farm and focus on the most profitable crops. They have eliminated some minor crops such as serviceberries (Juneberries), which were extremely attractive to birds. They have scaled back production of elderberries, which they have found to be an extremely weedy crop bearing fruit that are not popular with consumers. In spring 2024, black currant bushes were defoliated by currant sawfly, resulting in substantial crop failure, and the McAvoys are reconsidering the future for this somewhat minor crop on their farm. In their experience, the sale price of black currants does not cover the high cost of hand-harvesting the berries.

Blueberries are a main profit center for the farm. Ben noted that Patriot is a favorite variety for them – easy to pick, high yielding, with large flavorful berries. Superior is another favorite because of its productivity and flavor. Blueberries require acidic soils, but native soil pH on the farm is around 7. Before planting at Blue Fruit Farm, blueberry rows are heavily amended with peat moss, composted horse manure and elemental sulfur pellets to lower the soil pH. The McAvoys continue to monitor soil pH after planting, and then add additional sulfur if needed.

Aronia bushes have been very productive, easy and quick to pick, and mostly insect-free for the McAvoys. Honeyberries are also a successful niche crop at Blue Fruit Farm. Ben particularly favors the honeyberry variety Aurora for its ease of picking and good flavor. (The UW-Emerging Crops program and SeedLinked organized a honeyberry taste test at the field day, and Aurora scored highest for flavor among field day attendees.)

Looking to the future, the McAvoys are hoping to construct several hundred feet of high tunnels where they can cultivate raspberries and blackberries, which they do not currently grow but which they know will be popular with consumers. The tunnels will provide a ready framework for bird netting and also a favorable growing environment.

Weed Control

A key challenge at the farm has been weed control around the berry plants. Natalie regularly mows the grass aisles between the fruit rows, but perennial grasses such as quackgrass thrive around the plants and within the rows where the mower cannot reach them. Regular intensive handweeding around the plants is not economically feasible at their scale. Mulching with organic materials such as wood chips will not suppress established perennial weeds for more than a brief time. Cutting weeds around the plants with a string trimmer is time-consuming, inevitably damages new tender berry shoots growing from the crown of the plants, and also contributes microplastics to the environment.

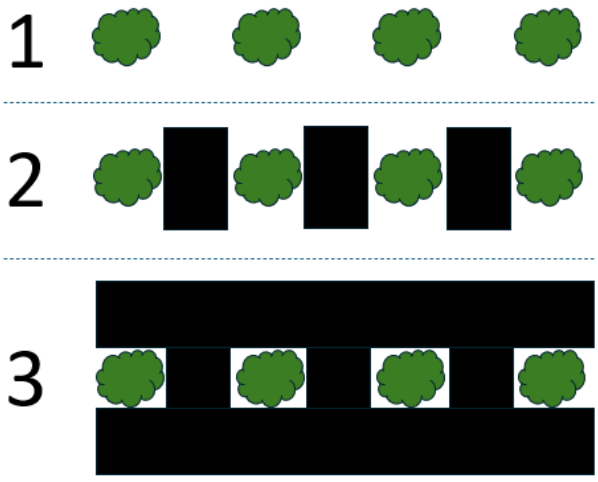
Newly installed landscape fabric

Much of the berry planting was mulched with plastic landscape fabric before the McAvoy's tenure. Ben noted that landscape fabric will keep grass at bay, but for many years in the past mulch and compost was applied on top of the landscape fabric, which provided a substrate for grass to invade and grow on top of the landscape fabric. The old landscape fabric has therefore been largely rendered useless. According to organic regulations, it must be removed before it degrades into the soil. It is extremely difficult and time-consuming to remove the fabric because of the sod layer on top of it, and the McAvoys have been slowly removing it as time permits.

The McAvoys have been installing new landscape fabric on existing blueberry plantings. The established plants have large crowns, and it's necessary to leave an opening approximately 1 foot square around the base of each plant. Their installation technique has been to first install rectangular pieces of fabric within the row, between each pair of berry plants, and then to follow by laying a continuous two foot wide strip of fabric on each side of the row, overlapping the previously laid pieces within the row. (See diagram). After this installation, they hope to eliminate the few remaining weeds close to the base of crop plants by regular hand weeding. Ben highlighted the benefits of cutting fabric with a torch, not a knife or scissors, because the torch melts and seals the cut edge and prevents the cut strands of landscape fabric from fraying and disintegrating.

A challenge will be to apply compost and other soil fertility amendments to plants surrounded by landscape fabric. One field day attendee suggested applying compost outside the landscape fabric, saying that berry plants will forage for nutrients at a considerable distance from the base of the plant.

Attendees also discussed the possibility of using tractor cultivation to maintain a clean, weed-free strip on both sides of each row, preventing grass from the sod aisles from encroaching into the plant



Three steps in the installation of landscape fabric around established berry plants at Blue Fruit Farm

rows, but this would likely not be successful as a "rescue" treatment when crop rows are already infested with grass.

One success in weed control is that the McAvoys have been able to eliminate large established plantings of Canada Thistle by regularly repeated cutting and hand-pulling.

Overall, this was a well-attended and well-enjoyed field day which provided a helpful and realistic look at the challenges and successes of a diverse organic berry farm. Many thanks to Ben and Natalie for hosting the event!

OFGA Updates: Summary of Recent Board Meetings

by Amy Bacigalupo, OFGA Board Chair

March 29, 2024 Board Meeting. The OFGA Board welcomed two new board members, Ben McAvoy of Blue Fruit Farm and Madeline Wimmer, Fruit Crop Educator at University of Minnesota Extension. We discussed a training course for new board members called 'Fundamentals of Nonprofit Board Governance' and recommended it for all board members. We decided that Board meeting dates will be announced to members through email and a summary of each meeting will be published in our quarterly newsletter. We discussed the review of horticultural oil, potassium bicarbonate and pheromones by the National Organic Standards Board and decided to send a letter to NOSB opposing restrictions on the use of these products for organic farms. The Board approved the 2024 budget and set dates for 2024 meetings: June 11th at 7 – 8:30 pm, September 10th at 7 – 8:30 pm and November 12th at 10:30 am – 12 pm. The board discussed member recruitment, retention and benefits and decided to continue the discussion at the following board meeting in June.

June 11, 2024 Board Meeting. The Board discussed the summer field days, registration and ensuring that we follow-up with field day attendees to invite them to join OFGA. Chris provided an update on the two grants that have been submitted: a Wisconsin Specialty Crop Block Grant to fund on-farm trials of organic spray materials for control of apple fungal diseases, and a private foundation grant to support organic fruit growers in adapting to climate change. We discussed an opportunity for OFGA member farms to collaborate on trials of Midwest Apple Improvement Association apple varieties. The board continued to discuss setting a goal for new OFGA members. We decided to look at demographic data of members at our next meeting and Madeline will draft a goal for our membership with support from Liz and Peggy. The board will review and discuss this at our next meeting. We tabled the discussion of whether or not to renew our subscription to our database management program, Network for Good.

OFGA Summer Field Days

Down Home Farm, Readstown, WI: Organic High Tunnel Peach and Outdoor Apple Production.
July 14, 2024, 10 am. ***Last day to register is July 7.***

Join hosts Jesse Downs and Liz Voz at Down Home Farm for a look at organic production of high tunnel peaches and outdoor apples. Jesse and Liz have twelve years of experience growing high tunnel peaches and are in their ninth season of growing outdoor apples. They market their fruits locally at farmers markets and to restaurants and food processors.

The tour will start with a look at the high tunnel peach plantings. The high tunnels protect the peaches from cold temperatures during winter and spring bloom and also provide protection from fungal diseases and some insect pests. We'll hear about success with high tunnel peaches as well as challenges with managing excessive vigor, long-term soil health in the tunnels, and problem insects such as scale and spider mites.

Then we will see a 1.5 acre outdoor planting of high density apples. The bulk of this planting is in its ninth growing season, with some rows planted in recent years. Trees are planted at 4x14' spacing on a trellis constructed from black locust posts, and the orchard is enclosed with deer fence. Groundcover is managed using the Swiss Sandwich system, with a cultivated strip on both sides of each row. The diverse apple orchard contains about 50 varieties, with an emphasis on Honeycrisp, Arkansas Black, and a selection of disease resistant varieties. There is also an unusual selection of Appalachian heirloom varieties planted for trial purposes. Rootstocks are Bud 9, G.41, Bud 10, M.26 and others. We'll hear about challenges with organic management of plum cuculio and codling moth, as well as apple scab in this extremely wet growing season.

This event includes a two-part tour as well as a catered lunch:

- We will start at 10:00 at the home farm, E9106 Lyster Road Readstown, for an introduction to the farm and a tour of the high tunnel peaches.
- Then we will make a short one mile drive to S6263 North Lyster Lane to view the outdoor apple orchard and enjoy a catered lunch from Maybe Lately's in Viroqua.

Registration: Pre-registration is required! OFGA Members pay only $10 to attend this event (including catered lunch); the cost for non-members is $25. If you're not a member, or you have not renewed your membership for 2024, join or renew here.

Members, click here to register for $10 Non-members, click here to register for $25

Dream Apple Farm, Grafton, WI.
Organic Apples: Fruit Bud Development, Summer Pruning, and Fungal Diseases
Tuesday August 6, 2024 9 am-3 pm

The field day hosted by Peggy and Ed Callahan will include presentations from UW Madison Fruit Program faculty, along with demonstrations and discussions in the field. Main topics for the day are fruit bud development, summer pruning, and lesser-known fungal diseases that affect apples. Catered lunch included with registration.

Registration: Pre-registration is required! **Registration deadline is August 1**. OFGA Members pay only $10 to attend this event (including catered lunch); the cost for non-members is $25. If you're not a member, or you have not renewed your membership for 2024, join or renew here.

Members, click here to register for $10 Non-members, click here to register for $25

Agenda

9:00am	Registration and coffee
9:15am	Introduction to Dream Apple Farm - *Peggy & Ed Callahan*
9:30am	Where have all the flowers gone? Fruit bud development in a changing climate – *Amaya Atucha*
10:15am	Summer Pruning- Better Weather Than Winter Pruning! - *Amaya Atucha*
11:00am	Break
11:15am	There's a Fungus Among Us: Lesser Known Fungal Diseases in Apples - *Leslie Holland*
12:00pm	Lunch- Catering provided by Chalkboard Kitchen, featuring organic ingredients
1:00pm	Rotating Field Sessions: Summer pruning, mechanical hedging (with demo), fruit bud development - *Amaya, Ed* Fungal disease scavenger hunt and organic management - *Leslie, Peggy*
3:00pm	Close

Session Descriptions

Where have all the flowers gone? Fruit bud development in apples in a changing climate. In 2021 orchards across our region had significant declines in apple blossoms, which many orchards attributed to a late frost. In our orchard we had a similar decrease in return bloom this year. Dr. Atucha will discuss how fruit buds develop, and what may have actually caused the lack of blossoms in 2021. She will explore how apple growers can prepare and adapt to expected changes in weather.

Summer Pruning- Better Weather Than Winter Pruning! During our apple education we learned that pruning was only done in the winter. Who knew that we could stay warm and prune in the late summer? Dr. Atucha will talk about the risks and benefits of summer pruning, including the proper timing and techniques used. The session will also include discussion of mechanical hedging, which dramatically reduces pruning time and "sets the box" for a fruiting wall.

There's a Fungus Among Us: Lesser-Known Fungal Diseases in Apples. Apple orchardists are familiar with common fungal diseases like apple scab, cedar rust, and sooty blotch/flyspeck. But Mother Nature has way more fungal spores up her sleeve! Dr. Holland will discuss lesser-known varieties of fungal disease in apples, paving the way for an upcoming research collaboration between OFGA and UW Madison investigating organic management of these diseases.

Cordon Trellis Method For Growing Currants and Gooseberries

by Chris McGuire, Blue Roof Orchard

At OFGA's Winter Gathering in La Crosse in February I presented observations from an on-farm trial of growing currants and gooseberries in the cordon trellis method. Here is a brief summary of our project with links to more detailed information.

Like most (or all) berry crops, currants and gooseberries are very time-consuming to harvest by hand, and harvest labor represents a large share of production costs and a major barrier to growing these crops profitably. The cordon trellis method is widely used in Europe to grow currants and gooseberries for fresh market (in plantings for processing, by contrast, the berries are grown as free-standing bushes and machine harvested). Cordon-trellised plants have a narrow, upright canopy that is purportedly easier to harvest and may also reduce disease and improve fruit size and quality.

In the traditional bush method of growing these berries, plants are minimally pruned in the dormant season to eliminate older canes and maintain an even distribution of one-, two-, and three-year old canes. In the cordon trellis method, plants are trained to 1-3 permanent, upright canes, (the "cordons"), which can reach six feet or more in height. Fruit are produced on short-lived horizontal branches from the cordons, which are pruned and renewed regularly. A description of the cordon trellis method used in Europe was published in the New York State Fruit Quarterly and is available online.

Jonkheer van Tets red currants on trellis

We were intrigued by the chance to reduce harvest labor, and with funding from a Specialty Crop Block Grant awarded by the Wisconsin Department of Agriculture, Trade and Consumer Protection, we grew trellised and untrellised plantings of four currant and four gooseberry varieties from 2020-2023 and measured labor time, materials costs, and yields.

In our freestanding bush plantings, we spaced plants three feet apart in the row; trellised plants were 18 inches apart. In both growing systems, we irrigated with drip irrigation and we controlled weeds with two strips of landscape fabric, one laid on each side of the row, with a narrow space between them which was hand-weeded. In the trellised plantings, we constructed trellises from Best Angle brand metal stakes spaced six feet apart which supported two runs of horizontal wire, one at the top of the trellis and one at the bottom; bamboo stakes were suspended between the two trellis wires and cordons were tied to the bamboo stakes.

As expected, trellised plantings were expensive to establish. Non-labor costs (trellis, plants, irrigation supplies, and landscape fabric) were two to three times as high in trellised plantings as in untrellised plantings ($23,000-$27,000 per acre vs $9,000-$11,500 per acre). Substantial extra labor was required in the trellised plots to construct the trellis and train young plants: trellised plantings required about 430 labor hours per acre in the first year, versus 215 hours in untrellised plantings. The cordon trellis method fights against the natural growth habit of these berries, which is to produce a dense bush, with multiple canes arising from the crown of the plant. To constrain the plants to a few, tall, vertical stems requires careful pruning and tying, particularly during the first few seasons of growth.

Black Velvet gooseberries on trellis

As plants matured and began to bear fruit in the second and third years after planting, trellised plantings continued to require 40-60 hours per acre per year of additional time for training and pruning. However, this amount of additional time is small relative to harvest labor, which requires approximately 500 hours per acre per year. In general, harvest speeds (measured in pints picked per hour) were quicker in trellised plantings, but the increase in speed was inconsistent, from zero to 400%, and varied greatly between varieties and years. Workers strongly preferred harvesting from the trellised plants because the work was simpler and less exacting. And in gooseberries, the trellised system made it much easier to avoid being poked by thorns while harvesting.

In the past we have found that perennial weeds such as quackgrass grow rampantly around freestanding bush plants. In our trellised plots, hand-weeding around the base of the plants was easy because the soil around the plants was exposed and workers could clearly see weeds; in the long-term we suspect that perennial weeds would be much less likely to proliferate in trellised plantings.

The eight varieties grown in this trial differed greatly in their suitability for trellising because of natural differences in growth habit. For example, Pink Champagne currants performed poorly when trellised: the vertical cordons were short, did not fill the trellis space, and produced few fruiting branches. Jonkheer van Tets, by contrast, produced vigorous, six foot-tall cordons, with prolific branches that needed to be thinned and managed carefully to maintain an open canopy. Among the gooseberry varieties, trellised Captivator and Black Velvet both readily produced tall narrow canopies with ample fruiting branches, whereas Hinnomaki Red and Tixia both produced very short, low-yielding plants when trellised.

Overall, we recommend the cordon trellising method cautiously, with reservations. Because of the high establishment costs for trellised plantings, the method is probably only justified when markets are assured, fruit prices are high, and other aspects of the production system (such as soil fertility,

pest control, and post-harvest handling) are well-managed, so that growers can achieve a rapid return on investment. Cordon trellising is probably best suited to farmers who can dedicate time to their Ribes plantings, who understand and enjoy the horticultural intricacies of plant training, and who will invest the time in honing their techniques. And it is essential to choose varieties which are well suited to the trellising technique.

You can view a detailed written report of this project and a video presentation on our website at https://blueroofforchard.com/research/.

Join the Organic Fruit Growers Association!

We are an organization of current and aspiring organic fruit growers in the Upper Midwest.

We promote farmer to farmer information sharing through field days, winter gatherings, this newsletter and an email listserv.

We coordinate research with university and extension researchers on organic fruit growing.

Participate and support your organization by becoming a member.

A calendar year membership is $50. Join online.