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OFGA Field Day at The Cider Farm

by Chris McGuire, OFGA Coordinator

On July 12, many of us gathered at The Cider Farm in Mineral Point WI to hear host Deirdre Birmingham and UW-Extension fruit crop pathologist Leslie Holland discuss organic management of fire blight and cider apple production. The event was enhanced by a much-needed rainfall which eased the drought conditions in southern Wisconsin. Here are some key highlights from the extensive and informative discussion:

Deirdre and her husband John Biondi purchased their 166 acre farm in 2002, where they now grow 18 acres of certified organic cider apples on dwarfing rootstocks in a high density, trellised system. (They now have fifteen to sixteen thousand trees in their orchard.) Deirdre was a pioneer in growing heritage European cider varieties of

apples. Through experience, trial, and error, she has learned an immense amount about growing these sometimes challenging varieties in the Upper Midwest. She's found that most of her varieties are highly susceptible to fire blight, and controlling that disease has therefore been a major focus in the orchard.

Leslie Holland shared interesting results from recent university trials on fire blight management. Researchers continue to find that timely summer pruning of fire blight strikes is essential to managing the disease. Based on recent trial results, Leslie continues to



While rain poured down outside, attendees gathered in the tool shed to hear Leslie Holland and Deirdre Birmingham discuss fire blight.

recommend many of the traditional best practices for summer pruning: cutting 12-18" below visible fire blight symptoms, into 2-year old or older wood, leaving a stub which should then be removed during winter pruning. However, contrary to some older recommendations, there is no evidence that sanitizing pruners between pruning cuts help to prevent the spread of fire blight. Instead, researchers now recommend that growers focus on pruning fire blight strikes quickly rather than spend time sanitizing tools between cuts.

Trials generally show that sprays of copper or the beneficial yeast fungus *Aureobasidium pullulans* (sold as Blossom Protect™) are the most effective organically-approved sprays for controlling fire blight during bloom. Deirdre has used both products in her orchard. Based on recommendations from researchers in the Pacific Northwest, this year she sprayed Previsto®, an OMRI-approved copper formulation. She was displeased to discover that Previsto® has a 48 restricted entry interval, which greatly inhibited orchard work, and she will return to other copper formulations in the future.

Several attendees pointed out that copper is highly toxic to sheep and thus should be avoided in orchards where sheep are grazed. Another promising spray option which has performed well in trials is alum (picking salt), but this compound is currently not available in a commercial pesticide product, although a manufacturer is working on developing a product and will possibly seek OMRI approval for it. Blossom Protect™ has performed consistently well in trials, but it can be challenging to deploy because the *Aureobasidium pullulans* yeast is easily killed by some other common organic spray products such as liquid lime sulfur and potassium bicarbonate, and because the manufacturer recommends spraying Blossom Protect™ in a spray solution with pH of 3-4, which may prevent tank mixing with other products.

[Interested in more details on fire blight management? OFGA is currently working with Leslie Holland to compile a publication detailing best management practices for fire blight in organic orchards, based on both scientific research and practical grower experience. The publication will be available later this year. Stay tuned!]

In a drizzly orchard tour, Deirdre pointed out Geneva Crab, a red-fleshed cider variety which has fruited



Host Deirdre Birmingham leads attendees on an orchard tour under overcast skies



Flagging tape marks the location of a pruning cut which removed a fire blight strike. Deirdre and her crew will return in winter to cut the stub off flush with the central leader.



When fire blight is severe in the top of the tree, Deirdre will cut far back into the central leader, as seen in this tree.

collect the fallen fruit into five gallon buckets which are then dumped into 20 bushel bins. She pointed out that highly mechanized cider orchards in Europe have sophisticated “apple picker-upper” machines to gather fruit from the orchard floor after tree shaking.

- Other implements include an airblast sprayer, a side mower which mounts on the front 3-point hitch and mows in between trees, and a cultivator for cultivating tree rows which have not been recently mulched.

All in all, the field day was an informative, albeit wet, event. Many thanks to Deirdre for generously sharing her time and expertise!

consistently for her despite being one of the first varieties to bloom in spring. She’s excited about the brilliant color that the fruit contribute to her ciders. She then showed a row of trees which has been hit hard by fire blight this year, showing how she and her crew have been summer pruning strikes and flagging stubs for subsequent removal in winter.

Deirdre’s equipment lineup includes some unusual and locally made items which help her and her small crew manage their extensive plantings:

- She spreads wood chip mulch with a side delivery mulch spreader made by a local fabricator.
- At harvest time, she shakes apples from the trees using a locally made tree shaker which mounts on the front 3-point hitch of her orchard tractor. She and her workers then



A side view of Deirdre’s locally-made mulch spreader, showing the conveyer which discharges mulch into tree rows.



OFGA Field Day: High Tunnel Stone Fruit Production for Cold Climates

August 15th, 1:00-3:00 PM
Stone Creek Farms, 20382 310th St Shafer Mn 55074

Can peaches be a viable and sustainable crop in the upper Midwest? Learn how it has been done for eight consecutive years at Stone Creek Farms in Taylors Falls MN, northeast of Minneapolis. Even after winter temperatures as low as -35°, the apricot and peach trees in this high tunnel protection system have fully cropped.

Refreshments will be served.

Registration: Pre-registration is required!! OFGA Members can attend this event for free; the cost for non-members is \$15. If you're not a member, or you have not renewed your membership for 2023, join or renew [here](#).

Members, click [here](#) to register for free
Non-members, click [here](#) to register for \$15

OFGA Field Day: Organic Apple and Berry Production

September 7, 2023 9:30 am-3:30 pm
A Two Farm Extravaganza in the Northfield MN Area!
Little Hill Berry Farm and Keepsake Cidery

Start the day at [Little Hill Berry Farm](#), where Aaron and Molly McGovern Wills raise organic blueberries, strawberries, raspberries, red and black currants, and gooseberries. They sell their berries at the farm, both U-pick and pre-picked, as well as in a variety of processed products. Their tour will showcase organic production methods, including high tunnel production and weed management, farm equipment, and U-pick marketing.



At the end of the morning we will make a short fifteen minute drive to [Keepsake Cidery](#), enjoy a catered lunch featuring local and organic ingredients, and then learn from hosts Nate and Tracy Jonkman about their organic production of both cider and fresh eating apples and their on-farm cidery and tasting room. The day will end with cider tasting and social time.

Agenda

Part I: Little Hill Berry Farm 4339 320th St W, Northfield MN 55057

9:30-10:00 am: Registration

10:00-Noon: Farm tour and discussion

Part II: Keepsake Cidery, 4609 135th Street East, Dundas, MN 55019

Noon-12:30 pm: Drive to Keepsake Cidery and reconvene

12:30 pm-1:30 pm: Catered lunch by Keepsake Cidery

1:30 pm-3:30 pm: Farm tour and discussion

3:30 pm onward: Cider tasting, social time, and continued discussion



Registration: Pre-registration is required!! OFGA Members pay only \$15 to attend this event; the cost for non-members is \$40. If you're not a member, or you have not renewed your membership for 2023, join or renew [here](#).

Members, click [here](#) to register for \$15. Non-members, click [here](#) to register for \$40

Organic Fruit at Wills Family Orchard in Iowa

Chris McGuire, OFGA Coordinator

On July 14th, I was fortunate to attend a field day organized by the Practical Farmers of Iowa and hosted by Maury and Mary Wills at Wills Family Orchard, outside Des Moines, IA. The Wills family purchased their farm as bare land in 1991, and since then they have built a home and a thriving orchard business while raising six children. Maury is also recently retired from his job at the Iowa Department of Agriculture and Land Stewardship, where he managed Iowa's Organic Certification program. Maury and Mary have been pioneers and advocates for organic fruit growing in our region, and the attendees greatly appreciated their hospitality and generous sharing of information at the field day.



Field day attendees gather at the sales barn at Wills Family Orchard

The primary crop on their farm has been apples, although they have also raised organic strawberries, peaches, and vegetables. Their farm's ridgetop location and gently sloping topography are well suited for fruit growing, but they are surrounded by woodlands which provide abundant shelter for deer – consequently their 30 productive acres are enclosed by a permanent deer fence. Another difficulty of their setting is the many native red cedar trees in the surrounding woods which contribute to their persistent problems with cedar apple rust.

Maury discussed marketing extensively. They sell virtually all of their produce on-farm, as either pre-picked or u-pick. It was clear from the tour that they have dedicated much time and thought into marketing. Their farm is a well-managed and smoothly run agritourism destination, where they sell a range of fresh produce and value-added products as well as offer wagon rides, a playground, live music, and other entertainment. With deep ties in their local community, they have relied on word-of-mouth as well as their website and facebook pages to promote their farm.

The Wills family currently has about 3500 apple trees in their orchard, of which 2500 are bearing. They recently made the difficult decision to remove a portion of the orchard from organic management and they are now growing both organic and non-organic apples. As long-time organic growers and supporters of organic agriculture, this was not a decision they made lightly, and they are managing their non-organic trees with a minimum of synthetic inputs and with an eye towards conservation of their environment – for example, they use no synthetic herbicides. The main reasons for the change away from organic production were two extremely damaging pests: plum curculio and cedar apple rust, which have been intractable problems in their organic orchard. Currently, their non-organic planting is about 2 acres of recently planted dwarf trees (mostly on Bud.9 rootstock) in a high density system planted at 3 ft x 13.25 ft spacing, and the organic orchard is about five acres of

older, semi-dwarf trees on M.7 and MM.111 rootstocks and planted at a 12x18 or 12x20 spacing. The parallel organic and non-organic production requires extra cleaning of their packing line and farm equipment as well as associated recordkeeping.

Maury elaborated on some of the challenges they have faced with their organic apples over the years. Plum curculio management has been difficult. They currently rely primarily on trapping the insects with pyramid traps and on sprays of Pyganic, but Pyganic is expensive and is effective for only one night. They have sprayed Surround (kaolin clay) for plum curculio in the past, but it was not very effective and Maury felt that it contributed to aphid flareups, perhaps through suppression of beneficial insects.

Maury has found no good method to control cedar apple rust other than resistant varieties. He noted that he has sometimes received inaccurate information about varietal resistance to cedar apple rust. Triumph and Ludacrisp, e.g., were promoted as rust-resistant but have proved susceptible in their orchard. Currently they are replacing trees with the goal of eliminating rust-susceptible varieties (e.g., Triumph, Ludacrisp, Goldrush, and CrimsonCrisp) from their organic block. Rust-resistant varieties which they will continue to grow organically include Pristine, Williams Pride, Enterprise, Freedom, Priscilla, Liberty, Spartan, and Chieftain.



Pyramid trap at the base of a semi-dwarf tree in the organic apple block



Munckhof 100 gallon 3-point airblast sprayer used to spray dwarf apple trees

In their variety selection they always emphasized apple scab resistance, and scab has not been a major problem in their organic orchard, but scab symptoms have begun to appear on Enterprise in recent years and Maury fears that the scab fungus has evolved to overcome the Vf resistance gene in their orchard as it has in other locations. Scab may become a greater problem in the future.

The Wills family experimented with mating disruption for control of codling moth several times but found that it did not work well, probably because their orchard is separated into multiple distinct blocks and spread out in a long linear layout surrounded by woods, allowing female moths to enter the orchard after mating outside. In their organic block they primarily now rely on Granulosis virus and Spinosad (Entrust) to control codling moth, and they time their sprays using degree day models.

After two years of growing some apples non-organically, Maury said that the packout, fruit size, fruit finish, and profitability are all noticeably better in the non-organic block. From a marketing

perspective, the Wills family does not heavily emphasize organic in their marketing. Conversation with their customers consistently shows that most people seek them out for the farm experience and to pick and purchase delicious apples, regardless of organic.



Millcreek 204 row mulcher

In newly-planted dwarf trees, they rely heavily on wood chip mulch for weed control underneath their trees. They use a Millcreek 204 row mulcher, purchased used, to spread a layer of mulch approximately one or two inches deep and 12-18 inches wide. They subsequently control weeds with weed whacking and burndown organic herbicides.

In addition to their mainstay apple crop, the Wills family also tends more than 100 organic peach trees, primarily the varieties Redhaven, Veteran, and Contender. These trees have survived in their central Iowa location since 2011, but winter injury or spring freezes reduce the crop in many years – in general they expect a significant saleable crop in only one year out of four! Plum curculio has also been a significant challenge in their peaches.

The field day was an excellent example of long-established and well-run orchard business which has evolved to adjust to the challenges of organic fruit production in the Midwest.



Organic peach grove at Wills Family Orchard