



# JUST PICKED

VOLUME 13, ISSUE 3

November 2017

## From the Coordinator's Desk

*Happy Fall, Fruit Growers!*

Perhaps you're feeling victorious, having gotten through the season, or anxiously monitoring the temps in your cooler, or thinking about how to unload those last few bushels of apples. For many, now is a nice time to sit back and digest the lessons learned in 2017.

Like many, we really struggled with apple scab this season. Some of our best-producing trees are varieties that we knew to be scab-susceptible, but we'd managed to do well with them up until now. Haralson, Chestnut Crab, Keepsake, and Ginger Gold were near complete losses for us. Now we're thinking about orchard clean-up and how to reduce inoculum for next season. And then there's brown rot in the plums...

A couple of years ago, I attended Elaine Ingham's Organic University at the MOSES conference. I came home with so much theoretical knowledge about the plant health benefits of farming to support the soil food web, and a lot of enthusiasm for brewing compost tea and learning to evaluate it for use in our orchard. It's pretty hard to translate theoretical knowledge and enthusiasm into daily-grind type of work. Perhaps unsurprisingly, I have yet to make it happen. This might be the year for it, though. This winter, I know that will be on my mind as we head off to conferences and events, and I'm looking forward to talking with anyone who'd given it a try, or, like me, continues to think about giving it a try.

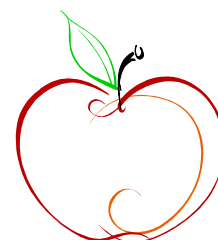
I hope you'll enjoy perusing this issue of Just Picked! We're starting a new feature: a member highlight. On page 7 you can read a little more about Brooke and John Knisley, of Alternative Roots Farm in Madelia, MN. They are in the process of making some big changes on their farm, with fruit growing into a bigger piece of the operation. John is also a member of OFGA's board and has helped lead our grafting workshop at the MOSES conference for the last two years. They are pictured at right selling apples and heirloom veggies at the New Ulm Farmers Market. If there's an OFGA member you'd like to learn more about for our next issue, let me know!



## INSIDE This Issue :

Message from the Coordinator	1
Research Update: Understory and Pollinators	2
Trialing Wild Crabapples as Rootstock	4
Book Review: Good Apples	5
Wanted: Apple Prunings	6
Member Highlight	7
Events Listing	8

Keep up with events and other news at our website  
[organicfruitgrowers.org](http://organicfruitgrowers.org)!



**Have a newsletter story or idea to share?**

Email  
 Rachel Henderson  
 OFGA Coordinator at  
[info@organicfruitgrowers.org](mailto:info@organicfruitgrowers.org)

## Research update: Assessing pollinator behavior and fruit set in Wisconsin apple orchards with varying densities of understory dandelions

By Hannah Gaines Day, UW Madison

Over the past decade, honey bees in the United States have experienced unprecedented declines. Scientists believe that these bee losses are caused by a variety of factors including pesticide exposure, loss of floral resources in the landscape due to intensification of agriculture, and infestation of hives by parasitic mites. For the past ten years, bee keepers have reported average losses of ~30% each winter with some bee keepers reporting upwards of 90% colony losses (Bee Informed Partnership). Although bee keepers can “replenish” their colonies to some extent by splitting the remaining healthy colonies into multiple hives, these losses are not sustainable in the long run for beekeepers or modern agriculture.

In Wisconsin, a number of crops depend on insect pollination in order to produce a crop, including apples, cranberries, pumpkins, cucumbers, cherries, and raspberries. As a result, many growers use managed honey bees to ensure good pollination. With the decline in honey bees, however, growers are finding that managed hives are becoming more scarce and expensive. The good news is that wild, native bees are also good pollinators. In fact, more than half of all bee visits to apple blossoms are by wild bees! By using bee-friendly management practices, growers can encourage wild bee populations on their farm and rely less on honey bees.

In our current research project, we are working with Wisconsin apple growers to understand how one management practice influences wild bee behavior. Specifically, we are studying how understory mowing during apple bloom influences the rate at which bees visit apple blossoms and, as a result, effects fruit set. By mowing the understory, growers remove non-crop flowers such as dandelions. The presence of dandelions in the understory could draw bees away from the apple blossoms leading to reduced fruit set. Alternatively, the presence of dandelions could make the orchard more attractive to wild bees, drawing them in from the surrounding landscape. So should apple growers mow the understory or not? Does mowing the flowers cause bees to visit apple blossoms more often, increasing fruit set? Or should growers leave the flowers in the understory in an attempt to draw more bees into the orchard from the surrounding landscape?



Left: Wild bee on apple blossom. Photo by Hannah Gaines Day  
Below: Honeybee in collaborator orchard



## Research Update

*Continued...*

### **Grower collaborators**

Over the past two field seasons, we observed bees and measured fruit set at 24 apple orchards across southern Wisconsin. These orchards represented a wide diversity of management practices, farm size, and production goals (e.g., pick-your-own, cider, farm to school). The orchards ranged in size from 0.5 to 160 acres and included small scale, backyard orchards as well as huge production operations.

Management practices included conventional, organic, and no-spray/low-input. Twenty orchards had honey bees present during apple bloom while four did not. We also chose these orchards to span a range of surrounding landscapes as previous research has shown that wild bees respond to habitat in the landscape. We visited each orchard four or five times over the course of the spring to meet growers, set up our study equipment, and collect data.

### **Preliminary results**

In our preliminary analysis, we found more bees on apple blossoms when dandelion abundance in the orchard understory was low (i.e. mowed). This pattern is likely due a lack of alternative floral resources present in the immediate vicinity of the apple trees. When dandelions were present in the orchard understory, we found fewer bees on apple blossoms suggesting that the bees are being drawn away from the apple blossoms by the highly attractive dandelion flowers. The same trend was found for fruit set with slightly lower apple fruit set in areas where dandelions were present. Regardless of these patterns, the level of fruit set in areas of high and low dandelion abundance was greater than what apple growers aim to get for optimal fruit production (~10%). That means that, despite any differences in bee behavior when dandelions are present or absent in the apple orchard, fruit set was more than sufficient for a good crop.

Hannah received her PhD at the University of Wisconsin-Madison and is currently a post-doc in the entomology department at the UW. She can be contacted by email at [hgaines@wisc.edu](mailto:hgaines@wisc.edu).

### **Further resources**

Bee research in Wisconsin: Gratton Lab, <http://gratton.entomology.wisc.edu>

Wild bee conservation: The Xerces Society for Invertebrate Conservation, [www.xerces.org](http://www.xerces.org)

Honey bee health: The Bee Informed Partnership, [www.beeinformed.org](http://www.beeinformed.org)

Citizen Science: Bumble Bee Watch, [www.bumblebeewatch.org](http://www.bumblebeewatch.org)



## On-Farm Research Evaluates Rootstock Potential of Wild Crabapples

By Eric Lee-Mäder, Northwest Meadowscares

What if apple growers had a dwarfing rootstock that thrived in wet or waterlogged soils, had incredible disease resistance, tolerated salinity, and was adaptable to a wide range of climates? That's the hope for a new research project in western Washington that is evaluating the rootstock potential of the native Pacific crabapple (*Malus fusca*). For at least two decades a handful of amateur pomologists and backyard orchardists in the Northwest have dabbled with the use of *Malus fusca* as a rootstock for table apple varieties. Anecdotally, these novelty grafts have been largely successful, apparently thriving even in conditions where traditional apple rootstocks do not, such as wetland meadows and even saltwater estuaries. Until now however, no actual research has been conducted to assess how widely compatible *Malus fusca* is for grafting with various apple varieties.

With support from the Western Sustainable Agriculture Research and Education (SARE) program, Whidbey Island, Washington farmer Eric Lee-Mäder has launched a first of its kind large-scale field trial to closely examine the rootstock potential of this native tree.

Working with Dr. Carol Miles of Washington State University's Mount Vernon Research and Extension Center as a technical advisor, Mäder is conducting replicated trials to test *Malus fusca* as a rootstock on more than 30 apple varieties. Initially Mäder and Miles are simply screening for grafting compatibility by conducting multiple grafts of scion varieties. Percentage of grafting success will be measured in the short term simply to see if in fact *Malus fusca* succeeds as a rootstock among a range of apple varieties. Future screening work will assess the impact of *Malus fusca* on tree vigor, suckering, and other traits.

Early consensus is that this small fruited wild tree which is naturally found from Northern California to Alaska has very high resistance to fire blight, and apple anthracnose. These combined characteristics may offer additional value as a rootstock in conditions where traditional apple rootstocks typically suffer.

Ongoing findings and updates are being made available through a project blog on Mäder's farm website at: <https://northwestmeadowscares.com/pages/pacific-crabapple-project>



## Book Review: Good Apples: Behind Every Bite

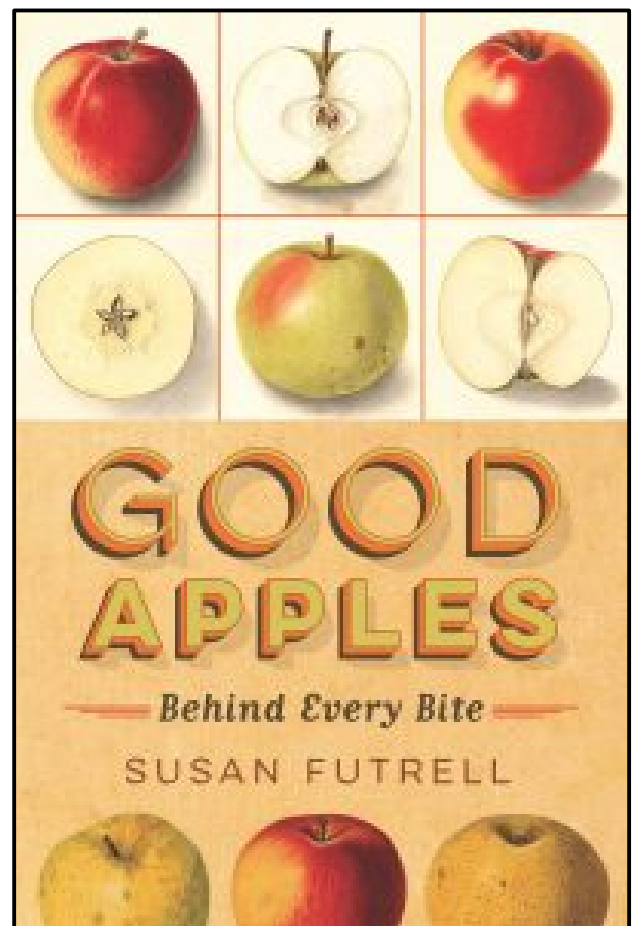
by Patti Naylor, *Women Food and Agriculture Network*

The apple. So simple and sweet. It can be found in school children's lunchboxes and on teacher's desks. In a bowl on the kitchen counter. On trees in backyards and in multi-generational family-owned orchards. Apples are as American as pie. Yet, taking a look at the apple and all the complexities of growing, picking, marketing, and selling this favorite fruit can give us an insight into how the food and farming system functions – and who profits from it – in the United States today.

A new book by Susan Futrell, *Good Apples: Behind Every Bite*, does just that. Ms. Futrell, a long-time local foods advocate who has worked towards a just and sustainable food and agriculture model for over thirty years, takes the reader behind the scenes of the apple industry. Through intense research and personal connections, the author recounts the complexities and intrigues of this particular food industry. The result is a fascinating book that will change how we view the simple apple – and our food and agriculture system.

Although the focus is on Americans' favorite fruit, anyone who cares about and connects with our nation's food, farmers, and rural economies will be drawn into this book. Ms. Futrell uses her background in local foods and marketing to bring clarity to the role of apples in our food system. She emphasizes history of apple production, the huge challenges of pest and disease management in orchards, difficulties in marketing and distribution of smaller apple producers, and the personal stories of the people involved in apples. Similarities can be found in many of our modern food crops.

The body of the book weaves a journey through this industry. Intertwined in this narrative are reasons why we have the apple varieties available to us in the grocery stores. Consumer preference, ability to withstand transportation, adaptation to the region's climate, and pest and disease resistance are important factors. Like other food crops, this also means that the vast diversity of the apple is being lost.



**Book Review: Good Apples***Continued...*

Ms. Futrell digs into the politics and the economics of the apple industry. She writes about public-funded university research on varieties and orchard management, about how the largest orchards sometimes receive preferential cultivars. Smaller orchards, however, do not benefit from the marketing of these new apple varieties to the public. The changes in agriculture overall and specifically to the growth of large commercial apple orchards is told with a sense of sadness but also with optimism. The recent focus on where our food comes from and local markets is a positive, if limited, change.

In the powerful final chapter of *Good Apples*, the author comes full circle to emphasize the magnitude of problems in what she describes as a bifurcated food system, with niche, local, diversified farms on one side and the huge industrial mono-cropped farms on the other. Her writing skillfully shows the losses to society that this system has given us. Ms. Futrell uses the phrase “democracy of apples” where others might use food sovereignty, the democratic decision-making of a food system, to describe the direction for which we need to strive. She leaves us with a call to action, to challenge the economic structure of the food and agriculture system that has been created by powers greater than ourselves, to find a middle way. Working toward common goals for a just and healthy way to produce and distribute healthy food, using fewer chemicals and working in harmony with nature and benefiting the farmer, food worker, and eater, is the challenge that we must accept.

Ms. Futrell’s deep respect for the apple and the people who have toiled to bring this fruit to our kitchens and lunchboxes shines through. It turns out, the simple apple isn’t so simple after all.

*This review was printed with permission from the Women Food and Agriculture Network, [www.wfan.org](http://www.wfan.org)*

---

**Wanted: Certified Organic Apple Prunings**

Animal Rescue wants to buy your apple and/or pear prunings. The sticks are used as treats for the chinchillas in our rescue and are also sold to help support our work. We are looking to buy water sprouts (suckers). Of most interest are pieces that are about pencil diameter and smaller, 1/4" being ideal. Looking for lengths up to about 20" depending on the shipping box.

The sticks need no special handing as long as they are relatively clean and completely free of lichen and mold. The dark wine-colored sticks are what we are looking for.

We pay \$4 per pound and the cost of shipping. We buy fall and winter prunings. As soon as you start pruning, we are ready to buy. We can arrange shipping, including pick-up, by Fed-Ex. Other arrangements can be made.

Please contact me for more information. I will be happy to send samples of what we are looking for.

Rick A Riedlinger, NOLA Chinchilla Rescue  
504.912.9143 [nolachinrescue@gmail.com](mailto:nolachinrescue@gmail.com)



## Member Profile: Brooke and John Knisley, Alternative Roots Farm

Alternative Roots Farm is a certified organic farm sitting on 4.65 acres, which hosts annual crops, orchard, wildlife plantings, pasture for hogs and laying hens, and our new deep winter greenhouse; we also manage a 2 acre orchard site about 20 minutes away from the farm. Our specialty vegetable crops are heirloom tomatoes and garlic, which are complimented by a selection of fall and storage crops, as well as our winter greens. Our main fruit in the orchard is apples, but we also have a number of apricots, along with some pears and plums. Our market has been primarily in the New Ulm, Minnesota area; over the last six years of our operation our focus has been on direct marketing through a summer CSA, summer farmers' market and Apple Shares. We are beginning to expand into the Mankato market with a winter farmers' market. We are also expanding into the winter season with a winter CSA (Madelia/New Ulm area) and growing cool-season greens in our deep winter greenhouse, which we built in partnership with the UMN Regional Sustainable Development Partnership. Our new orchard plantings have been primarily high-density on trellis, due to space constraints and John's love of building things with cedar posts. Even though we have high-density plantings, we are bringing in the ideals of a diverse understory and companion planting to potentially help the health of the trees and support the biology surrounding them.

Alternative Roots Farm is located halfway in between New Ulm and Madelia and 30 minutes West of Mankato.

### What is your favorite fruit, what do you love about it?

As you may know, I absolutely love apples - but for a number of reasons...First of all, they have a fairly long season (July-November) on our farm, meaning you can have freshly picked fruit nearly all the time. Apples to me are great for throwing in your backpack if you are going on a hike or a bike ride or need a quick snack when you are running late for work. On top of that, they provide many different flavors, textures and colors - needless to say every apple variety has a history or story behind how it was found, how it got its name or who was the founder, which to me is fascinating. Lastly, I enjoy all the people coming to market or the farm and sharing with us why they like certain apples, "the farm I grew up on had McIntosh", "Nothing is better than a Fireside in the Fall", or "Lodi apple sauce smells like sweet butter when its cooked". I have come to terms with the fact that not everyone likes the same variety, and that's what makes it so fun growing all these different varieties.

### What is something new you've learned in farming this year?

It's okay to change things up! Sometimes the best decisions are the hardest decisions. Deciding to temporarily stop farrowing pigs last winter, and to harvest our sows, was not a decision we came to lightly, nor one that we enjoyed, but it was good for us in a season with large projects when we felt a need for reorganization. Our freezer is full of pork, we have no pigs over winter for the first time in five years and in the long run the decision was the right one. This experience has empowered us while discussing other large changes for our operation.

### What are you planning to do differently next year?

We are restructuring our operation around apple season, storage vegetables and our winter greenhouse growing. The goal is to narrow our focus and eliminate some products and enterprises, so we can put better time and quality into enterprises more central to our long-term goals. As our young orchard comes into maturity it is becoming a larger part of what we do, with this we feel strong in our decision to move away from summer vegetable CSA and bring a greater focus to our organic and heirloom apples. We will be expanding our Apple Share program, and continuing fall and winter markets, as well as fall and winter CSA shares. Our new plantings are planned to be on a "Tamura" style trellis system, again because of space constraints on this site (and using nearly 2x the amount of cedar posts-haha).

### What do you want people to know about your farm?

Our farm has had a lot of thought put into what it was in the beginning and where we are planning to go in the future. We love alternative music, grilling out and having friends over. Our dogs are awesome companions and hunters; our cat believes he is a furry parrot and will jump on your shoulder at any chance he can get. But for real, we are passionate about what we do on our farm, and hope that shines through with the products we sell and what people see when they visit.

## Events!



### Organic Fruit Growers Association

#### Reception with Michael Phillips

**February 22<sup>nd</sup>, Radisson Hotel, Lacrosse, WI**

Cost: Free to OFGA Members, Donations suggested to help cover costs

Field day will include two sites - map/directions will be provided, travel is on your own

Questions or registration: email OFGA Coordinator Rachel Henderson [info@organicfruitgrowers.org](mailto:info@organicfruitgrowers.org).

Michael Phillips will be presenting an Organic University course based on his most recent book, *Mycorrhizal Planet*. Come meet with him and OFGA members to share your love of biological fruit production.

#### Grafting Workshop and Scionwood Exchange

**Friday, February 23<sup>rd</sup>, MOSES Organic Farming Conference, Lacrosse, WI**

Conference registration or meal purchase required, no additional cost.

Bring some cuttings from your favorite trees, and come see what others have to offer. No scionwood contribution required. Rootstock will be available to purchase. OFGA members will offer grafting instruction, with tools available to use during the event.

### The Savannah Institute

#### Perennial Farm Gathering

**November 29-30<sup>th</sup>, Lussier Family Heritage Center, Madison, WI**

\$40-\$95 [www.savannahinstitute.org](http://www.savannahinstitute.org)

Farmers, scientists, and people with a general interest in perennial crops and pastured livestock all find it valuable to learn what other farmers are doing—what's working well and what needs more work.

### Wisconsin Apple Growers Association

#### Fresh Fruit and Vegetable Growers Conference

**January 21-23<sup>rd</sup>, Kalahari Resort and Conference Center, Wisconsin Dells, WI**

\$85 [www.waga.org](http://www.waga.org)

With Tracks on apples, berries, grapes, farmers markets, wineries, and agrotourism.

#### Minnesota Organic Conference

**January 11-12<sup>th</sup>, St. Cloud, MN**

[Www.mda.state.mn.us/food/organic/conference](http://Www.mda.state.mn.us/food/organic/conference)