

Featured Fruit



**MONTY'S SURPRISE  
APPLE**

*In Search of  
Board  
Members!*



**FEATHERED APPLE  
TREES  
CHRIS MCGUIRE**

**IPM in Organic  
Systems**

**FROM OUR  
WINTER RETREAT  
GUEST SPEAKER;  
PETER WERTS**

# JUST PICKED!

## Featured Fruit: Monty's Surprise Apple

**Message from the Coordinator: Jenna Pollard**

Greetings from the Southern Hemisphere! I'm writing to you from the town of Wanganui, New Zealand, where I've just had the opportunity to tour the site of the Heritage Food Crops Research Trust, directed by Mark Christensen. I contacted Mark because I was interested in learning more about the research the Trust has been doing on a unique New Zealand apple, named Monty's Surprise.

Monty's Surprise was discovered serendipitously by Mark while taking a pit stop along a dusty back road. Mark's passionate search for foods that can act as medicine led him to test the apples he found on the roadside tree. The findings were beyond hope or expectation. Tested in a lab with 250 other varieties of apples, Monty's Surprise was found to contain the highest amount of procyanidins (cancer cell antiproliferatives), making it *"the best apple in the world for human health, and able to be eaten as a preventative measure to reduce the incidence of disease in the human body."* Although the discovery of this apple could lead to great commercial potential and profit, Mark is interested in distributing Monty's Surprise seedlings to anyone who has space to plant a tree, for free. Starting locally, the Trust received funding that allowed them to grow and distribute 5,000 Monty's Surprise seedlings in the Wanganui area. As momentum has grown the reach of Monty's Surprise apple trees has spread into



Monty's Surprise apples, destined to double in size and redden in the hot New Zealand summer sun before harvest mid-April.



Mark shows the uniquely large and rounded leaf of Monty's Surprise.

neighboring communities, and even around the world. Burnt Ridge Nursery & Orchards of Onalaska, WA is now growing Monty's Surprise seedlings in hopes of making them available in the United States within the next couple of years.

Mark's passion and generosity are not limited to apples, as I quickly learned during my tour of the Trust's main growing plot and research site.

Heritage wheat varieties are being grown in hopes that those with gluten-intolerance will be able to eat bread made from their grain. Tomatoes are being researched intensively, with incredible findings

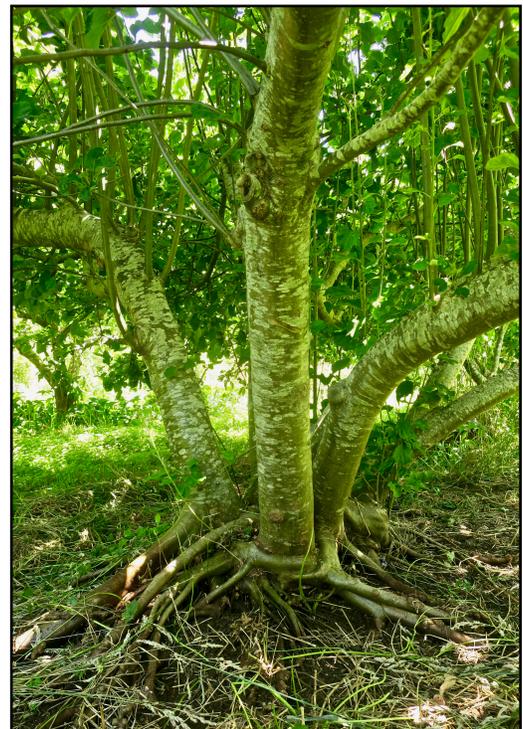
being made in the cancer-inhibiting properties of orange tomatoes. Plums are currently in season and I found myself with a bag in hand, harvesting and eating the most delicious, nutritious plums I'd ever tasted (Sultan plums were my favorite!). Anyone who's interested in growing the well-researched fruits and vegetables simply has to send a self-addressed envelope to the Trust's office, where every Monday a group of volunteers fills the envelope with seeds and sends it back.

The Trust's continued research will undoubtedly yield invaluable information for the future of disease prevention through consumption of foods we can grow right in our own backyard. Mark believes that not only is it important to eat nutritious foods, but to grow them ourselves, caring for them and developing a connection with the natural world that will inevitably lead to a healthier society and a better planet.

The full background story on Monty's Surprise, including Mark's finding of the original tree and much more technical information relating to the science behind its health benefits is available on the Trust's website, here: <https://www.heritagefoodcrops.org.nz/montys-surprise>

As my time in New Zealand comes to an end I am looking forward to OFGA's upcoming winter events. I can hardly wait for the learning and networking opportunities at the winter retreat, the outlook for 2019 at our annual meeting, and the excitement of the grafting workshop and scionwood exchange!

As always, don't hesitate to reach out with any questions or comments you have regarding our newsletter, website and events. I look forward to hearing from you!



The first Monty's Surprise tree grown in the Trust's orchard from a section of root Mark collected from the roadside original.

# Organic Methods: Growing Feathered Apple Trees in a Nursery

Chris McGuire, Two Onion Farm

In high-density orchards of dwarf apple trees, growers generally prefer to plant “feathered” trees with numerous small branches, because feathered trees bear fruit more quickly and provide a faster return on investment. Large conventional nurseries produce feathered trees using synthetic plant growth regulators such as Maxcel, Promalin, and Tiberon.

National organic standards require organic growers to use organically grown planting stock when available. In practice, organic planting stock of apples and other fruits is hard to find and most growers plant conventionally grown stock or raise their own organic trees in on-farm nurseries.

How can organic apple growers raise feathered trees in their on-farm nurseries? With help from a USDA-SARE Farmer Rancher grant in 2018, we compared two organic methods of raising feathered trees. One method is manual leaf removal: repeatedly tearing off the youngest developing leaves from the growing point of the tree. Young leaves produce auxin, the plant hormone which suppresses axillary buds from developing into branches, and by removing young leaves we can release axillary buds along the leader and allow them to develop into branches. The second method is to spray an organic seaweed extract high in cytokinins. Cytokinins generally counteract the effects of auxins and allow axillary buds to develop.

In our experiment, we bench-grafted 60 trees each of nine varieties (Pristine, Williams Pride, CrimsonCrisp, Ashmead’s Kernal, Golden Russet, Egremont Russet, Macoun, Grimes Golden, and Hudson’s Golden Gem) onto G.41 rootstock in March. In April, we planted the grafts in an unheated 34’ x 102’ high tunnel. Prior to planting we applied 2 inches of finished compost over the soil surface in the entire tunnel and afterwards we applied 4 inches of hardwood bark to the entire tunnel as a mulch for weed control. Spacing between trees was 10.75” within row, 3’ or 8.5’ between rows. As trees grew, we thinned down to a single shoot per scion and we manually removed all branches below 22” above the graft union. We irrigated trees as needed with drip tape throughout the season. We ventilated the tunnel by



Two newly dug Grimes Golden  
Trees in December.

raising rollup sides and opening end wall doors constantly except during severe storms and cool spring weather.

Each tree received one of three treatments: (1) untreated control; (2) manual leaf removal – tear off 3 young developing leaves near growing tip three times, two weeks apart, starting when leader reached 22” above graft union; (3) spray Sea Crop 16 three times, two weeks apart, starting when leader reached 22” above graft union, at maximum label rate (2 cups/gallon water) to 8-10” at the top of tree. (Sea Crop 16 is an OMRI-listed plant growth regulator made from seaweed. It has the highest cytokinin concentration of any organically-approved plant growth regulator we are aware of. However our Sea Crop 16 sprays contained only 50 ppm cytokinin, which is 10-20% of the concentration typically used when Maxcel is sprayed to promote branching in conventional nurseries).

Major pest problems were potato leafhoppers and spider mites. Both were controlled well by sprays (Pyganic for potato leafhopper, oil for spider mites). Other pests were Japanese Beetle and various caterpillars. We saw no disease symptoms.

Grafting success was mixed. Only 3% of Egremont Russet were alive at the end of the year, presumably due to poor quality of purchased scionwood for this variety. Other varieties ranged from 60%-98%. On several grafts, scions began growth in spring but then flagged and died during extremely hot weather in June. This was particularly true in the center of the tunnel (the hottest area).

At the end of the season we collected data on tree growth and branching. Statistical analysis showed these trends (we define a feather here as a branch greater than 4” in length):

- Taller trees had more feathers. Each increase in tree height by 6” resulted in one more feather.
- Varieties differed in branching. Macoun had the fewest feathers; then Hudson’s Golden Gem, Pristine, Grimes Golden, Williams Pride, Ashmead’s Kernal, Golden Russet, and CrimsonCrisp. Hudson’s Golden Gem and Macoun averaged less than 1 feather per tree; the most feathered varieties had almost 5 per tree.
- Treatment had a significant but modest effect on branching. Leaf removal promoted branching, and the Sea Crop 16 spray actually reduced branching. Leaf removal increased the number of feathers per tree by 0.9, and spraying decreased the number by 0.7. So the magnitude of the effect was relatively small. I am not sure why the seaweed spray decreased branching. It is a complex, naturally-derived substance which may contain chemicals other than cytokinins which actually suppress branching or cause phytotoxicity.



Tip of a leader four days after leaf removal treatment was applied. Notice the petiole stubs where leaves were removed.

- Treatment did not affect average feather length. Taller trees had longer feathers. Ashmead’s Kernal and Pristine had significantly shorter feathers than other varieties.

- Treatment did not affect the height of the lowest feather.

- There was wide variation in tree growth above the graft union, from 2.5’ to 8’. In general, grafts grew much more than is typical in outdoor nurseries in our experience, and many trees were ready for planting in the orchard after a single season of growth. Treatment did not affect the height of trees. Pristine trees were tallest (about 6.5’ above the graft on average), followed by Macoun, Williams Pride, Golden Russet, CrimsonCrisp, Hudsons Golden Gem, Grimes Golden, and Ashmead’s Kernal (about 4.5’ on average).

Published reports state that 10-15 feathers >4” in length are desirable for the tall spindle training system. Only

18 of 379 live trees in our study achieved this! However, many leading commercial nurseries do not produce trees that meet these standards: e.g., Schlabach ‘s and Adams County Nursery consider a tree with 4 branches at least 8” in length to be feathered. 23% of our trees met that standard; ranging from 40% of trees in varieties that branch readily (Williams Pride, Golden Russet, CrimsonCrisp) down to <5% for Macoun and Hudson’s Golden Gem.

We tracked all expenses, including labor time, associated with our nursery. Assuming a labor cost of \$20/hour, it cost about \$12 per tree produced to graft, grow for one year, and dig up the trees in our nursery, excluding overhead costs of running our farm and excluding the cost of the high tunnel where we grew the trees. Raising trees ourselves may not be cost-effective! The different treatments (leaf removal and seaweed sprays) were quick to apply and only added pennies to this cost. Good grafting success will reduce this cost substantially, since some of the costs incurred (costs of rootstocks, grafting and planting the trees) are incurred regardless of whether the graft succeeds. We calculated that if all grafts were successful, this would have reduced the cost per tree produced to under \$9 per tree.

Almost none of the nursery trees set terminal buds on the leader (we have observed this in young trees grown outdoors as well, but it was particularly common in the high tunnel). Vegetative growth continued until early-mid October. We noted that some nursery trees formed many short axillary branches along the leader which did not elongate significantly and were not counted as branches in this study.

In conclusion, we'd recommend the manual leaf removal technique to growers who'd like to grow feathered trees. The effect of this technique was small but noticeable. It might be possible to increase branching further by removing leaves more often during the season. When practicing leaf removal, be careful not to accidentally break off the growing tip itself by trying to remove very tiny leaves. If you do, the tree will produce a dense cluster of vigorous, competing, upright branches – just as if you had made a heading cut. To prevent this, we learned to only remove leaves which are large enough to be clearly distinguishable.

A complete report of our research is available on our farm's website, [www.twoonionfarm.com](http://www.twoonionfarm.com).

*This article was developed with support from the Sustainable Agriculture Research and Education (SARE) Program, which is funded by the U.S. Department of Agriculture – National Institute of Food and Agriculture (USDA-NIFA). Any opinions, findings, conclusions, or recommendations expressed within do not necessarily reflect the view of the SARE program or the U.S. Department of Agriculture. USDA is an equal opportunity provider and employer.*



**Chris McGuire** has grown organic produce with his wife Juli at Two Onion Farm in Belmont WI since 2004. They currently raise over an acre of scab-resistant apple varieties on dwarf rootstocks. They sell their apples through a community-supported agriculture program and

to grocery stores in Madison WI, Dubuque IA, and Platteville WI.

# OFGA Logo Contest!



With a new year upon us, OFGA is looking to take on a new look! Help us out by contributing to our logo contest! We're looking for a new logo, and are accepting submissions now.

***The winning logo contributor will receive one FREE year of OFGA membership and a \$50 gift certificate to Albrecht's Nursery!***

To compete, email your submission to our coordinator at: [jennampollard@gmail.com](mailto:jennampollard@gmail.com)

**Deadline: Feb. 18th, 2019**

# The Opportunity for IPM to Build Resiliency in Organic Systems

**Peter Werts, project manager, IPM Institute of North America, Inc.**

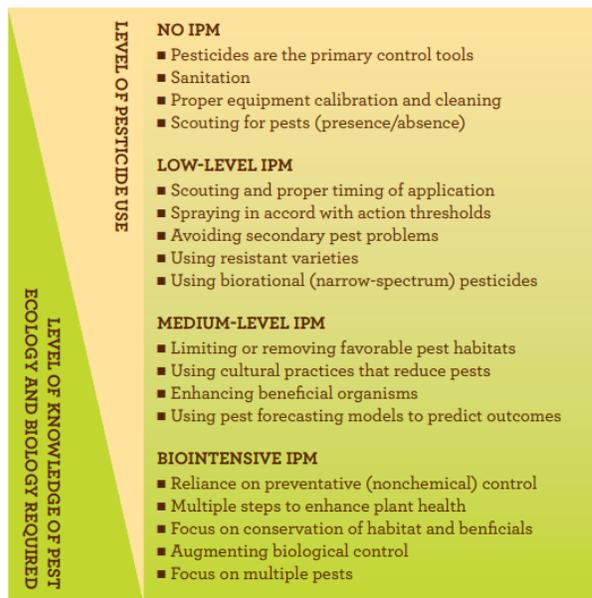
*Note to reader: A portion of this article has been reprinted and adapted with permission from the [Organic and IPM Working Group](#) factsheet, “[Organic Agriculture and IPM, Working together for Sustainability](#)”. The Group is facilitated by the IPM Institute of North America, Inc. and supported by the USDA National Institute of Food and Agriculture, North Central IPM Center projects AG 2012-51120-20252 and AG 2014-70006-22486.*

Growing organic fruit in the upper Midwest remains tricky business. A capacity for timely management, savvy marketing and a clear understanding of your farm’s pest complex are essential skills for small and midsize fruit farmers. A lot has happened in our region in the last ten years. Apple producers have shifted to high-density production and demand for challenging varieties such as Honeycrisp are on the rise and a devastating invasion of spotted wing drosophila has hindered the berry industry. Despite these production challenges, the opportunities to grow and market organic fruit are endless as consumer demand for organics grow by the double digits each year. To keep pace in these dynamic times, producers can look to a longstanding resource in Integrated Pest Management (IPM) to build resiliency in their organic systems.

During this year’s OFGA winter retreat we will discuss how to manage the changing pest complex of fruit production in the upper Midwest. This will include new pests of concern and the common pests that return each year.

Of most importance, we will discuss what has been learned about spotted wing drosophila (SWD) and brown marmorated stink bug (BMSB) in the last five years. Using the growing-knowledge base of SWD and BMSB biology and behavior, we will examine which exclusionary and sanitation practices are most effective and which organic pesticides are worth the investment.

The first official detection of BMSB in a Wisconsin orchard was in 2016, though it has been in the upper Midwest for several years. In 2017 the first reports of isolated-economic injury in orchards were in Dane County, Wisconsin, with additional reports increasing in 2018. If you have not yet put a trap out for BMSB, 2019 will be the year.



**figure 1** • The IPM continuum, ranging from heavy reliance on pesticides with little use of other tactics (no IPM) to reduced pesticide use and more reliance on biologically based and cultural tactics (biointensive IPM) (modified after Philips et al., 2014).

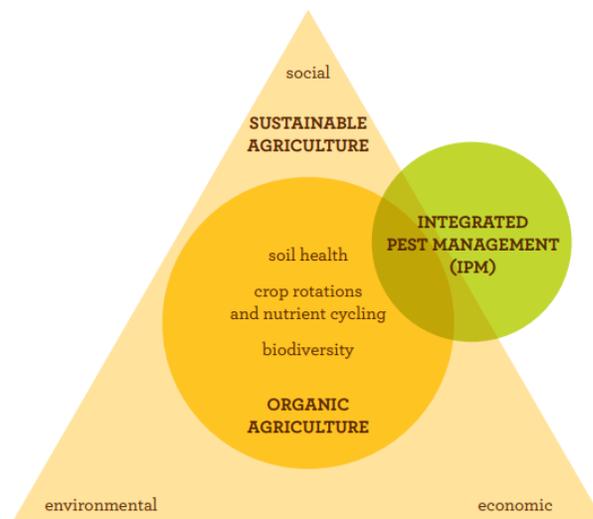
Our old pests have not gone away! Apple maggot, codling moth, plum curculio, apple scab and others, continue to challenge organic producers. Pesticides approved by the Organic Materials Review Institute (OMRI) remain limited, but more products from several biopesticide companies are now available and registered for fruit production. We will discuss the available efficacy data and how to apply different insect models or scouting thresholds to determine the best timing of these products and their role in managing pests common to tree fruits and small fruits.

### What is Integrated Pest Management?

Integrated Pest Management (IPM) is a science-based, decision-making process that identifies and reduces risks from pests and pest management related strategies. IPM coordinates the use of pest biology, environmental information, and available technology to prevent unacceptable levels of pest damage by the most economical means, while minimizing risk to people, property, and the environment. IPM provides an effective strategy for managing pests in all arenas including agricultural, residential, and natural areas. It can be used within all production systems, including organic production. As described by Phillips et al. (2014), IPM adoption in any system is on a continuum that ranges from optimizing the timing and selection of pesticides plus limited use of other tactics (Low-level IPM) to the use of biologically based and cultural pest management tactics leading to greatly reduced reliance on pesticides (Biointensive IPM) (Fig. 1). Pesticide options include both naturally derived and synthetic substances that have been approved for their use by the US Environmental Protection Agency and/or other relevant authorities. In short, IPM is a framework for sustainably managing pests wherever they occur while minimizing environmental, human health, and economic risks.

### How are IPM and organic systems similar?

IPM and organic agriculture share many of the same goals including a focus on eliminating the reasons pests are present, such as preventing pests from accessing food, moisture, and protection from unfavorable weather while increasing natural enemy populations. Both IPM and organic methods for pest management address environmental and human health concerns (Fig. 2). Further, both emphasize pest management based on preventive tactics. Organic agriculture places strict limits on the types of pesticides used and prohibits genetically-modified organisms.



**figure 2** • Pest management in organic systems and IPM share common foundations rooted in ecology and concerns about human, environmental, and economic health. While both focus on managing pests, in organic systems the use of synthetic inputs (e.g., pesticides) is prohibited. The sustainable soil and nutrient management required for organic systems can enhance the success of organic pest management. IPM can be practiced in organic as well as in non-organic farming systems.

**IPM is the foundation of organic pest management.**

The USDA's National Organic Program (NOP) Final Rule (USDA, 2000) requires the use of preventive and cultural practices that enhance crop health, such as crop rotation, cover cropping, sanitation measures, cultural and biological controls, which are also tactics used in IPM. Certified organic farmers must develop or update an Organic System Plan as part of their annual certification application. It outlines planned production and pest management practices for crops being certified. Only when preventive practices have failed to prevent or control pests may an organic farm manager apply a pesticide allowed for organic production. The practice of organic agriculture and IPM are site-specific in nature, with individual tactics determined by the particular crop/pest/environment scenario.

During the workshop we will keep a close focus on how the individual management strategies are implemented using an IPM framework, to guide our discussion on organic-pest management. I am also looking forward to meeting everyone at the winter retreat and learning from you about some of the practices being implemented on your farms. Please bring your questions and notes. Questions may be submitted ahead of time and will be discussed during the workshop. For those who have pesticide-application records, bring a copy so you can reference exact spray intervals or materials applied during the last growing season.

**References**

Philips, C.R., Kuhar, T.P., Hoffmann, M.P., Zalom, F.G., Hallberg, R., Herbert, D.A., Gonzales, C., Elliott, S. 2014. Integrated Pest Management. I In: Encyclopedia of Life Sciences. John Wiley & Sons, Ltd: Chichester. DOI: 10.1002/9780470015902.a0003248.pub2.



**Peter Werts**, project manager, IPM Institute of North America, has a B.S. in Environmental Studies from Northland College in Ashland, Wisconsin. Peter has been working with commercial orchards to implement IPM and conservation practices since 2008. His goal is to help growers of all sizes reach their peak IPM performance. Peter also manages several eco labels for tree-fruit production; [AppleTalk](#), a weekly IPM conference call for IPM and organic growers and has served a two-year term on the [North Central IPM Center Stakeholder Panel](#), a USDA-funded center which supports IPM programming in the Midwest. To learn more about the IPM Institute visit, [www.ipminstitute.org](http://www.ipminstitute.org).

## OFGA in Search of Board Members

Greetings to all friends of OFGA. My trees are covered in hoar frost (still) and the orchard is sleepy. The woods are quiet - free of the small 6 and 8 legged residents of the growing season and my chainsaw seeks some time out of the box to cut some firewood. There have been a couple restful days now that our animals are in the freezer save for the layers, but all the planning of the coming year and things to fix are already swimming in my mind. Some of those are related to OFGA, and this is the reason I write.

As some may know, I've served on the board for what is nearly my two-term limit as Treasurer. I have been honored to have been a part of the transition from OTFA to OFGA, adding the focus on other fruit to the scope of the group and to obtain non-profit status. Our tax filings are now up to date and with a lucky donation early in the year from the now disbanded Wisconsin Natural Food Association, we have a little more of a cushion to be able to carry out the mission of OFGA in the coming years.

This leads me into my main reason I'm plunking away at my keyboard right now, which is to ask folks in our organic fruit growing community to consider being a part of the OFGA board of directors. We have a few seats available as well as the officer position of Treasurer. We are in need of some motivated individuals with a couple extra hours a month to put in some effort to guide the organization in the next several years. Any of our current board members or our coordinator would be happy to talk with you about specific duties, time requirements, needs, future plans, ins and outs, etc. I'd invite you to please consider being an active part of this valuable resource for organic fruit growers in the upper Midwest and beyond.

I know I just said you can contact us for more info but I'm going to jump the gun a little just to give the basics and get the ball rolling. The term would begin in February 2019 around the time of the annual meeting (stay tuned for specific details). Terms are for 3 years and board members can serve up to two consecutive terms. There are generally quarterly board meetings held by conference call. Sometimes additional calls are scheduled as needed in preparation for special events or to deal with specific issues that arise between regular board meetings. The board members help guide the scope of work for the organization; planning events such as the retreats and field days, managing finances, and working with the coordinator to enable OFGA to pursue its mission.

I'd also like to take this opportunity to say goodbye to my fellow OFGA board members as it has been a rewarding experience working with you all over the past several years and I wish you all the best as you help OFGA support more organic fruit growers in the coming years. I will continue to be an active member in years to come and look forward to still being involved in the organization . . . but I do hope that now I have a couple more hours to devote to my farm as that is very much needed!

**Anton Ptak**  
Treasurer, OFGA

## Upcoming Events

### **OFGA Winter Retreat\***

*\*click for more information*

February 20th - 21st, 2019

The Historic Trempealeau Hotel

Trempealeau, WI

*Our main event! At our winter retreat you will have the opportunity to learn about organic pest and disease management from our guest speaker, Peter Werts, of IPM Institute of North America, as well as network with other growers and engage in small group discussion on focused topics. Whether you're a seasoned grower or new to the scene, we would love for you to join us!*

### **OFGA Annual Meeting**

8:00 - 9:00am Thursday, February 21st, 2019

The Historic Trempealeau Hotel

Trempealeau, WI

Our organization is in a time of transition with board member turnover and focused planning for the future. We'd love to have your input and ideas as we prepare to grow and expand our support for organic fruit growers in 2019. It's an excellent time to renew your membership or become a new member and receive the discounted rate at the retreat. We encourage all members and interested parties to attend! Coffee and treats included.

### **Grafting Workshop and Scionwood Exchange**

6:00pm - 8:00pm, Friday, February 22nd, 2019

Room B, La Crosse Center, La Crosse, WI

Join us for our most popular event of the year! At the grafting workshop and scionwood exchange we welcome you to learn the art of grafting fruit trees and practice with supervision from experienced growers. If you have scionwood to bring, please do! Attendance is free, with several ready-to-graft rootstock varieties available for purchase. You will leave the workshop with grafted trees and the knowledge of how to graft fruit trees on your own!

### **Homesteading Weekend Workshop\***

*\*click to view event flyer*

March 9th - 10th, 2019

Eagle Bluff Environmental Learning Center

Lanesboro, MN

*Here's a great opportunity to learn from a pro. Dan Bussey will be instructing on fruit tree grafting and orchard care.*

***Have an event you'd like to share? Let us know!***

**Interested in advertising in the Just Picked newsletter?**  
Contact our coordinator.

## OFGA Membership

Interested in becoming a member of OFGA?

Benefits of membership include:

- discounted rates at our annual events, including on-farm field days and our winter retreat
- access to a network of fellow growers and organic enthusiasts
- our quarterly newsletter, Just Picked!

To find out more, and join, visit our website:

**[organicfruitgrowers.org](http://organicfruitgrowers.org)**



Our coordinator, Jenna Pollard, looking at the Monty's Surprise apple with Mark Christensen at The Heritage Food Crops Research Trust site in Wanganui, New Zealand.

*Photo by Stephanie Lambert*