



# ORGANIC TREE FRUIT ASSOCIATION

# JUST PICKED

VOLUME 6, ISSUE 1

WINTER 2010

## CHANGES FOR *JUST PICKED*

by Bridget O'Meara

As you learned in the previous issue of *Just Picked*, Deirdre Birmingham has left her position as editor of the newsletter in order to focus on her orchard. For the past six years, Deirdre has done a fantastic job keeping readers posted on upcoming events, new research and funding opportunities. She has also coordinated contributions from growers, researchers and other experts in order to provide the best practical information on organic orchard management. (I was actually working at MOSES when those first issues of *Just Picked* were hot off the presses. It was an exciting new project!) In addition to editing the newsletter, Deirdre produced fact sheets, organized events and kept the website up to date. We are all grateful to Deirdre for all she has done to facilitate information exchange between growers and to build the infrastructure of the Midwest Organic Tree Fruit Network.

The Organic Tree Fruit Association, which is a

more formalized outgrowth of that Network, will continue to offer this newsletter, along with the website and listserv, as a free information service to anyone interested in organic tree fruit production. OTFA is committed to keeping these resources grower focused and to disseminating practical information on organic management practices.

For the near future, I will serve as the copyeditor for *Just Picked*. I will say at the outset that I am not a grower. My background is varied and not logically consistent to the casual observer (or my mother). But for me, six years of graduate work in American Studies and ten years of teaching in English Departments at land grant universities has led to a passionate commitment to sustainable agriculture and preference for working directly with farmers. Although I will be editing the articles, the actual content and future development of *Just Picked* will be determined by the OTFA board and members as well as by you, the *Just Picked* readership. Your input and

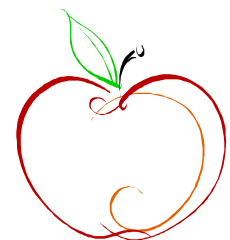
contributions are encouraged. Please let me know if you have topic suggestions or would like to write something for the newsletter.

Anna Maenner of the Wisconsin Apple Growers Association will continue to do the important work of laying-out, printing and distributing the newsletter, as she has done since it moved out of the MOSES office.

As you may have read elsewhere, OTFA has secured grant funding for the next six issues of *Just Picked*. We are also opening the newsletter to classified and display advertising with the intention of making it more self-sustaining over the long term. Anyone seeking and/or selling land, equipment, trees, scions, etc. may place a classified ad in *Just Picked* for 25 cents a word. Members of OTFA may place one classified of up to 25 words (per issue) for no charge. For display ad rate information, please contact me at [OTFAinfo@gmail.com](mailto:OTFAinfo@gmail.com)

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## OFTA UPDATE

Our bylaws are in place and we are incorporated in the state of Minnesota. We are working on our nonprofit status. We had planned to elect a new board of directors at our meeting in Grand Rapids last December but weather limited our turnout so the group decided to wait until February to have our election. We are planning to hold a meeting and board election at the Organic Farming Conference in La Crosse. The meeting is scheduled for Friday, February 26<sup>th</sup> at 5:30 pm in Room C of the La Crosse Center.

We were awarded a USDA Specialty Crops Bock Grant for \$40,000. This gives us a year and a half of funding to continue to run the Association and start setting up a network of researchers and research sites. The grant proposal is posted on the Network Website under the OTFA button. <<http://www.mosesorganic.org/treefruit/otfa.htm>>

While you are online, be sure to fill out the "Grower Survey," which can also be accessed from the OTFA section of the Network Website. It will take just a few minutes to fill out and the information you provide will help us assess grower interests and develop educational programming.

We have a committee working on scheduling our field days and retreats. If you have suggestion or would like to host a field day send an email to Bridget at [OTFAinfo@gmail.com](mailto:OTFAinfo@gmail.com)

All the recent activity by the board and our history is also posted on the OTFA web page. Feel free to look at the information and consider joining the organization.

Thank You,

Harry Hoch Acting Chair of OTFA

## POST-INFECTION CONTROL OF APPLE SCAB

One Organic Grower's Experience fighting Apple Scab

By Harry Hoch

This article reflects some of the experience I have had using liquid lime sulfur and micronized sulfur to control apple scab on my orchard near La Crescent Minnesota. As you will see from our weather records, we have a rainy humid climate here in southeastern Minnesota. The following is an overview of my experience and may be of value to others trying to grow organic apples in the humid areas of the country. My trials are not properly replicated and there are not controls or comparisons with conventional fungicides. You can use my experience as a starting point to test a similar program on your own orchard. I am sharing my records with you, but they should not be taken as recommendations.

### Terminology

Some organic growers may not be familiar with terms commonly used in commercial fruit production so I will define them here. Apple scab is a fungal disease that overwinters on leaves that were infected the previous season. Spore cases develop in these decaying leaves and then expel spores for a limited period of time during the spring. Primary scab refers to the lesions created by spores that came from the overwintered leaves. Secondary scab refers to the

lesions that spread from the primary scab actively growing on the leaves and apples. Scab spores require a film of water to start growing and penetrate the tissue. The wetting period refers to the number of hours the leaf surface remains wet. An infection period refers to the number of hours that is needed for a scab spore to grow and penetrate a leaf or apple skin. The infection period is shorter with warm weather. As little as nine hours of wetness can be enough to cause an infection in hot weather, while 36 hours or more may be needed in very cold weather. The fungus can be controlled in one of two ways. A protectant fungicide coats the leaves and fruit and stops the spores from infecting the tissue. A post-infection fungicide penetrates the fruit or leaf and kills the fungus initiating the infection. Back action refers to the number of hours a fungicide has activity after the infection begins.

### The Post Infection Concept

In 2006 we started to transition a few blocks of scab susceptible apple varieties to organic production. I did not want to rely on a protectant program because too many applications of sulfur or copper would be required in my climate. Before synthetic fungicides were available, apple growers would spray a wettable powder form of sulfur to protect the crop. This sulfur had to be on the tree prior to every rain. Some growers would also use liquid lime sulfur after every rain to insure no spores survived the protective layer of sulfur. This could easily add up to over thirty fungicide applications in a season. This may be an approved organic practice but it is far from a

sustainable environmental practice. I looked into using liquid lime sulfur in a post infection program to control primary scab.

I attempted to use liquid lime sulfur but only after an infection period was confirmed by weather data and a computer model. I am using one of the oldest known fungicides with some of the newest computer modeling technology. Not every rain event provides a wetting period long enough to cause an infection. So I am able to drastically reduce the number of applications needed by identifying which rain events actually cause an infection.

### Spore Maturity and Emergence

Apple scab spores slowly ripen within their spore cases (within the decaying leaves on the ground) in the spring. We follow a process of collecting the spore cases, squashing them on a slide, and evaluating the presence and maturity of spores under a microscope. This is called the Squash mount Evaluation System. There is also a computer model that uses weather data to predict the period of time that the spores will be emerging. In Minnesota the scab spores usually begin to emerge around the first week of May and run out in the middle of June. I use both the squash mount system and the computer model to verify the presence of mature spores. This knowledge can be valuable in combating apple scab.

### The Hoch Orchard Trials

If infections are controlled during the primary scab season, fungicides will not have to be applied during the summer because the overwintered spore cases will have expelled all of their spores. My goal was to put all my energy into a post infection program to control primary scab. If I am successful controlling primary scab, I can get by with five or six properly timed sprays per season.

In the first season of our experiment, we treated all the apple varieties with the same rates of fungicide. Lime sulfur was applied in a post infection program using Spectrum Technologies data loggers and disease models to verify infection periods. We soon learned that varieties reacted differently to the post infection program.

In 2007 some varieties showed 100% control of scab while others had as much as 75% fruit damage from scab. Much of the scab in the high damage areas was due to secondary scab that spread late in the summer months. In mid June (at the end of primary spore season) lesions were scattered and appeared to be infecting less than 5% of the fruit and leaves. The spread of secondary scab was not obvious in casual pest scouting in July and early August. A wet summer allowed the secondary scab to explode in late August and early September. It appears that secondary scab will spread much more vigorously in the

highly susceptible varieties than in varieties with average susceptibility. In a Honeycrisp block, a few scattered primary scab lesions left untreated produced a small amount of localized secondary scab, while a few scattered lesions in a Cortland block left untreated resulted in crop failure.

In 2008 we tried different rates of lime sulfur. The varieties with low susceptibility to scab had good control with low rates of lime sulfur. On the most susceptible varieties higher rates of lime sulfur provided better control, but still allowed some lesions to develop during primary scab season. This resulted in secondary scab and high levels of damage again.

In 2009 we combined lime sulfur with micronized sulfur to give more protection in the blocks of highly susceptible varieties. While the calcium polysulfide in the lime sulfur works well penetrating the leaf and stopping the early infection, there is very little actual sulfur residue left on the tissue after the lime sulfur dries. A combination of liquid lime sulfur with micronized sulfur gave us kickback action followed by several days of protection. This combination greatly reduced the incidence of primary scab on the most susceptible varieties but did not give 100% control. In addition to using higher rates and a combination of lime sulfur with micronized sulfur we still had to apply fungicides through August to control secondary scab on the highly susceptible varieties.

### Spectrum Technologies

We use a weather data logger from Spectrum Technologies to track the temperature and leaf wetness in the orchard. This is a small fist sized unit that is placed in the tree canopy. The model I use has to be brought in and downloaded to the PC. There are more expensive models that will send the data directly to the computer. I also use a disease modeling program that takes the weather data and figures out if the wetting period was long enough to cause an infection. Table #1 was created by the Spectrum Technologies software. The table is a little confusing at first glance. The software actually uses three different predictive models. These models are listed on the right side of the chart in three columns representing the Mills model, the Washington State model (Wash St), and the Cornell model. The left side of the chart has four columns for the date, the high and low temperature, and the total wetting hours on that date.

The center two columns refer to the degree day accumulation and the percent of the spores that have matured in the overwintered spore cases. When the model reports 99%, theoretically all the spores have matured and will be expelled in the upcoming wetting period. 99% would represent the approximate end of the primary

*(Continued on page 4)*

## POST-INFECTION CONTROL OF APPLE SCAB CONTINUED

scab season. Most plant pathologists recommend protecting the orchard for an addition two weeks to be sure all of the spores have been expelled. We actually use the Squash Mount system to look at a sampling of spore cases to verify that all of the spores have matured and been expelled. This marks the end of the primary scab season on our farm.

Table # 1 Spectrum Weather Data

Date	Temperature		Wet Hrs	Degree Days	%Spore Mature	Infection Degree		
	High	Low				Wash Mills	St Cornell	Cornell
05/06	64.9	48.1	5.8	22	0	None	None	None
05/07	68.4	47.4	7.5	48	1	None	Light	Infected
05/08	69.7	44.5	5.5	72	2	None	None	None
05/09	51.0	38.5	4.5	84	2	None	None	None
05/10	49.6	36.2	2.3	94	3	None	None	None
05/11	62.8	33.8	0.0	111	3	None	None	None
05/12	64.9	43.0	5.0	133	4	None	None	None
05/13	58.0	41.5	17.8	151	5	Medium	Medium	Infected
05/14	60.1	39.3	0.0	167	6	None	None	None
05/15	60.8	45.2	4.0	186	8	None	None	None
05/16	50.3	33.8	0.0	196	8	None	None	None
05/17	64.9	32.2	0.0	212	10	None	None	None
05/18	66.3	41.5	0.0	234	12	None	None	None
05/19	83.0	49.6	0.0	269	19	None	None	None
05/20	81.6	58.7	0.0	307	25	None	None	None
05/21	63.5	52.4	4.8	333	29	None	None	None
05/22	67.7	48.1	2.3	358	33	None	None	None
05/23	67.7	51.7	6.3	382	38	None	None	None
05/24	71.1	43.7	0.0	407	43	None	None	None
05/25	66.3	45.9	0.0	432	47	None	None	None
05/26	53.8	45.2	23.3	449	50	Medium	Medium	Infected
05/27	51.0	44.5	24.0	463	53	Heavy	Heavy	Infected
05/28	67.7	43.7	1.8	485	57	Heavy	Heavy	Infected
05/29	68.4	51.0	0.3	512	62	None	None	None
05/30	69.0	46.7	5.8	536	66	None	None	None
05/31	70.4	39.3	0.5	561	71	None	None	None

06/01	69.0	55.2	0.0	591	76	None	None	None
06/02	70.4	45.9	0.0	616	80	None	None	None
06/03	64.9	41.5	0.0	637	83	None	None	None
06/04	73.2	42.3	0.0	665	87	None	None	None
06/05	73.9	47.4	0.0	693	90	None	None	None
06/06	52.4	42.3	14.3	706	92	None	None	None
06/07	47.4	42.3	14.5	719	93	None	None	Infected
06/08	55.9	45.2	9.8	736	94	Light	Light	Infected
06/09	60.8	45.9	2.3	756	96	None	None	None
06/10	66.3	46.7	0.3	779	98	None	None	None
06/11	65.6	49.6	0.0	805	99	None	None	None
06/12	69.7	45.2	6.0	830	99	None	None	None
06/13	73.2	48.8	4.8	858	99	None	None	Infected
06/14	77.4	52.4	0.0	892	99	None	None	None
06/15	73.2	53.8	0.0	925	99	None	None	None

### A Comparison of Honeycrisp and Cortland

We have found the varieties with low susceptibility to scab, in our case Honeycrisp, can produce a clean crop with post infection applications of lime sulfur during the primary scab season. After four years, we have not yet had significant damage from scab on Honeycrisp using this program. We were able to stop applying fungicides after the primary inoculum ran out in mid June. On the other hand, we could not control scab on the highly susceptible varieties such as Cortland using only a post infection program. Even a protectant micronized sulfur program in combination with a post infection lime sulfur program did not give us 100% control of primary scab.

In 2009 we had 21 days with rain events during the primary scab season. You can see the recorded wetting periods and infection periods on Table #1 created by Spectrum Technologies software. As you can see on Table #2 we had eight days with confirmed infection periods in the susceptible Cortland block, and treated the eight infections with five applications of fungicide during the five week primary scab season. Four of the applications were a tank mixes of lime sulfur and micronized sulfur (Kumulus brand), one application was Kumulus alone in anticipation of a predicted rain. The less susceptible Honeycrisp block required five applications to control primary scab. In the Honeycrisp block our scab sprays were applied on a post infection schedule and the fungicide rates were lower. We did add some Kumulus to the tank mix if rain was predicted within the next five days.

*(Continued on page 6)*

Graph #1 2009 Primary Scab Season May 5 – June 14

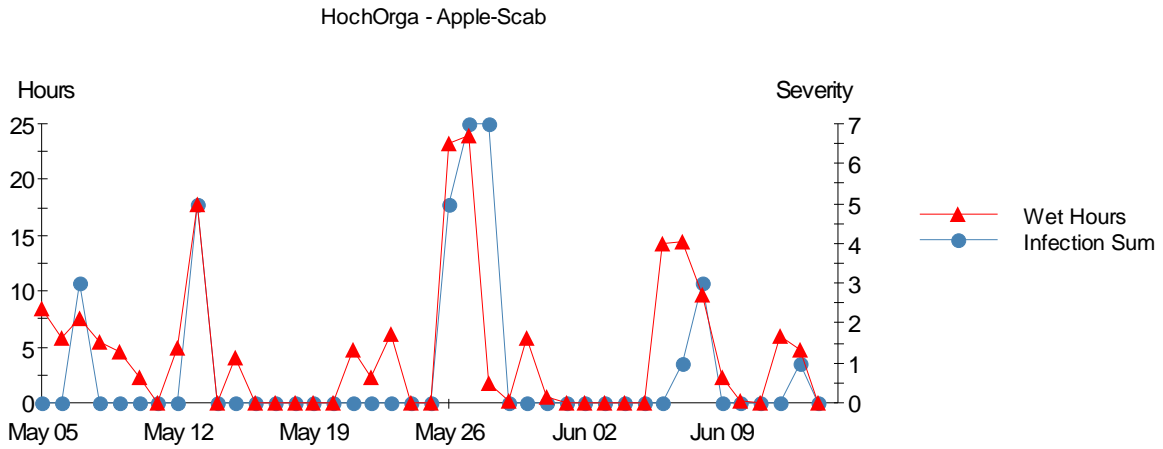


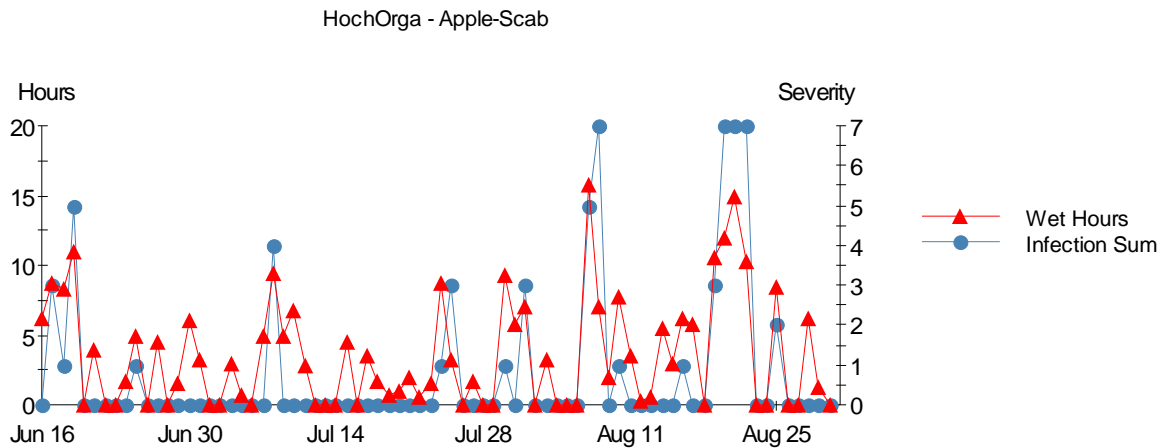
Table #2

2009 Hoch Orchard Fungicide application record for control of Primary Scab

Date	Cortland Block	Date	Honeycrisp Block
4-27	Champion WP (copper for fire blight prevention, also is a good scab protectant)	4-28	Same
5-6	Infection	5-6	Infection
5-7	Liquid Lime sulfur 2% Kumulus WP sulfur 7.5 #/acre	5-8	LLS 2%
5-13	Infection	5-13	Infection
5-13	LLS 3% Kumulus 7.5 #/acre	5-14	LLS 2% Kumulus 7.5 #/acre
5-25	Rain is forecast Kumulus 7.5 #/acre		
5-26,27,28	Major infection	5-26,27,28	Major infection
5-28	LLS 3% Kumulus 7.5 #/acre	5-28	LLS 2% Kumulus
6-7,8	Infection		Infection
6-9	LLS 3% Kumulus 7.5 #/acre	6-9	LLS 2%
6-13	Light infection	6-13	Light infection
	Did not spray because Kumulus applied on 6-9 gave protection	6-13	No protectant on trees Applied LLS 1.3%

## POST-INFECTION CONTROL OF APPLE SCAB CONCLUDED

Graph #2 2009 Secondary scab season June 16 – August 30



2009 Hoch Orchard Fungicide application record for control of secondary scab

Date	
6-17	Infection
6-18	LLS 1.6%
7-4	Infection
7-4	LLS 1.6%, Kumulus 7.5 #/acre
7-11	Kumulus 10#/acre for protection
7-18, 19, 20, 21	Long wetting period and infection
7-22	LLS 1.6%, Kumulus 10 #/acre
8-19, 20,21,22 <sup>nd</sup>	Long wetting period and infection
8-22	LLS 1.6%, Kumulus7 #/acre

### Controlling Secondary Scab

In four years of experimenting with lime sulfur we have not been able to control 100% of the scab in the highly susceptible varieties. In 2009 we applied a tank mix of micronized sulfur with the liquid lime sulfur after every infection period. We also attempted to apply micronized sulfur to the highly susceptible blocks before each forecasted rain. Even with this intensive spray program we were not able to get 100% control of primary scab. Because of this we had to continue applying fungicide throughout the summer.

You can see the amount of rain and the number of summer infection periods in the Graph #2. Table #3 shows the number of additional fungicide applications that were needed to keep secondary scab in check on the highly susceptible varieties. We continued spraying the Cortland, McIntosh, and Honeygold throughout the summer. In my opinion the extra fungicide and lower packout makes these highly susceptible varieties uneconomical in an organic program. There are varieties that are less susceptible or immune to scab that can replace them.

Here are some important tips to follow when using a post infection organic fungicide program:

Reduce the amount or eliminate the varieties that are highly susceptible to scab. We are phasing out Jersey Mac, Cortland, and McIntosh. These varieties require higher rates and more applications per season to produce fruit that will grade out lower than the other varieties in an average season.

Use well-calibrated application equipment that gives thorough even coverage. I use 75 gallons of water per acre on dwarfs and well pruned standard trees. Overgrown standard trees or dwarfs in desperate need of pruning may need more volume per acre.

Have backup equipment ready to go. The post infection program leaves no margin for error. You can only count on 24 to 36 hours of back action to get full control of scab. If a tractor or sprayer breaks down there is no time for repairs. I had a tractor quit right after filling up the sprayer with three loads to go after a severe infection period. I left the tractor and sprayer in the orchard, set up the other rig and was spraying within an hour.

Do not use this system if it takes you more than 12 hours to spray your entire orchard. Either reduce the orchard size or increase the number of spray rigs and operators.

Be equipped for spraying in wet muddy conditions. If you have to wait for your orchard to dry before you spray, this program will fail. It is critical to spray as soon as the wind and rain stops; in fact lime sulfur can be applied in a light rain or mist.

Treat every infection period, even if it is a very light infection according to the computer disease modeling programs. Some computer programs will show you the results of several different models. If one model shows a light infection and another model shows no infection you had better spray.

Spray the most scab susceptible varieties first, and then move to the more resistant ones.

Implement good horticultural practices. This post infection Lime Sulfur program will not control scab in high inoculum conditions. Remove blocks that are shaded or in a slow drying environment. Mow or remove leaf litter in the fall. Mow or flail again in the spring. Use a foliar spray of fish oil or neem oil to stimulate decay organisms and break down leaves. Keep the orchard well pruned.

Growing scab susceptible varieties in a humid climate as we have here in the upper Midwest is a challenging feat. I cannot emphasize enough the value of the new scab immune varieties for our environment. A post infection program using lime sulfur appears to have the softest environmental impact of all the certifiable organic products. While lime sulfur may be the most dangerous and caustic material for the individual applying the fungicide, it seems to have the lowest impact on beneficial insects and soil organisms when compared to high rates of wettable sulfur or copper.

I should mention that lime sulfur is a horrible product to work with.

It smells like rotten eggs and will stain the skin yellow in its undiluted form. It sticks to clothing and can injure your eyes and severely irritate the tissues in the nose, mouth, and throat if the diluted mist is inhaled. I don't recommend spraying with a back pack sprayer or hydraulic gun. We spray it while in the protection of tractor cab with filtered air. If treated with respect it is a safe product. Using a few times in the spring does not appear to be damaging the beneficial insects or causing the tree decline some organic growers see after a few years of heavy sulfur application.

After four years of working with limited lime sulfur application, I feel it can play a role in a

sustainable organic orchard. Lime sulfur is not a silver bullet and will cause problems if over used. This post infection fungicide program could be a good option if you are transitioning a clean IPM orchard to organic production. However, I would advise against using this program on an abandoned orchard or a block of trees that had high levels of scab the previous year. On our orchard this program has been a good indicator of which varieties will be successful in a full organic program and which varieties should be phased out.

I will continue to tweak this system each season. In time I may develop different programs specific to apple varieties or based on harvest season. It appears some of the summer apples do not have as many problems with secondary scab as the later apples. Depending on the variety and the time of year, leaves can be more resistant than the apples, making fruit thinning a good prevention of secondary scab. Fruit thinning can remove much of the primary scab when leaf infections are minimal. There is a lot more to learn about organic scab control. At this point I am fairly confident we can grow high quality apples with this fungicide program. Unfortunately this program will not work on every variety or on every orchard. Please share your experiences with scab control on the Network List serve, or write an article about it for *Just Picked*.

*If infections are controlled during the primary scab season, fungicides will not have to be applied during the summer because the overwintered spore cases will have expelled all of their spores.*

## Scion Wood Exchange

*By Harry Hoch*

OTFA organized a scion wood exchange last year at the Organic Farming Conference in La Crosse. The event was a huge success. Over one hundred people came in over the course of the evening. The scion wood exchanged followed a Conference workshop on grafting. We had several experienced grafters in the room, extra rootstock available, and all the tools and materials needed to graft trees. A few people brought cider to sample, many people brought extra grafting wood and we had a great time.

This year there is NOT going to be a Conference Workshop on grafting, but we do have a room reserved and we will have the scion wood exchange and time for grafting on your own. We are meeting in Room C near the dining hall on Friday evening. OTFA will be having a short meeting but the room will be available all night for visiting, sharing cider, and of course exchanging scion wood and grafting. Everyone is welcome to stop in at anytime during the evening. The room will open around 5:30 after the last conference workshop and we will close up room around 11:00.

We will have all the tools and materials available for grafting and

rootstock for sale. I have ordered some Bud 9 and MM111 stock. Bud 9 makes a very small tree 30% of standard and is winter hardy. The tree will come into production only a couple years after planting. This tree requires extra care, irrigation, and a supporting stake or trellis. Bud 9 will give fruit faster than just about any other stock but it requires extra TLC. MM 111 creates a semi standard tree 75% of a tree on seedling stock. It is free standing and will do well on sandy or clay soils. This stock is a better choice if you cannot give the young tree extra care, weed control, and water.

We had a great time last year sharing stories, learning grafting techniques, and meeting new people. If you are planning to attend the Organic Farming Conference you should come to the scion wood exchange and meet some other organic tree fruit growers. The room will be open all evening so you come and go for dinner or the dance. If you want to bring scion wood, collect pencil sized sticks from last year's tree growth. Wrap the sticks in damp paper towel and keep them in a small cooler packed with snow or ice. If you bring more than one variety be sure to label them clearly with something that won't melt, fall apart, or smear in the wet cooler. I hope to see you there.

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## ORGANIC TREE FRUIT EDUCATION AND RESEARCH COLLABORATION: SUMMARY AND UPDATE

By Bridget O'Meara

For those of you have not had the time or inclination to read the entire twenty-page grant proposal that OTFA submitted to the MN Specialty Crop Block Grant Program last year, a summary and an update on progress made is offered here.

First, the project, titled "Organic Tree Fruit Education and Research Collaborative" will complete the incorporation of the Organic Tree Fruit Network as a professional growers association and a 501(c)3 non-profit membership-based organization. Elections for an official board of directors are slated for the OTFA meeting at the Organic Farming Conference in La Crosse. The membership drive, begun in November, is ongoing and, as of this writing, OTFA now has 41 members, which include growers of all sizes and non-grower supporters of organic tree fruit production. The online grower survey, which many of you have already filled out and submitted, is intended to provide a clearer picture of the growers that the organization serves (whether or not they are official members). This information will be used to develop educational programming and to identify potential collaborators in on-farm research projects.

Second, the project will continue the important work that has been done for the past six years by the Midwest Organic Tree Fruit Network. The Network, which grew out of a meeting of tree fruit growers at the Organic Farming Conference in 2004, developed an infrastructure for sharing and disseminating information among growers: the Tree Fruit listserv, the Network website and the newsletter, *Just Picked*. The grant will support these information outlets, along with four field days and two grower seminars over the course of the next year and a half. As always, the focus of these events and outreach efforts will be grower-to-grower education. If you have a suggestion for a field day or would like to write or submit something for the newsletter, please let me know. You can email me at OTFAinfo@gmail.com

Third, project will initiate the Organic Tree Fruit Research Collaborative in order to facilitate new research specific to the Midwest and other humid regions of the United States. As anyone trying to grow tree fruit in the Midwest knows, organic orchard management is challenging when weather conditions during much of the growing season favors pests and diseases. However, current research in organic management focuses primarily on the Western arid regions where most of the nation's organic tree fruit is grown. In order to meet consumer demand for locally produced organic tree fruit, new research is needed. The first step in creating a successful program is to create an Organic Tree Fruit Research Catalogue that meets the following objectives (excerpted from the proposal):

Farm Research Sites. Create a list, broken down by region, of apple growers who are willing to participate in on-

farm organic research. Overview of each farm will contain information on size, varieties, planting density, microclimate, and current production practices. This list will be made available to scientists looking for sites to replicate studies.

Organic Tree Fruit Research Sites. Create a list of current universities, private facilities, State Departments of Agriculture, and institutions that have organic orchards planted for research purposes.

Scientists Interested in Organic Tree Fruit Research. Create a list of researchers who have participated in organic research and are currently researching, or who are interested in future organic tree fruit research projects.

Current Organic Research Projects. Create a list of current projects going on around the Midwestern and Eastern growing regions.

Some possible research projects:

Set up an evaluation system for disease resistant cultivars coming from fruit breeding programs in Minnesota, Illinois, Wisconsin, New York and elsewhere.

Test the regional effectiveness of the apple maggot attract-and-kill system being developed by US Agricultural Research Service.

Test soil-borne pathogens as bio-control of apple pests that pupate in the soil being developed at Michigan State University. Replicate testing in several regions.

The current grant supports only the initial stage of creating the Research Catalog. But the long-term plan is for OTFA to identify, coordinate and secure funding for specific on-farm research projects and then to disseminate results of those projects directly to growers through its educational programming (newsletter, website, field days, etc.). There is tremendous potential for OTFA to contribute in significant ways to the development of the organic tree fruit industry at both regional and local levels, which will benefit all growers and consumers of organic tree fruit.

To find out more about the "Organic Tree Fruit Education and Research Collaborative," read the full proposal online at <http://www.mosesorganic.org/treefruit/otfa.htm>



## POTENTIAL NEW BOARD MEMBERS

### Profile: Jackie Hoch

Jackie is co-manager/owner of Hoch Orchard and Gardens, a small organic family farm located west of La Crescent, Minnesota. Jackie and her husband Harry grow all of their apples and berries organically and are scheduled for 100% certification in 2010. The farm is fully integrated, which means that all of the fruit is produced, harvested, packaged, processed and distributed on the farm. The business thriving and, when their daughters (Angie and Missy) left for college, Jackie decided to leave her job as a laboratory manager at Gunderson Lutheran in La Crosse in order to work full-time on the farm. So far she and Harry have made it through a full season and they are ready for more.

Jackie has a B.S. in Medical Technology/Chemistry from the University of WI-La Crosse and an M.A. in Management from St. Mary's University – Winona, MN. She has extensive management experience, in her work both off and on the farm. During her 20 years as a medical technologist, Jackie conducted lab tests, consulted with providers, managed projects and was actively involved in systems changes. On the farm, her role has evolved with the needs of the family. Currently, she manages the crews in the early season and, in the peak of the apple season, she focuses on the packing, distribution and sales of the products.

Jackie brings an ability to consider new ways of accomplishing tasks, patience, an acceptance of all types of people and a strong management background. She is an active and committed member of the organic agricultural community. She has served on the Cameron Park Market Association, as a Board Member and President (2006-2008), and on the Minnesota Organic Advisory Task Force (2009-present).



Jackie Hoch (in blue sweatshirt and brown pants) with her crew at Hoch Orchards and Gardens.

### Profile: Jim Lindemann



Jim Lindemann is a retired educator with an organic orchard near McFarland.

Barb and Jim Lindemann own a small orchard and garden southeast of Madison. Their CSA serves people in the McFarland area. They are both natives of the area and, after careers as professional educators, have chosen to retire there. Although their orchard was first certified organic in 2008, they have used organic methods for over twenty years. The orchard is predominately antique cider cultivars. Their goal is to produce a high quality cider and they are working to obtain state food production certification.

Degrees in business and education have helped Barb and Jim both run the operation and research the skills and knowledge needed to make progress. They have also benefited from extensive workshop participation and travel related to organic fruit culture. Memberships include International Fruit Tree Association IFTA, Wisconsin Beekeepers Association, North American Fruit explorers NAFEX, and Great Lakes Cider Association.

Barb and Jim have worked closely with the Madison Area Rehabilitation Council to assist developmentally disabled adults in finding meaningful employment and have hired their clients for the past four years. They feel a clear sense of responsibility to their community. Their board leadership experience includes Wisconsin Teacher Association, church councils, Scout leader, Wisconsin Curriculum Development C council, and currently a diocesan committee planning an April conference serving the aged.

At a time when Seeds of Change is owned by M&M Mars, and Natures Farm Organic by Tyson, they believe it is imperative that growers, organic and otherwise, find cooperative ways to preserve small scale agriculture whose growers are committed to integrity with other growers as well as with their consumers.

Their shared vision for OFTA is that, as an organization, it will seek:

1. To share the benefits of membership equitably and provide each member an opportunity to contribute.
2. To encourage members to actively participate in the development of organic tree fruit culture.
3. To provide members with access to the best research, technology, supplies, equipment and resources.

Jim is seeking an OFTA board position. Barb supports that effort.

## OTFA MEMBERSHIP FORM

*The Organic Tree Fruit Association (OTFA) is professional association dedicated to serving the interests of organic tree fruit growers and serving the organic tree fruit industry through education, research and advocacy.*

*You don't need to be a grower to join. If you want to learn more about organic tree fruit issues or would simply like to support organic tree fruit growers, please join OTFA as an Active Non-Grower Member or as an Associate Member.*

*Please note: Active Grower and Active Non-Grower Memberships include full voting rights within the organization. Associate Membership does not include voting rights. All Membership levels receive a \$10.00 discount at OTFA events.*

ACTIVE GROWER MEMBER = \$50.00 ANNUAL FEE, PLUS \$1.00 PER BEARING ACRE (AS INDICATED BELOW)

ACTIVE NON-GROWER MEMBER = \$50.00 ANNUAL FEE

ASSOCIATE MEMBER = \$25.00 ANNUAL FEE

NAME \_\_\_\_\_ FARM NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_ CITY/TOWN \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_ EMAIL \_\_\_\_\_

TYPE(S) OF TREE FRUIT GROWN \_\_\_\_\_

# OF BEARING ACRES \_\_\_\_\_ #OF NON-BEARING ACRES \_\_\_\_\_

*SEND THIS FORM WITH YOUR CHECK TO:*

**OTFA C/O BRIDGET O'MEARA 1223 ST. CROIX STREET, HUDSON, WI 54016**

CUT HERE

CUT HERE

### Profile: Greg Mund

Greg grew up on a fruit and vegetable farm in west Michigan, southern Oceana Co., where his family grew sweet and tart cherries, pears, peaches, plums and apricots as well as asparagus and pickling cucumbers. Today, he runs the family farm, and has been using organic practices in his management of 8 acres of tart cherries and 25 acres of asparagus since the early 1990s. He plans to add nectarines and peaches this spring and is transitioning all of his 85 acres to USDA certified organic production.

Greg earned his B.S. in Agronomy from Michigan State University and then went to work for USDA -NRCS in seven different field offices throughout Michigan, where he served 33 years before retiring. His experience in environmental conservation led him to become a strong supporter of organic agricultural practices that build soil health, protect water quality and preserve wildlife habitat. He also has a broad range of experience in community based 501(c)(3) non-profit organizations, including the Michigan Agricultural Stewardship Association, Muskegon River Watershed Assembly, Muskegon & White Lakes Public Advisory Councils and the Lakewide Area Management Plan for Lake Michigan.

Greg is optimistic and enthusiastic about the potential for OTFA to meet the needs of growers in the region. He believes that grower-to-grower networking is one of the most effective ways to disseminate

information and resources. He is very interested in finding ways for OTFA to work with other agencies, institutions and organizations to further organic tree fruit research. He also believes that an active board of directors in the formative years is equally important to building a strong organization.



Greg Mund with his kids (from left to right) Meghan, Brian, Derrick & Erin.

ORGANIC TREE FRUIT  
ASSOCIATION

OTFA c/o Bridget O'Meara  
1223 St. Croix St.  
Hudson, WI 54016  
OTFAinfo@gmail.com

JOIN OTFA TODAY!  
MEMBERSHIP FORM ON  
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CALENDAR 2010

*21st Annual MOSES Organic Farming Conference and Organic University* **February 25-27, 2010** | **La Crosse, WI** 715-778-5775 <http://www.mosesorganic.org/conference.html>

*The 2010 Michigan Organic Conference "Michigan Organic: Seeds, Soil and Health"* **March 5-6, 2010** | **East Lansing, MI** 248-262-6826 <http://www.moffa.org/2010MOC.html>

*Michigan Organic Food & Farming Reporting Session and Graduate Poster Contest* **March 5, 2010** | **East Lansing, MI** 517-353-3542 <http://www.Michiganorganic.msu.edu>

*Fresh Market Vegetable and Fruit Growers Workshop* **March 6, 2010** | **Baldwin, WI** 715-684-3301 x5 <http://www.uwex.edu/ces/cty/stcroix/hort/index.html#fruit>

*Family Farmed Expo* **March 11-13, 2010** | **Chicago, IL** 708-763-9920 <http://www.familyfarmedexpo.com/>

*1st Annual Upper Midwest Hazelnut Growers Conference* **March 12-13, 2010** | **La Crosse, WI**  
The conference will provide research-based information to prospective, beginning, and experienced hazelnut growers and provide an opportunity for growers to network and work together to advance the Upper Midwest Hazelnut Industry. 715-373-6104 [http://www.uwex.edu/ces/cty/bayfield/documents/hazelnut\\_conferencebrochure.pdf](http://www.uwex.edu/ces/cty/bayfield/documents/hazelnut_conferencebrochure.pdf)

