



Wisconsin Fruit News

Volume 1 Issue 7– July 8, 2016

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Events this Week

July 12, 2016 – [WAGA Summer Field Day](#)

9:00 am-3:00 pm, Apple Holler, 5006 S. Sylvania Avenue, Sturtevant, WI

July 14, 2016 – [PARS Vineyard Walk](#)

3:00 – 5:00 pm, Peninsular Agricultural Research Station, 4312 Hwy 42 North, Sturgeon Bay, WI

General Information

UW-Madison/Extension Plant Disease Diagnostic Clinic (PDDC) update

By: Brian Hudelson, Sean Toporek, and Ann Joy

The PDDC receives samples of many plant and soil samples from around the state. The following diseases/disorders have been identified at the PDDC from June 18, 2016 through July 1, 2016.

PLANT	DISEASE/ DISORDER	PATHOGEN	COUNTY
Cherry	<i>Cold Injury</i>	<i>None</i>	<i>Dane</i>
Grape	<i>Anthracnose</i> <i>Black Rot</i> <i>Downy Mildew</i>	<i>Spaceloma ampelinum</i> <i>Phyllosticta ampelicida</i> <i>Plasmopara viticola</i>	<i>Buffalo</i> <i>Wood</i> <i>Green Lake</i>
Peach	<i>Peach Leaf Curl</i> <i>Prunus Necrotic Ringspot (Suspected)</i>	<i>Taphrina deformans</i> <i>Prunus necrotic ringspot virus</i>	<i>Walworth</i> <i>Marquette</i>
Raspberry	<i>Herbicide Damage</i> <i>Cane Blight</i> <i>Root/Crown Rot</i>	<i>None</i> <i>Coniothyrium fuckelii</i> <i>Pythium sp., Fusarium sp., Cylandrocarpon sp.,</i>	<i>Dodge</i> <i>Winnebago</i> <i>Winnebago and Waushara</i>
Strawberry	<i>Common Leaf Spot</i>	<i>Mycosphaerella fragariae</i>	<i>Jackson</i>

For additional information on plant diseases and their control, visit the PDDC website at pddc.wisc.edu.

UW-Madison/Extension Insect Diagnostic Lab update

By: PJ Liesch

The following insects were reported to the Insect Diagnostic Lab (IDL) as being active in the state between June 23rd and July 7th, and have the potential to impact fruit production in the region. If you would like more information about the UW Insect Diagnostic Lab, you can visit [our website](#).

-Rose Chafers—Reports of rose chafers have dropped off over the last two weeks, so the adult populations of these insects should be just about done for the year. Remember that the rose chafer has only one generation per year, so will not return until next year. Based on reports coming in to the UW Insect Diagnostic Lab, rose chafer populations seem to be up compared to the past few years.

-Japanese beetles—Emergence has started and many reports of adults have come into the IDL. Early reports are suggesting that beetle numbers may be up this year compared to the past two years. This could be a result of increased winter survival of grubs due to the mild el Niño winter. Emergence is expected to continue for several weeks, and plant damage can occur through the end of summer. Fruit growers should be vigilant for Japanese beetle damage, as many types of fruit plants can be attacked.

-Gooseberry Fruitworm—A report of gooseberry fruitworm came in from Vernon county. These caterpillars hollow out developing currants and gooseberries and may tie several berries together with webbing.

-Codling Moth—A few reports of codling moth damage in apples have recently been submitted to the IDL.

-Grape Cane Gall Maker—A report of this insect recently came in to the IDL. This tiny snout-nosed beetle (weevil) leaves canker-like egg-laying scars on grape stems.

-Brown Marmorated Stink Bug—A single second-instar BMSB nymph was found in downtown Madison on July 6th. No other reports of nymphs have come in, but the small, tick-like appearance of the nymph could lead to them being overlooked.



Newly hatching brown marmorated stink bug nymphs on a mulberry leaf. Photo credit of Janet van Zoeren.

Strategies to avoid herbicide-resistant weeds in berry production

By: Jed Colquhoun, Professor and Extension Specialist, University of Wisconsin, Department of Horticulture

Weed management with herbicides in berry production is challenged by a limited number of options and few new product registrations. With this in mind, it's important to preserve the current options that we have for weed management, including through the avoidance of herbicide-resistant weeds. Herbicide resistance is the ability of a plant to survive an herbicide application that in the past controlled that species. The primary culprit in developing herbicide-resistant weeds is the overuse or reliance on a single management tool or mode of action. Herbicide use is somewhat analogous to investing money – a diversified portfolio is often more stable in the long-term than putting all of one's eggs in a single basket (caution: don't take investment advice from a weed scientist!). Diversifying weed management among modes of action reduces the risk for herbicide resistance development.

In other crops and areas of the world, weeds have developed resistance to several of the herbicides that have been used in berry production or in the rotational crops. The widespread adoption of glyphosate-resistant crops such as soybean and corn has put a lot of selection pressure on the herbicide glyphosate, sold as the trade name Roundup and many others. As a result, there are now 35 weed species worldwide with confirmed glyphosate resistance. In Wisconsin, we're currently dealing with confirmed cases in Palmer amaranth, giant ragweed, common waterhemp and horseweed. There are 73 weed species worldwide resistant to the photosystem II inhibitor herbicide site of action that includes terbacil, the active ingredient in Sinbar, as one of several herbicides. There are 47 weed species resistant to the ACCase inhibitor herbicides that include the post-emergent grass herbicides such as clethodim (example trade name: Select) and sethoxydim (example: Poast). And the list continues...

Even though herbicide options are somewhat limited in berries, the tools that are available represent several modes of action that can be rotated for reduced resistance risk. Most importantly, while the short-term economics might favor the repeated use of a single herbicide year-after-year, the long-term utility in berry production would be favored by multiple modes of action in the life of a crop. Also, consider herbicides and modes of action used in other crops in the rotation when planning long-term resistance management programs.

One key to avoiding widespread herbicide resistance development is to recognize potential resistance early to prevent further spread. Herbicide resistance is often confused with herbicide misapplication (incorrect rate or timing), poor weed control because of weather conditions after application (drought, low temperature, etc.), and other factors that affect herbicide performance. Consider the following questions if herbicide resistance is suspected:

1. Is it a single weed species that survived herbicide application or are other species that are also normally susceptible to that herbicide also not controlled? Multiple species surviving an herbicide application often suggests reasons other than resistance for poor control.
2. Is there an obvious pattern, such as a sprayer skip or poor herbicide coverage that could explain weed control failure? Weed resistance often occurs in irregular patches where seed spread from a plant that survived a previous herbicide application.
3. Are there herbicide symptoms on the surviving plants of the suspected species? Resistant plants often, but not always, show no symptoms related to the herbicide application or rapidly recover from injury.
4. Is there a record of repeated use of the suspected herbicide, and has the rate required for adequate weed control increased over time?

Contact University researchers or local Extension faculty if you suspect resistance, so that they can collect samples and test for resistance. Consider alternative and integrated control strategies to keep the problem from getting worse. Resistant plants will not become susceptible, but further selection for resistance can be reduced.

Fruit Crop Entomology research update on spotted wing drosophila

By: Christelle Guédot

This summer we have several projects on spotted wing drosophila (SWD) and this article is to inform you of the research going on in the Fruit Crop Entomology lab on this infamous pest. The first research project is funded for two years by the USDA through the Wisconsin DATCP Specialty Crop Block Grant program. The goal of this project is to provide soft-skinned fruit growers with a better understanding of the temporal and spatial distribution of SWD within the crop, to refine current management strategies against this emerging key pest of small and stone fruit. Since SWD is a recently introduced vinegar fly, there is limited knowledge on how it behaves in the field. We are addressing the diel periodicity of SWD to determine when adult flies are most active in the field during a 24-hour period, and throughout the growing season. We are also assessing the spatial distribution of SWD by testing the effect of trap height as a function of daily activity to evaluate where flies are present during a 24-hour period. Additionally, similar to previous years, we are continuing to document the seasonal phenology of SWD to inform fruit growers of the occurrence of SWD in the state and to confirm the seasonal patterns we observed in the past. The outcome of this research project will provide new insights on how to refine management strategies for SWD by determining when and where flies are most active in the crop. This information will help pinpoint the best time and location to most effectively target SWD with insecticide applications.

Another project we are conducting is part of a USDA multistate project through the OREI program (Organic Research and Extension Initiative). In this project, we are assessing new baits/lures and combining baits and lures to improve the effectiveness of our attractants. While baits are often made with homemade ingredients, such as the yeast/sugar mixture we have been using to trap SWD adults, lures are made of synthetic chemicals. The chemicals in the lures may be derived from the homemade ingredients, or from the sex pheromone of the insect, or attractive plant chemicals. For this reason, it is possible that a combination of bait and lure may be more effective than either on their own.

To date, the effectiveness of current attractants has been variable, likely due to variation in insect and crop phenology as well as crop type. An optimal bait or lure for SWD would attract flies before they damage the fruit! We are therefore testing different baits, lures, and combinations, at two times in the season – early season (currently ongoing) and later in the season during peak activity of the flies – to determine if bait effectiveness changes with background odors, seasonal phenology of the flies, and crop type. To increase the amount of information we collect, this study is being conducted in five different states in different crops. Ultimately, optimal baits will improve monitoring methods and are needed for the implementation of attract-and-kill or mass trapping strategies.

Finally, we are also continuing to assess the effect of landscape and wild hosts to determine how wild hosts may impact population densities, population dynamics, and survival.

Happy growing season!

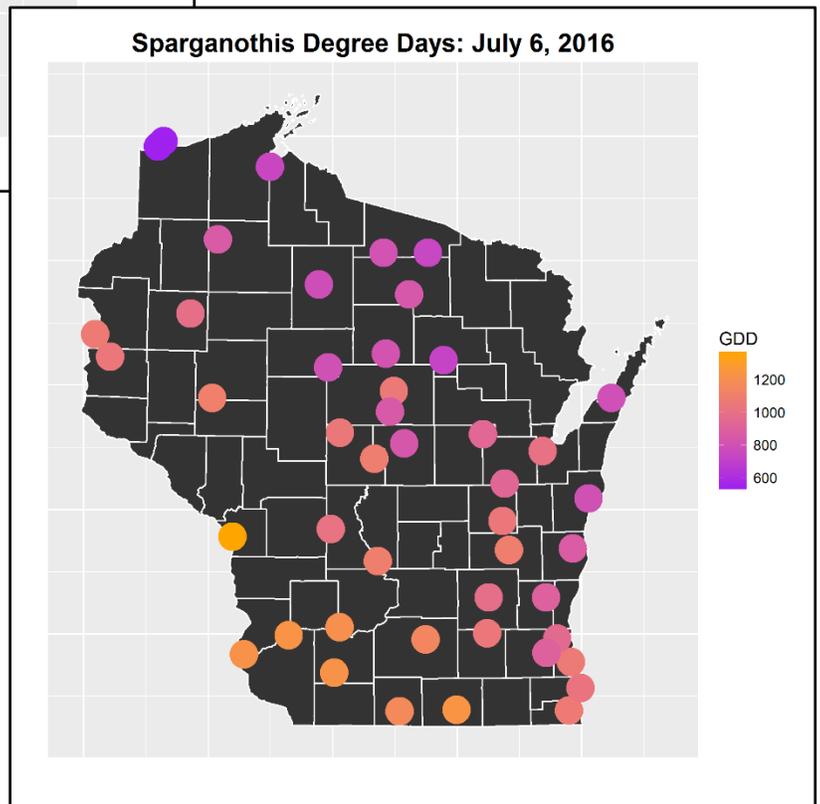
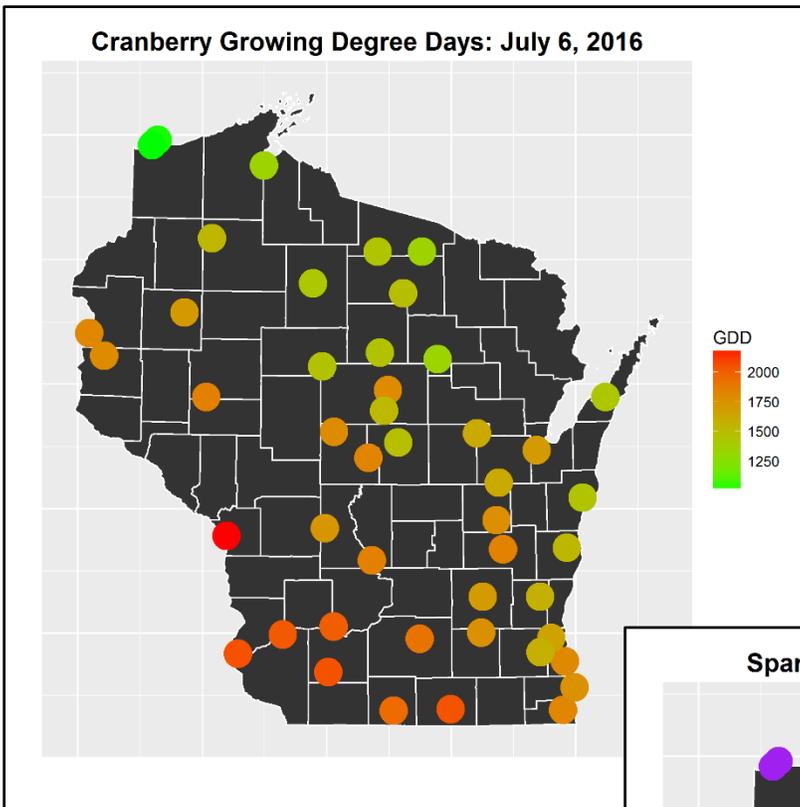


Cranberries

Cranberry Degree-Day Map and Update: as of June 22, 2016

By: Elissa Chasen and Shawn Steffan, USDA-ARS and UW Entomology

The maps below show degree-day accumulations for cranberry plants and Sparganothis fruitworm across Wisconsin, up through July 6, 2016. Temperature thresholds used for these calculations are 41 and 85 °F for the plant, and 50 and 86 °F for Sparganothis.



Plant DDs throughout WI range from 1,032-2,188. The central WI growing region has accumulated around 1,800 DD, while the northern WI growing region has accumulated around 1,400 DD. We are right on track for plant DD with last year.

Throughout WI, Sparganothis degree-days range from 540-1,360 DD. In central WI, Sparganothis DDs are around 1,100, while in northern WI, Sparganothis DDs are about 800. This means that growers in northern WI should expect to see the first Sparganothis caterpillars in the coming weeks. See the image below for life history benchmarks of interest for Sparganothis fruitworm and the associated degree-day estimates for each benchmark.

Event	DDs from March 1 (approximate)
 Flight initiation	595.7
 First eggs laid	681.0
 Peak flight	884.12
 First egg hatched*	895.4
 End of egg laying	1,634
 Last egg hatched*	1,890

* Egg hatch window: 895 – 1,890 DDs

The table below allows for comparison of degree-days over the last three years. We are right on track with last year's degree-day accumulations.

July 6	Cranberry Growing Degree Days			Sparganothis Degree Days		
	2014	2015	2016	2014	2015	2016
Central WI (Wisconsin Rapids)	1,691	1,825	1,827	1,033	1,076	1,090
Northern WI (Minocqua)	1,435	1,415	1,451	852	762	810

If you would like to read more articles and find more information specific to cranberry production in Wisconsin, be sure to read the most recent [Cranberry Crop Management Journal](#), also published by the University of Wisconsin-Extension. In the June 27th, 2016 issue of the Cranberry Crop Management Journal you will find information about: cranberry nutrient management: Nitrogen, flower differentiation in cranberry, and grower updates.

Wine and Table Grape Developmental Stages

By: Janet van Zoeren, Annie Deutsch, Becky Wiepz, and Amaya Atucha – UW-Extension

Berries will soon begin veraison at the West Madison Agricultural Research Station (WMARS), with all berries at E-L* developmental number 32 (beginning or bunch closure) or 33 (bunch closed, berries hard and green). At the Peninsular Agricultural Research Station (PARS), development spans from E-L* developmental number 29 (berries pepper-corn size) to 31 (berries pea sized). Development at PARS continues to be approximately 2 weeks behind WMARS.

** Eichhorn-Lorenz Phenological stages to describe grapevine development*

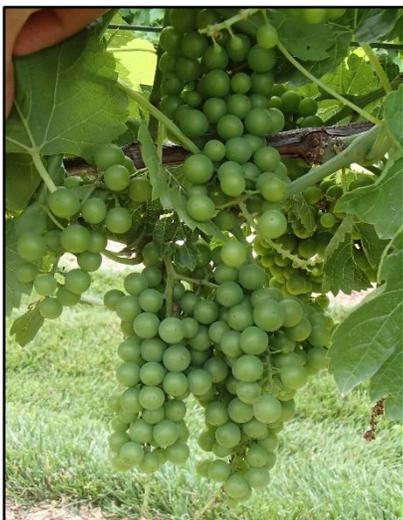
Following photos taken on July 5th at West Madison Agricultural Research Station.



Brianna at WMARS; "bunch closed, berries hard and green" E-L number = 33



La Crescent at WMARS; "bunch closed, berries hard and green" E-L number = 33



La Crosse at WMARS; "bunch closed, berries hard and green" E-L number = 33



St. Croix at WMARS; "bunch closed, berries hard and green" E-L number = 33



Frontenac at WMARS; "beginning of bunch closure" E-L number = 32



Marquette at WMARS; "bunch closed, berries hard and green" E-L number = 33



Somerset at WMARS; "beginning of bunch closure" E-L number = 32



Einset at WMARS; "beginning of bunch closure" E-L number = 32

Following photos taken on July 6th at the Peninsular Agricultural Research Station.



Brianna at PARS; "berries pea-sized" E-L number = 31



La Crescent at PARS; "berries pepper-corn size" E-L number = 29



La Crosse at PARS; "berries pepper-corn size" E-L number = 29



Marquette at PARS; "berries pea-sized" E-L number = 31



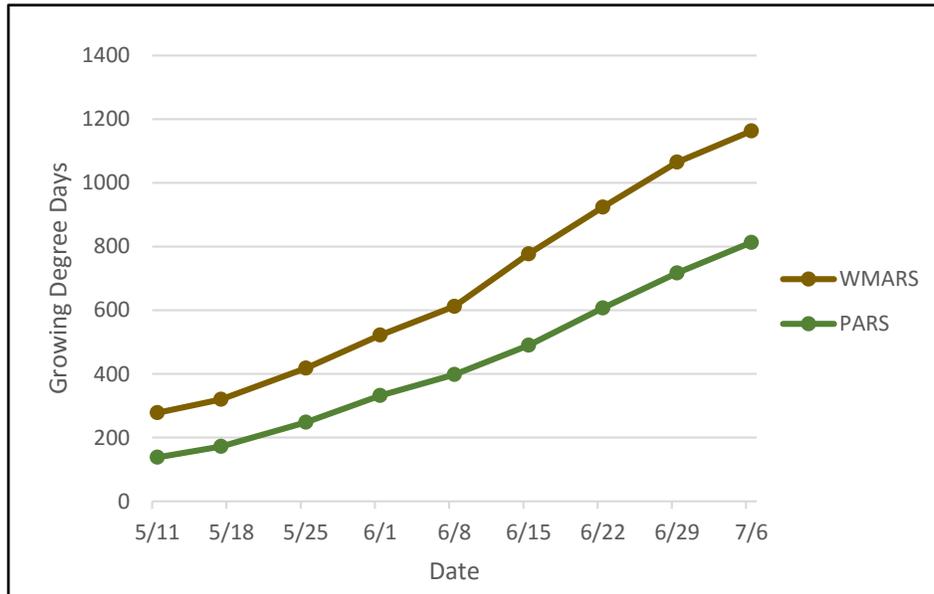
Frontenac at PARS; "berries pea-sized" E-L number = 31



St. Croix at PARS; "berries pea-sized" E-L number = 31

The growing degree day accumulations as of July 5th for this year are: 1163 GDD at WMARS and 813 GDD at PARS. At WMARS, we've caught up to the degree day accumulations from last year, while at PARS we're still just a little bit ahead the accumulations from last year. All growing degree days are calculated using a base of 50°F.

Grape Growing Degree Days		
April 1 - July 5, 2016		
	2106	2015
WMARS	1163	1159
PARS	813	750



Grape scouting report

By: Janet van Zoeren, Annie Deutsch, Becky Wiepz and Christelle Guédot

The populations of **Japanese beetles** increased dramatically between June 22nd and June 29th at the West Madison Agricultural Research Station (WMARS). If you've seen just a couple of beetles, keep in mind that populations can build up from just one or two beetles to an infestation in a matter of days. This is because Japanese beetles are gregarious, and attract each other with pheromones. We discussed control measures for Japanese beetles in the [previous issue of this newsletter](#) (page 18).



Japanese beetles tend to aggregate, and left uncontrolled can quickly number in the hundreds on a single vine.



Classic Japanese beetle damage, showing "skeletonized" leaf.



Although the abundance of phylloxera galls on this Valiant grape vine looks worrisome, the plant is very resilient and there is unlikely to be a noticeable decrease in yield due to this infestation.

Aside from those pesky and prevalent Japanese beetles, there was not a lot of insect damage seen at WMARS in the past two weeks. The only exception is that there are still a lot of **phylloxera** found high in the canopy, especially on Brianna and Valiant cultivars. They are mostly on a part of the canopy that will be pruned off in the coming weeks, and as they are protected from insecticide applications inside their galls, no control measures are recommended. Again, for more information please see the [previous issue of this newsletter](#) (page 18).

Up at the Peninsular Agricultural Research Station (PARS) there are still very low levels of insect pest pressure. There is some evidence of foliar feeding on older leaves, and some phylloxera galls, found mainly on Frontenac, Frontenac gris, and Brianna cultivars.

In terms of **disease pressure**, at PARS there is beginning to be some black rot on leaves, and we've seen powdery mildew on the developing grape clusters. On the other hand, at WMARS we've been seeing pretty significant black rot, and some downy mildew. Black rot has been especially prevalent on Marquette and Valiant cultivars, where at WMARS it is infecting both leaves and fruit clusters. Downy mildew has been worst on Valiant, infecting both leaves and fruit, and less severe on St. Croix and La Crescent cultivars, where it has so far only been seen on the leaves.

Grape pest profile: Grape Tumid Gallmaker

By: Janet van Zoeren and Christelle Guédot

This year there have been greater than normal populations of Grape Tumid Gallmakers, which are thought of as a sporadic pest of grape, but have been increasingly prevalent over the past few years in the Midwest. Grape Tumid Gallmakers (GTG) can be confused with phylloxera, especially if you haven't seen it on your vines before. However, while phylloxera is caused by an aphid-like sucking bug, grape tumid galls are caused by fly larvae. GTG galls are bright-red and blisterly, while phylloxera galls are green and more rough looking (see picture of GTG galls at right, compared to the picture of phylloxera galls on the previous page).

Biology and life cycle: Grape Tumid Gallmaker galls first appear in late-May through mid-June on grape leaves, buds, and flowers. The galls are caused by the larvae – each larva burrows inside the plant's tissue and compels the plant to form a gall, which protects the developing larva inside the plant's tissue. After feeding, the larva will drop to the ground beneath the grape vine to pupate under the soil. In a few weeks, the adult fly will emerge, lay eggs, and repeat the cycle. There are generally 2-3 generations in Wisconsin, so we can expect another generation of galls to appear in the next few weeks on infested vines.



Grape Tumid Gallmaker galls. Photo credit of Dean Volenberg.

Monitoring and Control: Adult GTG are small (1 / 10" long), and nearly impossible to identify, because they look so similar to many other, non-pestiferous, gallmaking flies. For that reason, monitoring for GTG focuses on the obvious galls. You will notice those during a normal scouting session, while looking for other insect and disease issues. The key is to be able to recognize the difference between GTG and phylloxera; as mentioned above its easiest to tell the difference because GTG is reddish and blisterly-smooth, while phylloxera is green and rough. The first appearance of galls also helps identify the pest: galls of GTG will start showing up in late May through mid-June while Phylloxera galls tend to appear later in mid- to late-June. Even if GTG is present on some of your vines, it is unlikely to cause economically significant damage unless the galls begin to form on fruits. If you have a section of vineyard with a history of GTG infestation, you can control larvae immediately pre-bloom with an application of [Movento](#) (24 hr. REI, 30-day minimum interval between applications, 7 day PHI). As always, please read and follow all label directions and refer to your spray guide for more options.

Vineyard Canopy Management-Leaf Removal

By: Amaya Atucha, Assistant Professor and Extension Specialist, UW-Madison Department of Horticulture

Leaf removal from the cluster zone is a very effective practice to open up the canopy and increase the exposure of clusters to sunlight and airflow. Among the benefit of removing leaves from the cluster zone are reducing disease pressure (clusters dry quickly after dew or rainfall), increase spray coverage and efficacy, and improve fruit quality (increased sugars and reduced acidity).

When is the best time to remove leaves from the cluster zone?

This practice can be carried out any time between fruit set and veraison. Studies looking at timing of leaf removal have reported reduced fruit set when leaf removal is done during bloom or earlier. It is possible that removing those leaves very early reduced the amount of carbohydrates needed during fruit set and initial berry growth period, thus reducing yield. Leaf removal past veraison can also have detrimental effects, as fruit grown in shaded canopies have thinner skin that is more prone to sunburn, in addition to not being as effective at improving fruit quality as when done immediately after fruit set.

How do we remove the leaves from the cluster zone?

Leaf removal can be done manually or by a machine. Not all the leaves from the fruiting zone have to be removed – ideally you should retain enough leaves so that 60-70% of the fruit is visible. Removing 1 to 2 leaves per shoot around the

cluster can be enough to increase fruit sunlight exposure. Prior to removing leaves, make sure to tuck in shoots and remove lateral shoots, which will also help increase sunlight exposure and improve airflow in the fruiting zone.



Leaf removal cluster zone after fruit set at WMARS research vineyard during the last week of June. Picture to the left shows vine before leaf removal and picture to the right shows with clusters exposed after leaves have been removed.



Leaf removal cluster zone for an individual shoot. Picture to the left shows the removal of a leaf below a cluster and the picture to the right shows shoot with the cluster fully exposed to the light

Apple varieties for Wisconsin markets

By: Janet van Zoeren and Amaya Atucha

You may be expanding your orchard, replanting an older section, or maybe you are new to apples altogether. Whatever the reason, it can be confusing to understand which of the many new and old apple cultivars will be the tastiest or the most likely to bring you a profit. To make things more complicated, many of the newly developed varieties have restrictions on who can plant them: some can only be planted in certain states or by growers who belong to certain clubs, while others can be planted by anyone willing to pay the minimal royalty fee. Hopefully we can touch on all those matters in the following pages, to help make things clearer.

First, a quick explanation of some of the legal restrictions that will affect which varieties you can plant. A *Patented variety*, such as Honeycrisp, is available to all growers – you would just need to pay a royalty fee to the breeder when first buying the tree. Nearly all apple cultivars that have been bred in the past couple of decades are patented. On the other hand, *Club varieties* are trademarked, and the trees can only be planted by a select number of growers. Even for the growers allowed to grow club apples, the number of trees planted, growing conditions, and marketing options may be controlled by the trademark owner. Club apple growers not only pay upfront for the right to grow the trees, but often continue to pay yearly per bushel of apples sold. The exact terms of the agreement vary depending on the organization that owns rights to the variety, but the goal is to guarantee the growers in the club that the price of the fruit will not go down due to oversupply or poor fruit quality.

The following list of apple varieties is not an exhaustive list of new releases but a summary of some that are available to growers and have been successfully grown in Wisconsin. However, some of the later ripening varieties are only recommended for the southern parts of the state, as they need a longer season to achieve maturity. Additionally, a variety's performance will depend on several factors (e.g. site, soil characteristics, training systems, insect and disease control, etc.), so the varieties listed below are to be tested by growers in their own microclimate and orchard conditions to assess the potential of each variety.

New Varieties

Pazazz and Riverbelle were both developed in the 2010's, by Doug Shefelbine an apple grower near Eu Claire, Wisconsin. Pazazz has Honeycrisp parentage, and has similar flavor and texture, with cold tolerant trees and apples that store well. Riverbelle, especially when grown in the Midwest, has both high levels of sweetness and tartness, and has a unique orange/red on green coloration. These club varieties are both distributed by [Honeybear Brands](#).

Evercrisp was developed in 2012 by the Midwest Apple Improvement Association (MAIA), and is a cross of Honeycrisp x Fuji. Evercrisp is sweet and crisp, making it highly desirable in terms of flavor and texture, and has a long shelf-life. It is a little bit later to mature in comparison with other varieties grown in Wisconsin (approximately 160-days post-bloom), so may not be a good option in northern Wisconsin. Evercrisp is a trademark variety, and you must become a [MAIA](#) member to grow them, in addition to paying \$1 per tree royalty.

Sweetango is from the breeding program at the University of Minnesota, and is a cross of Honeycrisp and Zestar!. It is very early to ripen (approximately 125-days post-bloom), with a crisp but slightly tart flavor. However, they are susceptible to fireblight and have a tendency toward watercore. [Sweetango](#) is a club variety, distributed by the Next Big Thing cooperative, and is currently only grown on one farm in Wisconsin.

Zestar! Is not a new variety; it was developed at the University of Minnesota in 1999. It also has Honeycrisp parentage, and maintains its sweetness and crunch. Zestar! is early to mature, but does not store well. It is patented, but is not a club variety, so can be grown by anyone.

Disease resistant varieties

RedFree is a product of the Purdue-Rutgers-Illinois (P-R-I) breeding program, which focused on finding scab resistant apple varieties. RedFree has a balanced sweet flavor, and has shown itself to be especially popular in Wisconsin markets, due to its full red coloration and early ripening (approximately 110-days post-bloom). The tree is also highly cold-tolerant, making RedFree a great option for growers in the northern part of the state. It is resistant to cedar apple rust and scab, and shows moderate resistance to fire blight and powdery mildew.

William's Pride has been described as having the best flavor of the P-R-I disease resistant varieties, with a complex mix of sweet, tart, and spicy flavors. It is resistant to scab, cedar apple blight, and fire blight, but shows a tendency toward watercore. It has long window of maturity, requiring multiple pickings.

Crimson Crisp, the most recent release of the P-R-I breeding program (2004), has a full red color, crisp texture, and sweet/tart flavor. It is resistant to scab, but is susceptible to cedar apple rust and fire blight. As well as being an attractive apple, it also stores well.

Liberty is an older, highly popular scab resistant variety. It is also resistant to cedar apple rust and shows some tolerance to fire blight.

Enterprise, from the P-R-I program, is fairly resistant to scab, fire blight, and cedar apple rust. It is highly attractive, with an orange/red blush on a green background. Flavor can be overly acidic at harvest, and may require storing for several weeks to bring out full flavor. It matures about 160-days post-bloom, and stores well.

Pristine, another product of the P-R-I program, can be picky to grow – in certain sites it sweetens up nicely and it a nice mixture of tart and sweet with plenty of crunch. However, in other sites, it doesn't get sweet enough and the tartness can be overwhelming. It can be susceptible to fire blight and cedar apple rust, but is highly resistant to scab. It is very early to ripen (approximately 120-days post-bloom).

GoldRush is a very flavorful apple, with dense but crisp texture and tart but also sweet flavor. It is non-browning, and stores well, and has a lot of potential for a fresh market. As another product of the P-R-I program, it is immune to scab. However, GoldRush ripens late in the season, and so may not be a good option for northern Wisconsin orchards.

Improved strains of classic varieties

Brookfield Gala and Buckeye Gala are early ripening and deeply colored strains of Gala. Both ripen approximately 120-days post-bloom, and show pronounced red stripes on a lighter background.

Auvil Early Fuji, Daybreak Fuji and Rising Sun Fuji are all early-ripening strains of Fuji. Rising Sun Fuji is the earliest to mature (approximately 140-days post-bloom), and has a pinkish-red blush at maturity. Both Auvil Early Fuji and Daybreak Fuji ripen at approximately 150-days post-bloom. Auvil Early Fuji is more glossy, with a red blush on a yellow background. Daybreak Fuji shows a pinkish-red blush on a brown-yellow background.

Royal Red Honeycrisp and Firestorm are both red-colored mutations of Honeycrisp. However, they are both still prone to sun scald and bitter pit, and tend to show biennial bearing, similar to Honeycrisp. Both ripen approximately 140-day post-bloom.

Premiere is another mutation of Honeycrisp, with similar color, flavor, and texture as the original, but early-ripening (approximately 120-days post-bloom). However, Premiere is prone to biennial bearing, sun scald, and bitter pit.

Nurseries

The following list of nurseries is not an endorsement to any particular one, is not intended to be comprehensive, and does not exclude other facilities that provide similar services

Wisconsin Nurseries:

Albrecht's Nursery and Orchard

Chippewa Falls, WI

(<http://albrechtsnursery.com/apple-trees/>)

Hickory Grove Nursery

Maribel, WI

(<http://hickorygrovenursery.com/>)

Johnson Nursery

Menomonee Falls, WI

McKay Nursery

Waterloo, WI

(<http://www.mckaynursery.com/nursery-wholesale.html>)

Wallace-Woodstock Nursery

Neillsville, WI

(<http://www.wallace-woodstock.com/appletrees.htm>)

Other states:

Adams County Nursery, Inc.

Aspers, PA (www.acnursery.com)

Banning Orchards and Nursery

East Wenatchee, WA

Boyer's Nursery and Orchards

Biglerville, PA (www.boynurseries.com)

Brandt's Fruit Trees, Inc.

Parker, WA (www.brandtsfruittrees.com)

Burchell Nursery, Inc.

Oakdale, CA (www.burchellnursery.com)

C&O Nursery Co.

Wenatchee, WA (www.c-onursery.com)

Cameron Nursery

Eltopia, WA (www.cameronnursery.com)

Copenhagen Farms Nursery

Gaston, OR (www.copenhagenfarms.com)

Cumberland Valley Nurseries, Inc.

McMinnville, TN

Cummins Nursery

Ithaca, NY (www.cumminsnursery.com)

Dave Wilson Nursery

Hickman, CA (www.davewilson.com)

Fowler Nurseries, Inc.

Newcastle, CA (www.fowlernurseries.com)

Freedom Tree Farms

Pelham, TN (www.freedomtreefarms.com)

Green Tree Nursery

La Grange, CA (www.greentreenursery.com)

Heritage Cider Supply

Puyallup WA (www.heritagecidersupply.com)

Hilltop Fruit Trees

Hartford, MI (www.hilltopfruittrees.com)

L. E. Cooke

Visalia, CA (www.lecooke.com)

Moser Fruit Tree Sales

Coloma, MI (www.forfruittrees.com)

ProTree Nurseries

Brentwood, CA (www.protreenursery.com)

Sierra Gold Nurseries

Yuba City, CA (www.sierragoldtrees.com)

Stark Bros. Nurseries

Louisiana, MO (www.starkbros.com)

Summit Tree Sales

Lawrence, MI (www.summittreesales.com)

TRECO Inc. Oregon Rootstock & Tree Co.
Woodburn, OR (www.treco.nu)

Wafler Nurseries
Wolcott, NY (www.waflemnursery.com)

Tree Connection
Dundee, OR (www.treeconnect.com)

White Oak Nursery
Strasburg, PA

Van Well Nursery, Inc.
Wenatchee, WA (www.vanwell.net)

Willow Drive Nursery
Ephrata, WA (www.willowdrive.com)

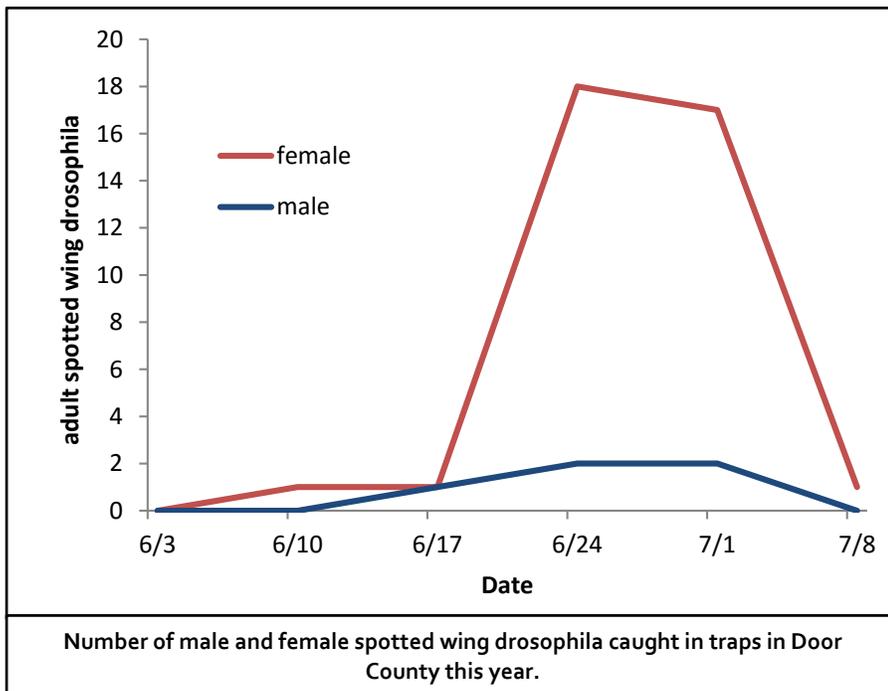
Vaughn Nursery
McMinnville, TN (www.vaughnnursery.com)

Spotted wing drosophila update for Door County – July 5th, 2016

By: Janet van Zoeren and Christelle Guédot

Cherries in Door County have gone from straw-color to pink, and some early orchards are full pink. The earliest orchards are expected to begin harvest in about 10 to 14 days. Many growers have been catching spotted wing drosophila in their traps for several weeks – the first trap-catch in Door County was nearly a month ago on June 10th. Along with catching them, many growers have also been spraying to control for spotted wing. It could be that these sprays are working – according to Matt Stasiak, superintendent of the Peninsular Agricultural Research Station in Door County, the number of spotted wing caught in traps on the peninsula seems have decreased sharply as more growers are spraying (see graph below).

As a reminder, especially as your cherries are beginning to color up, it is especially important this summer to continue to monitor on your orchard! For more information about monitoring and controlling, please refer back to the article we published in the [previous issue of the Wisconsin Fruit News](#), pages 17-20.



As cherries reach straw color, they can become susceptible to spotted wing drosophila. Photo credit of Mark Longstroth (MSUE).

Calendar of Events

July 12, 2016 – [WAGA Summer Field Day](#)

Apple Holler, Sturtevant, WI

July 14, 2016 – [PARS Vineyard Walk](#)

3:00 – 5:00 pm, Peninsular Agricultural Research Station, 4312 Hwy 42 North, Sturgeon Bay, WI

August 10, 2016 – Cranberry Growers Summer Field Day

Brockway Cranberry, Black River Falls, WI

August 20, 2016 – Urban Horticulture Day

West Madison Agricultural Research Station, 8502 Mineral Point Road, Verona, WI

September 7, 2016 – WMARS Field Day

West Madison Agricultural Research Station, 8502 Mineral Point Road, Verona, WI

Useful Links:

You can purchase (\$10) the 2016 Midwest Fruit Pest Management Guide from the UW Learning Store:

<http://learningstore.uwex.edu/Midwest-Fruit-Pest-Management-Guide-2016-P1785.aspx>

Wisconsin Fruit Website: <https://fruit.wisc.edu/>

Insect Diagnostics Lab: <http://labs.russell.wisc.edu/insectlab/>

Plant Disease Clinic: <http://labs.russell.wisc.edu/pddc/>

Soil and Forage Analysis Lab: <https://uwlabs.soils.wisc.edu/>

Weed Identification Tool: <http://weedid.wisc.edu/weedid.php>

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If you have any questions or comments about the Wisconsin Fruit News issues, please contact Janet van Zoeren: vanzoeren@wisc.edu.