



Seeds For Thought

August 2020 Volume 20, Issue 3

A newsletter of the
Master Gardener
Foundation of
Washington State

From the President

~~Don Enstrom, MGFWS President

In This Issue

From the President 1

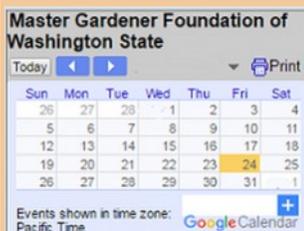
From the Program
Coordinator 2

AEC 2020/2021 3

Wireworm Scope &
Management 4

Visit our website:

[MGFWS](http://MGFWS.org)



Iris photo by Erin
Landon Grays Harbor
County Master
Gardener



The other day I ran across an inspirational poster that read “True friends aren’t the ones who make your problems disappear. They are the ones who won’t disappear when you’re facing problems.” It got me wondering how we, as master gardeners, were doing in being ‘true friends’ to our clients.

In many ways, our vocation as Master Gardener volunteers is based on in-person contact. And our long-term commitment to the Master Gardener program is largely driven by the strong social bonds that form whenever any group of volunteers works shoulder-to-shoulder. Regretfully, our battle against the coronavirus demands that we avoid face-to-face and shoulder-to-shoulder interactions.

It is understandable that our initial reaction to the pandemic was to hunker down and wait for it to pass. But we have learned that we cannot outwait the virus. More importantly, we are realizing how much our neighbors are discovering the therapeutic benefits of gardening in dealing with their social isolation. So back to the question: How are we as WSU Master Gardeners doing in being ‘true friends’ to our clients this year? Externally, are we finding ways to deliver research-based horticultural information within the constraints of state and local guidance? Internally, are we finding ways to maintain & grow the strength and flexibility of our county extension programs? Are we providing education programming that rises above the background noise of YouTube videos? Are we maintaining the personal ties we have formed with our fellow MG volunteers in the county and across the state?

At times the isolation can be draining on our energy and enthusiasm. I was in this type of mood when I discovered the weekly “Staying the Mission” meetings. Over the course of each one-hour meeting, our county MG coordinators receive updates and can ask questions about state and local issues that impact the program. Hosted by State MG Program Coordinator Jennifer Marquis, the meetings enjoy regular participation from CAHNRs leadership including Mike Gaffney, Tod Murray, Vicki McCracken, Jim Kropf, and others. The meetings are recorded – you can get a link from your county coordinator to listen to the discussions at your convenience. And I encourage you to do so – you will see how our state-wide MG program is emerging as a leader within the WSU Extension organization!
(Continued on [page 3](#))

WSU Master Gardener Program Update

~~Jennifer Marquis, Statewide Program Leader



Silver linings are sometimes hard to find, but during these times of social distancing, the WSU Extension Master Gardener volunteers have inspired our community members to discover the health benefits of being around plants and working in our gardens. On each of our Staying Mission-Driven meetings, I am inspired and impressed by how many of you are utilizing technology to deliver research-based and sustainable landscape and environmental stewardship education. From virtual backgrounds representing the WSU Master Gardener Program during plant clinics to the thousands of community members who attend distance education opportunities, to the number of counties opting into the statewide 2021 training, we are coming together as I have never witnessed in my 13 years with our program. The discussions we have made me excited because I see our vision becoming a reality. We will be highly recognized, diverse, and fully supported. Our communities will view us as the go-to resource

for research-based, innovative solutions for their ever-changing horticulture and environmental stewardship needs.

COVID-19 is making us re-define our delivery systems, re-think how we engage with our communities, and learn how to teach using distance delivery tools like Zoom. Each of us is stretching our respective comfort levels, reaching outside of our norms, and expanding our capacities to do things differently. We are strengthening our ability as a cohesive statewide program of highly trained, competent, and engaged volunteers who know and understand our purpose; know, understand, and can explain how what we do supports the educational mission of WSU, Extension, and the Master Gardener program; can support the telling of a compelling and impactful story; and are empowered to develop, implement & evaluate mission and vision achieving programming. This is the silver lining. COVID-19 is requiring us to be creative and innovative, to come together and to meet the needs of a whole new audience that is turning to gardening for pleasure and to put food on the table.

I particularly like Don Enstrom's question, "are we being true friends to our clients" because it rings very true. True friends stick with each other when the going gets tough. The social distancing roadblocks imposed because of COVID-19 do not deter WSU Extension Master Gardener volunteers. You always rise to the challenge



127 Pound harvest for local food bank. Photo by: Sherry Clemmens
WSU Mason County Master Gardener

(Continued on [page 5](#))

2021 WSU Master Gardener Advanced Education Conference Update

~~C-J Nielsen, Island County Master Gardener & Conference Chair

It is with great pleasure that the conference planning team can announce that the rescheduled dates for the WSU Master Gardener Advanced Education Conference will be September 29 - October 2, 2021. The Conference will be held at the Hotel RL Olympia, with full conference facilities and lodging — located within a lush 12 acre site on Capitol Lake in Olympia.

This will be the 26th conference, and for the first time will be produced by the Master Gardener Foundation of Washington State (MGFWS). This begins a *new model for conference development and management*. Unlike years past, no single county has the burden of site selection, conference management, content production, financial risk and excess volunteer power. Instead, now and in the future, the conference will be entirely produced and presented by the State Foundation, with local county/ies as welcoming host - enjoying the benefit of revenue from the traditional silent auction and local tours as desired.

Presentation of the 2021 Conference is the first step toward the Foundation's stated goals and mission: to share best practices, to support the State Conference, and to build our Endowment to provide stable funding of conferences supporting enhanced programming while holding down registration costs.

The Conference is off to a strong start with thanks to 2021 Conference Sponsors! The Master Gardener Foundation of Pierce County is a Platinum Sponsor, in support of their mission to provide public education in gardening and environmental stewardship. The Master Gardener Foundation of Washington State and the MGFWS Endowment Fund is supporting the Conference as a Gold Sponsor, and Smith Orchard in Wapato Washington, on land farmed by the Smith family since the 1930's, is also supporting the Conference as a Gold Sponsor.

Stay tuned for regular updates and announcements on the Conference website mglearns.org. Complete program and registration details will be announced by early October and Early Bird Registration opens April 1, 2021.

(Continued from [page 1](#))

While writing this article I remembered the words of poet Charles Goodrich at the 2015 State MG Conference in Vancouver: "Picture a world where everyone gardens for 4 hours each day. Everyone — politicians, craftsmen, managers, world leaders, the young and old — each working in the garden 4 hours a day." Charles posited that the world would be a better place – more understanding, more connected, more humane. As WSU volunteers, we have an opportunity to make "socially-distanced" life more enjoyable for a growing number of current and soon-to-be gardeners. I believe the day will come that we look back on this year with pride, knowing that we were indeed a 'true friend' to our fellow gardeners!

Warm Regards – Don

Wireworm Scope and Management for Gardeners

~~Mark Amara, Grant-Adams County Master Gardener

Research studies done on wireworm populations in cereal crops in Washington, Oregon, and Idaho indicate that the variety of wireworms present seem to vary greatly across growing areas on their preferred hosts. In 2013 and 2014, WSU researchers conducted surveys across 20 Pacific Northwest counties to determine the distribution of wireworms in spring and winter wheat fields and Conservation Reserve Program planted perennial grass fields (retired from cropland). Wireworms were present in 87% of surveyed fields with 14 different wireworm species identified. Ninety percent of the wireworm's present were of three dominant species including the Western field wireworm, the Sugar Beet wireworm, and the



Immature stage wireworm (left), pupal stage (center), and adult click beetle (right). Photos by Ivan Milosavljevic – Reference: Milosavljevic et al. 2015: 3

Great Basin wireworm, though the dominant species varied by region. The Great Basin wireworm appears to be restricted to dry cropland areas with less than 12 inches of annual rainfall. The Western and Sugar Beet wireworms were more prevalent in the intermediate and higher rainfall zones and in irrigated cropland. As researchers look at the differences in wireworm biology, their preliminary findings suggest that the Sugar Beet wireworm seems to increase its feeding activity through the summer, while the Western field wireworm is most active earlier in the season. Since the Sugar Beet wireworm can cause significant economic damage, thresholds for managing it are likely to be lower than for the others, so having an intensive scouting program is essential to minimizing damage.

Besides small grain crops (wheat and barley) and grass, vulnerable wireworm vegetable crops include asparagus, beans, peas, beets, broccoli, carrots, chard, collards, kale, corn, cucumber, eggplant, endive, garlic, grass seed, horseradish, kohlrabi, lettuce, melon, mint, mustard greens, onions, pepper, potato, pumpkin and squash, radish, salsify, tomatoes, turnips and rutabaga. Wireworm damage is insidious. The worms feed on plant materials underground, disfiguring plants and fruits causing wilting and stunting, and can kill immature plants. According to Dr. Brook Brouwer, WSU Extension Regional Agriculture Specialist, San Juan County, some keys to minimizing wireworm damage depend on using a combination of management practices.

- Avoid planting susceptible crops directly into old pasture and lawn which has not been cultivated. This is because wireworm populations can be highest in areas that have been in grass for 10 years or more. The strategy is particularly important for gardeners who have recently broken out new ground (sod-busted or removed lawn or pasture) and planted therein without sufficient ground (Continued on [page 6](#))

(Continued from [page 2](#))

and go above and beyond to deliver the best education possible. The activities and projects that many of you are working on is proof that you are being true friends to each other and the communities served. Thousands of pounds of produce and thousands of plants have been donated to local food banks and under-served audiences on behalf of the WSU Extension Master Gardener Program this season. Thousands of people have attended a vegetable gardening series offered via distance delivery. Being active and engaged in new ways is expanding our reach. It is ensuring we will be highly recognized and trusted as the go-to resource for the community's gardening and environmental stewardship needs.

This bunch of veggie plant starts was delivered to the Elma Food Bank in early June. Here you see a variety of tomatoes, cucumbers, summer squash and beans freshly emerged.

Photo by Cindy Burton Grays Harbor/Pacific County Master Gardener



Seeds for Thought is a quarterly publication of the Master Gardener Foundation of Washington State (MGFWS)
Published February, May, August & November

Officer	Name	County	Email address
President	Don Enstrom	Lewis	presidentmgfws@gmail.com
Executive Vice President	Paul McKenna	Island	P_mckenna@att.net
Secretary	John Strong	Yakima	secretaryMGFWS@gmail.com
Financial Officer	Alan Smith	Chelan	asmith@linderandgoetz.com
Treasurer	Margaret Morris	Yakima	Mmorris0615@hotmail.com
Conference Co-Chair	C-J Nielsen	Island	cjnielsen2@gmail.com
Conference Co-Chair	Kathy Brenberger	Benton-Franklin	kbrenberger@frontier.com
Development Director	Patty Dion	Yakima	developmentmgfws@gmail.com
Past President	Kathleen Eaton	Snohomish/AZ	kmleaton@me.com
WSU MG Program Leader	Jennifer Marquis	WSU	jgmarquis@wsu.edu

(Continued from [page 4](#))

preparation. So, site selection is important. For susceptible crops, consider transplants; bigger is better, so try using vigorously growing plants to help minimize wireworm impacts. Higher planting rates and delayed seedings can also help offset wireworm damage or pressure. Monitoring of new sites is recommended.

- Wireworm populations tend to be lower in areas with a history of repeated cultivation (at least 3 inches to as deep as 15 inches) over several years so keeping (garden) areas well tilled is recommended. The best time to disrupt eggs and pupae is May-August.
- Cover crop options for planting bare or fallow fields or garden areas include mustards, some of which have biofumigant properties, and buckwheat. Buckwheat is not a preferred wireworm host and seems to help keep adults from laying eggs in those locations. Both these cover or rotation crops can be planted during the growing seasons in eastern Washington and neither survive the winter. Mustards should be incorporated for maximum biofumigant benefits. Both crops are good for adding organic matter, for weed control and for reducing wireworm impacts. These cover crops can be mowed and incorporated into the soil and can be replanted several times through the season. Using these crops two more years in a row has reduced subsequent damage to commercial potatoes. Gardeners should avoid grass and cereal crops for cover as these crops seem to be wireworm magnets.
- Planting wireworm resistant crop cultivars or varieties is recommended whenever they are available.
- Pesticide options are few. At present few insecticides are recommended by WSU for wireworm control (see Hortsense for available options) for home gardeners though there are some restricted-use pesticide options for commercial growers. Spinosad is not an effective deterrent on lettuce and it is assumed to be similarly ineffective on other crops. Other microbial insecticides may be applicable and include entomopathogenic funguses with strains that must be labeled as species-specific to be allowed.

However, if specific pesticide recommendations are sought, they should be evaluated on a case-by-case crop-by-crop basis by licensed pesticide applicators or certified crop consultants.

- Wireworm monitoring can be done using a variety of baits including oatmeal, moistened cat food or pheromone lures with pitfall traps. However, pheromone options are limited to just a few species.
- Trap cropping. Wireworms can be drawn away from market crops by planting a trap or sacrificial crop during early stages of crop establishment. Results from worldwide research have shown positive influence of using wheat as a trap crop between strawberry rows. Studies in the state of Georgia and in Canada have demonstrated that corn and wheat bait can reduce wireworm populations in sweet potatoes as has using wheat between carrot rows. To date, results vary by study and timing of applications is important. However, trap cropping can be most effective when used in combination with more than one of the above-mentioned strategies.

(Continued on [page 7](#))

References:

Brouwer, Brook, 2019, *Wireworm Monitoring and Management in Organic Vegetable Production*. Washington State University Extension - San Juan County. Tilth Conference. Yakima. November 9.

Esser, Aaron, 2012, *Wireworm Scouting: The Shovel Method and the Modified Wireworm Solar Bait Trap*. Washington State University Extension Fact Sheet. FS059E.

<http://smallgrains.wsu.edu/wp-content/uploads/2013/10/Wireworm-Scouting-FS059E2.pdf>

Milosavljevic, Ivan, Aaron D. Esser, and David W. Crowder, 2015, *Identifying Wireworms in Cereal Crops*. Washington State University Extension. FS175E. July.

<http://pubs.cahnrs.wsu.edu/publications/pubs/fs175e/>

Seal, Dakshina R., Richard B. Chalfant, and Melvin R. Hall, 1992, Effects of Cultural Practices and Rotational Crops on Abundance of Wireworms (Coleoptera: Elateridae) Affecting Sweet Potato in Georgia. *Environmental Entomology*, Volume 21, Issue 5, October. Pages: 969-974.

<https://academic.oup.com/ee/article-abstract/21/5/969/405386?redirectedFrom=fulltext>

Vernon, Bob S., Todd Kabaluk, and Anita Behringer, 2000, Movement of *Agriotus Obscurus* (Coleoptera: Elateridae) in Strawberry (Rosaceae) Plantings with Wheat (Gramineae) as a Trap Crop. *The Canadian Entomologist*. Volume 132, Issue 2. April. Pp. 231-241.

<https://www.cambridge.org/core/journals/canadian-entomologist/article/movement-of-agriotes-obscurus-coleoptera-elateridae-in-strawberry-rosaceae-plantings-with-wheat-gramineae-as-a-trap-crop/673B6D7CD455F73D9730B65E1909D937>

Wire Worm. Columbia Basin Wire Worm. Department of Entomology. Washington State University.

<http://entomology.wsu.edu/outreach/bug-info/wire-worm/>

Wireworms. Pacific Northwest Pest Management Handbook. Pacific Northwest Extension Publication - OSU-WSU-U of I.

<https://pnwhandbooks.org/insect/crop-pests?combine=wireworm>