



Seeds for Thought

August 2017

Volume 17, Issue 3

A newsletter from the
Master Gardener
Foundation of
Washington State

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BDM Field Trials Continue to Assess Results

~Mark Amara, Grant/Adams Area Master Gardener

A tri-university collaboration (Washington State University, Montana State University, and University of Tennessee) is undertaking a multi-year effort to study how long term use of biodegradable plastic mulches (BDMs) affect the environment, impact costs, and meet farmer needs and expectations. Close to two dozen university researchers and a scientific



advisory group are coordinating efforts with farmers to analyze and field test six commercially available mulches (four BDMs, conventional "black plastic," and paper mulch, the latter two serving as experimental controls) and experimental products over time. The study is sponsored by the USDA Specialty Crop Research Initiative (SCRI) program (award number 2014-51181-22382) with the current round of funding lasting through 2016. With sufficient progress, the grant may be extended another three years.

Van Bobbitt Scholarship Award

As previously announced, for a variety of reasons, the Van Bobbitt Scholarship will not be awarded in 2016. MGFWS will award two such scholarships in 2017, with ample time for advertising qualifications and application deadlines. The scholarship committee will be headed by Meg Jacobsen of Snohomish County. (meg@gardenermeg.com)

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Conventional "black plastic" mulches made from polyethylene (PE), a polymer derived from non-renewable fossil-fuel based resources, have been available since the 1960s. These mulches form an impermeable barrier that helps reduce weed competition, conserve water, minimize soil and water erosion, increase yield and crop quality, and accelerate the maturation of crops. PE mulches do not transmit water, may create an adverse microclimate or very hot conditions especially in summer heat, and should be disposed of offsite since they do not break down and have questionable environmental effects. Determining how and when PE mulches are removed after the growing season affects labor costs. Since plastic mulches have limited recycling options, they are routinely taken to landfills or burned and can release harmful chemicals into the environment and air, or left out in the field where they break into pieces that are dispersed by wind and water, and persist in the environment for years. There are no environmentally friendly alternatives to dispose of them. Residual plastic left in the field or elsewhere does not break down and negatively impacts wildlife and water quality.



Jeremy Cowan and Jason Parsley coordinate actions and demonstrate machine laying BDM technology.

In contrast, biodegradable mulches (BDM) have been in use since the 1980s to address the environmental deficiencies posed by the use of plastic mulches though few use them. Many plastic mulch replacement products are at least partially bio-based. BDMs currently on the market all have some synthetic materials though some of their

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From the President

~~Kathleen Eaton, MGFWS Interim President

Summertime is filled with scents, colors, textures and glorious sunshine. For Master Gardeners, there are a flurry of clinics, demonstration gardens, community classes, plant sales, fairs and teaching. We have pride in each aspect of all we do. This is the reward for all the planning and behind-the-scenes work all year.

Many thanks to the Skagit County Master Gardeners who hosted our October 21st board meeting in Mt. Vernon. The meeting was well-attended, and we were able to enjoy their lovely Discovery Gardens, which will be celebrated in their 20th birthday next month.

Board members work hard both at board meetings and in between. Several committees presented work representing many hours of research and meeting time. Bob Taylor reported on the Advanced-Education Conference committee. From board discussion that followed ,we have exciting news.



We took a first step in a more active role in the Advanced-Education Conference. A revised Request for Proposal, which is more beneficial to the host county, was issued. MGFWS will now also share both profit and loss, and provide a contribution towards speakers' fees. Proposal deadline is extended to November 15, 2016. We made this effective retroactively with Yakima in 2017.

The MGFWS is committed to moving forward to ever more creative ways to satisfy our mission to benefit all Washington state Master Gardeners.

Another committee was formed, chaired by Dode Carlson of Snohomish County, to follow-up additional conference possibilities, gathering work products from counties that have recently hosted conferences. They will pull best practices together to assist future-conference hosts. This may include job and committee descriptions, computer programs (registration and websites), tour, hotel and meal requirements, raffle and silent-auction procedures and other words of wisdom.

Communications is key to any group. John Strong, MGFWS secretary, presented elements of a plan for the foundation. Centralization for ease of common access, and non-repetition of data was a thread through the presentation. Dropbox and a Gmail calendar have been added for the board's use. Dropbox contains board policies, agendas, committee documents. The calendar has all deadlines, meetings and dates of interest. **Counties will information in real time.**

One challenge in communication is changing emails and representatives. Each county representative has been asked to set up a Gmail account strictly for use in communicating with MGFWS. This email can be used by anyone in their county to access documents and the calendar. Each county controls access with their own password, and the message stream and information is passed easily from one representative to another. Please use this format countynameMGFWS@gmail.com. Forward new emails to both John Strong strongware@gmail.com and Kathleen LaFrancis Eaton presidentMGFWS@gmail.com. All such emails will be given access to Dropbox and the MGFWS calendar.

MGFWS board attendance is good; some attendance is electronic. The state is large and we rotate meeting sites. But the truth is there are only so many of us. To accomplish the mission set forth decades ago, we all have to pitch in. And many more have done so! For example, Mary Shane has edited *Seeds for Thought* and the website for years. Volunteers from many counties are stepping up to fill empty committee seats. A substitute and visitor at this last meeting volunteered wonderful ideas and for committees. The Yakima conference team reports volunteers from other counties asking to help with the conference.

That's what we need! Hurray for those who have done so. For those of you who didn't know you could do that, you can! You don't have to be on the board to attend. Nor do you have to go to all the meetings to help out. And, yes, your hours count!

Our next board meeting is October 21 in Yakima at the Convention Center, the site of the September 20-23, 2017, Advanced-Education Conference. Board members will tour the facility and get a preview of what's in store for you. "Can you dig it?" is the theme of the conference.

Presidents and treasurers as well as representatives of counties wishing to set up an endowment for their foundations should plan to attend. Many, not all, counties have expressed a desire to embark up a plan for funding a perpetual income stream through an endowment. MGFWS began this in May. Linda Bailey, of WSU's Endowment Office, will present how to do this beginning at 9 am in Yakima. Those attending this meeting are welcome to join the conference tour later in the day. Specific information will be forthcoming.

You can help MGFWS support your Advance-Education Conference every time you buy from Amazon by using Amazon Smile:

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Mary Robson Scholarship Award

~~Kathleen Eaton, MGFWS Interim President

MGFWS is pleased to award the 2016 Mary Robson Scholarship to Lydia Fields. Lydia will be a sophomore this year studying in the Department of Horticulture in Landscape Nursery Management. Her home is in Spokane, Washington.

She writes:

To the Master Gardener Foundation of Washington State,

Thank you for your support of Washington State University and for your investment in my future. I graciously accept your generous scholarship contribution toward my higher education, it is a great honor to be awarded the Mary Robson Scholarship from the Master Gardener Foundation of Washington State.



Lydia Fields
2016 Mary Robson Scholarship Awardee

I am very humbled to be recognized for my hard work. Thank you for supporting my efforts to further my education here at WSU. Studying here is a dream come true because I am following in my father's footsteps, for he earned his bachelor's of science here majoring in horticulture. With my father's guidance throughout the years and my own self-indulgence in the horticulture industry, I have developed a strong passion for the art of cultivation. My interests lie in greenhouse management and fruit and vegetable production and I hope to one day own and operate my own commercial greenhouse/nursery. Thanks to your kind donations, I am able to focus all my energy on expanding my plant science and greenhouse production knowledge. Here at WSU I have had the opportunity to experience hands on learning in real life settings. I've explored the organic farm, carried out experiments in laboratory and spent many hours learning in the greenhouses. I've also joined the Horticulture Club and was able to

devote both my time and skill to planting and caring for plants to be sold at the annual Mom's Weekend Sale. Though my time here has just begun, I am extremely grateful for the seemingly endless opportunities which have presented themselves and the quality of education I have received.

I am excited for what the future holds and am eager to continue my academic journey. I can't express my gratitude toward your support for WSU as a whole as well as in my personal academic career. Your contributions are not taken for granted and I truly cherish being considered as a recipient. I feel inspired by your generosity to continue to excel in my education and seek out opportunity within my field.

I sincerely thank you,

Lydia Fields

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Although there is no conference this year we have continued our business. We're pleased to have awarded Lydia Fields the Mary Robson Scholarship. MGFWS continues to sponsor the (U.S.) President's Volunteer Service Award, and we look forward to announcing Master Gardener of the Year, Media and Ed LaCrosse Distinguished Service Awards.

May you have happy, healthy, and productive summers!

Lettuce Consider the Facts

~~Melody Westmoreland, Yakima County Master Gardener

About seven weeks ago I was so excited I could hardly contain myself. I had read those seed packages where it clearly stated “as soon as you can work the soil.” Whoo-pee! This was really going to be my year. I had completed the training, built (from scratch) the raised beds and created the vegetable garden. By the way, who knew how much water it would take to keep those 4x4x2-foot raised beds wet enough to actually ensure said vegetables were happy . . .

But I digress. I was too late last year for “early” crops, so was determined that lettuce would be in my 2016 garden. Based on my disastrous attempt to grow cabbage last year (and the lesson about cabbage aphids), I knew that I would be planting leaf rather than head lettuce. Early in April, I was out in that garden furiously tilling the soil, adding manure and compost and lovingly preparing the beds to plant my seeds. I mixed, stirred, watered and admired my work for a bit, then got down to business.

Let me see now, my husband and I both like green salads. We also like an occasional taco or BLT and use lettuce there. I often make a molded salad or dessert and wouldn’t they look lovely with a bed of greens to lie on. Okay then, let’s plant accordingly! I had plenty of room considering that this year I was only going to plant things I actually like to eat versus a little of everything to see what it looks like.

I planted three beds one foot wide and across the full width of the bed with lettuce seed. For those of you who might have forgotten high school math; length multiplied by width equals the area and that would be 1728 square inches of lettuce seed! Holy moly, that’s a lot of lettuce!! My crop was spectacular. It appeared that every little seed germinated, all the leaves were healthy and green, and **everything** came up at the same time. Go figure, plant it all at the same time and it all comes up together!

As I was considering my new found wealth I found out that most people I know had also grown lettuce. What that means in plain English is that they were either growing their own and didn’t want any more or didn’t grow it because they don’t really care for lettuce. While I was able to donate a few bags to folks at the Extension office (thank you, Gina!), I was still left with a LOT of surplus. Now what? My closest relatives are on the west side. Hmm . . . could I mail them bags via overnight delivery to keep it fresh? What about early birthday and Christmas presents for everyone? Would they become suspicious when they all received the same thing? Could I dry this stuff and make jewelry with it? What about freezing some and then quietly discarding the green slime down the road? There were so many options to consider.

Just as I was thinking about all these things the weatherman pointed out that the temperature might go three digits the first weekend in June. WHAT??? All my hard work would be lying limp on the soil, the last of the usable product fixing to bolt? Well, I couldn’t have that, now could I? So, yes, I covered the beds to protect the lettuce from the intense heat and sun. And now here it is mid-June and we’re still eating lettuce. My question is this . . . of all the carrot seed I planted, I see exactly one seed has started, so where is the justice in that?

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constituents appear to break down. Ideally, the goal is to develop products that are bio-based so that they do not adversely affect the environment. However, though many of the commercially available products depend on plant starch as a primary ingredient, they are blended with polymers and plasticizers derived from fossil fuels that help hold them together. To meet organic farming standards, BDMs must break down into non-harmful constituents and meet the ASTM standard for compostability with at least 90% biodegradation (conversion of the mulches' carbon atoms into carbon dioxide) within 24 months among other requirements. Currently, there are no approved BDMs that meet the USDA organic standard (OMRI) though there are products available in Canada and Europe that carry the biodegradable identity and/or other products which claim to be biodegradable.

The investigation being carried out by the tri-university team, with support from growers and key intermediaries, focuses upon the impacts of currently available mulch products in the United States to see how they break down in different climates and operations, what impact they have on soil quality, microorganisms and specialty crop production and in further developing installation and disposal options. The studies have also targeted perceived BDM barriers to adoption by farmers including lack of knowledge, higher costs, and unpredictable breakdown. The team's scientific approach is unique because it utilizes both integrated transdisciplinary research laboratory models and farm based case studies with emphasis on crop production, pest management, economics, and impacts on soil ecology.

In 2015, field trials took place at the Knoxville, TN and Mount Vernon, WA experiment stations on pie pumpkins with the same crops and treatments being repeated in 2016. Additionally, farmer case studies in Washington and Tennessee are evaluating grower perceptions in real farm conditions. The first Washington farm participating in the case study for 2016 is Omache Farm near Pullman in Whitman County. The farm is using certified organic paper mulch, plastic mulch, and three BDMs. At a recent field day in May 2016, Jeremy Cowan, WSU Assistant Prof of Extension and Horticulture Regional Specialist and Courtney Lyons, WSU Post doctoral Research Associate, explained the principles of BDMs and some of the challenges and opportunities. Jason Parsley, co-owner of Omache Farm, discussed his management strategies and installation methodologies using plastic mulches for different crops and BDMs. Up until 2016, Omache Farm had applied paper and plastic mulches by hand, a tedious backbreaking and time consuming process. The May field day demonstrated using several BDM products comparing standard plastic mulch, paper mulch and two or three other biodegradable mulches using a machine that also laid irrigation drip tape and mulch at the same time on winter squash. Approximately 3500 feet of mulch was laid by machine in about 4 hours. Additional field days at Omache Farm will be held throughout the season with results quantified and publicized. Field days will be announced on the website: <http://biodegradablenmulch.org>.

Plans are underway to hold another farmer field trial in the Columbia Basin in 2017. Though the exact location has not been finalized the site will reflect the light textured soils, arid low rainfall climate, high intensity sun, and high potential winds indicative of the area and will serve as an informal study to monitor and view next year.

References

- Biodegradable Mulch for Organic Production, WSU Mt Vernon.* by Carol Miles and E. Scheenstra. Report No. EO-2015-01. October, 2015 https://ag.tennessee.edu/biodegradablenmulch/Documents/BDM_for_organic_production_rev_5Apr2016.pdf.
- Biodegradable Plastic Mulches.* Penn State University College of Agricultural Sciences. April 24, 2015. <http://extension.psu.edu/plants/vegetable-fruit/news/2015/biodegradable-plastic-mulches>.
- Plastic Mulches.* Penn State University College of Agricultural Sciences. 2016. <http://extension.psu.edu/plants/plasticulture/technologies/plastic-mulches>
- Using Biodegradable Plastics as Agricultural Mulches.* Washington State University Extension Fact Sheet FS103E. By Andrew Corbin, Jeremy Cowan, Carol Miles, Doug Hayes, John Dorgan, and Debra Inglis. 2013. <http://cru.cahe.wsu.edu/CEPublications/FS103E/FS103E.pdf>.
- Performance and Adoptability of Biodegradable Plastic Mulch for Sustainable Specialty Crop Production.* National Institute of Food and Ag. SCRI No: 2014-51181-22382. Project Director: Doug Hayes. University of Tennessee. 2014. <http://www.reeis.usda.gov/web/crisprojectpages/1004366-performance-and-adoptability-of-biodegradable-plastic-mulch-for-sustainable-specialty-crop-production.html>.

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Save the Date!**Fall Gardening Workshop in Friday Harbor, WA****Oct. 1, 2016 9:00 am-4:00 pm****Tickets available August 1****For more info: (360) 378-4414****<http://extension.wsu.edu/sanjuan/>.****Is There News From Your Master Gardener Program?**

The *Seeds for Thought* newsletter offers all county WSU Master Gardener programs and foundations an excellent way to publicize your projects and events. Working with your county's representative to the Master Gardener Foundation of Washington State or with a member of your organization's leadership, send articles to Mary Shane, *Seeds for Thought* publisher, (meshane@comcast.net) according to the following schedule:

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September 1	October 1

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