



# NAPB Newsletter

January 2017

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## How to Become a Member of NAPB!

Membership is fee-based and required in order for you to receive all NAPB's benefits.

\$80 for Professionals

\$35 for Students

Use our link <https://www.plantbreeding.org/> and click on the Membership tab. It only takes a minute to join.

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## Plant Breeding Success Story

### Sweet Potatoes aren't just for Holidays any more

Before Christopher Columbus discovered Central Americans raising sweet potatoes, Polynesians in the south Pacific, in one of history's mysteries, were growing the native South American vegetable as early as 1200 A. D. Sweet potato was the Maoris' principle food when Captain Cook first reached New England in 1769. Sweet potatoes, a primary source of nourishment for early homesteaders in North America, and soldiers during the Revolutionary War, became mostly a Thanksgiving staple in modern times. These days, they're good before and after Thanksgiving, too.

Sweet potatoes are more popular in the U.S., with consumption increasing nearly 80 percent between 2000 and 2014, reaching 7.5 pounds per capita. Growing consumer demand for sweet potatoes may be due to promotion of the tuber's health benefits. Sweet potatoes are higher in beta carotene than many other vegetables and are a source of potassium, fiber, and vitamins A and C (USDA ARS 2012).

U.S. sweet potato production has increased substantially over the last 15 years. National production increased by an average of 6.1 percent per season since 2000, with a record high production of 29.6 million hundredweight in 2014. The increase in sweet potato production is due, in part, to an increase in acreage from 95,000 acres in 2000 to 135,000 acres in 2015. Nationally yields have increased as well, with the average sweet potato yield in 2014 at 21,900 pounds per acre.

Sweet potato is a tropical, long season vegetables that grows best in long hot summers with at least 150 frost-free days. Due to their growing requirements, sweet potatoes are primarily grown on a large commercial scale in the southern United States. Since 1971, North Carolina is the leading sweet potato production state, producing approximately 53 percent of all sweet potatoes grown in the country (ERS, 2015). Mississippi, Louisiana, and California are other states growing a myriad of cultivars developed mostly in University and USDA breeding programs.

U. S. sweet potato industry owes at least part of its success to the introgression of fusarium wilt resistance from an accession collected in 1946 on Tinian Island in the Marianas and maintained in the US National Plant Germplasm System, "Tinian" PI 153655. It was found to possess a higher degree of fusarium wilt resistance, even under severe greenhouse tests, than any previous sweet potato cultivar or selection (Steinbauer, C.E. 1948. Proc. Am. Soc. Hort. Sci. 52:304-306).



Modern sweet potato cultivars combine high yield, disease resistance, and nutritional quality. Diversity conserved in the USDA NPGS includes PI 153655 "Tinian" source for much needed fusarium wilt resistance in sweet potato.

Do you have a plant breeding success story that you would like to share? If so, please send a brief description or a link to your current Communications Committee Chair, Jane Dever ([jdever@ag.tamu.edu](mailto:jdever@ag.tamu.edu)). Success stories will be shared in upcoming NAPB newsletters.

## Graduate Student Spotlight



Hannah Swegarden

### *Where do you come from and what is your background?*

I am originally from southeastern Minnesota and pursued my B.S. in Biology at the University of Wisconsin – Eau Claire. I began working toward my M.S. in Horticulture at the University of Minnesota – Twin Cities with Dr. Thomas Michaels (Horticulture) and Dr. Craig Sheaffer (Agronomy). During my master's degree, I focused on the breeding and evaluation of heirloom dry beans for organic farming operations in the Midwest. Despite little exposure to horticulture and agriculture growing up, I feel more connected than ever to the plant sciences and confident that I am on the right career track.

### *What institution do you attend, and what is the focus of your research? Who is your advisor?*

I am currently a second year PhD student in the Section of Horticulture at Cornell University, under the advisement of Dr. Phillip Griffiths (Cornell – NYSAES). Our program focuses on developing Brassica vegetables, common bean, and small-fruited tomatoes for new and emerging markets, especially in the northeast US. My research investigates nutritional and consumer quality traits in leafy Brassica vegetables. I am currently focusing on how to better understand and establish methodology to integrate consumer feedback into applied plant breeding programs.

### *What would you like to do after graduate school?*

Life after graduate school is a bit of an "unknown" at this point, but I would like to remain an advocate for public sector plant breeding and cultivar development. I am particularly interested in working with policy makers to promote the mission of land grant universities, understanding the role of public-private interactions within academia, and enhancing the extension system.

### *What would you like the public to know about plant breeding?*

Just as with any other profession, plant breeding is made up of dedicated, intelligent individuals... individuals who also happen to be capable of empathetic and reflective conversation. We are ready to listen and engage with downstream stakeholders to help bridge educational gaps in science and promote a unified food system.



Hannah Swegarden advocating at Kale Days

### *What is the biggest plant breeding challenge of our time?*

Plant breeding is not only an innovative science, but also a creative endeavor. I believe that in order to address the current climate, food security and nutritional challenges facing agriculture, plant breeders need to remain resolute in their ability to stay creative. Part of that requires an openness to new ideas, discussion and collaboration with seemingly unrelated disciplines, and pushing the envelope regarding how our food system should look.

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Do you know a graduate student/recent graduate that we should spotlight? If so, please contact your current Communications Committee Chair, Jane Dever ([jdever@ag.tamu.edu](mailto:jdever@ag.tamu.edu)).

## Mark Your Calendars for the 2017 Annual Meeting

Join us August 7-10, 2017 for the 7<sup>th</sup> annual NAPB and 11<sup>th</sup> annual meeting of the Plant Breeding Coordinating Committee at the University of California–Davis Activities and Recreation Center. For information on the Plant Breeding Center at UC-Davis, click here: <http://plantbreeding.ucdavis.edu/>

## Events and Opportunities

**2017 Tucson Plant Breeding Institute** will take place **January 9-13, 2017** in Tucson, Arizona. <http://www.plantbreedinginstitute.bio5.org>

**2017 NC Congressional Visits Day** will take place **March 13-14, 2017** in Washington, DC. NAPB graduate student representative applications are due **January 6, 2017**. Interested parties should submit a short CV, a letter of interest (not more than one page single spaced), and a letter of support from their advisor, to Dr. Rich Pratt, Chair of the NAPB Advocacy Committee at [ricpratt@nmsu.edu](mailto:ricpratt@nmsu.edu). For more information: <https://www.plantbreeding.org/files/napb/congressional-visits-day-call-for-applications-napb.pdf>

**2017 Texas A&M Plant Breeding Symposium** will take place **February 15-16**. The theme is “The Vavilov Method: Utilizing Genetic Diversity” and registration opens December 5, 2016. For more information, click: <http://plantbreedingsymposium.com/>

**2017 Plant Sciences Symposium** “Domestication and Contemporary Plant Breeding” will take place **March 24** in at North Star Ballroom, St. Paul Student Center, Minnesota: <http://plantsciencesymposium.umn.edu/>

**Other DuPont Sponsored Plant Breeding Symposia:** a full list of upcoming DuPont sponsored plant breeding symposium can be found here: <https://www.pioneer.com/home/site/about/research/PlantSciSymposiaSeries/>

**The U.S. Department of Agriculture**, Agricultural Research Service, Crop Improvement and Protection Unit, Salinas, California, invites applications for a Research (Plant) Geneticist (Postdoctoral Research Associate) position.

**The U.S. Department of Agriculture**, Agricultural Research Service, Crop Improvement and Protection Unit, Salinas, California, invites applications for a Research (Plant) Physiologist (Postdoctoral Research Associate) position.

Contact Dr. Beiquan Mou, [beiquan.mou@ars.usda.gov](mailto:beiquan.mou@ars.usda.gov) for more information. Information on job postings can also be accessed on the NAPB website, <https://www.plantbreeding.org/job-postings-index>

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If you have an upcoming event you would like to include in the NAPB newsletter, please send a description and link to any important information to your current Communications Committee Chair, Jane Dever ([jdever@ag.tamu.edu](mailto:jdever@ag.tamu.edu)). Information will be included in upcoming newsletters.

Please direct comments and suggestions about the NAPB Newsletter to:

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