PRESS RELEASE

National Association of Plant Breeders Awards 2016

Plant breeders develop new crop varieties that promote food security, quality of life, and a sustainable future. Recently, three scientists were honored at the annual conference of the National Association of Plant Breeders (NAPB) for outstanding achievements.

The NAPB [http://www.plantbreeding.org] is unique organization in the U.S., bringing together public and private sector plant breeders to share technical information, improve the efficiency and effectiveness of their programs, develop the next generation of scientists, disseminate information about plant breeding, and advocate for a cohesive national plant breeding agenda.

At its 2016 annual meeting, hosted by Cotton Incorporated in Raleigh, NC from July 15-17, the NAPB presented awards for Lifetime Achievement, Plant Breeding Impact, and Early Career Scientist.

Lifetime Achievement Award

This award, recognizing distinguished long term service to the plant breeding discipline through research, teaching, outreach, and leadership, was given to Dr. Philipp Simon, a USDA Agricultural Research Service Research Geneticist and Professor of Horticulture at the University of Wisconsin, Madison.

Over his 38 year career, Simon has focused on improving carrots for flavor, nutritional quality, and resistance to diseases and stress. Their materials, enhanced for high carotene content, sweet, mild flavor, purple color, and root-knot nematode resistance, are intensively utilized by plant breeding companies worldwide. Through conventional breeding, his program has increased the nutritional value in carrot by over 50% by elevating β-carotene (pro-vitamin A) content.

His genetic research is remarkable for its collaborative, team-orientation and has provided numerous scientific breakthroughs, including developing the first genetic maps for carrot and sequencing of its genome. His participation in germplasm collection expeditions for carrot, onion and other vegetables has provided invaluable genetic diversity for preservation in the U.S. National Plant Germplasm System and utilization by public and private sector scientists.

In addition to his pioneering work in carrot, he successfully developed the first production of true seed in garlic and developed cucumber and melon germplasm with orange color and elevated carotene content.

Along with these scientific accomplishments, Simon has supervised the training of over 32 graduate students and 18 postdoctoral scholars. He has regularly taught University courses in plant breeding and genetics and organized graduate level seminars.

Simon has worked successfully with the global vegetable production and seed industry, including short term training of 33 international scientists. One industry member observed that "Phil's program shows excellent synergy with existing private breeding programs. This synergy, in turn, provides progress and improvements to commercial production and ultimately benefits the consumer with better quality and less expensive produce."

A graduate of Carroll College (BS) and the University of Wisconsin (MS, PhD), Simon is a Fellow of the American Society for Horticultural Science (ASHS) and the recipient of the ASHS Vegetable Breeding Award as well as an Honorary Doctorate from the Agricultural University of Krakow, Poland.

He is a past Chair of the Plant Breeding Coordinating Committee, a national body representing land grant university plant breeding programs. He has received both the USDA-ARS Senior Scientist of the Year, Midwest Area, Award and the USDA Secretary's Honor Award, for Superior Service.

One NAPB member commented: "Phil's understanding of crop improvement is deeply rooted in scientific principles and comes only with dedication and experience. He is soft spoken, an excellent mentor, and passionate about crop improvement and making the world a better place. His plant breeding achievements are both numerous and significant."

Another noted: "He projects a warm, cheerful and kind attitude towards everyone. Further, he is exceedingly humble and continues to be in awe of the world that surrounds him."

Plant Breeding Impact Award

This award recognizes significant advancements in the field of plant breeding, specifically in the area of germplasm or technology development, who have demonstrated measurable impact on crop production. The 2016 recipient of the NAPB Plant Breeding Impact Award is Dr. Brett Carver, Regents Professor at Oklahoma State University.

Carver, who also holds the Wheat Genetics Chair in Agriculture, has 32 years experience in wheat breeding and genetics research, following degrees from the University of Georgia (BS) and North Carolina State University (MS, PhD).

His leads a comprehensive winter wheat breeding and genetics program dedicated to developing market-ready cultivars for the U.S. Great Plains. Carver initiated and has directed a faculty-driven research team called the OSU Wheat Improvement Team, ensuring that wheat varieties released from OSU meet the production requirements and strict quality standards of Oklahoma producers.

The Team has released 20 hard red winter and hard white cultivars since 1998, including the top four planted on Oklahoma's 4.9 million acres of wheat planted in 2016.
In fact, as pointed out in a supporting letter: "Cultivars released by Carver's program are now grown on 45% of Oklahoma wheat acres, 15% of wheat acres in the southern Great Plains, and approximately 6% of all wheat acres in the United States. This translates to 3.2 million acres planted annually to varieties released by the OSU Wheat Improvement Team under Carver's leadership!"

Carver has advised 24 graduate students and edited *Wheat: Science and Trade*, a widely-used reference book for graduate students, wheat researchers, processors, and practitioners. He is also a co-editor of *Yield Gains in Major U.S. Field Crops*, published by the Crop Science Society of America.

Carver, a Fellow of both the Crop Science Society of America and the Agronomy Society of America, has also chaired the National Wheat Improvement Committee and currently serves on the scientific advisory board of the Wheat Foods Council. He received the Governor's Outstanding Public Service in Agriculture Award in 2016.

As one supporting scientist pointed out: "Although many of Dr. Carver's efforts and impact toward the plant breeding community are evident through his accomplishments, there are so many things behind the scenes that I feel makes him stand out among his peers. Everything I have ever seen Dr. Carver do is for the betterment of the plant breeding community. While many others take on roles to be in the spotlight, Dr. Carver serves because he has a genuine interest in making the plant breeding community a better, more sustainable profession."

Early Career Scientist Award

This award recognizes a scientist in early stages of their plant breeding career who exhibits the ability to establish strong research foundations, to interact with multi-disciplinary teams, and to participate in relevant professional societies.

The 2016 recipient of the Early Career Scientist Award is Dr. Jesse Poland, Assistant Professor at Kansas State University, Director of the Feed the Future Innovation Lab for Applied Wheat Genomics and Associate Director of the Wheat Genetics Resource Center.

Poland and his team focus on wheat genetics, genomics and germplasm improvement. They are currently developing new approaches in quantitative genetics, genomics and high-throughput phenotyping for use in breeding, diversity studies, and association genetics. In collaboration with public breeding programs, Poland is implementing the use of genomic selection methods to accelerate wheat breeding.

Poland is developing new breeding lines with resistance to the major pests of wheat, including stem rust, stripe rust, leaf rust and Hessian Fly, and investigating the genetic basis of these traits.

To complement advances in genomics, genetics, and breeding, Poland's lab is developing high-throughput phenotyping approaches for field-based evaluation of breeding lines, focused on genetic characterization of heat and drought tolerance and development of improved germplasm.

One NAPB member highlighted: "Jesse understands the big picture of plant breeding and genetics and will go onto to be an international leader in the development of wheat germplasm for a burgeoning population in the face of climate change."

Another stated: "Dr. Poland has demonstrated leadership, dedication, knowledge, and vision. I have no doubt he will continue to be a leader in the plant breeding community for years to come. I look forward to seeing what he discovers!"

Poland is graduate of Kansas State University (BS, MS) and Cornell University (PhD 2010). He served as a research Geneticist with the USDA-ARS from 2010-2014 and appointed Assistant Professor at Kansas Sate University in 2104. Poland currently supervises eight graduate students, five post-doctoral scholars and sits on the graduate committees of students at Kansas State University and at Colorado State University, where he holds affiliate faculty status.

As noted by his graduate students in a supporting letter: "Jesse has been instrumental in demonstrating how not only to do good science, but be good scientists. He prioritizes his students' needs to ensure that they will be successful in their careers. His desire to teach, share knowledge, and stimulate our critical thinking are the best characteristics an advisor can have."

Summary

The 2016 awardees exemplify the very best in plant breeding research, education and outreach. They demonstrate exceptional problem-solving and leadership abilities. They model persistent dedication and a passionate devotion to applying their plant breeding skills and technical excellence to promote food security, quality of life, and a sustainable future. They are committed to supporting the next generation of the plant breeding

discipline. These outstanding professionals inspire plant breeders and scientists everywhere.

For more information:

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