

TEXAS A&M PLANT BREEDING BULLETIN

April 2014

Our Mission: Educate and develop Plant Breeders worldwide

Our Vision: Alleviate hunger and poverty through genetic improvement of plants

Below is an example of human connectivity and individual impact that was delivered to our undergraduates by Dr. Doug Steele, Texas A&M Extension Director, at our recent student recognition spring banquet. Perhaps you know this story or perhaps, like me, you only recall part of the story. I hope that you enjoy reading it again or for the first time.

Some of the “particulars” surrounding the beginning of the story are in dispute but the central facts are not. Most of the following is from Dr. Steele’s presentation of this story with only slight modification in a few places. I appreciate Dr. Steele’s permission to reprint his presentation.



Students, Faculty, and Friends of Soil and Crop Sciences:

It has been estimated that Norman Borlaug was personally responsible for saving the lives of over one billion people through his short-statured wheat cultivars. In fact, upon the 100th anniversary of his birth, many people now estimate that number is closer to two billion. Think about that; being personally recognized as the individual who has saved over two billion people from starvation by providing the genetic basis of their daily food! Dr. Borlaug is known as the Father of the Green Revolution and is one of only seven people in the world to have received the Noble Peace Prize, Presidential Medal of Freedom, and Congressional Medal of Honor.

Norman Borlaug was an agronomist and plant breeder who hybridized corn and wheat for arid climates, disease resistance and dwarf characteristics so the plants would not be blown over by high winds. The Nobel committee, Fulbright Scholars, and many other experts calculated that all across the world – in Central and South America, Western

Africa, across Europe and Asia, throughout the plains of Siberia, and America's own desert Southwest – Borlaug's work has saved from famine over one billion people . . . and the number is increasing every day.

Those who knew Dr. Borlaug (he passed away in Dallas TX in 2009) know that he was not only a biologist, but a humanitarian who believed in the power of agriculture. For all the credit he's received, which was earned and well deserved, maybe Borlaug was not the person who saved the lives of a billion people.

I believe it could possibly be a man named **Henry Wallace**, who was Vice President of the United States under Franklin Roosevelt, during his third termⁱ. Henry Wallace was a former Secretary of Agriculture. The world's largest agricultural experiment station located outside of Beltsville, Maryland is named after Henry Wallace. He understood the need for people to have a safe and secure food supply. As Vice President, he used his power to create an agricultural research station in Mexico, whose sole purpose was to somehow hybridize corn and wheat for arid climates . . . and he hired a young scientist named Norman Borlaug to run it. So, while Norman Borlaug won the Nobel Prize . . . maybe it was really Henry Wallace whose initial act was responsible for saving the one billion lives.

But if you take the story back one step further, maybe it wasn't Henry Wallace who should receive such credit, maybe it was **George Washington Carver** who saved the one billion lives. Carver was a renowned geneticist and botanist who developed two hundred and sixty-six products from the peanut that we still use today. And then there's the sweet potato. Eighty-eight uses he developed for it. He also wrote an agricultural tract and promoted the idea of what he called a 'victory garden' to ease food shortages during World War II. What many people don't know about George Washington Carver is that when he was nineteen years old, he was the first African American student admitted to Iowa State University. There's a couple of examples of his early experiences at ISU. Some references indicate that he was not allowed to live in the dorms or eat on campus because of the color of his skin. One reference noted that he had a dairy sciences' professor by the name of **Wallace** who greatly respected Carver and invited him to stay at his home while he was in college. Another reports that **Etta May Budd**, daughter of Joseph Budd, a professor of horticulture at Iowa State, was appalled that George Washington Carver was not allowed to eat meals in the university dining hall. So Etta May made a point to go to the dining hall with George until the other students accepted

him. Maybe both of those stories of discrimination are true but regardless, this son of former slaves, the first black student to attend ISU was befriended by Professor Wallace who had a young son by the name of **Henry A. Wallace**. George Washington Carver befriended the six year old Henry, who spent time with George and who, at the age of eleven, began doing experiments with different varieties of corn. As an adult, Wallace's fascination with corn continued. He developed some of the first commercial corn hybrids and even published his findings in Wallace's' Farmer Magazine. He also founded Pioneer Hi-bred International, Inc. In 1933, George Washington Carver's young friend, Henry A. Wallace, became Secretary of Agriculture under President Franklin Roosevelt. Then in 1940 he became Vice President under Roosevelt. After the election of 1940, Wallace took a vacation trip to Mexico, where he found corn to be an important part of most Mexican families' diet. But the yields in Mexico were only a fraction of that enjoyed by Midwestern U.S. farmers using adapted hybrids. From that experience, Wallace proposed the creation of an agriculture experimental station in Mexico fashioned after those in Iowa. The station would develop improved corn varieties adapted for the climate and soils of Mexico. On his return to the United States, he proposed the idea to the Rockefeller Foundation who agreed to fund the venture.

So, Henry Wallace's vision about helping humanity through agriculture and plant breeding maybe resulted from a few afternoons when he was a pre-teenage boy following and listening and learning from George Washington Carver. Maybe Henry Wallace should get the credit for saving a billion people from starvation.

But if you continue to go back in history, maybe it was actually a farmer from Diamond, Missouri who saved those billion people. **Moses Carver** and his wife **Susan**ⁱⁱ farmed near Diamond in Newton County Missouri. One account has Moses and Susan owning a slave named Mary who had a baby (another account disputes that Moses and Susan owned any slaves and that Moses was an outspoken opponent of slavery). One cold winter night Quantrill's Raiders (or non-descript marauders in another reference) attacked Moses and Susan's farm, burning the barn, killing several people, and abducting Mary, who refused to let go of her infant son. Apparently at Susan's insistence, Moses set out trying to arrange a meeting with the raiders in order to do something to get Mary and her baby back. Within a few days, he had the meeting set; and so, on a bitter cold January night, Moses took a horse, perhaps his only remaining mobile asset, and went several hours northwest to a crossroads in Kansas. There he met four of the raiders and learned that Mary had died from injuries sustained in the raid. Moses traded his only horse for

what they threw him in a burlap bag. There in the freezing dark, with his breath's vapor blowing hard and white from his mouth, Moses brought out of that burlap bag a cold, naked, almost dead baby boy. And he opened up his coat and he opened up his shirt and placed that baby next to his skin for warmth and walked several hours back home. (Another version has an agent of Moses Carver finding the boy in Kentucky. However, the basic fact that George Washington Carver was kidnapped as a baby and adopted by Moses and Susan is not disputed). The Moses Carver farm became the George Washington Carver National Monument by an act of Congress in July 1943.

So there it is; **Moses and Susan Carver** adopted and educated **George Washington Carver**; **Etta Budd** saw a stupid and degrading practice that demeaned her friend; George Washington Carver inspired **Henry A. Wallace** who hired **Norman Borlaug**. So is it Moses and Susan, Professor Budd, Etta Budd, Professor Wallace, Henry Wallace, or Norman Borlaug who deserves the credit.

The truth is, who really knows whose single action saved a billion people from starvation? How far back could we go? And how far into the future could we go to show how many lives you will touch? There are generations yet unborn, whose very lives will be shifted and shaped by the decisions you make and the actions you take . . . tonight. And tomorrow. And tomorrow night. And the next day. And the next. WE ALL have the power to be a positive influence on the world by our actions towards others, by becoming servant leaders and by realizing we can truly make a difference, one person at a time.

In life we must all make choices, about our careers, about what's important to us, about whom to reach out and help and about what will eventually be our legacy. For many, our legacy will not be determined by our financial wealth, or the assets we acquire, but rather the choices we make and the people we help. We might not be credited with saving the lives of a billion people, but we can live every day to make a difference, and to make the world a little better.

ⁱ American Dreamer: A Life of Henry A. Wallace, John C. Culver and John Hyde

ⁱⁱ George Washington Carver, William J. Federer

ⁱⁱⁱ The Noticer, Andy Andrews

Continuing and Distance Education in Plant Breeding at Texas A&M

Continuing education course modules in plant breeding and genetics, and related disciplines are available from Texas A&M University to clientele interested in gaining new information in plant breeding or simply seeking refresher courses. This program is designed for individuals employed in private industry, CGIAR centers, government agencies, non-government organizations, and other agriculture professionals who need and desire additional knowledge and training in plant breeding but who are not interested in an additional academic degree. A professional certificate can be a part of this program. No campus visit is required. Course modules currently open for enrollment are

[\(https://scsdistance.tamu.edu/purchase/\)](https://scsdistance.tamu.edu/purchase/):

Basic Plant Breeding: W. Smith

Unit 1: Introduction to Plant Breeding (2 June)

Unit 2: Self Pollinated Crops (2 June)

Unit 3: Cross Pollinated Crops (2 June)

Other Continuing Education courses in plant breeding and related disciplines that will be available in the Fall 2014 and later include Host Plant Resistance; Selection Theory; Marker Assisted Selection; Genomic Analysis; Field Crop Diseases; Field Insects; Essential Nutrients in Crop Growth; and others. For more information visit <https://scsdistance.tamu.edu/> or contact LeAnn Hague, Distance Education Coordinator in Soil and Crop Sciences at leann.hague@tamu.edu or (979)845-6148.

Distance Plant Breeding M.S. and Ph.D. degree programs at Texas A&M. Visit <https://scsdistance.tamu.edu/plant-breeding-distance-education/> for details.

National Association of Plant Breeders 2014 Annual Meeting in Minneapolis MN on August 5 – 8. Visit www.plantbreeding.org for details.

Please direct comments concerning this bulletin to Wayne Smith, cwsmith@tamu.edu or 979.845.3450.
