



TUSKEGEE UNIVERSITY

OFFICE OF THE PRESIDENT

Dr. Brian L. Johnson, President
Testimony on 1890 Land Grant Universities
House Committee on Agriculture
Washington, D.C.
July 15, 2015

Historical Perspective

Tuskegee University is pleased to report that funding received for Agricultural Research and Extension has been instrumental in developing agricultural research programs of importance to the State of Alabama, the "Southern Region, and the nation. Tuskegee University's agricultural programs began in 1896 when famed scientist, George Washington Carver joined the Tuskegee University faculty and pledged to Booker T. Washington to do "all I can through Christ who strengthens me to better the condition of our people." Carver contributed significantly to southern agriculture, through his research and Extension activities on peanuts, cotton, sweet potatoes, southern peas and other commodities. His testimony before Congress in 1921 was well received and helped to protect U.S farmers. Carver's Bulletin #43 Nature's Garden for Victory and Peace published during World War II helped provide nutrition information during times of scarcity and his design of the first "Wagon on Wheels" led to the Jesup Wagon and selection of the first demonstration agent, Thomas Campbell in 1906, a forerunner of the Cooperative Extension, which was formally established in 1914 by Congress. Carver's work set the tone in the south for using science based information to improve agricultural production by farmers, including African American farmers who were struggling to survive and make a living during challenging times.

Carver, the scientist and humanitarian never lost sight of his mission for going to Tuskegee... "to help his people," and in so-doing helped the entire south through promotion of peanuts and other legumes as rotation crops for cotton and 2) introducing sustainable agricultural practices that permitted small (mostly tenant) farmers to survive. It was not until 1967 that the 1890 Land Grant Universities received their first funding for agricultural research from USDA. This amount was increased slowly by Congress over many years. During this time Tuskegee University developed areas of research and Extension that focused on counties with persistent poverty, commonly called Black Belt Counties, both because of its dark, Prairie soils and also the relatively high African American populations. This strategic selection of geographic and demographic foci complemented and did not duplicate research and Extension activities by other institutions in the State.

Current Research and Extension Successes

In recent times integrated Extension and research programs at Tuskegee University have focused on fruit and vegetables and food animals produced by small farmers with emphasis on profitability. This important program has developed into a partnership of socially disadvantaged and underserved farmers working together in clusters with Walmart, Lipman, Pura Vida, W.P. Rawls and other commercial markets to provide fresh, locally grown fruits and vegetable to commercial retailers. Importantly, Tuskegee University assisted the farmers in passing farm audits for "Good Agricultural

Practices (GAP) Harmonized Food Safety Standards,” required by commercial and other markets. This relatively new partnership of small farmer clusters and commercial markets has demonstrated great potential for bringing jobs and economic development to persistent poor counties in Alabama and other states. The current progress is based upon many years of Tuskegee University’s research and Extension staff working with small farmers and rural communities because of Capacity Research and Extension funds. The results are an excellent illustration of effective use of capacity funds to support farm- and agribusiness- based economic development in poor rural communities.

Today Tuskegee University scientists continue work on: peanuts through genome analysis focused on disease resistant gene identification and mapping; plant breeding of sweet potatoes to produce new varieties; enhancing crop nutrition through plant biotechnology and developing new uses of crops for food and fuel. Research by Tuskegee scientists has targeted reduction in parasites in meat animals such as goats and sheep using two approaches: 1) molecular and genetic-based technologies are being used to find effective solutions and 2) a system was patented that uses plant bark as a natural feed supplement. Another recent patent is a chemical treatment that makes reusable poultry litter better for application to the land by reducing excess phosphorus levels by about 90 percent, while retaining the other essential elements needed for plant growth. Still another patent by Tuskegee scientists detects different food-borne pathogens in poultry in hours versus days or weeks. This time-saving invention can be used to rapidly find out which pathogens may be present in poultry samples and prevent human illness.

Agroforestry research is uniquely assessing the dual impact of pine stand control and caprine parasite control on economic viability and fire suppression on long leaf and loblolly pine stands via controlled foraging by food animals. Integrated Research and Extension Programs are assessing the impact of diet, nutrition and exercise on youth and adult obesity and cancer. One project targets 8 to 15 year old children in multiple counties to determine food preferences and influence the food access and food quality in rural counties. The goal is to develop effective intervention strategies to reduce obesity and improve their overall health.

Innovations and Successes in Education and Service

We are pleased that recent data indicates Tuskegee University ranks number one in the nation in African American graduates in “Agriculture, Agriculture Operations, and Related Sciences”, number two in African American graduates in Natural Resources and Conservation; number one in graduating African Americans in Veterinary Medicine and is among top producers of African American Engineers.

We are pleased to report that eight USDA agencies joined with Tuskegee University to form the Carver Integrative Sustainability Center at Tuskegee University that brings together faculty and staff from all disciplines to work on problems systemically associated with small social disadvantaged and underserved farmers and rural communities. We are learning to work together across agency and university department lines to better serve the public and protect our natural resources. Students of all levels (K-12, community college, undergraduate and graduate levels) are integrally involved and receive invaluable “hands on” experiences and other programs. A benefit of such partnerships is that students are gaining interest in agriculture, including seeking food and agricultural careers such as agronomy, horticulture, animal science, food science, natural resources and agribusiness. There is high demand for food and agriculture majors by the food and agriculture industry and recent data indicates the need for such majors is increasing. Universities such as Tuskegee University and other 1890 Land Grant Universities provide much needed talent and diversity for such industries.

We take special note of our successful integrative graduate programs and their success in producing outstanding scientists, engineers and health professionals. In particular our Materials Sciences and Engineering PhD Program and leadership were cited by both President George Bush and President Barak Obama for its long-term research and student development that have served our nation and industry well. The Integrative Biosciences PhD students address agriculture, and related environmental and health problems from multi-disciplinary approaches; these students serve as great role models for undergraduate students and the Integrative Biosciences graduates are serving our nation in key government, academic and private sector positions. Newer graduate programs in Interdisciplinary Pathobiology, Agricultural and Environmental Sciences Engineering, and Integrative Public Policy and Development will produce well-trained agricultural scientists, engineers and policy specialists needed by our nation to address challenges of the future, including preparing for a global world population increase from 7 billion to a 9 billion populations by 2040. Enhanced funding for such innovative programs will strengthen the diverse undergraduate and graduate pipeline needed by the private sector, government, academia other sectors as documented in recent reports.

Funding Challenges and Opportunities

Our work with small farmers is important because they represent 90% of all farmers, control more than 50% of the land and have the potential to increase jobs and economic development across many rural communities, especially if they work together for optimum volume, scale, efficiency, sustainability of operations and marketing. Most socially disadvantaged farmers gross under \$10,000 and very small farmers make a profit. This is contrasted with the top 15% of farmers classified as large farmers who make 90% of the profit. The models we have developed can be duplicated in other states and regions of the United States, especially in areas with persistent poverty. If funds are enhanced we could reach more small farmers and impact more communities in a positive way. This would simultaneously assist the commercial markets and consumers because of reduced transportation and storage costs associated with distance based supply of perishable goods like fresh fruits and vegetables. These savings in energy and transportation costs and the increased product quality and freshness can be passed on to consumers. There are many gaps along the supply chain that require integrated research and Extension solutions. We have the momentum and passion to get the job done and have presented a plan to USDA that involves all states with 1890 land grant universities working together. We look forward to your support.

As a final note, in 1998-99 Congress made provisions for 1890 Land Grant universities to obtain 1:1 matches from States for Capacity Research and Extension Grants. Fifteen years later this still is a work in progress for many states. For FY 2015-16 Tuskegee University will be at a 0.87:1 ratio, the highest ratio attained by Tuskegee University since the inception of the required match and we are grateful to all involved. We look forward to next year going “over the top”!