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Fiscal Year 2017 Outside Witness Testimony prepared for the U. S. Senate Committee on Appropriations, Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

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Mister Chairman and Members of the Subcommittee, thank you for this opportunity to present our statement supporting funding for the Department of Agriculture's Agricultural Research Service (ARS), and especially for its flagship research facility, The Henry A. Wallace Beltsville Agricultural Research Center in Beltsville, Maryland. We strongly recommend full fiscal-year 2017 funding for the Beltsville center.

The world-famous agricultural research center has led national agricultural progress for well over a century. A national and world treasure – home to the world-famous Beltsville Small White Turkey – the center generates enormous benefits for our country.

Notable recent accomplishments:

The American Chemical Society recently named Beltsville a National Historic Chemical Landmark for the discovery and isolation of the light-sensitive plant pigment phytochrome. Hailed as a leading plant science discovery of the 20th century, the research required 41 years of intensive research effort.

A natural nitrogen-fixing strain of Rhizobium bacteria identified and patented at Beltsville is used to inoculate some 55 million acres of soybeans in the United States. A reduced reliance on petroleum-based nitrogen fertilizer remains an essential goal for our country.

The Food Components and Health Laboratory of the Beltsville Human Nutrition Research Center recently found that tree nuts have lower calorie content than currently listed on food labels. These findings improve food labeling and help consumers make better food choices.

Dr. Hyun Soon Lillehoj, a Beltsville senior research molecular biologist, received a 2015 Samuel J. Heyman Service to America Medal in Career Achievement ("the Sammies"), for her research to reduce the use of antibiotics in commercial poultry.

Yet, Beltsville faces devastating decline and obsolescence from long-deferred essential maintenance and repairs to buildings, roadways, and its electrical grid infrastructure. Roadways are in great need of repairs and an independent assessment of some of the bridges revealed such disrepair as to become "life safety issues."

These issues cry out for attention. **We estimate and recommend that a dedicated annual appropriation of \$3 million is needed to address long-delayed repairs and maintenance.** The Beltsville campus consists of approximately 6,000 acres and 308 buildings containing laboratories, offices, greenhouses, animal facilities, repair shops, farm buildings, and other specialized facilities. There are 37.6 miles of paved roadways, many of which are in an urgent need of repair. Most buildings were constructed in the 1920s and 1930s, the oldest in 1805.

We turn now to selected items within the President's FY2017 budget proposal.

First, we would confirm our sincere appreciation and gratitude that the Consolidated Appropriations Act of 2016 includes \$37.1 million in federal funding to modernize research laboratories at the Beltsville Agricultural Research Center. As mentioned before many Beltsville laboratories were built in the 1920s, 1930s 1950s and 1960s and are now more than 60 years old. This funding will be used to modernize Building 307, which has been largely vacated because its space is no longer functional for research activities.

We also are very pleased that the President's Fiscal Year 2017 budget includes increases in critically important research initiatives, which would lead to creating new jobs, enhancing American agriculture competitiveness in the global economy, assuring future food security, protecting crops and animals from diseases and reducing their vulnerability to climate change, while improving the economic and environmental sustainability of American agriculture. The scientists of the Henry A. Wallace Beltsville Agricultural Research Center are recognized world leaders in the scientific disciplines that are necessary to successfully execute the President's proposed research initiatives. Specifically, we would like to highlight the following initiatives that will enhance the Center's research programs.

Climate Change-Resilience Crops that Respond and Adapt to Climate Change:

The proposed budget provides \$292,500 for the Henry A. Wallace Beltsville Agricultural Research Center to identify and evaluate management practices that maximize plant genetic potential to achieve optimal yield. This will be achieved by determining how rising temperatures and carbon dioxide alter physiological processes, growth, and crop quality and how genetic make-up makes plants adaptable or resistant to environmental changes. Also, these additional funds will be used to advance our understanding of the effects of climate change on pests and beneficial insects, so crops can be better protected against insect pests.

Climate Change-Reduce Vulnerability of Agro-Ecosystems to Climate Change: The budget proposes \$90,000 in new funding to the Henry A. Wallace Beltsville Agricultural Research Center to model the impact of long-term weather, using Long-Term Agro-Ecosystem Research (LTAR) data, on crop and livestock productivity. In 2012, ARS organized ten of its existing research watersheds, ranges, and farms into a LTAR network to conduct research to support sustainable agricultural production. In FY 2014, ARS added eight additional LTAR sites, thereby increasing coverage in key agricultural production regions, while strengthening ties between USDA science and the Nation's land grant university system. Thus ARS began to transform existing long-term research infrastructure, both within and outside of USDA, to address all components of agricultural sustainability (i.e., productivity, economics, environmental quality, ecosystem services, and human and social well-being). The FY2017 \$90,000 increase will fund the newly designated unfunded site in the Chesapeake Bay.

Combating Antimicrobial Resistance: The budget proposes \$2,890,800 of new funding for the Henry A. Wallace Beltsville Agricultural Research Center to create new tools to combat antimicrobial resistance in animals and the environment. Among expected benefits are novel approaches to boosting animal natural immune systems for resistance to parasitic infections, gut stabilization against pathogens, or novel strategies using antimicrobial growth promoters to limit the consequences of host reactivity to pathogens and protection of public health.

Safe and Abundant Water Supplies: A \$225,000 increase is provided for the Henry A. Wallace Beltsville Agricultural Research Center to develop safe and abundant water supplies to support U.S. agricultural production by using non-traditional water sources.

Mr. Chairman, this concludes our statement. Thank you for consideration and support for the educational, research, and outreach missions of The Henry A. Wallace Beltsville Agricultural Research Center.

Sincerely,

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President, Friends of Agricultural Research-Beltsville