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Testimony submitted for the U.S. House of Representatives Appropriations Committee, Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

Chair and Members of the Subcommittee, thank you for this opportunity to present a statement from the Friends of Agricultural Research – Beltsville, Inc. (**FAR-B**) in support of full fiscal year 2025 funding for the U.S. Department of Agriculture's Agricultural Research Service (**USDA-ARS**), especially its flagship research facility in Beltsville, Maryland, which includes the Henry S. Wallace Beltsville Agricultural Research Center (**BARC**) and the Beltsville Human Research Center (**BHNRC**) as well the U.S. National Arboretum (**USNA**) in Washington, DC, which has research scientists located at BARC. An additional $1 million in funding is also requested for BHNRC. The three organizations will be referred to as the Beltsville location.

Beltsville research is essential to expanding the knowledge that addresses agricultural and human health problems and is transferred to the public. The returns from dollars invested in agricultural research realize a net social gain to farmers, the food industry, and consumers through safe and healthier food. Beltsville's location is also ideal for partnering with educational institutions involved in agricultural research. Through such collaboration, research results on agricultural practices and technology are transferred to U.S. and global agricultural communities.

Beltsville Agricultural Research Center (BARC)

The Hydrology and Remote Sensing Laboratory at BARC uses **remote sensing basic and applied research to address water and soil resource concerns related to the production of food and fiber, climate change, and conservation of natural resources**. The models developed are now used in U.S. partnerships to direct efforts at expanded agricultural drainage

on regional hydrology in the corn belt; water management in managed forest plantations; calibrated hydrologic and water quality modeling for the Chesapeake Bay Program; and modeled water management from farm to watershed. The National Oceanic and Atmospheric Administration uses a BARC modeling system to deliver daily maps of crop water use and drought over North America, which are distributed worldwide by the National Aeronautics and Space Administration as a drought early warning system and part of a platform now accessible with Google Earth and also used by the European Space Agency.

The USDA Lumina Strawberry was developed by BARC's Genetic Improvement of Fruits and Vegetables Laboratory scientists. It is the **third strawberry cultivar developed at BARC with increased shelf life and superior disease resistance**. USDA Lumina strawberries are 24% more marketable than their early-season predecessor after 2 weeks of storage postharvest. They are very disease resistant and usually do not need to be sprayed with pesticides. This research is of great value to strawberry producers, retailers, and consumers; strawberries are the most valuable annual food crop that a farmer can grow on an acre.

The Animal Genomics and Improvement Laboratory at BARC in cooperation with Pennsylvania State University developed **a strategy to reduce the incidence of Early Onset Muscle Weakness Disorder** in dairy cattle after discovering a major genetic mutation. Young calves with this genetic marker from both parents have much higher death rates. From national data that includes genotypes of 6 million Holsteins, DNA was traced back through many generations to identify the condition's mutation cause, and each animal's mutation status was reported to breeders starting in December 2023. Because of improved pedigree tracking and genetic testing, mating selection has reduced the incidence of this disorder.

Scientific support was needed to reduce pathogen-borne foodborne illness from outbreaks associated with contaminated papayas imported from Mexico. Best food safety practices were developed after scientists in BARC's Environmental Microbial and Food Safety Laboratory conducted **pioneering research to identify and describe the packing house operating conditions that led to papaya contamination** and made recommendations that resulted in the **first food safety guidelines for papayas**. The result is safer produce for U.S. consumers.

Beltsville Human Nutrition Research Center (BHNRC)

BHNRC is the oldest of six such USDA-ARS centers, has the broadest in scope, and is the only one to be located at a comprehensive agricultural research facility. The missions of its four laboratories cover the broad scope of human nutrition as related to health: investigate the role of nutrients and food components at the cellular level; examine the impact of dietary interventions on health in animal and human research; conduct mission-critical surveys to find out what people are eating; and support an expanded understanding of what is actually in food.

BHNRC's Methods and Application of Food Composition Laboratory is responsible for Food Data Central (**FDC**), which is among the top five accessed websites on data.gov. FDC became USDA's **online integrated food and nutrient data system** in 2024 and an international resource that **links the composition of food, what foods people eat, and the effect of agricultural practices and variances of climate on the nutrient values of our food product**s. The 2.9 million visitors to the FDC website over the last 12 months are a 69% increase from the previous year. For this data bank to remain competitive in multidisciplinary laboratory food analyses and be accessible for diverse users, increased funding of $1 million is needed to maintain it. Costs have increased for the complicated laboratory food analyses required for

multiple components, advanced information technology using artificial intelligence and machine learning, data storage platforms, and necessary security measures.

U.S. National Arboretum (USNA)

The National Arboretum in Washington, DC, with its Floral and Nursery Crops Research Unit located in Beltsville, is renowned as a scientific and collections-based public garden. USNA is dedicated to enhancing the economic, environmental, and aesthetic value of the U.S. nursery, floriculture, and turf industries through long-term, multidisciplinary research along with conservation of genetic resources, interpretative gardens, and exhibits.

USNA scientists at Beltsville are leading the effort to elucidate cool virulence mechanisms in Ralstonia, a devastating "select agent" disease that can harm more than 200 crop species. Ralstonia was identified as a select agent by the Federal Select Agent Program, which is jointly comprised of divisions from the Centers for Disease Control and Prevention and USDA's Animal and Plant Health Inspection Service.

USNA scientists are conducting research on dormancy triggered by heat, drought, or cold stress as well as pest resistance in cool and warm season turfgrasses with the goal of identifying genes of value in breeding superior, sustainable turfgrass for different climatic zones.

Other USNA scientists conduct research on virus diseases of ornamental crops and pathogenicity of selected bacterial pathogens to facilitate effective control of bacterial diseases of major significance to ornamental and agronomic crops. They are developing technologies for improved detection, differentiation, and identification of new and emerging viruses as well as new cultivars that are disease and pest resistant, tolerant of environmental stresses, and have superior ornamental qualities.

More than 750,000 people per year visit the USNA campus in Washington, DC (a 50% increase over the last decade), and equitable and safe access is essential. However, the current infrastructure is old, failing, and inadequate. Adequate funding is needed to address the need for vehicular and pedestrian access and safety, especially for the USNA centennial in 2027.

Recent Beltsville Scientist Recognition by USDA-ARS

Dr. Mohamed Alburaki was honored for **significant achievements in enhancing honeybee research and contributing substantially to the improvement of pollinator health**. According to USDA, honeybees pollinate $15 billion worth of crops in the United States each year, including more than 130 types of fruits, nuts, and vegetables.

Dr. Curtis P. Van Tassell was honored for **leadership in livestock genetics employing a multidisciplinary approach to achieve unprecedented advances for the dairy and beef industries of the United States.**

Summary

The Federal laboratories located in Beltsville, Maryland, conduct distinguished basic and applied agricultural research, and their accomplishments benefit society because of the steadfast determination and dedicated service of Beltsville scientists to the United States and world. Those scientists will be best able to continue their mission unabated with safe buildings and upgraded infrastructure. **FAR-B, therefore, recommends full fiscal year 2025 funding for the USDA-ARS research programs in Beltsville, Maryland, and also a $1 million increase for the Beltsville Human Research Center.**