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American Society of Plant Biologists

Cultivating a better future through plant biology research

Official Written Testimony in Support of the U.S. Department of Agriculture's Fiscal Year 2017 Budget

Submitted to the Appropriations Subcommittee on Agriculture, Rural Development,
Food and Drug Administration, and Related Agencies
U.S. House of Representatives

Submitted by

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On behalf of the American Society of Plant Biologists (ASPB), we submit this statement for the official record in support of funding for agricultural research by the U.S. Department of Agriculture (USDA). ***ASPB supports the FY 2017 requested level of \$700 million for the Agriculture and Food Research Initiative (AFRI), which administers competitive funding for innovative research on issues such as food security, global health, and renewable energy.*** ***ASPB also supports the FY 2017 requested level of \$1.286 billion for the Agricultural Research Service (ARS).***

This testimony highlights the critical importance of plant biology research and development to addressing vital issues including: achieving a sustainable food supply and food

security; energy security, attaining reduced reliance on all petrochemical products through game-changing sustainable renewable biomass utilization approaches; and protecting our environment.

Food, Fuel, Environment, and Health: Plant Biology Research and America's Competitiveness and Self-sufficiency

We often take plants for granted, but they are vital to our very existence, competitiveness, and self-sufficiency. New plant biology research is now addressing the most compelling issues facing our society, including: identifying creative and imaginative approaches to reaching Congress's goals of achieving domestic fuel security/self-sufficiency; environmental stewardship; sustainable and secure development of even better foods, feeds, building materials, and a host of other plant products used in daily life; and improvements in the health and nutrition of all Americans.

Our bioeconomy and federal partnership is based upon foundational plant biology research—the strategic research USDA funds—to make needed key discoveries. Yet limited funding committed to basic discovery now threatens our national security and leadership. Indeed, Bill Gates wrote, “Given the central role that food plays in human welfare and national stability, it is shocking—not to mention short-sighted and potentially dangerous—how little money is spent on agricultural research.”¹ This is especially true considering the significant positive impact crop and forest plants have on the nation’s economy (the agricultural sector is responsible for one in 12 American jobs²).

¹ Gates, Bill. (Jan 2012). *2012 Annual Letter from Bill Gates*. Retrieved from <http://www.gatesfoundation.org/annual-letter/2012/Pages/home-en.aspx>.

² Vilsack, Tom. (Mar. 9, 2012). *Public Comments Before PCAST*. Retrieved from http://www.tvworldwide.com/events/pcast/120309/globe_show/default_go_archive.cfm?gsid=1977&type=flv&test.

Given these concerns and our nation's fiscal situation, the plant science community has been working toward addressing our nation's looming challenges. With funding from USDA, the National Science Foundation, the Department of Energy, and the Howard Hughes Medical Institute, ASPB brought together representatives from across the full spectrum of plant science research to develop a community agenda document, *Unleashing a Decade of Innovation in Plant Science: A Vision for 2015-2025*

(plantsummit.files.wordpress.com/2013/07/plantsciencedecadalvision10-18-13.pdf). The report, part of an ongoing and iterative process, puts forth a ten-year consensus plan to fill critical gaps in our understanding of plant biology toward addressing the grand challenge of sustainably feeding the world and providing other useful plant products in the face of burgeoning population growth, diminishing natural resources, and climate change.

Immediate Recommendations

The ASPB membership has extensive expertise and participation in the academic, industry, and government sectors. Consequently, ASPB is in an excellent position to articulate the nation's plant science priorities and standards needed as they relate to agriculture. Our recommendations are as follows:

- Since the establishment of the National Institute of Food and Agriculture (NIFA) and AFRI, interest in USDA research has increased dramatically—a trend ASPB hopes to see continue in the future. However, an increased, strategic and focused investment in competitive funding and its oversight is needed if the nation is to continue to make ground-breaking discoveries and accelerate progress toward resolving urgent national

priorities and societal needs. **ASPB encourages the Committee to fund AFRI at the requested \$700 million level in FY 2017.**

- The Agricultural Research Service (ARS) provides vital strategic research to serve USDA's mission and objectives and as well as the nation's agricultural sector. The need to bolster and enhance ARS efforts to leverage and complement AFRI is great given the challenges in food and energy security. **ASPB is supportive of a strong ARS and recommends a congressional appropriation of the requested \$1.286 billion in FY 2017.**
- USDA has focused attention in several key priority areas, including water for food production, food safety, childhood obesity, climate variability and change, and sustainable energy. Although ASPB appreciates the value of such strategic focus, **we give our most robust support for AFRI's Foundational Program. This program provides a basis for outcomes across a wide spectrum, often leading to groundbreaking developments that cannot be anticipated in advance. Indeed, it is these discoveries that are the true engine of success for our bioeconomy.**
- Current estimates predict a significant shortfall in the needed agricultural scientific workforce as the demographics of the U.S. workforce change.³ For example, there is a clear need for additional training of scientists in the areas of interdisciplinary energy research and plant breeding. **ASPB applauds the ongoing support of the NIFA Fellows program and calls for additional funding for specific programs (e.g., training grants and fellowships) to provide this needed workforce over the next 10 years and to**

³ President's Council of Advisors on Science and Technology. (Dec. 2012). *Report to the President on Agricultural Preparedness and the Agricultural Research Enterprise*, p. 41. Retrieved from http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_agriculture_20121207.pdf.

adequately prepare these individuals for careers in the agricultural research of the future.

- Considerable research interest is now focused on the use of plant biomass for energy production. However, if we are to use crops and forest resources to their full potential, we must expend extensive effort to improve our understanding of their underlying biology and development, their agronomic performance, and their subsequent processing to meet our goals. Therefore, *ASPB calls for additional funding targeted at efforts to increase the utility and agronomic performance of bioenergy crops using the best and most imaginative science and technologies possible.*
- *ASPB encourages some flexibility within NIFA's budget to update and improve its data management capabilities.*

Thank you for your consideration of ASPB's testimony. For more information about ASPB, please visit us at www.aspb.org.