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Testimony of

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On

Fiscal Year 2017 Appropriations for the U.S. Department of Agriculture

Submitted to the

Appropriations Subcommittee on Agriculture, Rural Development,

Food and Drug Administration, and Related Agencies

United States House of Representatives

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The Entomological Society of America (ESA) respectfully submits this statement for the official record in support of funding for agricultural research at the U.S. Department of Agriculture (USDA). **ESA requests discretionary appropriations of at least $1.884 billion in fiscal year (FY) 2017 for USDA's National Institute of Food and Agriculture (NIFA), including at least $700 million for the Agriculture and Food Research Initiative (AFRI). The Society also supports a discretionary funding level of at least $1.286 billion for the Agricultural Research Service (ARS), including funding for the ARS Crop Protection budget at a minimum of the FY 2016 enacted level of $195 million to preserve valuable pest management research programs in FY 2017.**

The international stature of the United States as a producer and exporter of food, fiber, and other agricultural commodities has long been associated with innovation-fueled increases in

productivity. Steady growth in agricultural output over the past half-century has been accompanied by substantially smaller increases in inputs[1], so that today fewer farmers are producing more food, without expanding land in cultivation, at lower costs to consumers. Increased productivity has been achievable through improved technology, spurred by federal investment in research and development. There are signs, though, that longstanding growth in productivity may be slowing, at a time when demands on the agricultural sector are steadily increasing. Ensuring food safety, security, quality, and environmental sustainability are among today's greatest challenges to U.S. agriculture—yet the U.S. global share of public investment in agriculture and food research and development has declined significantly in the past three decades.

Cutting-edge agriculture science, including entomology, is critical to meeting these challenges. Globalized trade has led to major redistribution of pest species, from indigenous areas where they are kept in check by natural enemies to new areas where they can rapidly expand their ranges. Beyond competing directly with humans by consuming crop plants, invasive insect pests also threaten food security by acting as vectors of plant diseases. The Asian citrus psyllid, the principal vector of the invariably fatal bacterial citrus greening disease, for example, has already caused over $9 billion in losses to citrus growers in Florida alone[1]. Moreover, by outcompeting and displacing native species, invasive arthropods compromise ecosystem services provided by biotic communities, including pollination, nutrient cycling, and water regulation and purification.

As NIFA's premier competitive research program, AFRI funds a wide range of

[1] National Academy of Sciences, 2014. Spurring Innovation in Food and Agriculture: A Review of the USDA Agriculture and Food Research Initiative Program. Washington: National Academies Press.

agricultural research, education, and extension projects at universities and research institutions nationwide. In addition, AFRI's Education and Literacy Initiative supports more than 2,000 trainees annually that will become the next generation workforce of agricultural and food scientists. **ESA appreciates the Subcommittee's efforts to increase the AFRI budget since the program's establishment and enthusiastically supports the requests for $700 million for AFRI in FY 2017, the full amount authorized in the 2008 Farm Bill.** ESA also supports the proposed inclusion of pollinator health as a special area of emphasis within the AFRI Foundational Program, including plans to allocate $10 million for new grants in the area of pollinator health to continue to support the government-wide initiative. America's insect pollinators contribute to the production of over 90 fruit, vegetable, nut, and fiber crops; collectively, pollination services of managed and wild pollinators in the US have been valued at more than $17 billion annually. Populations of many of these pollinators, however, have been declining even as demand for pollination services for expanding acreages of fruit, nut, and vegetable crops has increased.

To maximize its limited resources, AFRI supports projects that address key societal challenges and build foundational knowledge in high-priority areas of the food and agricultural sciences, such as food safety and food security. For example, annual honey bee colony losses due, in part, to infestation by the varroa mite have created enormous problems for U.S. beekeepers and for the growers dependent on honey bees for pollination services. Scientists funded by AFRI have used genomic resources to identify receptor targets in the nervous system unique to the mite and are designing and testing synthetic analogues of the neuropeptides that interact with those receptors for mite control, thereby sparing honey bees and other non-target

species[2]. In addition to AFRI, other NIFA grants support programs to study and implement scientifically based approaches to reduced-risk integrated pest management (IPM), which has implications for human health, the environment, and the economy.

As USDA's intramural research agency, ARS funds research of broad consequence to our nation's agriculture enterprise, including in the areas of crop and livestock production and protection, human nutrition, food safety, and environmental stewardship. The ARS Crop Protection research program builds knowledge and develops approaches that are made available to crop producers, enabling better control of pest and disease outbreaks as they occur. In addition, the ARS Crop Production research program develops and approves safe and effective strategies for reducing crop loss and providing a dependable food supply. **ESA supports maintaining level funding with President's FY 2016 budget request, with $195 million for the Crop Protection account and $218 million for the Crop Production account.** In addition to the additional funding proposed within AFRI and ARS, **ESA supports USDA's participation in multi-agency activities to investigate pollinator health and develop implementation plans to prevent, slow, or reverse pollinator population decline.**

ESA, headquartered in Annapolis, Maryland, is the largest organization in the world serving the professional and scientific needs of entomologists and individuals in related disciplines. Founded in 1889, ESA has over 7,000 members affiliated with educational institutions, public health agencies, private industry, government laboratories, the U.S. military, and many nonprofit organizations. Members include academic scientists, teachers, extension

[2] AFRI Competitive Grant, 2016, "Development of honey bee-safe acaricidal peptidomimetics," http://portal.nifa.usda.gov/web/crisprojectpages/1009168-development-of-honey-bee-safe-acaricidal-peptidomimetics.html.

service personnel, administrators, marketing representatives, research technicians, consultants, students, pest management professionals, and hobbyists, among others.

Thank you for the opportunity to voice support from the Entomological Society of America for USDA research programs. For more information about the Entomological Society of America, please see http://www.entsoc.org/.