"The Next Farm Bill: University Research"

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Chairman Conaway and members of the U.S. House of Representatives Committee on Agriculture, thank you for the opportunity to speak with you today about (1) the importance of agricultural research programs to our institution in meeting key challenges, (2) ways to streamline and prioritize agricultural research programs through the next farm bill, and (3) the need for deferred maintenance upgrades for our agricultural research facilities.

My name is Jackie Burns, and I am the Dean for Research at the University of Florida in the Institute of Food and Agricultural Sciences (UF/IFAS) and Director of the Florida Agricultural Experiment Station. The mission of UF/IFAS is "to develop knowledge in agricultural, human and natural resources and to make that knowledge accessible to sustain and enhance the quality of life." Our scientists seek to solve the challenges facing agriculture, natural resources, and the interrelated life sciences with disciplinary and interdisciplinary collaborative research. Through our research, we acknowledge the inextricable link between agricultural production and the health and biodiversity of natural resources.

1. Importance of agricultural research programs and challenges

Agriculture is a major economic driver for Florida. Agricultural research conducted at the University of Florida provides knowledge, innovation and technology transfer that supports 2.2 million agriculture-related jobs and direct industry output of $148 billion in Florida in 2014. Sponsored agricultural research awarded to UF/IFAS was $140 million in FY 2016. Of this amount, over 70% was awarded by federal agencies. Research expenditures approached $168 million. These dollars are used to conduct research that provides new cultivars, diagnostic tools, disease management strategies, and other technologies and products. Intellectual property from our research activities significantly contributes to the value of University of Florida's agricultural research to the state of Florida, the nation, and the world. Technology is transferred, licensed, and royalties are reinvested into our research programs.

Although Florida produces traditional row crops such as cotton, peanuts, sugarcane and rice, *Florida is primarily a specialty crop state.* Florida is first in production of orange, grapefruit, sweet corn, snap beans, squash, fresh market tomatoes, and tropical foliage plants. Livestock, forestry and fisheries are also significant production outputs of Florida's agricultural sector. Florida's agriculture is diverse, as are the requirements for research in plant, animal, food, environment, and natural resource systems. Competitive research awards authorized by the farm bill provide enormous opportunities for UF/IFAS to support agricultural enterprises.

The financial support for agricultural research provided by these programs and conducted by UF/IFAS scientists is crucial for developing innovative solutions for the benefit of Florida's economy. Federal investments in competitive USDA programs through farm bill appropriations provide opportunities for UF/IFAS to conduct agricultural research. Programs such as the NIFA AFRI, Specialty Crop Research Initiative (SCRI), and its provision for block grants to States of Agriculture that fund regional needs have been effective, timely, and impactful. The NIFA SCRI Citrus Disease Research and Extension program authorized by the 2014 farm bill has been exceptionally helpful in our continued quest to solve the most devastating disease of citrus worldwide, citrus greening.

Key issues we face include reduced funding that supports research infrastructure and the increasing need for longer-term research support to solve modern agricultural challenges that are fundamentally rooted in a sustainable agricultural production system.

2. Streamlining and prioritizing agricultural research programs

I appreciate the opportunity to share ideas for streamlining farm bill competitive funding processes. Reducing administrative burden for sponsor and applicant organizations can improve efficiencies of research.

- Letters of Intent. Expand the use of letter of intent processes to reduce the development of misguided proposals and the number of fully developed grants that are handled.
- Information requirements. Delay entry of information at the submission stage that is not necessary for determining merits of the proposal. To the extent possible, move entry of this information to the post-award stage to improve the efficiency of the submissions process.
- Award periods. Provide larger, longer-term awards and de-emphasize small award programs to reduce the number of awards handled and to provide sustaining opportunities for researchers.

I also appreciate the opportunity to share ideas for prioritizing programs in the next farm bill.

- Invasive species. Increasing global trade is affecting food production and ecosystem service systems generated by commercial and non-commercial

working lands. Florida's geography means it is often "ground-zero" for the introduction of costly invasive species and diseases within the continental U.S. through its many ports of entry. Prioritizing and expanding the scope of invasive species programs to accommodate all threats to commercial agricultural production systems and natural lands would greatly improve our response to threats. Prioritizing more proactive research, to the extent possible, would accelerate the development of science-based solutions before the full impact of the invasive threat develops.

- Alternative crops. Keeping agricultural lands in agriculture production will be paramount to meeting the food, fiber and feed needs of a growing population. Expanding and prioritizing alternative crop breeding and management programs that focus on sustainable, efficient and economical production can provide opportunities for producers who seek to remain in agriculture or diversify their operations.
- Precision agriculture and automation. Prioritizing programs in precision agriculture and automation technologies would accelerate development of these and other technologies that are, or will become, the future of agriculture. Every producer will benefit from technologies that allow more efficient and economical operations. Mechanical harvesting and other handling automations, precision application of fertilizers and pesticides, detection and surveillance of pests and diseases through the use of unmanned aerial vehicles and sensing technologies, and other techniques are critically needed to advance and protect production systems.
- Stakeholder engagement. Identifying needed research through continued interaction with the National Agricultural Research, Extension, Education, and Economics Advisory Board, and prioritizing stakeholder involvement in regional or commodity-based listening and planning sessions, are effective ways to prioritize programs for national research investment.

3. Research infrastructure and deferred maintenance

High quality research infrastructure is essential to build and maintain research capacity. The UF/IFAS must hire and retain world-class faculty to advance and support agriculture systems-related research activities. Today, the UF/IFAS suffers from decaying infrastructure that hampers our ability to attract and retain the best and most talented research faculty. With over $16 million in deferred maintenance costs and reduced funding to maintain existing infrastructure, the UF/IFAS has fallen below the critical investment level needed to prevent failures in building systems.

The landscape of our University's infrastructure is a patchwork of primarily decaying infrastructure with an occasional new facility built with opportunistic public or private funds. What is needed is a principled approach to agriculture research infrastructure investments that prevents building systems failures, enhances our ability to conduct world-class research by world-class faculty, and

emphasizes our world stature as the premier location for cutting-edge fundamental and applied research.

One way to provide funding for this need would be to include provisions in a new farm bill for University infrastructure investments that could provide an opportunity for solutions to this critical deferred maintenance problem. A principled approach that requires matching funds from University and/or state sources would signal important partnerships between federal and state agencies that agricultural stakeholders would value.

Thank you for this opportunity to address the committee and bring the perspective of the UF/IFAS to research and support programs appropriated in the next farm bill.

This concludes my formal statement and I am happy to answer any questions.