

Testimony of Dr. Deacue Fields, III
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“Farm Bill 2023: Research Programs”
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Chairwoman Stabenow, Ranking Member Boozman, and members of the Committee, my name is Deacue Fields, the University of Arkansas System Vice President for Agriculture, and I am grateful to the Committee for the courtesy of allowing me to testify today on behalf of the entire land-grant system. I am also grateful for the significance this Committee has placed on the Research Title of the next Farm Bill as demonstrated by today's hearing.

By way of quick introduction, I oversee the University of Arkansas System Division of Agriculture which is a separate institution comprised of the Arkansas Agricultural Experiment Station and the Arkansas Cooperative Extension Service. Prior to my becoming Vice President, I was Dean of the Dale Bumpers College of Agricultural, Food and Life Sciences at the University of Arkansas, the agricultural teaching program at our 1862 land-grant campus. In fact, I have degrees from two of the nation's premier 1862 land-grant programs and another from a premier 1890 land-grant. I have also worked at two other 1862 and 1890 land-grants before coming to the University of Arkansas System. I am a walking billboard of the power of the nation's land-grant system to connect a young man from a small town in northern Louisiana with the world.

In my current and previous roles, I have seen the interconnectivity of the land-grant model and am an enormous advocate of its transformative strength that marries vision with relevance. It is the fuel that helps drive the agricultural, food, and rural development engine that is the envy of the world. Most importantly, it is the foundational stone that undergirds public and private advances in research and innovation, trains our future, allows us robust resiliency in the face of continual and mounting challenges, and is the nucleus of the world's food security.

The federal role in the triad of teaching, research, and extension started with the initial vision and continues with over a century and a half of critical policy and funding support. Building on this noble legacy, may I be so bold as to share some additional recommendations?

Earlier this year, the Economic Research Service published data that shows the US public investment in agricultural research has declined by one-third over the past two decades. During this period public investment by China has increased by over 150% and European Union investment has increased by 33%. About 70% of public agricultural research and development is performed at land-grant universities and other non-Federal entities. These researchers investigate major challenges such as food security, water conservation, animal and plant diseases, nutrition and health, consumer demand and more. Agricultural research and Extension investments result in \$10-\$20 in benefits for every \$1 spent (or a

20-60% internal rate of return). (OECD, 2016). The global competitiveness of US agricultural research is challenged as the public investment declines disproportionately. Too much is on the line, and we must make critical investments now.

Capacity funding (Hatch, McIntire-Stennis, and Smith-Lever/ Evans-Allen and 1890s Extension/and 1994 programs) serves as the foundation of all of U.S. food and agricultural innovation through the colleges of agriculture. Experiment stations conduct vital research tailored to the needs of each state but often with national and international impacts. Land-grant extension programs provide essential technical assistance, education and resources that reach every county and parish in America. No other entity can boast this type of national linkage and engagement with rural and urban communities. Unfortunately, the U.S. has lost considerable capacity for these programs in real dollar terms over the past 20 years.

There is often a misperception that funding is distributed at land-grant campuses. In most cases the central campus budget only covers the teaching function for faculty with experiment station and/or cooperative extension appointments, and funds allocated to the central campus budget do not typically funnel down to support research for faculty with agricultural experiment station and cooperative extension. As a general rule, the budgets for the agricultural experiment station and cooperative extension are mutually exclusive from the central campus budget. When the University of Arkansas receives budget increases from tuition, increased student numbers or other sources, the agricultural experiment station must increase state, federal or extramural funds to maintain competitive salaries while still conducting quality research and extension programs. Although 78% of faculty in the Bumpers College of Agricultural, Food and Life Sciences have a joint appointment in the University of Arkansas System Division of Agriculture, the agricultural experiment station provides all funding to support the research these faculty conduct

Land-grants have successfully leveraged federal resources provided. Using Arkansas as an example, in 2022, state appropriated funds accounted for 56.5% of the total University of Arkansas System Division of Agriculture budget. In addition, since 2017, extramural grant funding has increased 2.1% and county funding of extension programs has increased 1%. Unfortunately, over this same five-year period, the share of our budget represented by federal capacity funding has fallen from 9.1% to 6.3%, a nearly 31% decrease.

In Arkansas, USDA Agriculture Research Service units are either housed in, co-located with, or supported by UA System entities. This was seen as a necessary way to leverage ARS investment while benefitting the scope and reach of UA System research. Over a twenty-year period beginning in 1990, the Division of Agriculture met regularly with national and regional ARS administrators to help ensure complementarity of our research activities, a practice that we would very much like to resume. Making this a nationwide practice where it is not currently engaged would serve the nation well. Joint research activity with ARS through an increasing number of cooperative agreements will help reduce research silos, increase research relevance, and avoid costly and unnecessary redundancy.

We cannot do 21st century agriculture in mid-20th century facilities, the last major investment period. At every land-grant institution in the country, our research infrastructure is degrading, and literally crumbling in many instances. In the University of Arkansas System Division of Agriculture our estimated deferred maintenance costs are \$92 million. Within the last five years, we have managed to bring two new facilities online. We saved thirteen years to be able to begin construction on one facility, forcing us to abandon sorely needed maintenance and renovation on existing facilities. On the other, we were forced to remain in a substandard facility fifteen years beyond its time to be razed before we could cobble together enough resources to replace it.

Our states provide much of the support to recruit and maintain our faculty personnel – and these faculty carry their own weight through their extramural funding efforts. But that human capital component can only function effectively within an increasingly complex physical infrastructure. From smart classrooms to state-of-the art laboratories and field technology, a sophisticated – and expensive – infrastructure is necessary both to attract good talent and to equip that talent to address current and challenges. Land-grants are expected to be able to evaluate and showcase the latest technology, but in many cases our agricultural producers have more modern technology than we do. One of the most impactful things our federal partners can do is to help us with the kind of large, up-front capital investments that are required to develop the infrastructure necessary to support cutting edge research, extension and teaching programs. We do a good job building human capital. We could use help building the physical capital to support it.

Our researchers are addressing critical national needs and challenges, and we must make core investments in research infrastructure if we are going to compete globally and enhance national and international food security. Reauthorizing and funding the Research Facilities Act would allow our land-grant institutions to modernize our research facilities and begin to address an \$11.5 billion backlog of deferred maintenance. Not only would this funding allow us to improve our current facilities, it would also allow for the development of plans for new facilities as well—and perhaps most importantly, act as a catalyst to attract the next generation of agriculture innovation leaders.

Partnerships are essential to what we do. Land-grants have worked in partnership with one another, with federal, state, and local governments, and with community and industry stakeholders since our founding. These partnerships are most effective when they develop organically in response to common problems. Land-grant universities have excelled not only in performing production agriculture research, but also policy, consumer, health and nutrition research to improve quality of life in urban and rural communities. By providing the land-grant system with adequate resources for our programs, Congress empowers the development of effective and efficient local, state, regional and even national collaborative efforts to address even the most challenging stakeholder concerns. This approach brings world class solutions to grass roots problems throughout the country.

Land-grant research discoveries have resulted in the U.S. having the safest, most efficient food system in the world. It is critical that agricultural research funding increase to remain a global leader and produce the technological advances necessary to meet the challenge of

feeding the growing global population. Supporting agricultural research and infrastructure development is not a donation, but an investment in the future national and international food security.