February 11, 2019

Policy and Oversight Division

Office of Grants and Financial Management  
National Institute of Food and Agriculture  
U.S. Department of Agriculture, STOP 2299  
1400 Independence Ave, SW  
Washington DC 2050-2220

**Re: Comments on the FY2018 AFRI Sustainable Agricultural Systems RFA**

Submitted to [Policy@nifa.usda.gov](mailto:Policy@nifa.usda.gov)

The National Sustainable Agriculture Coalition (NSAC) and the Union of Concerned Scientists (UCS) appreciate the opportunity to submit comments on the Agriculture and Food Research Initiative (AFRI) Sustainable Agricultural Systems (SAS) Request for Applications (RFA) issued for the Fiscal Year 2018 (FY 2018).

NSAC is a national alliance of over 40 family farm, food, rural, and conservation organizations that together take common positions on federal agriculture and food policies to advance sustainable agriculture. Research, extension, and education remain key issues for our coalition. UCS is a member-based nonprofit that puts rigorous, independent science to work to solve our planet’s most pressing problems. Joining with people across the country, UCS combines technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future.

Together, our research policy work shares a focus on USDA and other federal research, education, extension, and integrated programs that examine sustainable food and agricultural systems, including AFRI and several other NIFA competitive grant programs.

With the new SAS RFA, AFRI is challenging applicants to focus “on approaches that promote transformational changes in the U.S. food and agriculture system within the next 25 years.” We are encouraged by this ambitious objective, appreciate the emphasis on transdisciplinary science described in the RFA, and agree that AFRI must increase support for sustainable food and agricultural systems in order to meet its six priority areas set forth within the 2014 Farm Bill.   
  
However, we see several opportunities for NIFA to strengthen the RFA by emphasizing specific areas of research that we believe will help the program achieve its desired, urgently-need outcomes. In this light, we offer the following guidelines for AFRI’s SAS RFA in future years. Our recommendations aim to help the agency prioritize research that furthers the goals of sustainability and resiliency of our food and farm systems as it reviews submitted grant applications and considers the future of this program.

We thank you for the serious consideration of our recommendations and would welcome suggestions for any additional feedback we can provide.

Sincerely,

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Juli Obudzinski

NSAC Interim Policy Director



Nichelle Harriott

NSAC Policy Specialist



Marcia DeLonge

Union of Concerned Scientists Senior Scientist



Michael Lavender

Union of Concerned Scientists Senior Manager of Government Affairs

**Recommendations for the Sustainable Agricultural Systems 2018 RFA**

**1. Prioritize Research that Identifies New and Improved Plant Varieties and Animal Breeds**

There is an outstanding need for new and improved crop varieties that are locally and regionally adapted to meet the needs of farmers today and reflect the diverse types of production systems that constitute our current agricultural system.

Therefore, in line with previous recommendations, we strongly urge NIFA to prioritize within the SAS RFA research that addresses long-standing concerns from the plant breeding community. In doing so, NIFA will be on its way in satisfying its goal to “help transform U.S. food and agricultural system to increase production in sustainable ways as we approach a world population of 10 billion by 2050.”

We recommend that this SAS RFA prioritize funding for new and existing breeding initiatives. Priorities must include public breeding efforts to improve crop productivity, efficiency, quality, performance, and/or local adaptation; cultivar development; participatory breeding and field-based plant breeders.

While the current RFA suggests “new or improved breeds or varieties” as one of the many potential strategies to improve “water and nitrogen and phosphorus nutrient use efficiency” as part of the 25-year goals of this program, we contend that there is a critical need to further elevate plant breeding research across subsequent RFAs. Breeding research that incorporates the development of publicly available cultivars that are adapted to the soils, climates, and farming systems from all regions could effectively address multiple 25-year goals. Thus, we recommend including “new or improved breeds or varietals” within more, if not all, of the listed 25-year goals.

**2. Strengthen Emphasis on Agroecology, Including Soil and Water Resource Outcomes.**

We have urged NIFA to continue to evaluate and include an emphasis on research that supports sustainable farming systems throughout all AFRI programs. This SAS RFA provides a particularly important opportunity to increase support for research related to key agricultural practices and outcomes including agroecology and agricultural diversification, and soil health, water quality and water availability.

Healthy soil and sufficient water are the basis for all agricultural production and are central to long-term sustainable production. Given the importance of these resources in protecting the future of our country’s agricultural economy and food security, we reiterate previous recommendations to prioritize research projects that seek to advance our understanding of the influence of agroecosystem management in driving production and natural resource outcomes

We encourage NIFA to award funding to projects that investigate the impact of agricultural practices on soil health and water resources for the SAS RFA. Research that seeks not only to build soil health but also to increase water-use efficiency and water quality, while reducing nonpoint source pollution and erosion, should be prioritized. Given the growing evidence that agroecological practices, such as agricultural diversification, have been underfunded despite being effective in achieving such goals, we strongly recommend prioritizing these research areas.

**3. Strengthen Emphasis on Research that Improves Climate Change Resilience and Mitigation**

The recently released 4th National Climate Assessment underscores the very real climate-related challenges that American farmers are already facing and can expect to intensify in the near future.[[1]](#footnote-1) According to the report, changing climate increasingly threatens our agricultural system, including farmer livelihoods, rural communities, and the nation’s food security, through lower crop yields and depleted water supplies. Extreme weather events can also increase soil erosion on farmlands. These findings suggest that it is more urgent than ever to prioritize research on farming systems that can not only adapt to growing challenges, but also contribute to urgent climate change mitigation goals

The SAS RFA does not explicitly identify addressing climate change as one of the 25-year goals targeted. However, in the context of “protecting yields… from stress losses [to] increase food and economic security,” this RFA encourages projects to strategize around “dealing with the effects of climate and extreme weather events…” We suggest expanding the focus around climate and extreme weather to address the need for agriculture to contribute to both climate change adaptation and mitigation efforts. For example, research is finding that soil health is an integral part of both mitigation and adaptation to climate change, given the immense capacity of soils to store carbon.

Thus, we recommend that projects addressing soil health with a specific focus on both climate change resilience and mitigation should be prioritized. More generally, we urge NIFA to encourage research that identifies sustainable farming solutions that improve climate change resilience, adaptation, and mitigation.

**4. Establish Priorities on Farm Sustainability and Rural Communities**

The SAS RFA should also prioritize social and economic research that investigates the impacts of agricultural systems on the sustainability and economic viability of farms and rural communities. Such research is needed to develop viable solutions that acknowledge and account for increasing pressures on rural communities, including both the growing global demand for food production and climate change impacts. Projects can be centered around developing research, education, and extension programs that strengthen local and regional food systems. Specific areas of research can include increasing value across the supply chain, improving on-farm economic productivity, increasing availability and access to healthful food for households experiencing food insecurity, and promoting rural economic development and prosperity.

**5. Increase Balance in Grant Sizes Offered**

There is currently $80 million in funding for this SAS RFA. NIFA expects to fund eight projects at $10 million each in this cycle. We urge the agency to take a balanced approach when reviewing and awarding for this SAS program. We suggest having some large projects, as well as some mid-sized projects funded at $3 or $5 million, for a total of 15-20 awards.

We are concerned that NIFA’s decision to fund only eight major projects will shut out the type of high-risk, high-reward research that helps get cutting edge ideas off the ground. We agree that larger projects have benefits, but they can also increase inequities. Larger projects often benefit the largest and most established institutions, as they have greater access to networks that allow for increased collaboration. Larger projects also tend to benefit institutions that can develop the strongest proposals in part because they already have greater access to resources than others. Whether or not the program maintains its current structure, we recommend NIFA provide additional outreach and support for smaller institutions, as well as consider historically underserved institutions, when deciding which projects ultimately receive funding.

**6. Ensure Alignment in Research Across Multiple Strategic Goals**

In the current SAS RFA, teams are encouraged to address one or more of five identified 25-year goals. Given the emphasis on systems science in the RFA, we are hopeful that the research projects selected for funding will each address multiple goals. Furthermore, given the broad and ambitious goals of the research program, we hope that each funded project will focus on research that considers opportunities to advance multiple goals in a way that avoids detracting from other goals. However, we are concerned that NIFA’s decision to fund only eight major projects will make it difficult to ensure that all identified goals will be advanced. We recommend NIFA ensures that the goals of awarded projects are not at risk of adversely affecting other goals outlined in the SAS RFA. It is currently unclear how the agency will guard against this impact during its review and selection process.

1. USGCRP, 2018: *Impacts, Risks, and Adaptationin the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018. [↑](#footnote-ref-1)