



American Society of Plant Biologists

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Written Statement of the American Society of Plant Biologists
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The American Society of Plant Biologists (ASPB) represents approximately 5,000 plant biologists. The society's central mission is to promote research and education in plant biology. Research conducted by ASPB members, often supported by USDA, addresses all six of the AFRI priority areas.

The majority of ASPB members perform research that addresses fundamental questions in plant biology. It is this basic research that leads to new approaches to improve crop production. For example, basic plant research led to the discovery of RNA interference, which is now impacting both plant and human biology. The ASPB urges AFRI to renew its commitment to funding basic plant biology research, rather than the perceived large shift in funding to specific agricultural applications.

Effective applied research begins with robust basic research. The sequencing of the model plant *Arabidopsis thaliana* has been followed by tremendous advances in our understanding of crop genomes. These advances have greatly accelerated our ability to identify genes controlling important agronomic traits, while also enhancing the use of molecular tools to breed superior crop varieties. These resources were developed through significant investments by both USDA and NSF, and were accomplished by consortiums of multiple laboratories. The technologies and knowledge obtained from studying fundamental processes in plants, especially derived from studies of model species (e.g., *Arabidopsis*) have greatly stimulated research on crop plants leading to practical applications. What is needed is a balanced portfolio of basic and translational research.

Specific Recommendations and Concerns Arising from the Current AFRI RFA

ASPB has been an ardent and long-term supporter of competitive research funding by the United States Department of Agriculture, as well as by other agencies. We recognize and support the notion that, to conform to the Department's overall mission, USDA-funded research must span the bench-to-field continuum. Furthermore, ASPB endorses the recent restructuring of the USDA's research portfolio and the progressive and ambitious stances that are emerging as a result. Our membership is very supportive of the recent increases in funding for AFRI competitive research programs, and we are especially encouraged by the efforts of the Obama Administration to significantly increase future funding.

We understand the practical and political needs to see clear outputs deriving from the Department's research funding portfolio, as well as the establishment of more programs that are jointly conceived and run by the USDA and other federal science agencies. We also support

efforts to provide rigorous peer-review to both the extramural and intramural programs at USDA to ensure their relevance and continued future success. However, since the release of the highly anticipated RFA under the new AFRI research structure, the ASPB leadership has been fielding many messages of concern from ASPB members in the university and USDA-ARS communities -- although there is also much to be excited about. Among these very positive elements, we fully endorse the focus on the goals outlined in the NRC “New Biology” report that are strongly highlighted in the RFA. Indeed, we have conveyed our strong support for this report during our meetings in Washington, in part due to the fact that it envisions many areas in which plant biology research will enable progress toward solving the Grand Challenges it lays out.

The (still pending) seventh component of the RFA also promises increased fellowship support for graduate students and postdoctoral fellows, which is so important to ensure the future health of the plant and agricultural research endeavor by selecting and encouraging the brightest students to pursue agriculturally-relevant studies.

We note that the RFA strongly endorses the coordinated agricultural project (CAP) model that had been used successfully in the past for crop-centric projects. The idea of a fully integrated effort to tackle problems of critical national importance is compelling. However, in our view, not all of the past CAP projects were highly successful, and some suffered from issues of effective management and a lack of sufficient funds to provide critical mass once divided across so many participants. It is clear that the success of these CAP grants will require active participation of current AFRI program staff to gauge progress, to address problems that might arise, and to ensure that goals are being met. One of our major concerns is that the already over-worked AFRI program staff will be unable to provide sufficient oversight given the large increase in the number and scope of CAP awards reflected in the current RFA. We note that this issue does not seem to have been addressed in the RFA or any of the recent public statements made by NIFA personnel.

Input from the ASPB membership indicates that there is significant unease about the small amount of funding available for foundational research programs in the current RFA. We understand that NIFA’s intent is to grow this program in future years and we expect that to happen. However, there is some concern regarding the prospects for significant increases given the current fiscal climate and the continuous funding mechanism that we understand will be applied to most awards made under the FY2010 RFA. Because basic research is the intellectual engine that drives the more applied outcomes so important to the USDA mission, ASPB feels that as USDA expands programs for large scale integrated bench-to-field projects, it is vital for AFRI to maintain a broad, stable research enterprise. Although we often hear calls for greater support of ‘innovative’ and ‘impactful’ research, clearly paradigm shifting discoveries cannot be predicted or engineered. Hence, the only way to ensure that such discoveries occur is to continue to provide robust and growing support for foundational research by individual investigators.

Furthermore, the AFRI RFA released on March 21 offers very specific guidance organized around the six priority areas identified by Secretary Vilsack. No doubt the purpose of this specific language was to provide guidance to avoid confusion over the goals of these new programs and to ensure that submitted proposals were relevant and complete. However, an unintended outcome is that the guidance is focused so narrowly that it seems to preclude a large number of fundamental scientists from submitting proposals. This narrow focus also tends to limit the kind of creative and innovative research described above that frequently leads to novel findings and unanticipated connections and advances. This is of particular concern regarding more junior investigators. Indeed, the cynical view is that the RFAs are written so narrowly that only a few institutions are targeted for support. Although we fully understand that this is not the

intent, leaving this false impression in the community undermines support for the larger, progressive goals of NIFA.

To conclude, we believe that AFRI funding should accomplish at least two goals. To be sure, it should seek solutions to the pressing issues outlined in the six priority areas, a goal that is well addressed in the current RFA. However, a second and larger goal should be to maintain a robust and sustainable US agricultural research enterprise, one that is both poised and adequately resourced to address future challenges. In our view, the narrow focus of the current RFA and its emphasis on large, multi-institution projects does not provide the basis for addressing this second goal.

Although it is too late to impact the language of the current AFRI RFA, we hope that you will take into account ASPB's concerns in future funding announcements. We would also hope that AFRI will structure its review panels for proposals that are submitted this year in a manner that can address at least some of these concerns. We hope, too, that Congress will see fit to grant President Obama's request for AFRI in the FY 2011 budget.

Finally, we recognize that AFRI and NIFA face many challenges in adapting to the new organizational structure. Meeting these challenges illustrates how much more money is needed for research, and we hope the Administration continues to view AFRI as a worthy endeavor and requests significant funding increases bringing the program to the authorized level of \$700 million in due course.