



August 22, 2013

Dr. Jenna Jadin
Office of the Chief Scientist - USDA
1400 Independence Avenue SW
Room 332A Whitten Building
Washington, DC 20250

Re: Recommendations on USDA's Plant Breeding Research

Dear Dr. Jadin:

The National Sustainable Agriculture Coalition (NSAC) is grateful for the opportunity to submit recommendations on the Department of Agriculture's plant breeding programs and related efforts following the stakeholder listening session held on this topic on August 15, 2013 in Washington, DC.

NSAC is an alliance of over 90 grassroots organizations that advocates for federal policy reform to advance the sustainability of agriculture, food systems, natural resources, and rural communities. Research, extension, and education are key issues for our coalition. NSAC's research policy work focuses on the development, funding, and implementation of USDA and other federal research, education, extension, and integrated programs that examine sustainable food and agricultural systems.

Over the past 30 years, our coalition has worked in partnership with member groups across the country to develop several competitive grants programs that today form the cornerstone of much-needed public funding for sustainable agriculture research, including the Sustainable Agriculture Research and Education (SARE) program, the Organic Agriculture Research and Extension Initiative (OREI), and the Beginning Farmer and Rancher Development Program (BFRDP). In 2009, NSAC co-founded the AFRI Coalition in order to advocate for robust funding for federal agricultural research grants, and has a longstanding relationship with several groups who have been advocating for increased federal support for public breeding research.

We are encouraged that the leadership within USDA's Research, Education, and Economics (REE) Mission Area coordinated a stakeholder listening session to understand stakeholder needs related to the critically important area of plant breeding, and look forward to working with the Plant Breeding Working Group as they formulate and implement recommendations on how to strengthen USDA's role in public breeding and public cultivar development.

The Need for Public Breeding Research

For decades there has been a steady atrophy in the capacity of our nation's research institutions to produce publically held and locally adapted plant varieties and animal breeds. There has been a shift in federal research funding towards expensive genomics models that focus on a narrow set of crops,

while support for traditional breeding methods based on the proven science of local and regional adaptation has dwindled. The pool of available germplasm has subsequently narrowed over time and has grave implications, such as undermining world food security, agricultural sustainability, and our ability to adapt to a changing climate and to meet the demands of consumers for high quality, nutritious food. Farmers need access to cultivars that are bred to address their evolving climates and microclimates and are well-suited for their local growing conditions. Without the availability of publically available and regionally adapted plant varieties, farmers are forced to work with cultivars with suboptimal performance, and oftentimes, at the expense of increased inputs and environmental costs.

NSAC and our allies have been urging the Department for many years to strengthen its support for public breeding efforts in order to expand crop diversity, enable producer-choice, and protect food security. We are heartened to see an increased level of reception within the current Administration on reinvigorating public breeding and increasing seed diversity, especially as they relate to regionally adapted and publically available plant and animal varieties.

If our country is to meet the complex environmental and food security challenges we face in the 21st century, we must do everything we can in the present to ensure that we have the widest variety of technologies and genetic resources at our fingertips. USDA has the incredible opportunity to leave a legacy that advances sustainability, mitigates the pace of climate change, and increases our nation's food security by investing in forward-looking national research priorities that recognize the incredible strategic advantage of having the widest variety of genetic diversity available. This not only ensures that producers can choose which seeds to purchase and plant, but will also ensure our nation's farmers will continue to succeed in the face of an ever changing climate.

In response to the thoughtful discussion hosted by the Department earlier this month, NSAC makes the following recommendations on how best to coordinate and prioritize funding for public breeding efforts across the Department.

Recommendations

1. Coordinate, track, and analyze current and future breeding efforts across USDA agencies and within the public and private research community.

We are encouraged by the establishment of a formal working group within the Department to address and better coordinate USDA activities related to public plant breeding research and public cultivar development. We would recommend that this working group continue to meet on a regular and ongoing basis into the near future in order to share information on current breeding research and future priorities, and to coordinate agency efforts to avoid duplication and ensure the greatest impact possible for scarce federal dollars.

We support the working group's goal of tabulating the total investments that each research agency actually spends on public breeding efforts, and encourage the Department to build on these findings by subsequently evaluating and tracking the adequacy of human and financial resources needed to ensure that the next generation of public breeders and farmer/rancher-breeders are prepared to meet the challenges of 21st century.

USDA should also undertake and publish a baseline analysis of the state of our country's genetic resources and be able to track those resources over time, in order to ensure the genetic diversity necessary for a stable and secure food supply. In addition to developing a mechanism to track and analyze current investments in public breeding research, one of the working group's core responsibilities should be to collaborate and coordinate with the National Genetics Resource Advisory Council (NGRAC) to ensure that its advice and guidance is implemented in a timely and transparent manner, as it affects priorities for USDA cultivar and breeding priorities.

We further encourage the working group to conduct ongoing analysis and tracking of federal research awards to ensure that a diverse range of crop and animal breeding needs are being met in a timely and transparent manner. We are hopeful that the new grant management database currently being developed within NIFA will be able to track classical breeding projects separate from other genomic or molecular genetics research to demonstrate USDA's level of investment in public breeding research and to more easily monitor and analyze funding trends.

The working group should also create liaison functions to ensure efficient coordination with federal agencies involved in public breeding (i.e. NIFA, ARS, NRSC, Forest Service), NGRAC, Genetic Resource Conservation centers and their curators, as well as Land Grant Universities, non-governmental organizations with interests or expertise in classical breeding and public cultivar development, and public and private classical plant and animal breeders to maximize delivery of public cultivars and breeds.

2. Continue to solicit stakeholder involvement to inform public breeding priorities.

In addition to regular, on-going meetings by the agency representatives that comprise the Plant Breeding Working Group, we urge the Department to also continue to solicit stakeholder input on a regular basis as well. The listening session hosted by USDA in Washington D.C. earlier this month is a good first step in reaching out to stakeholders within the agricultural research community, and NSAC encourages a more in-depth follow up discussion, such as by convening or funding a national summit on the topic of public plant breeding and cultivar development.

In addition, outreach should be done at the state and local level to reach and solicit input from farmers across the country so that USDA may better understand the unique problems that farmers face and how they vary crop by crop and region by region. USDA has regularly scheduled listening sessions and field hearings on various topics across the country, and we encourage the working group to coordinate similar events where they are able to solicit the input of farmers, Extension agents and other agricultural professionals to identify production problems or needs that might be addressed through plant breeding, as specific needs will vary across region, production type and crop type.

3. Ensure adequate funding for conventional plant breeding and public variety development, and prioritize breeding research that specifically address the needs of farmers not served by privately funded research.

In line with the recommendations of the President's Council of Advisors on Science and Technology (PCAST) report on agricultural preparedness and research, we urge the Department to

increase public sector investments in crop breeding, specifically to support research that does not readily attract private sector support, such as breeding new varieties to respond to the effects of climate change or breeding improved and locally adapted varieties for minor crops (including fruits and vegetables) that cannot be bred in a single location for widespread adaptation across the country.

There should also be greater balance between funding for major and minor crops, and greater balance between public cultivar development using classical methods and more theoretical genomics approaches that do not necessarily result in the release of finished cultivars.

Classical crop breeding and public variety development must become a top funding priority for the Department, and we encourage the working group to set investment goals for each agency in supporting public breeding research. This can be done once the working group assesses the current investments that USDA agencies are making, and setting benchmarks for how to achieve a greater priority within each agency's funding portfolio.

4. Strengthen extramural research on conventional breeding by developing a separate program area or Request for Applications within the Agriculture and Food Research Initiative to fund conventional breeding.

We recommend that NIFA develop a separate program area or RFA within NIFA's Agriculture and Food Research Initiative (AFRI) dedicated to classical plant and animal breeding (unencumbered with mandatory requirements for genomics work) intended to lead to the release of publicly held varieties and breeds, and with priority placed on regionally adapted breeds and varieties, including breeding for organic and sustainable farming systems, pest and disease resistance and resilience to climate change. We encourage the Plant Breeding Working Group to include this recommendation and take steps to implement this change in the next round of RFAs that are released for Fiscal Year 2014.

NSAC and many other groups have been requesting for many years that AFRI designate a subprogram for conventional plant breeding and for conventional animal breeding consistent with their designation as AFRI priorities in the 2008 Farm Bill and with directives from Congress in the last eight agricultural appropriations bills.

We are pleased to see that the language related to conventional plant breeding is clearer in this year's RFA, however, we are still concerned that these topics remain a subtopic within a broader program area that also includes research on plant genome structure and function and phenomics. This combined approach has proven problematic in the past, such that few if any conventional, public breeding projects are ever awarded.


Additionally, in order to ensure that the congressional mandate for increased research and resources for classical plant and animal breeding is achieved, we recommend that five percent of total AFRI funding be dedicated to the newly created RFA or program area on conventional plant and animal breeding, and that funded awards are able to be tracked separately from other breeding research.

In closing, NSAC fully supports the establishment of the Plant Breeding Working Group, and encourages the group to continue to reach out to and involve stakeholders, including farmers and

other stakeholders within the farming community, in developing and implementing recommendations in order to reinvigorate our nation's public breeding research. We are hopeful that the formation of this working group is a first step of many taken by this Administration to reverse the course of dwindling plant and animal genetic resources and ensure our country's future food security, genetic diversity and ability to confront the challenges that agriculture faces in the 21st century.

Thank you for considering our recommendations related to public plant breeding research. We would be happy to provide additional assistance as requested on this topic, and look forward to remaining engaged with the working group as it moves forward.

Sincerely,



Ferd Hoefner
Policy Director



Juli Obudzinski
Senior Policy Specialist