

10 Jan 2014

Dr. Dorrie Main  
Dept of Horticulture  
Washington State University  
Pullman, WA 99164-6414

Dear Dorrie:

I wish to express my organization's strongest possible support for your NRSP proposal: "Database Resources for Crop Genomics, Genetics and Breeding Research". The U.S. rosaceous crop industry is quite diverse, including such crops as almond, apple, blackberry, peach, pear, plum, raspberry, rose, strawberry, sweet cherry, and tart cherry, with commercial production areas across the entire U.S. and local production of some importance in every single state. Despite such apparent agricultural and geographic diversity, each of those crops has a common strong interest in plant improvement via genomics, genetics, and breeding. Fortunately, each has benefitted immensely for the work you and your team have performed in the past the years to develop the Genome Database for Rosaceae (GDR).

Many of these industries have provided funding for development of the GDR and worked with you on many projects funded by various federal agencies. These private and public investments have really begun to pay off, e.g. the SCRI RosBREED project, as our research community now has access to high quality, well-curated genomic, genetic, and breeding data as well as the cutting edge bioinformatics tools you and your team have developed. We have been pleased to see the GDR emerge as the acknowledged international resource for our crop groups. This is certainly an endorsement by your peers that the GDR is a solid scientific accomplishment.

It has also been wonderful to see the GDR move from a crop-specific information repository to a vital and dynamic resource that helps translate massive DNA datasets into DNA information useful in our research communities. We see the GDR as a prime mover in one of our critical priorities – developing and commercializing superior new rootstock and scion cultivars. While we appreciate very much the resources GDR offers to scientists working in genomics and genetics (and many other biological disciplines), we have a special interest in how the GDR enhances breeding programs and provides deliverables to help maintain our industries' competitive edge in a global marketplace.

The proposal you are submitting to the NRSP addresses a major concern of ours: How do we procure the necessary funding to not just maintain, but to further enhance the GDR and its portfolio of tools? In the “good old days” simply sequencing part of a genome was foundational work and highly fundable by federal agencies. This is no longer the case. Of course, we also had a federal government with a real budget back then, and access to competitive programs in specialty crops that provided opportunities for projects like the GDR.

Hopefully, we will move on from the current situation soon, but it is clear that federal funding for ag research is facing uncertain times. We can bemoan this or try some new approaches.

Your proposal does just that, laying out an exciting vision for the future with an opportunity for unprecedented collaboration among stakeholder organizations and research communities of disparate crop groups. It also proposes a model we very much support. The separation of crop-specific and core research activities provides an opportunity for industry and research stakeholders to help set priorities and provide funding for bioinformatics work with outcomes most relevant to one or a few of crops. On the other hand, core research activities that build and enhance bioinformatics knowledge and applications of more general utility seem to be a great fit for an NRSP project and merit consideration by SAES Directors.

Previous core activities, originally directed only at Rosaceae, led to software platforms and protocols useful in all the other crop groups involved in this proposal. The conversion of many existing databases, including GDR, to Tripal and leveraging of bioinformatics tools developed in one crop group to be applied to another illustrate the value of your approach. The fact other crop groups are interested in similar conversions and access to an array of bioinformatics tools seems further evidence your approach is both scientifically exciting and financially practical.

We cannot guess how funding for ag research will evolve. We can, however, work with you to develop a funding model for the GDR that at least gives us a chance to maintain your momentum and create a hybrid model that offers our crop group and research communities the opportunity to work with a stable, robust, world-leading resource.

Just as we have supported you in the past, we support this proposal. Should it be funded, we commit to working with you to advance both core and crop-specific activities. We believe it is reasonable and fair to expect industry and research stakeholders to participate in directly supporting the work you and your team propose. We also hope the SAES Directors give this proposal careful consideration and the opportunity to contribute to the mission of the NRSP.

Sincerely,



Jim McFerson, Ph.D., Manager  
Washington Tree Fruit Research Commission

January 8, 2014

Dr. Dorrie Main  
Department of Horticulture  
Washington State University  
Pullman, WA 99164-6414

Dear Dr. Main:

I wish to express Cotton Incorporated's whole hearted endorsement for your NRSP proposal titled "National Database Resources for Crop Genomics, Genetics and Breeding Research". The effort your team has led in the past few years to develop genome databases for several crops, especially cotton, has been of great value to our research community as benefits of the genomics revolution are being made available to breeders who work to solve increasingly complex production problems for growers.

As you know, in 2009 we decided that the two existing cotton community databases, CottonDB and Cotton Marker Database, did not meet the cotton research communities' needs largely because of the legacy systems both used. We investigated several crop database groups to decide where best to invest our grower provided funds. The community chose your team because of the efficiencies gained by using and further developing the standardized Tripal platform and your emphasis on developing tools for breeding. Your decision to hire the CottonDB curator and allow her to work remotely from Texas so she could have continued direct access to cotton researchers at USDA-ARS and Texas A&M has proven to be a wise decision. The CottonGen Steering Committee and the cotton community are very satisfied with the database, and it is our intention to continue to support it in the future.



We view your NRSP proposal as a natural evolution of the databases for the five crop groups targeted. While the crops are distinctly different, in aggregate they are vitally important across the entire country and feature in a range of research programs at land grant universities, USDA-ARS, and private industry partners. Despite the diversity, each of these crops has a need for a world-class, dynamic, accessible genome database. Your team has provided the cotton community this bioinformatics resource and in so doing, has created a unique software platform. Please accept this letter as an indication of Cotton Incorporated's continued, firm commitment to support your NRSP proposal.

Sincerely,



Don C. Jones, PhD  
Director, Agricultural Research



Cotton  
Incorporated



January 10, 2014

Dr. Dorrie Main  
Dept of Horticulture  
Washington State University  
Pullman, WA 99164-6414

Dear Dr. Main:

I wish to express the California Citrus Research Board's (CRB) enthusiastic support for your NRSP proposal: "Database Resources for Crop Genomics, Genetics and Breeding Research". Your and your research team's efforts in the past few years to develop genome, genetics and breeding databases have been extraordinarily valuable to the US and international citrus research community, especially as we work to bring the benefits of genomics and bioinformatics to bear on Citrus Greening Disease (HLB). As you are aware, this devastating disease has no known cure, and is currently laying waste to many commercial citrus industries, including Florida's.

Unfortunately, the funding required to develop, improve, and curate these databases sustainably is hard to acquire. Federal sources for such work are decreasing and grower-funded efforts (such as the CRB's funded research program) are limited for such broad-based "building-and-stocking-the-library" investments. Rest assured that California, Texas and Florida growers, as well as our respective state university systems continue to consistently provide significant funding support for citrus-specific activities. However, the cross-commodity and broadly applicable efforts such as your proposal are under-supported by our individual industry and state efforts.

We view an NRSP as a natural fit for this project and a logical evolution of the databases you and your team have provided for the five crop groups targeted in your proposal. While these crops are distinctly different, in aggregate they are important economically across the entire country and figure in a range of research programs across most land grant universities, specifically in many projects California growers fund at UC Davis and UC Riverside. Your work on the Specialty Crops Research Initiative project including citrus genomes has to date been important, and you are known to have made great strides there, which will assuredly only be built upon if the instant project receives funding.

Despite the diversity of the crops involved, each has a need for a world-class, dynamic, accessible genome, genetics, and breeding database. Your team has provided this essential bioinformatics resource. In doing so, you have created a

unique software platform and highly skilled personnel who can translate their success across crops and even extend to new crops and organisms.

Please accept this letter as an indication of the CRB's strong commitment to support the NRSP proposal process and work with you to ensure this investment successfully fulfills the NRSP mission.

Sincerely,

Ken Keck  
President  
California Citrus Research Board

January 10, 2014

Dr. Dorrie Main  
Dept of Horticulture  
Washington State University  
Pullman, WA 99164-6414

Subject: Letter of Support, NRSP Proposal

Dear Dr. Main:

The USA Dry Pea & Lentil Council (USADPLC) is writing this letter in support of your National Research Support Project (NRSP) proposal titled "Database Resources for Crop Genomics, Genetics and Breeding Research".

As you know, the USADPLC includes growers, processors, exporters, warehouseman, and food manufacturers of dry peas, lentils and chickpeas. The Council represents dry peas, lentils, and chickpeas from "farm to table" and our primary mission is to improve the profitability of the industry through research, marketing and education.

For the past decade, the USADPLC has funded research projects focused on mapping the locations of certain desirable traits on the genome of peas, lentils and chickpeas. The traits of interest are as varied as disease resistance to root and foliar pathogens to improved nutrition content. These efforts have provided much needed information, but the results reside on multiple databases in multiple formats.

The results of these efforts are usually very technical and in a format difficult for breeders to understand or use, let alone lay individuals. With the work provided by your lab, this complicated jumble of information from a variety of sources and formats has been consolidated into a user-friendly database with a logical approach. You have shown that while the discovery of genetic traits is significant, the power that comes when you can use that discovery to make breeding and selection decisions is also important. Your work has been a real boon to our quest for improved varieties in the shortest possible time.

We know we are only at the beginning of this process and unfortunately, as a minor crop with limited sources of funding, we are constantly faced with increasing priorities and limited funding. Supporting the development, improvement and curating of this program continues to be difficult with the variety of demands from our industry.

The USADPLC believes your proposal to utilize NRSP is a brilliant use of this program and a logical evolution of the databases you and your team have developed for the five crop groups targeted. While these crops are distinctly different, in aggregate they are important economically across the entire country and figure in a range of research

programs across most land grant universities. Through the diversity represented by these crops that are not traditionally aligned, you have shown the versatility of your database and demonstrated the service funding provided by this program. This proposal is a model for other crops seeking the biggest impact from a limited number of research dollars.

As minor crops, all of the represented crops are faced with difficult decisions regarding how to utilize limited resources to best serve their industry. While minor crops represent small acres, in many cases, they provide significant impacts to nutrition, the environment and to economic development. Your proposal will give these minor crops access to the latest tools so they can remain competitive in their region, in the US and across the world.

The USADPLC will continue to invest a share of our research investment in developing genetic information. We see the NRSP as a logical way to support our efforts. With the support of the NRSP, the cooperation of the diverse crop groups involved and the technical expertise of your lab, we see this project as an excellent example of cooperation between industry, the scientific community, the federal government and the land grant institutions. We thank you for your creativity, your hard work and your support of the minor crop industry and especially the pulse industry.

Sincerely

Tim McGreevy  
CEO, USADPLC





**NORTH AMERICAN BLUEBERRY COUNCIL**

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January 16, 2014

Dr. Dorrie Main  
Dept of Horticulture  
Washington State University  
Pullman, WA 99164-6414

Dear Dr. Main,

On behalf of the North American Blueberry Council (NABC), a voluntary organization representing highbush (cultivated) blueberry growers in the United States and Canada, I wish to express our support for your NRSP proposal: *"Database Resources for Crop Genomics, Genetics and Breeding Research"*. The effort you and your research team have led in the past few years to develop genome genetics and breeding databases for our crops has been extraordinarily valuable to our research community.

Unfortunately, the funding required to develop, improve, and curate these databases sustainably is hard to acquire. Federal sources for such work are decreasing and our industry organizations are stretched thin. We view an NRSP as a natural fit for this project and a logical evolution of the databases you and your team have provided for the five crop groups targeted in your proposal. While our crops are distinctly different, in aggregate they are important economically across the entire country and figure in a range of research programs across most land grant universities.

Despite the diversity of the crops involved, each has a need for a world-class, dynamic, accessible genome, genetics, and breeding database. You and your team have provided this essential bioinformatics resource. In doing so, you have created a unique software platform and highly skilled personnel who can translate their success across crops and even extend to new crops and organisms.

Please accept this letter as an indication of our organization's strong commitment to support the NRSP proposal process and work with you to ensure this investment successfully fulfills the NRSP mission.

Sincerely,

Mark Villata  
Executive Director  
North American Blueberry Council