



2012 LARGE-SCALE APPLIED RESEARCH PROJECT COMPETITION
GENOMICS FEEDING THE FUTURE
PRE-APPLICATION
GENOME BC REVIEW FORM - EXTERNAL REVIEWER

Project Leader(s): Rieseberg and Burke
Project Title: Genomics of Abiotic Stress Resistance in Wild and Cultivated Sunflowers
V.Nov. 3 - ADR

This form is divided into sections that align with the Pre-Application form. Reviewers are requested to complete all sections that match their area of expertise or as instructed by Genome BC:
List of sections: Section I: Summary of the Project, Section II: Research Proposal, Section III: Project Team, Section IV: Socio-Economic Benefits
In your review please include constructive criticism that can be used to lead to a more competitive proposal

Section I: Summary of the Project
Summary of the project : The summary should be able to stand alone. It should clearly articulate the following points in a cohesive and coherent story:
List of points: Context: Is the problem/issue/ opportunity clearly articulated?, Research Plan: Will the proposed research address the problem/issue/opportunity?, Are the expected deliverables clearly articulated?, Are the anticipated social and or economic benefits clearly articulated?
Context of the problem is clear, and importance equally so. Usefulness of the solution also very clear (and approach is entertaining)
Suggest in last sentence of 2nd para say, "System-level understanding of abiotic stress resistance can facilitate the development of improved varieties that can be grown on marginal land currently unsuitable for crops"
Research plan:
List of points: Research plan is well-described, For goal #6, suggest saying, "explore strategies for addressing significant negative impacts of international treaties. . .", In the team para, for GE3LS suggest saying ". . .relationships with the international Treaty Secretariat",



since you haven't defined "Treaty", but this should give the idea if you don't have space to write it out in full.

- Team looks very strong. If possible, clarify that you have Canadian, American, and EU end-users, in addition to Sub-Saharan.

Deliverables: are well-described

SEBs: Look excellent, both Canadian and global. Is 5% the number you've landed on for marginal land increase, and can any justification be offered? (Even 0.7% would cover the project costs through one year's increased yield. . .)

Section II: Research Proposal (including Science and GE3LS)

- Research Context and Originality
 - To what extent does the proposed research lead, extend and/or complement national and international work in the area?
 - To what extent does the proposed research reflect creative, original thinking?
 - To what extent is the research relevant to the end-users identified?
- Research Plans and Execution
 - How appropriate are the methods and approaches proposed (including handling of data and resources) in terms of the research objectives?
 - How feasible is the research, given the projected resources and timelines?
 - How suitable are the available facilities, equipment and services?
 - Does the GE3LS research address the most salient aspects of the project and is it closely related to the overall project's objectives, deliverables and potential social and/or economic benefits?
 - Is the integrated GE3LS research plan closely aligned with, and complementary to, the overall project milestones?
 - Is the GE3LS research plan sufficiently robust and systematic to advance generalizable knowledge in relevant academic fields?

Excellent introduction to the problem being addressed.

Figure 1 is useful and clear.

GE3LS:

- Minor point: Can you ref that the US will honor SMTA obligations?
- Are there other refs that there is industry resistance caused by the SMTA? One anecdote isn't too compelling. Problems found in developing nations might be of most relevance. If this isn't actually much of a barrier, then the GE3LS component isn't of much interest. But if the treaties are introducing significant uncertainties and delays, GE3LS looks very important indeed. ("One year's delay = XXX deaths from starvation. . .")
- Are there any specific aspects of the SMTA that especially affect developing nations? If so, worth a mention.
- The discussion of how the GE3LS findings will be operationalized is much improved – good job! In the 3rd deliverable, note who the recommendations will be made to. (Sorry, *to whom* they will be made. . .) If a formal international working group is formed because of the actions of the GE3LS team, this will presumably be the route. I realize it's too soon to know exactly how this will happen, the point is mainly to think of yourself as being explicit, visible, and important players in the process of changing the SMTA, not just advisors. (Or at least, trying to be such.)



- If there's room, explain a bit more what DivSeek is, as their website makes it sound important – I'd put this in the SEB strategies piece as well.

Section III: Project Team

- How appropriate is the expertise and track record of the research team in terms of realizing the research goals?
- How appropriate is the expertise and track record of the team that will further develop and implement the strategy for realizing benefits?
- How well will different types of expertise be integrated?

Much improved.

Section IV: Socio-Economic Benefits

There is limited space allotted for this section and many points to cover. Any suggestions around how to make this as coherent as possible will be appreciated by the team. All else being equal between two proposals, the one which makes a stronger case for benefits to be achieved sooner will be assessed more favourably.

- Deliverables
 - To what extent have the applicants identified appropriate deliverables in terms of their potential to have impact on food safety, security and/or sustainable production?
 - What is the likelihood that the deliverables will be achieved by the end of the funding period?
- Expected Benefits
 - How significant are the anticipated benefits described in terms of their potential of contributing to food safety, security and/or sustainable production?
 - Will the benefits be realized within a short time-frame after the end of the project, taking into consideration what is reasonable for the different research areas in these sectors?
- Strategy for realizing benefits
 - How persuasive is the strategy set out by the applicants for realizing benefits from their research?
 - How strong is the plan for knowledge translation and development of benefits, i.e., how well does the plan explain the next steps of how the deliverables from the research will be transferred, disseminated, used, and/or applied to realize the social and/or economic benefits?
 - How closely aligned is the plan for knowledge translation with the GE3LS research and the overall deliverables and outcomes of the project?
- Expertise for realizing benefits
 - To what extent are likely end-users involved in the project and the strategy to realize benefits?
 - If the strategy includes commercialization, to what extent has appropriate technology transfer expertise been included?



Overall: can you save some space and/or add words by using endnote references, instead of putting refs in brackets?

Deliverables

- Look strong and appropriate overall.
- Is deliverable #1 actually two separate items, e.g., used in different ways by different end-users? If so, separate out.
- Likelihood of success I cannot comment on.

Expected Benefits

- Look very strong.
- If there's room, note that the +1% of marginal land would add ~\$200M p.a. to Canadian gross production value. (Is this farmgate value, or ???)
- Assuming you are asked for a full proposal, note how many people in Sub-Sahara could be brought up to minimum caloric levels, and perhaps also potential GHG gas reduction tonnage.
- The timeframe I cannot comment on.

Strategy for realizing benefits

- Looks very strong.
- Does the Treaty and/or SMTA potentially affect the complex IP issues?
- Who is the IP expert on the team, or how will you access same? If IP looks to a reviewer like a significant hurdle that might not be overcome, this could cause problems, as obviously the SEBs could stop dead in their tracks.
- GE3LS looks very strong. If asked for a full proposal, suggest Marden starts lining up people to participate in the Working Group, develop notional targets, activities, deliverables, etc. (This sounds like something that is well worth doing even if this specific project doesn't go ahead.)

Expertise for realizing benefits

- End-users involvement is exceptionally strong.
- Commercialization appears strong. Perhaps by full proposal can discuss the project currently underway with multinational.