BARD Research Proposals

Guidelines and Regulations for Applicants

(Updated: July 2023) MASTER

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Mission

BARD supports mission-oriented cooperative agricultural research projects of mutual interest to the United States and Israel. Proposals are expected to deal with an agricultural issue or problem and yield tangible results that could be implemented within a reasonable time after completion of the project. Projects cover all phases of agricultural research and development. The outcomes of BARD funded Research must be accessible to the public.

Cooperative Research

Cooperative research entails *active* collaboration between Israeli and American scientists. Upon request, BARD will assist scientists in finding cooperators. Please send a brief abstract by e-mail. Identify the main ideas of the proposed work and include a short CV.

BARD Awards

This year there are two funding tracks:

- Standard track - maximum requested amount is $310,000 for a three-year award.
- Pioneer track - maximum requested amount is $600,000 for a three-year award.

NEW! Aquaculture and Desert Farming

Previously, this program was included in the USDA,NIFA-BARD program. Now it is included in the regular BARD submission. The submission of the proposal is exactly the same as the other BARD proposals. Investigators should indicate on the submission pages if the proposal is appropriate for consideration in this category.

BARD's concurrent funding policies will not apply to those who submit to the Aquaculture and Desert Farming call for proposals. Thus, investigators may submit a proposal to both programs, provided the research plan and objectives do not overlap. Both pioneer and standard tract proposals can be submitted under this category.

NEW! Pioneer Funding Track

The Pioneer Track (see link) will support highly innovative, substantial, and unique proposals that have the potential of creating significant impact on agriculture, with tangible results, utilizing cutting-edge research technologies, that will bring upon a new direction, concept, or solution. Proposals must have clear practical benefit to both nations. Topics or fields of application will be defined by the Board of Directors during its annual meeting.
In the current round of submission (September 2023) pioneer proposals will be accepted for **Crop Production** and **Crop or Soil Health** and the **Aquaculture and Desert Farming program.** The eligibility and instructions for this track's application and evaluation are identical to the regular BARD application. **The same proposal will not be considered for both the pioneer and the standard track.**

Feasibility Studies

BARD will consider funding a one-year proposal when the request is for an opportunity to establish a basis for further research or to provide preliminary results for a particularly innovative idea or concept. Feasibility study applications must follow the same guidelines as all other proposals and adhere to the same submission dates. Continuation of a one-year feasibility study originally submitted as such requires the submission and approval of a final scientific report before a new proposal can be submitted. The maximum amount that can be requested for a one-year feasibility study is $100,000.

BARD Priority Areas

While BARD will continue to fund agriculturally relevant and scientifically meritorious work in all disciplines of agriculture, the TAC and Board of Directors in their annual meetings (June 2021) have re-assessed and determined the following areas as priority areas for the coming years:

- **Improved efficiency of agricultural production**, including sustainable development and engineering, enhancing nutritional value, efficient use of resources & agricultural waste, economic evaluation of policies, regulation, and labor; use of functional genomics & proteomics to protect and produce traits supporting increased crop yield and genetic optimization in animals, focus on heterosis opportunities & consequences.
- **Plant, animal, and agricultural environment defense**, including pest and host genetics, invasive species & emerging diseases, early stress detection and rapid point of care methods, development of safe and bio-secure biological, physical, & chemical control measures.
- **Agricultural production challenges in increased marginal conditions**, including climate change & abiotic stress factors such as drought, salinity, high temperatures, nutrient, and soil stress.
- **Food quality, safety, and security**, including improved assessment and detection methods, nutritive value and post-harvest treatment, reduction of food loss & waste, enhanced supply chain quality and technologies, functional foods, development of alternative quality protein sources including plants, fungi, algae, insects, & tissue.
- **Soil & water, quality, and quantity**, including efficient use of low-quality water (grey, black, saline), improved economic return for water in agriculture, crop response to soil & water quality & their constituents, impact of nutrients and agricultural chemicals on water quality.
- **Agricultural Engineering/Precision Agriculture** - Sensors, instrumentation, & control systems; robotics and artificial intelligence; mechanization for improving labor efficiency; biological engineering, biotechnology, nanotechnology.
- **Sustainable Agri-environmental management**, including sustainable ag-based energy systems for reduced energy costs, bioconversion technologies, agricultural feedstock, controlled environment and urban agriculture, renewable resources and ecosystem services, circular bioeconomy, reducing agricultural waste.

Eligibility

Affiliates of public or private non-profit research institutions that demonstrate the necessary research and development capabilities are eligible for funding. Proposals must be submitted through such legally constituted institutions.

BARD postdoctoral fellows

For one year following the conclusion of the BARD fellowship, recipients are ineligible to submit a BARD research proposal either as the principal investigator (PI) or as co-principal investigator (Co-PI) affiliated with an institution in the mentor's country. Fellows are eligible to submit as a PI or Co-PI only if affiliated with an institution in their own home country, or as collaborating investigators (requesting less than $20,000 per year) with affiliation from either country.

Investigators

Principal Investigator **(PI)** is the person whose name appears *first* on the cover page of the proposal. The PI is mutually agreed upon by the cooperating scientists and is responsible for the submission of scientific reports, administration of the grant, notification of changes in the work plan and maintaining contact with BARD. The affiliated institution of the PI becomes the *Principal Institution* and signs a research agreement with BARD.

Co-Principal Investigator **(Co-PI)** is the person whose name appears *second* on the cover page of the proposal. The Co-PI is the senior member of the investigating team in the *other* country.

Collaborating Investigators are all other investigators, in either country, who are listed on the cover page.

Early Career scientists (not more than 5 years from the end of postdoc training or first institutional appointment) should indicate so in the appropriate place on the Cover Page.

Concurrent Funding Policy

BARD will ***not*** fund concurrent projects to any given investigator. This restriction applies only to PIs and Co-PIs, and to Collaborating Investigators who request more than $20,000/year of the research budget.

While proposals may be submitted during the final year of an on-going project, if such a proposal is approved, funding of the new proposal will not begin until the conclusion of the on-going project, i.e., the submission and approval by BARD of the final scientific and fiscal reports of the earlier project, not later than October 31st. The on-going project, whether related to or on a different topic, will not be granted any extension. New projects must be initiated not later than December 1st of the award year.

- A PI or Co-PI may submit more than one proposal in a given year, provided that the proposals are pursuing different topics. However, if multiple proposals from the same PI or Co-PI (not necessarily together) are deemed worthy of funding only ONE of these will be funded.
- Scientists planning to submit more than one proposal must inform all scientists involved in all proposals of the intent to be involved with additional proposals. BARD will confirm to submitting scientists, upon receipt of the proposal(s), that a member of their team has also submitted additional proposals for consideration in the same year and that only one of these can be funded.

Revised Proposals

Revised proposals are previously submitted proposals that were not funded. Indicate the BARD assigned number of the previous proposal in the appropriate box on the on-line Cover Page. The addition of a new investigator, in itself, does not indicate a 'new' proposal. In any case, BARD reserves the prerogative of identifying a given proposal as 'revised' or 'new'. This will be done by comparing the content of the current proposal with the earlier one. Should it not be obvious that it is substantially different, BARD will ask an expert in the field to provide an opinion on this issue.

Unapproved proposals may be revised and resubmitted only once. PIs or Co-PIs may consult with the Executive Director before submitting a revised proposal. The decision of whether to submit a revision should be based on the evaluation material, particularly on panel

summaries, recommendations, and quadrant number. Revised proposals require the inclusion of a 'Declaration of Revision' (see 'The Proposal' for details).

Below are frequently asked questions regarding revised submissions:

Do revised proposals receive special consideration?

No. All proposals are reviewed and prioritized relative to all others in the *current* submission, regardless of their status during an earlier submission.

Are revised proposals more or less likely to receive funding?

Our statistics indicate that a revised proposal has the same chance of success (or failure) as any other.

Are the same evaluators involved in both the original and the revised proposal?

Yes and No. Revised proposals are re-sent to some of those original reviewers who had substantive criticisms regarding a given aspect(s) of the original proposal. Such reviewers receive a copy of their original review and are specifically requested to consider whether the points made in their criticisms have been satisfactorily addressed. The revised proposal is also sent to new reviewers.

Investigators can request that the revised proposal not be re-sent to specific reviewers. This request should be sent to BARD at the time of submission.

What are the most important points to consider in revision?

- Specific criticisms made by panels and ad hoc reviewers regarding the original proposal.
- Addition of new preliminary results that impact and strengthen the original presentation.

Continued Proposals

Continued proposals are those which relate to one or more previously supported BARD project(s), wherein at least one of the original investigators participated. Such proposals may be directly related to the previous project or may represent a natural progression in the research efforts of the lab(s) involved and thereby contain innovative hypotheses that build upon the work previously funded by BARD. Indicate the BARD number of the previous project (available from the BARD office). If the previous project has not yet terminated, please refer to the “concurrent funding policy” above or consult with BARD regarding possible restrictions. Continued proposals require the inclusion of a 'Declaration of Continuation' (see 'The Proposal' for details).

Regulatory Agency Requirements

Proposals and grants must adhere to the policies and regulations established by the regulatory agencies of the country in which the research is to be conducted. Exchange of GMO, exotic species and other materials between countries may require special authorization. The signature of the authorized officer of the research authority indicates that these policies and regulations were met.

The Proposal

Please follow the instructions carefully in our website. Prepare each document/item separately as Word document and then upload each item as a PDF file.
NO HARD COPIES ARE REQUIRED.

Format requirements:

- English, line spacing of 1.5, font equivalent to 12.
- Allow at least 3 cm for header and footer for each page, and 2.5 cm on both sides.
- Do not number the pages! This will be done automatically following the upload of your PDF files.

Upload the following items:

- **Cover Page** (use on-line form) Enter contact details for PI, Co-PI and Collaborators, including Research Authority contact details. *Note:* The average length of the Proposal Title should not exceed 20 words (or 135 characters).
- **A List of Abbreviations** used in the proposal are to be included in the Cover Page.
- **Budget Tables** (use on-line forms) BARD pays each institution directly. Present a separate budget for each funded institution and year of the grant period. Round annual totals to the nearest $1,000 and individual budget items to the nearest $10. First year budget may not exceed 36% of the total budget, unless specifically allowed in advance. Overhead expenses may not exceed 20% of the total direct costs. See detailed instructions below under "Description of Budgets", pages 7-8.
- **Abstract** (use on-line form) Do not exceed one page. Abbreviations in the Abstract are not acceptable. Clearly state the research problem, the objectives, the proposed methodologies and the expected contribution to agriculture/environment.
- **Declaration of Revision** (PDF) (if relevant) Authors of revised proposals are expected to take advantage of the opportunity to use up to two pages to address the changes presented in the revised proposal. Reviewers and panels will relate to this declaration in reaching a recommendation for the new proposal. Carefully consider and relate to the comments of the panels and reviewers of the original proposal. Integrate results achieved since the original submission that can strengthen the revised proposal.
- **Declaration of Continuation** (PDF) (if relevant) Authors of proposals for continued funding are expected to take advantage of the opportunity to use up to two pages to address the *innovation* in the new proposal: how does it continue a line of research in a laboratory. Also bring to the table new issues, important challenges and cutting-edge science. Authors should briefly describe the status and achievements of the previous project(s), including jointly authored papers and/or other publications resulting from the previous BARD project. Clearly justify the requested budget. It is generally assumed that less funds are required for a project that will be conducted in an already well-established laboratory on a previously funded research area and often, by an already established team.
- **Detailed Description of the Research Plan/Proposal body** (PDF) - *Limited to 15 pages* (Remember! Do not number the pages!) Figures, photos and any additional material, text, tables, etc., are counted in the 15 pages limit.

  Include the following items, numbered logically to suit the best presentation of your proposal:

  I. The research problem and its general background.
  II. The research objectives.
  III. Hypotheses and their rationale.

IV. Preliminary results.
V. Research plan:
   1. Strategies, procedures and methodologies used in addressing the questions asked.
   2. Specific experiments to be conducted and a discussion of their potential pitfalls and possible alternatives.

- Upload a single PDF file containing the following 5 items (maximum 5 pages):
  1. **Description of the expected results** and their relevance to agriculture, to BARD's mission and priorities. Describe how the results will relate to the agricultural issue or problem and how the research will yield tangible results that could be implemented. Indicate the approximate time of implementation.
  2. **Timetable of the Work Plan** Describe the division of the research tasks between the Israeli and US participants for each year of the project. A graphic or tabular presentation is recommended.
  3. **Details of Cooperation** The proposal jointly prepared, should clearly indicate the anticipated cooperative endeavors between the partners, including the work to be done in each country and the responsibility of each collaborator. Explain how the cooperating scientists contribute their expertise to the joint effort. Quality of Cooperation is scored by reviewers and panels in their evaluation of the proposal. The highest value is given to synergistic cooperation. *Types of cooperation* are defined below:
     - *Synergistic*: Each scientist contributes a specific expertise, facility, or equipment that the other partner cannot contribute and without which the final realization of hypothesis testing could not be achieved.
     - *Complementary*: Each scientist performs essentially the same research using different (biological) systems or methods, thus, widening the scope and strengthening the validity of the results.
     - *Supportive*: Collaborators with essentially the same expertise divide the research tasks between the laboratories.
     - *Publications*: Since the requirement of US-Israel cooperation is a unique feature of BARD, it is expected that publications emanating from the research will reflect the collaborative nature of the research and be jointly authored.
  4. **Facilities**: Briefly detail the facilities to be dedicated to the project in each funded institution.
  5. **Data Management Plan** Specify how the data will be stored and disseminated.
- **Relevant Bibliography** (PDF) Include all authors, full title, date, journal name, volume number and page numbers. When referencing citations in the text of the proposal, use author(s) names, not the number in the list. *In press* articles can be referred to in the relevant bibliography, with the note that copies can be obtained from relevant journal web addresses.

- **Curriculum Vitae** (PDF) Do not exceed two pages for each investigator. Provide a brief professional biography. Include academic background, research experience, recent, relevant publications, inventions or patents and other achievements when relevant.
- **Letters** (PDF) specifically confirming the use of additional materials**,** expertise, facilities, know-how, etc. for those who are not listed as PI/Co-PI and Collaborators, may be included. General letters of support for the idea or concept are *not* allowed.
- **Description of Budgets** (PDF) Upload a detailed budget description for each funded Institution. BARD will not consider requests for additional funding in the life of the grant. You are expected to incorporate cost of living and other increases in the initial computation of the grant.

Budget Description

Include the following items in the budget description and justify:

1. *Personnel Services/Salaries*: PIs, Co-PIs and Collaborating Investigators are not entitled to receive salaries from the BARD grant. Support personnel can receive salaries and social benefits in proportion to the time devoted to the research project except those who are tenured employees at the recipient institution. List support personnel and their role in the project. Indicate the percentage of time to be devoted to the project by each person including PI and Co-PI.
2. *Non-expendable equipment*: BARD allows the purchase of specific items of equipment to be used in the supported research and without which the research project cannot be conducted. Large capital expenditures are not included in BARD's obligations to recipients.
3. *Operating expenses*: Present general operating expenses and a list of estimated costs. Include in-country travel, computer services and supplies. Provide a detailed breakdown and justification when requesting substantial funds.

Foreign travel: BARD allows one trip to each country per project (two trips only). Each trip abroad should not exceed thirty days. The purpose of the trip is for the investigators to meet. Prior approval must be obtained from BARD if either the trip is for a different purpose, or if someone other than the PI or Co-PI will be traveling. The amount requested for foreign travel should cover the cost of the ticket (round-trip/coach) and *per diem* expenses. In one-year feasibility studies, only one overseas trip is allowed. **No increases to the foreign travel budget will be allowed during the project.**

4. *Overhead expenses* may not exceed 20% of the total direct costs.

Note: BARD funds are expected to be used in a timely manner. In the course of the research, unused budget balances in years 1 and 2 may be transferred to the following year, but any substantial changes in the use of the allocated budget must be authorized in advance by BARD.

On-line Authorization by Research Authorities

Research Authorities will receive prior to the submission deadline an e-mail with specific instructions, giving them direct access to BARD's Authorization procedure. Authorizations will

be given a deadline of additional 14 days beyond the submission deadline. The Research Authority's authorizing office will review the proposals submitted by Investigators affiliated with their institution. BARD will accept a proposal for consideration only following its authorization by the institution's authorizing officer via the on-line procedure. A single Signature page, which should be generated on-line, should include a list of all the submitted Proposals affiliated with their institution. Print, sign, and e-mail to BARD, mali@bard-isus.com

Useful Suggestions for a Successful Proposal

- The **Abstract** should offer concise information to those in the evaluation process who will not see the full proposal. Prepare a well-thought-of abstract referring to all four topics listed under "The Proposal"/"Abstract" (above).
- The **most important aspects** of a proposal are scientific merit, its innovation, relevance to a specific issue or problem in agriculture and quality of collaboration. The review process focuses on the evaluation of these aspects. Argue them well and present them thoroughly.
- Present **clear objectives well founded hypotheses and work plans** that address the stated objectives.
- The most **common criticisms** are 'vague', 'overly ambitious', 'lacking preliminary results' or 'unfocused'.
- Remember that BARD is a **mission-oriented** funding agency: its aim is to solve a specific agricultural or related environmental problem, within a reasonable time frame.
- Emphasize the **collaborative aspect of the proposal including the plan to jointly publish the results.**
- Careful **proof reading** is essential for professional evaluation of the proposal. Give careful attention to correct citations of the literature, **spelling** and quality of pictures and graphs.

Evaluation

Proposals will be evaluated in one of the review panels stated below. Investigators can suggest a panel assignment, but BARD will make the final assignment based upon factors of panel makeup and relevance to a primary discipline.

- Agricultural Economics
- Animal Production
- Animal Health
- Crop Production
- Crop Health
- Food Products - Quality, Safety, Security
- Environment & Renewable Resources
- Agricultural Innovation & Engineering Technologies
- Aquaculture

(Note: the Aquaculture and Desert Farming proposals will be assigned to the appropriate panel from the list above.)

Panels evaluate proposals simultaneously and independently in the United States and in Israel. Panel members are scientists competent in the relevant area of research. Each panel participates in the selection of outside reviewers to evaluate each proposal. The *ad hoc* reviews assist the panels to formulate their recommendations regarding the proposals. Both

panels receive all the reviews. Panel members score and prioritize all proposals in their panel in the final step of their evaluation and provide a funding recommendation. Each country's panel prepares a written recommendation for each proposal that is based upon consideration of the following factors:

- scientific and technological merit of the proposal
- feasibility of the objectives
- relevance to the stated current priorities of BARD
- anticipated benefits to agriculture or to related environmental issues in both countries
- quality of the cooperation between the investigators
- suitability of the investigators and their facilities
- requested budget in relation to the research plan
- justification for continuation (when relevant)

Suggested/Restricted reviewer names

Investigators can submit both a short list of potential reviewers for BARD's consideration and a short list of persons/reviewers to whom the proposal should not be sent. In both cases, the list must include specific names (not everyone in a department or laboratory), and e-mail. This short list should be sent by e-mail to mali@bard-isus.com at the submission date. BARD, however, reserves the right to send the proposal to the most qualified reviewers.

The Technical Advisory Committee (TAC)

TAC prepares a comprehensive portfolio of recommendations for all the proposals in the submission that is based upon the evaluations and recommendations of the panels in the two countries. This recommendation includes an interdisciplinary priority ranking of the proposals. The Executive Director presents this recommendation to the Board of Directors for its consideration and decision regarding funding.

The Board of Directors

The Board of Directors makes all funding decisions.

Notification of Awards

The Executive Director advises all applicants and their affiliated research officers, in writing, of the decisions of the Board of Directors towards the end of May/beginning of June of the year following the submission. Favorable decisions indicate the amount and duration of the grant and any conditions of support.

Initiation of Awards

Following notification of the award, the PIs will prepare an amended budget summary (if required) in accordance with the approved award amount. A single Start Date is determined, and an Agreement is sent for signature to the Principal institution followed by Letters of Agreement to the Cooperating Institution(s). For further details, see BARD's Grant Management Guidelines on the website www.bard-isus.com