



BARD

RESEARCH PRIORITIES



OUR MISSION

BARD is a competitive funding program that supports collaborative agricultural research in areas of mutual interest to the U.S. and Israel. The primary mission of BARD is to bring together American and Israeli scientists to jointly address key agricultural challenges that concern both countries.

BARD is mission-oriented, dedicated to translating scientific excellence into applied agricultural practice. With the constant emergence of new technologies,

fields and challenges, BARD periodically reassesses its research priorities to ensure it continues to effectively identify the most promising applicable research and maintain its competitive edge.

BARD recently completed a rigorous reassessment process, in keeping with its meticulous standing protocol. We are pleased to introduce the updated research priorities and share the process and experts that shaped them.



REASSESSMENT PROCESS

The process was led by BARD's technical advisory committee (TAC), chaired by Prof. Berta Levavi-Sivan. Eight additional experts were invited to join the TAC and form an extended reassessment panel, which received a full overview of the current research priority areas and the currently funded research projects.

In the first stage, each individual panel member was asked for their perspectives on the current research priority areas and/or to suggest

additional or more relevant ones. Prof. Levavi-Sivan then consolidated the information into a single document for review by all panel members. Next, the entire panel discussed the proposed changes during a virtual meeting. Finally, TAC summarized the sessions and provided the updated research priority list for evaluation by BARD's Board of Directors.

The Board of Directors approved the updated priority research areas for the fund's support going forward, effective as of June 2nd, 2021.



EXPERTS FROM THE US

Dr. J. Scott Angle
Vice President for Agriculture and Natural Resources, University of Florida.

Prof. Brian Kirkpatrick
Animal Sciences Department, University of Wisconsin-Madison.

Prof. Susan McCouch
School of Integrative Plant Science, Plant Breeding and Genetics Section, Cornell University.

Prof. Michael Delwiche
Biological & Ag. Engineering, University of California, Davis.

Dr. Gene Lester
National Program Leader, Nutrition, Food Safety/Quality, USDA ARS.

Dr. Jeffrey Silverstein
Animal Production and Protection, Deputy Administrator, USDA ARS.

Prof. Natalia Dudareva
Horticulture & Landscape Architecture, Purdue University.

Dr. Yaguang (Sunny) Luo
Food Quality/Env. Micr. & Food Safety Lab, USDA-ARS.

Dr. Robert Smith
National Program Leader, USDA-NIFA.

EXPERTS FROM ISRAEL



Prof. Guy Bloch
Ecology, Evolution & Behavior, HUJI.

Dr. Stanley Freeman
Plant Pathology & Weed Research, ARO, The Volcani Center.

Prof. Berta Levavi-Sivan
Animal Sciences, HUJI (TAC Chairperson).

Prof. Benny Chefetz
Dean, Faculty of Agriculture, Food and Environment, HUJI.

Prof. Amit Gross
Environmental Hydrology & Microbiology, Ben-Gurion University.

Dr. Ari Schaffer
Vegetable & Field Crops, ARO, The Volcani Center.

Prof. Yigal Cohen
Plant Pathology Researcher at the Department of Life Sciences at Bar-Ilan University.

Dr. Nitza Kardish
CEO, Trendlines Agrifood Fund; Vice Chair, Trendlines Agrifood Innovation.

Prof. Dani Shteinberg
Department of Plant Pathology & Weed Research, ARO, The Volcani Center.

RESEARCH PRIORITY AREAS



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.



AGRICULTURAL ENGINEERING/ PRECISION AGRICULTURE

Sensors, instrumentation, & control systems; robotics and artificial intelligence; mechanization for improving labor efficiency; biological engineering, biotechnology, nanotechnology.



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.



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.



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.