Request for Proposals (RFP)
Almond Board of California

About the Almond Board of California

California almonds make up about 80% of the global supply, and virtually 100% of commercial almond production in the U.S. There are around 7,600 California Almond farms. Of those, 72% are family owned, and 61% are less than 50 acres.

The Almond Board of California (ABC) administers a grower-enacted Federal Marketing Order under the supervision of the United States Department of Agriculture. The Board's mission is to support the California almonds through research and marketing activities globally. Since 1973, the California almond community, through the Almond Board of California, has supported $89 million in research to improve farming practices while minimizing environmental impacts, identifying health benefits from almond consumption, ensuring food quality and safety, and identifying new uses of orchard biomass.

ABC, in partnership with the research community, is exploring new technologies and solutions that address farming needs today while helping to build the almond orchard of the future. This includes research aligned with our sustainability goals as well as retaining the profitability and quality of almonds. The Almond Board's Strategic Ag Innovation Committee sets strategic direction for this research, supported by working groups that specialize in distinct areas of almond farming and processing. Together, these advisory groups prioritize and evaluate research to meet the needs of the California almond community while benefiting local communities and the environment.

For more information on the California almond industry, and our research database please visit the following sites:

- ABC website: https://www.almonds.com/
- ABC Research and Innovation: https://www.almonds.com/almond-industry/research-and-innovation
- ABC research database: https://rd.almondboard.com/Pages/default.aspx

Proposal Submission and Evaluation Timeline

Proposals may be for single or multi-year projects, up to five years. Proposals may have a start date as soon as February 1, 2021 and end at any time in the year.

The Almond Board of California's fiscal/crop year operates from August 1 through July 31. In accordance with the marketing order policies, multiyear projects must be budgeted by the ABC fiscal year. If the proposal is approved, then funding will be committed for the first year only. Funding for multi-year projects is subject to yearly review of progress and availability of funding. ABC projects generally fall within the

$30,000 - $100,000 per year range, with exceptions for complex multi-investigator projects.

Proposals must be received by November 13th, 2020. Proposal and budget templates are attached. Submit proposals by email to Amanda Scott at ascott@almondboard.com.

Selected projects will be notified by January 31, 2021.

Scope

The Almond Board of California (ABC) is soliciting research proposals relevant to **irrigation, pest management, harvest and integrated resource management**.

Priorities in Irrigation & Integrated Resource Management

The irrigation strategy is attached (**Supplemental file 1: Irrigation Strategy**) and interested applicants are advised to read the strategy first. Priority will be to the following research areas described in the strategy:

- Validation of remote sensing technology to measure actual tree evapotranspiration (ETa)
- Ability to forecast yields early in the season
- Improving irrigation management utilizing yield predictions early in the season
- Validation of tree water status sensors to predict stem water potential values
- Development of an affordable, reliable, and viable technology or methodology that allows growers to quickly run irrigation uniformity tests in the orchard
- Continue to assess the “when to start” and “when to end” irrigation events at the beginning and at the end of the cropping season

Priorities in Harvest Operations

The research background in this area is attached (**Supplemental file 2: Harvest priorities**) and interested applicants are advised to read the background on ABC research in this area. Priority will be given to the following areas:

- Harvest efficacy of mowing plus windrow conditioning versus use of burndown for orchard floor preparation. See also below the priority of developing alternative weed management practices. These could be addressed in an integrated proposal.
- Updating of current best management practices for shaking and sweeping to reduce risk on bark disease and overall orchard decay.

- Use of growth regulators or other novel tools to improve nut removal at harvest.
- Development of alternative drying procedures or handling practices for fresh in-hull almonds.
- Design and improve stockpiling practices to improve practicality and broad industry adoption to minimize negative impact of stockpiling on quality and food safety.

Priorities in Pest Management

The research background in this area is attached (**Supplemental file 3: Pest Management Strategic Plan**) and interested applicants are advised to read the background on ABC research in this area. Priority will be given to the following areas:

- Develop alternative weed management systems that reduce or eliminates the use of regulatory at-risk herbicides such as glyphosate/glufosinate/ paraquat/ 2,4-D, and/or that minimize risk of residues on the kernels. See also above the topic of using mowing and conditioning of the windrow during harvest as potentially part of an integrated solution.
- Improve IPM tools for leaf-footed bugs such as orchard early warning system (e.g. pheromone, light traps) and alternative IPM strategies that avoid use of pyrethroid, organophosphate or neonicotinoid insecticides.
- Improve understanding of leaf-footed bug biology, including methods to identify winter aggregations to facilitate targeted treatment.
- For stink bugs assess the potential for repellants or other IPM strategies that avoid the use of pyrethroid, organophosphate, or neonicotinoid insecticides.
- Develop geographic model to improve understanding of Sterile Insect Technology's role in overall navel orangeworm IPM strategy. Model should advance understanding of overall numbers of sterile insects needed for successful program, strategy for release locations, and compatibility/complementarity with mating disruption.
- Assess efficacy of new biological or organically acceptable tools for navel orangeworm control.
- Assess efficacy of biological and conventional products for control of bacterial canker (*Pseudomonas syringae*).
- Develop/assess biological or organically acceptable materials and methods for control of bloom diseases.