Office of Environmental Farming and Innovation

PROACTIVE INTEGRATED PEST MANAGEMENT SOLUTIONS

REQUEST FOR PROPOSALS (RFP)

Release date: 11 March 2019
Grant Proposals Due: 8 April 2019

Late grant proposals will not be accepted

https://www.cdfa.ca.gov/oefi/opca/

Contents

About the program

The California Department of Food and Agriculture's (CDFA) Office of Pesticide Analysis and Consultation (OPCA) is pleased to announce funding available for the development of alternatives to control invasive insect pests. CDFA received an annual appropriation of $544,000 for this and other research as part of the 2018-2019 budget. The purpose of this Request for Proposals (RFP) is to develop a comprehensive integrated pest management (IPM) program which can be rapidly implemented if a new invasive insect pest species becomes established in California.

Background

California's agricultural production includes more than 400 commodities. New invasive insect pests can cause major problems for California's agricultural industries and urban communities. Eradication of new invasive pests is the preferred first-line of defense, but despite best efforts some pests become established and require long term management strategies. The urgent need to control a new pest often leads to more frequent use of insecticides. Growers may resort to broad spectrum insecticides which can disrupt integrated pest management systems and cause secondary pest outbreaks, leading to even more insecticide use and possibly decreasing profitability. At the same time, growers are under pressure from ever-tightening regulations and need to phase in new pest management methods in order to remain competitive.

CDFA is responsible for preventing and mitigating the effects of invasive pests. Many pests which plague California's agricultural industry first become established through urban areas owing to global travel and unintentional import of exotic pests. CDFA expends considerable effort controlling pest outbreaks in urban areas before they can spread into agricultural regions. Because affected communities have become increasingly concerned about insecticide sprays, it has become difficult to employ standard synthetic chemicals to control pest infestations. There is need for selective, low risk chemical and biological options which may be used. Biological control can also provide a safe, long-term alternative for managing such urban pest problems. Biological control involves finding natural enemies of exotic pests in their native habitats and releasing them in the area of the infestation, with the goal of establishing a population which will provide continuing pest control.

CDFA pest management efforts are based on IPM and usually include biological control. Biological control, including discovering, evaluating, permitting, and releasing biological control agents, can take many years. During this time, exotic pest populations may expand well beyond the initial infestation. The goal of CDFA's Proactive IPM Solutions program is to anticipate which exotic pests are likely to arrive in the state and develop effective IPM strategies to manage these pests over the long-term. Strategies

may include testing various low-risk chemicals, biopesticides, cultural control, life history analysis to determine vulnerable developmental stages, monitoring techniques for tracking pest populations, and testing of natural enemies that could be quickly deployed when these pests become established. Advanced knowledge of such pest management strategies will minimize disruption to California's growers and urban communities.

Research Priorities

The objective of this research program is to identify and test IPM strategies to control one of the target pests identified by CDFA (Table 1). The IPM program could be quickly implemented once the invasive pest becomes established in California. It is a priority of this program to first utilize and adapt existing knowledge and technology that may exist outside of California. Additionally, the focus is on targets suitable for long-term IPM control. Pests that are typically successfully eradicated, such as fruit flies, will not be a high priority.

A proposal should provide straightforward descriptions of the proposed IPM project, including a detailed scope of work, commitments from team members, and a budget justification (detail provided in grant proposal requirements section).

Projects must propose and justify a high priority target pest from the CDFA target pest list (Table 1). Project proposals must include details and reasoning on what IPM techniques - biological/cultural control, monitoring, etc. - will be investigated. Projects may include any number of IPM components, including a single aspect of an IPM system. Projects with biological control components should detail a plan to collect data necessary to obtain a release permit and describe the process for how a permit will be obtained. The focus of the research should be on long term control of the invasive pest which is least disruptive of urban communities and existing agricultural IPM systems. For example, it would be preferable to prioritize testing selective chemistries, biological chemistries, cultural control, and biological control, over broad-spectrum insecticides. Proposals should consider availability of products not registered in California and potential remedies. For biological control, proposals should address plans to obtain release permits for natural enemies.

Table 1: CDFA target pest list

Scientific name	**Common name**
Abgrallaspis aguacatae	Armored scale
Acutaspis albopicta	Albopicta scale
Agrilus planipennis	Emerald Ash Border
Aleurocanthus woglumi	Citrus blackfly
Anoplophora chinensis	Citrus longhorn beetle
Anoplophora glabripennis	Asian long-horned beetle
Anthonomus signatus	Strawberry bud weevil
Aonidiella orientalis	Oriental Scale
Argyrotaenia ljungiana	Grape tortrix moth
Ceroplastes destructor	White wax scale
Conotrachelus nenuphar	Plum curculio
Cryptoblabes gnidiella	Honeydew moth
Deudorix livia	Pomegranate butterfly
Eupoecilia ambiguella	European grape berry moth
Halotydeus destructor	Redlegged earth mite
Lymantria dispar	Gypsy moth
Harrisina americana	Grapeleaf skeletonizer
Heilipus spp	Avocado seed weevils
Lycorma delicatula	Spotted lanternfly
Oryctes rhinoceros	Coconut rhinoceros beetle
Paralobesia viteana	Grape berry moth
Parlatoria blanchardi	Parlatoria date scale
Parlatoria ziziphi	Black citrus scale
Paysandisia archon (Burmeister)	South American palm borer
Sirex noctilio	Sirex woodwasp
Thaumatotibia leucotreta	False Codling moth
Toxoptera citricida	Brown citrus aphid
Tuta absoluta	Tomato leafminer
Xyleborus glabratus	Red bay ambrosia beetle

The following priorities rubric (Table 2) will be used to evaluate proposals for each target pest. Only pests from the CDFA target list will be considered. Note: it is not a requirement for target pests to fall into the highest priority category in all areas to be chosen. This rubric is meant to serve as a guide to researchers when selecting target pests.

Table 2: Rubric to guide target pest selection

	HIGHEST PRIORITY	HIGH PRIORITY	MEDIUM-PRIORITY
LOCATION OF PEST	In the USA or territory	In a country with similar climate and trade routes to CA	In a country with similar climate or trade routes to CA
STATUS OF:			
NATURAL ENEMIES	Natural enemies known and cultured	Natural enemies are known but not cultured	Natural enemies need to be identified
SUITABILITY OF TARGET FOR BIOLOGICAL CONTROL	Known to be suitable for biological control	Group is known to be suitable for biological control	Unknown suitability for use of biological control
BIOLOGICAL INSECTICIDES OR SELECTIVE CHEMISTRIES	Available and registered in California	Available but not registered in California	Unknown
IMPORTANCE OF CROP(S)	Multiple crops of major economic and cultural significance in CA	At least one of economic and cultural significance in CA	At least one crop with some economic and cultural significance in CA
STATUS OF IPM PROGRAM	IPM program established in other location/	Other countries' governments have started or are researching a program	IPM program will be need constructed
INVASIVE POTENTIAL	Pest is highly invasive throughout the world	Pest is highly invasive in environments similar to CA	Pest is highly invasive in areas growing similar crops to CA
COMMODITY INVOLVEMENT	Commodity is willing to contribute financially to the project	Commodity is a collaborator	Commodity has not yet been brought into the project

Funding and Grant Term

CDFA will select at least one research project to fund each time an RFP is released, every one to three years depending on funding. Proposals will be selected based on the criteria presented below in the Evaluation Criteria section. Project duration may be from one to three years. Maximum funding is $544,000.

Funding must supplement not supplant existing activities/programs. Supplement is defined as adding to existing funds to enhance or expand existing activities. Supplant is defined as replacing existing funds for an activity because grant funds are to fund the same activity.

CDFA reserves the right to offer an award different than the amount requested.

Project Eligibility

Public or private colleges and universities; local and federal government entities including tribal governments; and non-profit organizations are eligible to apply.

Project lead and/or collaborators must have access to a quarantine facility if the project involves biological control or testing products on insects that have not yet arrived in California.

California state agencies may not submit proposal applications but may be listed as subcontractors on other proposals. State agency share of funding may not exceed 30% of total funding. State agencies may not take the lead in project management.

Timeline

An RFP for this program will be released every one- to three-years. New RFPs will be announced via CDFA press release and posted on CDFA website https://www.cdfa.ca.gov/oefi/opca/proactive-ipm.html.

Item	Estimated dates
Request for proposals released	11 March 2019
Deadline to submit questions	27 March 2019
Answers to questions posted	29 March 2019
Grant proposals due	8 April 2019
Proposal evaluation period	8-16 April 2019
Award announcement	17 April 2019
Project implementation	1 June 2019

How to Submit a Grant Proposal

Grant proposals must be submitted via email to cdfa.opca@cdfa.ca.gov no later than April 8th, 2019, midnight.

Late submissions will not be accepted.

CDFA cannot assist in the preparation of grant proposals; however, general questions may be submitted to cdfa.opca@cdfa.ca.gov. In order to ensure all potential applicants benefit from all submitted questions and answers, all questions and responses will be posted on the CDFA website. To ensure a response from CDFA, all questions must be submitted by March 27. Responses will be posted no later than 5:00 P.M. PDT on 29 March 2019 at: https://www.cdfa.ca.gov/oefi/opca/proactive-ipm-answers.html.

Proposal Review and Evaluation

A review committee consisting of scientists at CDFA, United States Department of Agriculture (USDA), California Department of Pesticide Regulation (CDPR), and University of California and California State University researchers will review and evaluate the merits of the proposals. Any member of the committee who is connected to a submitted project will recuse themselves from the process. The evaluation criteria are found at the end of this document.

Award Notification

All applicants will be notified regarding the status of their proposal. Comments will be provided. Successful applicants will be provided a grant agreement following award announcement. Grant recipients may not begin project activities until a grant agreement is executed by both parties. Grant recipients will be required to submit semi-annual reports and a final report to demonstrate project accomplishments, address problems

and delays, and describe activities planned during the next reporting period. Invoices must be submitted monthly for prompt reimbursement.

Disqualifications

The following will result in the disqualification of a grant proposal:

- Incomplete grant proposals, including grant proposals with one or more unanswered questions and/or missing, blank, unreadable, corrupt, or otherwise unusable attachments.
- Grant proposals requesting more than the maximum award amount.
- Grant proposals with unallowable costs or activities necessary to complete the project objectives.

Appeal

Any disqualification taken by the Office of Environmental Farming and Innovations (OEFI) during the administrative review for the preceding reasons may be appealed to CDFA's Office of Hearings and Appeals Office within 10 business days of receiving a notice of disqualification from CDFA. The appeal must be in writing and signed by the responsible party name on the grant application or his/her authorized agent. It must state the grounds for the appeal and include any supporting documents and a copy of the OEFI decision being challenged. The submissions must be sent to the California Department of Food and Agriculture, Office of Hearings and Appeals, 1220 N Street, Sacramento, CA 95814 or emailed to CDFA.LegalOffice@cdfa.ca.gov. If submissions are not received within the time frame provided above, the appeal will be denied.

Grant Proposal Requirements

Grant proposals must include Sections A through G as described below.

Section A: Cover Page must be submitted with the information discussed in the Cover Page section below.

Sections B through F must not exceed 12 single-spaced pages.

Section G: Appendices must be submitted as a PDF file.

Allowable and unallowable costs

A cost is allowable if it directly relates to the project and is incurred solely to advance work under the Grant Agreement. Allowable costs include, but are not limited to, salaries and wages, indirect costs [allowable on personnel costs (salaries and benefits)

only], fringe benefits, consultant services, travel, telephone, equipment (lease/rental), subcontractors and materials, data processing, land rentals, training and communications. Indirect costs must be treated in accordance with your organization's policies and procedures. In the absence of a policy, applicant's indirect costs must not exceed ten percent.

Unallowable expenses include but are not limited to costs for publication in scientific journals, hospitality suites, alcoholic beverages, costs of entertainment, costs for organized fund raising including financial campaigns and solicitation of gifts, and travel to states with active discriminatory laws as detailed in the travel section above. Unallowable costs will not be reimbursed.

A. COVER PAGE (not included in the 12-page maximum)

1. <u>Project Title.</u>

Provide a unique and concise title for the proposed project that adequately describes the project.

2. <u>Project Leader(s).</u>

Specify each project leader's name, title, affiliation, mailing address, telephone number, and email address. *A curriculum vitae, a list of recent publications, and a description of current research/outreach activities must be included for each project leader under Section G: Appendices.

3. <u>Research Collaborator(s).</u>

Specify each collaborator's name, title, affiliation, mailing address, telephone number, and email address. Commodity boards/growers/grower groups providing funding or in-kind support should be included here. *A letter from each collaborator must be included under Section G: Appendices describing their role in the project, estimated time commitment, and a statement of agreement to participate in the project. Do not include a collaborator's name on the cover page unless a support letter is included with the proposal at the time of submission.

4. <u>Supporter(s).</u>

Specify organizations and/or individuals that support the ideas and objectives of the project but are not providing funding. *A letter from each supporter must be included under Section G: Appendices explaining the rationale for their support. Do not include a supporter's name on the cover page unless the support letter is included with the proposal at the time of submission.

B. PROJECT SUMMARY (not to exceed two pages)

Concisely define the problem as it relates to the chosen priority target pest, state project objectives, describe the approach to be used, and identify criteria that will be used to evaluate the project's success.

C. PROJECT JUSTIFICATION

1. Specify reasons for selecting the target pest.

2. Explain how the project will contribute to the goals of the proactive IPM solutions.

3. Describe relevant research about the target pest and/or system.

4. Explain how and where host range testing will be conducted.

5. Discuss why and how biological control could be part of an integrated pest management program for the target pest.

D. WORK PLAN AND METHODS

Provide a work plan in which the project is divided into tasks and sub-tasks. Identify who is responsible for completing each task.

E. PROJECT MANAGEMENT AND EVALUATION

Provide a timeline. Describe how data will be collected and shared with the CDFA. Detail what measures will be used to evaluate the project, and how they will be assessed and reported to CDFA.

F. BUDGET NARRATIVE

Provide a detailed narrative of your proposed budget broken into year 1 and years 2-5. As described above, funding for subsequent years will not be released until the year 1 benchmark has been met. The budget should contain a narrative in paragraph format for each budget category in order to determine the costs are reasonable and allowable. Allowable and unallowable costs are defined in the Allowable and Unallowable Costs section above. Assume a start date of 1 June 2019 and explain all of the following:

1. <u>Personnel.</u> Provide classification level, percent of time based on full time salary/wages, benefits, employment period, and name of individual to be hired, if available.

2. <u>Operating Expenses</u>. Itemize and justify all of the following operating expenses:

A. Supplies: Itemize and justify all supplies to be purchased. Supplies are anything with an acquisition cost under $5,000 per unit. For each grant year,

provide an itemized list of projected supply expenditures, the dollar amount for each item, and describe how it will support the purpose and goal of the project.

B. Travel: The maximum travel rates allowable are the rates in effect at the time of travel as established by the California Department of Human Resources (CalHR). Exceptions: Colleges and Universities must comply with their institution's travel policies. For each grant year, itemize and indicate the following information, if applicable, for each trip: (a) destination; (b) purpose of trip; (c) number of trips; (d) identify travelers; (e) number of days traveling; (f) estimated airfare costs; (g) estimated ground transportation costs; (h) estimated lodging and meals costs; and, (i) estimated mileage rate.

Additionally, in accordance with California Assembly Bill 1887, state funded and state sponsored travel to states with discriminatory laws is prohibited. **Grant funds cannot be used to support costs for travel to states with active discriminatory laws.** As of the issuance of this document the following states are subject to California's ban on state funded and state sponsored travel: Alabama, Kansas, Kentucky, Mississippi, North Carolina, Oklahoma, South Dakota, Tennessee, and Texas.

C. Other Direct Costs: Identify and explain any additional expenses not covered by the above categories. Other expenses include, but are not limited to: conferences or meetings, communications, speaker/trainer fees, publication costs, data collection, and other budgeted costs associated with the project.

D. Indirect costs are any costs that are incurred for common or joint objectives that therefore cannot be readily identified with an individual project, program, or organizational activity. They generally include facilities operation and maintenance costs, depreciation, and administrative expenses. It is generally unallowable to charge an indirect cost as a direct cost. Indirect costs must be treated in accordance with your organization's policies and procedures. In the absence of a policy, applicant's indirect costs must not exceed ten percent. Any non-UC applicants requesting an indirect rate of over 10% will need to provide documentation of that policy.

3. Other Funding Sources. Indicate if any Federal, State or other grant program(s) are providing funding for this project. Identify the Federal, State agency or organization administering the program(s), and the amount(s) of funds requested/awarded.

G. APPENDICES (not included in the 12-page maximum)

1. Project Leaders. Include a two-page resume and list of recent publications. Also include a description of current research/outreach activities; provide

information on all current, planned, pending, and recent projects, whether or not there is a specific time commitment and how it will impact the proposed project.

2. <u>Research Collaborators</u>. Include a letter of support from each research collaborator, including a description of their role in the project and statement of agreement to participate in the project.

3. <u>Supporters</u>. Include a letter from each supporter explaining the rationale for their support. Scanned copies of letters are acceptable if attached to the proposal at submission time.

Evaluation Criteria

All applications will be evaluated based on the criteria detailed below:

EVALUATION CRITERIA	**Max points**
Proposal Quality • Project Summary: Concisely defines the problem, states project objectives, describes the approach to be used, and identifies criteria that will be used to evaluate the project's success. • Objectives: Provides a clear and concise statement of each objective. • Work Plans and Methods: Work plan is organized by tasks and subtasks and includes milestones. Clearly explains path to conduct host range testing and/or efficacy testing. Clearly explains experimental design and statistical analyses. • Project Management and Evaluation: Gives detailed timeline and evaluation metrics. • Additional information includes required information for project leaders, cooperators, and supporters.	25
Project Justification • Relevance to Research Priorities: Clearly states how proposed target pest fits into the priority rubric. • Justification: Defines/describes the problem, explains impact on a local/regional/statewide level, indicates potential contribution to long-term problem resolution, describes previously conducted related research, and specifies new information to be generated.	25

Project Team and Resources *Team* • Are the project leaders, cooperators, and other researchers well-suited to the project? • Early stage/new investigators: Do they have appropriate training and experience? • Established investigators: Have they demonstrated an ongoing record of accomplishments that have advanced their field(s)? • Collaborative/multi leader project: Do the investigators have complementary and integrated expertise and their leadership approach/governance and organizational structure appropriate for the project? • Does the project proposal have strong support from relevant organizations/ individuals? *Resources* • Are the institutional support, equipment, and other physical resources available to the investigators adequate for the project proposed? • Will the project especially benefit from the unique features of the scientific environment and/or collaborative arrangements?	15
Feasibility and Impact • Project is manageable within proposed framework of budget, time and personnel. • Project objectives are clear, well stated, and achievable. • The overall strategy, work methodology, and analyses methods are well-reasoned and appropriate to accomplish the objectives of the project. Potential problems, alternative strategies and benchmarks for success are included.	20
Fiscal Merit • Project's budget is detailed, reasonable, and accurate. • Budget Narrative: Itemizes, describes, and justifies all project expenses.	15
Total points	100