

2023 LIVESTOCK ENTERIC METHANE EMISSION REDUCTION RESEARCH PROGRAM (LEMER-RP)

Request for Pre-Proposals

Released: July 6, 2023
Pre-Proposals Due: August 7, 2023
Late submissions will not be accepted.



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Contents

- About the Program 3
- Purpose and Background 3
- Definitions 3
- Program Impact Areas 3
- Funding and Duration 5
- Eligibility and Exclusions 5
- Timeline 6
- Project Technology and Feasibility 6
- How to Apply 7
- Pre-Proposal Requirements 7
- Evaluation Process 8
- Scoring Criteria 9
- Disqualifications 9
- Assistance 9
- Application Workshop 9

About the Program

Purpose and Background

The California Department of Food and Agriculture's (CDFA) [2023 Livestock Enteric Methane Emission Reduction Research Program \(LEMER-RP\)](#) will award competitive grant(s) to fund demonstration trials evaluating additives and dietary modifications that have the potential to reduce enteric methane emissions in the dairy and livestock sectors. These research projects will help address key barriers to achieving California's climate goals, which include the reduction of methane emissions to 40% below 2013 levels by 2030 as codified in [SB 1383 \(Lara, 2016\)](#) as well as efforts to continue advancing climate-smart agriculture.

The funding allocated from the Budget Act of 2022 ([AB 179, Section 194](#)) will be directed towards the dairy and livestock sectors for demonstration projects to:

- Supplement feed with additives or ingredients, that have scientifically demonstrated efficacy in reducing methane emissions, and
- Research dietary modifications that are intended to reduce methane emissions from livestock

Definitions

- 1) Phase 1:** During this phase, eligible applicants are required to submit a pre-proposal containing the necessary information. Upon submission, CDFA will provide feedback to the applicants, indicating whether they should proceed to Phase 2 by submitting a full proposal. This phase is open to all eligible applicants.
- 2) Phase 2:** This phase is exclusively for selected applicants who have received approval from CDFA to submit full proposals. Only those who have advanced from Phase 1 are eligible to participate in Phase 2. The full applications will undergo a comprehensive review process, and projects will be selected for awards in each impact area.

Program Impact Areas

The 2023 Livestock Enteric Methane Emission Reduction Research Program (LEMER- RP) will support demonstration projects for dairy and/or livestock operations to supplement feed with additives or ingredients, that have scientifically demonstrated efficacy of reducing methane emissions and/or research dietary modifications that are intended to reduce methane emissions from livestock.

Projects must minimally address the impact areas below, but the scope of work may be

expanded outside of the impact area to address additional research questions relevant to decreasing methane emissions in the dairy and livestock sectors and/or addressing human health and safety concerns associated with downstream production of products, such as milk and meat from animals fed feed additives with methane reducing properties or dietary modifications that decrease methane emissions. Additionally, Universities, including UC and CSU systems and elsewhere, may apply for funds to add methane measurement infrastructure to their facilities and train staff and students on using this equipment.

CDFA reserves the right to award each impact area or change allocations as it seems fit.

- **Impact Area 1 – One project, up to \$2.5 Million:**

Administration of feed additives for one full and/or multiple lactations. Project components should include: 1) determination of the methane reduction efficiency in a variable diet (e.g., utilization of changing by-products and ingredients in feed) similarly to the observed throughout the year in a commercial livestock operation in California; 2) an economic analysis and GHG reduction impact projection/model based on the results; 3) upstream and downstream methane emissions impacts, in addition to other greenhouse gases and air criteria pollutants, as well as the impact on manure emissions and quality.

Feed additives for use in this impact area must demonstrate a successful and proven history of use for enteric methane reduction. This project must include a plan of attaining federal approval through the U.S. Food and Drug Administration (FDA) to increase the likelihood of successful adoption of feed additives for commercial use within a reasonable amount of time upon completion of the research.

- **Impact Area 2 – Two projects, up to \$1.5 million per project.**

Dual intervention studies. Studies investigating two or more interventions. One project is to be awarded to a protocol for parallel usage and one for a sequencing protocol. (i.e., 3-NOP and seaweed, 3-NOP and plant extracts, 3-NOP and fat, plant extracts and direct-fed microbial, or other combinations).

- **Impact Area 3 -Two projects, up to \$1.25 million per project.**

Cow-calf grazing systems studies. Studies could include, but are not limited to, early life intervention strategies and monitoring, salt lick/bait delivery systems, bolus technology, water delivery or other deliverables, feasible to pasture systems, among other strategies. Multiple trials are encouraged.

- **Impact Area 4- Two projects, up to \$750,000 dollars per project.**

Dietary modifications that are intended to reduce methane emissions from livestock studies. Examples include dietary manipulation, such as improving forage quality, altering the proportions of forage in the diet, etc.

*Please note, that if any of the products are not approved for use or are undergoing a federal approval process and do not have an investigational food use authorization, applicants must acknowledge that end products (i.e., milk and/or meat) will not enter the food supply chain. Livestock feed trials are required for all impact areas.

Funding and Duration

The Budget Act of 2022 amended by (AB 179, Section 194) appropriated a total of \$10 million payable from the Greenhouse Gas Reduction Funds to CDFA for demonstration projects for feed additives and dietary modification intended to reduce enteric methane emissions. The bill states:

“Of the funds appropriated in this item, \$10,000,000 shall be used to (1) provide funding to the dairy and livestock sectors for demonstration projects to supplement feed with additives or ingredients, such as seaweed, that have scientifically demonstrated efficacy of reducing methane emissions and (2) research dietary modifications that are intended to reduce methane emissions from livestock. The department may consult with other state and federal agencies, as needed, for the implementation of this funding.”

To accomplish the legislative mandates associated with the bill, the research funding will be allocated as follows:

- Maximum grant amounts for projects depending on the selected impact area described in the section [Program Impact Areas](#). However, CDFA may offer an award different than the amount requested.
- Matching funds are not required but are strongly encouraged.
- The maximum project term is 46 months.
- Grant funds cannot be expended before the grant agreement start date or after the grant agreement end date.
- Extensions to the grant term beyond what is listed for each impact area may be implemented on a per-project basis at the discretion of CDFA and reliant on statutory limits.
- All projects will be selected based on the merit of the received proposals.

Eligibility and Exclusions

Research conducted must be applicable to California dairies and/ or livestock operations.

Entities eligible to apply include Universities (with or without a private partnership), non-profit

research organizations, and California Native American Tribes. Private companies are eligible to partner with an entity listed above but are not eligible for the award on their own. California based projects will be prioritized in funding decisions, however, CDFA also welcomes applications from out-of-state organizations that can directly address California's unique dairy and rangeland needs.

- Pre-proposals may originate from outside of California, but all project work and research must be relevant to California dairy and livestock unique needs.
- Projects funds may be combined with other funds from public and/or private sources as cost-share for the same project.
- LEMER-RP funds cannot duplicate activities or costs funded by other federal or state grant programs.
- LEMER-RP funds cannot be used for the development of proprietary technologies. Public sharing of project data and outcomes is required, including but is not limited to, environmental and economic performance outcomes. Trade secrets or proprietary information related to system design, construction, or production are not required to be disclosed.

Timeline

Phase 1	<ul style="list-style-type: none"> • Request for Pre-Proposals Release (July 6, 2023) • Pre-Proposals Due (August 7, 2023) • Recommendation to Phase 2 (September 2023) • Notification Letters Sent to Applicants (September 2023)
Phase 2	<ul style="list-style-type: none"> • Request for Full Proposals Release (September 2023) • Full Proposals Due (November 1, 2023) • Full Proposals Sent to Technical Reviewers (November) • Review and Recommendation to Secretary (December) • Awards Announced December 2023 • Notification Letters Sent to Applicants (December 2023)
Award	<ul style="list-style-type: none"> • Award Process (December 2023 – February 2024) • Projects Begin (April 1, 2024)

* Subject to Change

Project Technology and Feasibility

Funding priority will be given to projects that demonstrate the greatest potential for impact and implementation feasibility for California dairy and livestock operations. However, applicants are encouraged to add components to projects that support the evaluation of

new measurement or deployment technologies.

How to Apply

Pre-proposals are due by 5:00 PM PT on August 7, 2023. No exceptions granted.

Late submissions will not be accepted.

Pre-proposals must be submitted via email to:

CDFA.OEFI_Enteric_Methane_Reduction@cdfa.ca.gov. CDFA LEMER-RP staff will reply with a confirmation email when pre-proposals are received. LEMER-RP is not responsible for incomplete email transmissions.

Pre-proposals that are incomplete, late, or exceed three pages will be returned and eliminated from consideration.

LEMER-RP staff is available to answer questions about the proposal process; however, to ensure fair competition, we do not provide guidance on the development of proposals.

Pre-Proposal Requirements

Each pre-proposal must follow the subsequent formatting:

A summary of the proposed project not more than 3 pages in length. The pre-proposal should be submitted as a PDF file, in Arial font size 11, with one (1) inch margins, page numbers should be on bottom right corner.

The applicants interested in submitting a pre-proposal must respond to the questions below:

- 1) Provide a brief overview of the project including scale, livestock sector, and how this project aims to address the funding goals: 1) Supplement feed with additives or ingredients that have scientifically demonstrated efficacy of reducing methane emissions, and/or 2) Research dietary modifications that are intended to reduce methane emissions from livestock.
- 2) Provide a brief explanation of what impact area(s) your project will focus on and how the project will address that impact area identified. If more than one, please clearly explain how the project will address requirements of each impact area.
- 3) Explain any unique aspects of the methods or team that will contribute to the success

of the proposed work.

- 4) Address any anticipated challenges/barriers you foresee and how you will overcome them. Please provide detail and a brief timeline if needed on how these challenges will be addressed during the duration of the grant.
- 5) Provide the award amount requested for the project.
- 6) Provide any other relevant information for the successful completion of the project.
- 7) Explain how your project address California's unique dairy and rangeland needs.

Evaluation Process

The internal technical review panel consists of subject matter experts who are responsible for the evaluation of submitted pre-proposals. The technical review panel selects pre-proposals to be developed into full proposals based on alignment with the program's priority impact areas, project concept, scientific merit, impact, methodology, and feasibility. CDFA notifies applicants of the technical review panel's decision and invites selected applicants to submit full proposals. Full proposals are evaluated by an expanded technical review panel, which will present its recommendations to CDFA's Secretary for final approval on the granting of awards.

CDFA will ensure, to the extent feasible, the inclusion of Socially Disadvantaged Farmers and Ranchers (SDFR) in all programs, including LEMER-RP. Farmers and ranchers who identify as belonging to a socially disadvantaged group, or projects that involve or take place in collaboration with a farm or ranch operated by Socially Disadvantaged Farmers or Ranchers will be prioritized for funding. A socially disadvantaged group is defined by the 2017 Farmer Equity Act (AB 1348) as a group whose members have been subjected to racial, ethnic, or gender prejudice because of their identity as members of a group without regard to their individual qualities. These groups include all the following:

- African Americans
- California Native American Tribes
- Alaskan Natives
- Hispanics
- Asian Americans
- Native Hawaiians and Pacific Islanders

Scoring Criteria

Scoring Criteria*	Maximum Points
Q1: How well did applicants describe project overview and their plan to meet funding goals?	8
Q2: How well does project meet and address goals of selected impact area(s)?	8
Q3: How well are project methods explained?	5
Q4: How well did the project address potential challenges/barriers?	3
Q5: Is funding requested appropriate for the proposed project?	3
Q6: How well did applicant provide relevant information for successful completion of project?	3
Q7: How well does your project address California's unique dairy and rangeland needs?	5
Total	35

Disqualifications

APPEAL RIGHTS: Any discretionary action taken by the Office of Grants Administration (OGA) may be appealed to CDFA's Office of Hearings and Appeals within ten (10) days of receiving a notice of disqualification from CDFA. The appeal must be in writing and signed by the responsible party named 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 OGA decision being challenged. The submissions must be emailed to CDFA.LegalOffice@cdfa.ca.gov (preferred) or sent to the California Department of Food and Agriculture Office of Hearings and Appeals, 1220 N Street, Sacramento, CA 95814. If submissions are not received within the time frame provided above, the appeal will be denied.

Projects which are not relevant to California dairy and livestock systems will not be considered for funding.

Assistance

Application Workshop

CDFA will conduct one public application workshop for the LEMER-RP pre-proposal process on Thursday, July 13 from 1:00 - 2:00 PM PT. Please register at https://us02web.zoom.us/webinar/register/WN_JNCjzCWyQM2PNjCmBO88SQ.

All applicants are encouraged to participate in the workshops. The workshop will be recorded and posted on the website.