California Department of Food and Agriculture
2023 Livestock Enteric Methane Emission Reduction - Research Program (LEMER-RP)
Project Selected for Award Funds

Updated on July 2025

# Awarded Projects	Impact Areas	Project Title	Lead Principal Investigator	Lead Organization Name(s)	Award Amount ($)	Matching Funds ($)	Project Description
1	1	An evaluation of long-term feeding 3-NOP to reduce methane in California dairy cows	Dr. Frank Mitloehner	UC Davis	$ 2,499,613	$ -	This project seeks to be the first to evaluate a long-term intervenon of feeding 3-nitrooxypropnaol (3-NOP; Bovaer®; Elanco Animal Health) to lactating and dry dairy cows in California in both a controlled research and commercial setting.
2	3	Effects of early life strategies to reduce lifetime enteric methane emissions in California cow calf operations	Dr. Frank Mitloehner	UC Davis	$ 1,249,918	$ -	This investigation of Early Life Intervention Tactics and Execution (ELITE) will occur in three studies: 1.) an initial calf study feeding a bromoform-based feed additive, 2.) a commercial cow-calf operation study with a bromoform-based, slow-release calf bolus, and 3.) a complete life cycle assessment.
3	3	Researching Asparagopsis supplementation for radical methane emission reduction in cow-calf operations in California	Dr. Shiela Barry	UC ANR	$ 1,220,169	$ 17,800	The primary objective of this study is to establish and validate a mechanism to reliably deliver a supplement with red seaweed, Asparagopsis taxiformis (AT) to beef cows and calves for radical reduction of methane emissions in grazing systems.
4	2 & 4	Dual not Duel: Evaluating the Impact of Methanogenic inhibitors Co-fed with Alternative Feed Additives on Lactating Dairy and Dairy Cow Manure under California Dairy Management Practices	Dr. Silva Del Rio	UC Davis	$ 1,494,118	$ -	The primary objective of this project is to significantly decrease the release of enteric methane emissions from dairy cows. This will be achieved by identifying synergies between innovative combinations of methanogenic inhibitors and feed additives (Impact Area 2) that can act as H2 sinks (canola oil) or H2 scavengers (direct fed microbials) that enable enhanced enteric methane reduction, improved animalefficiency, or both.
5	2 & 4	Interactions between dietary fatty acids, Asparagopsis taxiformis, and bromoform on enteric and manure methane emissions and energetic conversion in lactating dairy cows	Dr. Joseph McFadden	Cornell University	$ 1,585,350	$ 1,768,616	This multi-faceted research project aims to: validate measurement instruments, determine the effects of dietary lipids on enteric and manure GHG emissions in lactating cattle, determine interactions between lipids and synthetic bromoform or Asparagopsis taxiformis, and simulate the expeted impacts of fatty acids and bromoform on enteric and manure GHG emissions under California management practices.
6	3	A bromoform safety study for California dairy and beef cattle	Dr. Terry Engle	Colorado State University	$ 1,250,000	$ 354,800	The objective of this study is to generate public knowledge about the safety of a bromoform-containing product (BCP) for California beef and dairy cattle.
7	4	Cattle producer survey to identify barriers to adoption of enteric methane mitigation practices	Jennifer Heguy	Regents of the University of California	$ 165,759	$ -	The primary objective of this project is to gain knowledge to support enteric methane mitigation in the California cattle industries using a survey to gauge dairy and beef producers' interest and perceived barriers in adopting various enteric methane mitigation strategies.
Final Funding Recommendation - $9.46 million, 7 projects					**$9,464,927**	**$2,141,216**	