

CDFA's Alternative Manure Management Program Case Studies

Author: Dana (Brady) Yount



Zuppan's Manure Solid Separator System funded by the CDFA's AMMP Grant

When liquid manure sits in storage lagoons on dairies or other livestock operations for too long, methane can form. The formation of methane in the atmosphere is one thing that contributes to climate change. To address increasing concerns over methane emissions, the California Department of Food and Agriculture (CDFA) developed the Alternative Manure Management Program (AMMP) that supports farmers in reducing their methane emissions. AMMP incentivizes the development of non-digester manure management practices that reduce greenhouse gas emissions, along with protecting water and air quality.

In the most recent round of the CDFA's Alternative Manure Management Program, livestock and dairy operations could apply for up to \$750,000 to implement methane reduction practices. The objective of this program is to encourage dairy and livestock producers to adopt Climate Smart Agriculture practices to reduce methane emissions in animal agriculture systems. These practices fall under four main categories: pasture-based management, solid separation, conversion from flush to scrape, and alternative manure treatments and storage.



Zuppan's Solid Separator and manure storage pit funded by the AMMP Grant

The University of California Climate Smart Agriculture Educator team has been working on an AMMP case study project, which highlights two dairies that received the grant, and have successfully completed their projects. The two dairies, Zuppan Dairy and Renati Dairy, both applied for solid separation practices under CDFA's AMMP grant.

Zuppan Dairy, a family-owned farm, milks around 600 cows in Glenn County. With the help of the grant, they were able to purchase and install a manure solids separator, handling equipment, pump for the pond, concrete slab and agitator. The project was completed within a year and has now been operating for almost two years. By implementing these climate smart manure management practices, the Zuppan's project greenhouse gas reduction is equivalent to removing 176 cars off the road per year. Not only are there environmental benefits, but Zuppan Dairy is seeing a yearly average savings of \$29,000 - \$37,000.

Renati Dairy, a fourth-generation farm established in 1958, milks 750 cows in Sonoma County. They were able to install a pump, agitator, mechanical scraper and a concrete trough to connect manure to an existing manure solids separator. Renati Dairy's greenhouse gas reduction for this project is equivalent to removing 111 cars off the road each year and a dairy of this scale can expect to see yearly savings of \$93,000.

Along with yearly savings for each of the dairies, both are seeing additional benefits. For example, a reduction in fertilizer costs due to composting, lower levels of solids in the manure ponds, and a reduction in labor costs.



Example of a Dairy Manure pond with crust layer

According to the CDFA AMMP flyer ([AMMP Flyer 2021](#)), since the beginning of this program in 2016, the California Department of Food and Agriculture's Alternative Manure Management Program has awarded over 117 grants to producers to install better manure management practices in order to reduce methane production. Overall, 1.1 million metric tons of carbon dioxide equivalents will be reduced over 5 years, which is equivalent to 243,310 cars being taken off the road.

For more information, please visit the Climate Smart Agriculture Educator website to read the full stories and economic analysis for these case studies:

http://ciwr.ucanr.edu/Programs/ClimateSmartAg/Healthy_Soils_Program_HSP/AMMP/.