

**CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE  
2018 Alternative Manure Management Program  
Applications Submitted to CDFA**

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APPLICANT ORGANIZATION	DESCRIPTION	MANAGEMENT PRACTICE(S)	REQUESTED GRANT FUNDS	MATCHING FUNDS	COUNTY	TOTAL EMISSION REDUCTION OVER 5 YEARS (MTCO <sub>2</sub> e)
1 Dias Family Dairy	Install a US Farms System mechanical separator with concrete pad for intensive composting activities and purchase a 165 HP Case tractor with compost turner for composting of separated solids.	Solid Separation, Composting	\$445,997	\$0	Merced	2,380
2 KB Dairy LLC	To set up an area with power, plumbing, and cement foundation, and a manure separator. Along with a cement pad for composting in a static pile.	Solid Separation	\$349,994	\$79,866	Stanislaus	22,505
3 Andrew Zylstra Dairy, Inc.	Mechanical Separator Proposal	Solid Separation, Solid Storage	\$270,497	\$10,000	Stanislaus	21,321
4 Godinho Dairy, Inc.	Our goal is to reduce the amount of greenhouse gasses (GHG), odor and dust produced by our current program. The type of project we are proposing is a pasture-based management program. The construction of a compost bedded pack barn will lead to a decrease in the amount of manure flushed into our anaerobic lagoon and therefore a decrease in GHG emissions. This manure management project will reduce our carbon footprint and increase cow comfort. Daily in-place mixing using a rototiller will increase temperatures and decrease moisture, therefore decreasing the number of pathogenic bacteria. Thus, leading to better cow health and less GHG emissions.	Compost-Bedded Pack Barn	\$736,333	\$0	Merced	56,351
5 JB Dairy	Installation of an Albers Primary Separator system complete with roller press, along with a concrete pad for manure composting with passive windrowing and concrete pad and side walls under an existing shade structure for manure drying during winter months. The installation of the separator proposes to remove a significant amount of the solids currently conveyed in the waste stream to the storage ponds. The manure removed through the separator will allow for shaded solar drying during rainfall months and passive windrow composting on a composting pad. Implementing separation of solids from the waste stream and composting will directly reduces Carbon Dioxide (CO <sub>2</sub> ), Methane (CH <sub>4</sub> ) and Nitrous Oxide (N <sub>2</sub> O), which are all Green house gases that have been found to be harmful to the environment. The additional practices of shaded drying during wet months, along with open windrow composting will provide even further reduction of green house gases.	Solid Separation, Composting	\$748,678	\$0	Merced	5,817
6 F&S Brasil Dairy	The F&S Brasil Dairy is proposing to install a Mechanical Separator through the AMMP Grant Program as a means to reducing methane emissions on the dairy facility. The dairy is proposing to acquire a US Farm Systems dual screen separator with a goal of removing 55% of the solids from the waste stream. A concrete receiving pit for the mechanical separator is also proposed as part of the project.	Solid Separation, Open Solar Drying	\$213,969	\$5,000	San Joaquin	26,913

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7 Vierra Dairy Farms	This project entails a Bio-Lynk Solid Separator System and the infrastructure to operate. Within this system there are: 4 rotary(barrel)separator screens, 2 primary stage and 2 secondary stage, numerous pumps to move material, an agitation pit, 3 flush tanks, a sand lane and a manure stacking area. We are asking the AMMP for grant funding to aid in construction of the system. Having the Bio-Lynk system is essential to our continued operation. Primarily it will decrease the Volatile Solids that are accumulating in our lagoon and settling ponds creating Methane Producing Compounds. Additionally we will see a dramatic increase in the quality of bedding material which is of huge importance to animal health welfare. We anticipate an overall increase in the electric consumption of the dairy BUT we also foresee a substantial decrease in the diesel fuel usage due to reduction in heavy equipment that is currently required.	Solid Separation, Composting	\$750,000	\$652,750	Merced	20,941
8 Vierra Dairy Farms	This project consists of a US Farm System Screen Separator, concrete stacking area and a material handling wagon. We are using an elevated screen so that we do not need a conveyor. Separated material will drop directly onto the concrete stacking area and from there be transported by wagon to a windrowing area. VDF #3 currently has no separation ability. All the VS/MPC's are transferred directly to the lagoon through the flush. Our goal is to reduce this as much as possible, as economically as possible, through the separator project. Secondarily providing an excellent bedding source. We are anticipating a small increase in electricity usage due to the separator, we are using an existing pump to move water over the screen. We think we will be net neutral in diesel usage. There will be an increase due to windrowing and moving of material around the site, but a decrease due in slurry tanker work and excavator use.	Solid Separation, Composting	\$287,878	\$6,750	Merced	5,954
9 Wilgenburg West LLC	Wilgenburg West, LLC proposes to improve the manure management of their facility utilizing a vacuum tanker and applying slurry from cow lanes to compost rows. The dairy would be converted to a heifer lot in the process and thus allow for the removal of 4 lagoons and will greatly improve the grading of the facility and corrals to slope towards 1 lagoon allowing for better water management. Improving grade of facility will allow for better drainage and improve the management of the 70% of manure deposited on soil by allowing this soil to remain dry and out of an anaerobic environment. This project would be an excellent example of what a comprehensive feedlot manure management plan should strive for with very low GHG emissions per animal as an alternative to incorporating a digester system which is not feasible for smaller operations.	Solid Separation, Composting	\$342,207	\$576,009	Kings	4,326
10 John Machado Dairy	Install new separator with cement slab to open solar dry manure and reduce green house gas emissions.	Solid Separation, Composting	\$462,937	\$0	Merced	4,569
11 SBS AG	Change of Waste Water Handling and Solid Collection Management for the reduction of GHG produced. Converting from Settling Ponds to Processing pit and Separating System to capture volatile solids before the lagoons.	Solid Separation, Open Solar Drying	\$385,404	\$15,500	Tulare	25,671
12 Tony & Fatima Garcia Dairy Inc.	The Tony Garcia Dairy proposes to vacuum the lanes in the cow housing with a vacuum wagon and handle the collected manure in a dry form for 110 days per year and continue with flush manure handling the remaining days of the year.	Flush-to-Scrape, Composting	\$346,634	\$5,000	Stanislaus	6,051

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13 Frank Coelho & Sons	This project includes the installation of a sand trap, sand lane, slope screen separator, screw press separator, and infrastructure to connect to the existing flush and settling basin manure management system. The new system will allow for higher efficiency in separating organic from inorganic material in flush water, decrease the greenhouse gas emissions by decreasing the anaerobic digestion in the lagoons, decrease the running time of equipment operating on internal combustion engines, increase aerobic digestion of organic matter to improve bedding quality for livestock.	Solid Separation, Composting	\$584,912	\$122,558	Merced	46,771
14 Jose V. Silveira Dairy	Improve separation efficiency by upgrading our current separator system to a more modern, more efficient US Farm Systems Sloped Screen Separator with incline screw press and swing stacking belt conveyor. Install a processing pit to allow for collection of our flushed waste stream and conveyance of the wastewater through the new separator for maximum separation removal, this processing pit will also be used for flushing activities which will allow for reduced flushing times and help reduce energy usage and maintain clean and dry flush lanes. Also, expand our current open solar drying manure storage pad area to allow for the additional separated solids that will be removed with the upgraded system. All practices are anticipated to reduce a significant amount of green house gases.	Solid Separation, Open Solar Drying	\$550,618	\$0	Merced	5,482
15 Thommen Dairy	The purpose of this project is to minimize the amount of solids entering ponds by adding a screen separator in conjunction with a processing pit. Currently a settling basin is used to separate solids prior to flush water entering our storage ponds. Majority of milking cows at Thommen Dairy are housed in free stall barns where feed lanes are flushed 3 times per day. After the solids are removed from separator they will be composted in an intensive windrow turned with a 12' PTO compost turner.	Solid Separation, Composting	\$510,253	\$26,000	Fresno	34,987
16 Alfred Soares Dairy	Solid Manure Separator to separate solids from entering lagoons/ponds enabling solids to be exported resulting in methane emissions reductions to minimize adverse environmental impacts	Solid Separation, Open Solar Drying	\$417,997	\$0	Madera	6,070
17 T & C Louters Dairy	T & C Louters Dairy is applying for the 2018 Alternative Manure Management Program with the goal of reducing methane emissions and more effectively managing our manure. To minimize our environmental impact, the dairy is proposing to acquire a US Farm System single slope mechanical separation system with screw press, sand trap, concrete slab for drying manure-laded sand and processing pit. This system will remove a significant amount of the methane forming manure solids from the flush water before entering the anaerobic environment of the settling basins and storage lagoon.	Solid Separation, Open Solar Drying	\$518,776	\$5,000	Merced	11,141
18 Diamond J Dairy, LLC	It has been our hope since developing our CNMP with USDA-NRCS staff to reduce GHG emissions generated from our manure handling process. We are thankful for the opportunity to ask for \$518,237 to convert our open lagoon manure storage to a solid separator system with open solar drying. We have a team in place for this shovel ready project that can execute the completion within 6 months of approval. Using Quantification Methodology we are reporting an estimated reduction in GHG emissions by 6644 mtCO <sub>2</sub> e/5yr in our low income & disadvantage community, as determined by CalEPA to be a target of AB1550 in Merced County. As we have developed our application we see a beautiful story of human impact and environmental protection. We are first generation farmers, helping train up first generation Americans and reducing environmental impact of dairy farms in Ca through reducing GHG emissions, reducing leaching of nutrients from manure storage and bringing modern farming to under served families.	Solid Separation, Open Solar Drying	\$518,237	\$35,250	Merced	6,644

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19 Mayo Dairy	To build a Houle 2 stage slope screen separator with 2 roller press Manure Separator at Mayo Dairy. This project has a GHG reduction per animal over 5 years of 2.66 mtCO <sub>2</sub> e per animal. The Total annual project GHG Emission reduction of 1,942 mtCO <sub>2</sub> e/yr. The Mayo Dairy is asking for 710,000 to accomplish this.	Solid Separation, Open Solar Drying	\$710,000	\$0	Merced	1,942
20 Silveira Dairy	Silveira Dairy will be installing a curved and sloped screen mechanical separator with reception pit, along with a concrete pad for passive manure composting with anticipation of significantly improving their existing waste handling system to reduce greenhouse gases.	Solid Separation, Composting	\$447,420	\$6,500	Madera	7,788
21 O & S Holsteins	O & S Holsteins will install a dairy manure solid separation and treatment system on its dairy close to the lagoon. This system will have the ability to treat all manure created by lactating cows. This system has demonstrated results at other dairies to reduce total methane production.	Solid Separation	\$732,673	\$90,885	Riverside	1,557
22 Dewit Dairy Inc.	The Dewit Dairy proposes to vacuum scrape manure from the existing flush lanes for part of the year and continue to flush for the remainder of the year. The vacuumed manure will be dried on a new concrete slab. This will prevent a significant amount of the manure that currently goes to the lagoon from ever reaching the lagoon and forming methane.	Flush-to-Scrape, Open Solar Drying	\$673,115	\$43,600	San Joaquin	13,968
23 Art Silva Dairy	A Two-Stage liquid/solid manure separator with composting in windrows on a concrete slab will be installed to provide several benefits: reduction of greenhouse gases and odor, removal of excess nutrients from irrigation/application water, production of dry manure solids that can be readily composted, dried, spread or sold as fertilizer or reused as bedding for cows, and provide a system built with durable, high quality materials that will perform for many years with minimal maintenance.	Solid Separation, Composting	\$405,521	\$100,000	Stanislaus	11,659
24 Toledo Dairy	Application for a grant for a solid separation system at Toledo Dairy Farm in Galt, California. Toledo Dairy is requesting to construct a solid manure separator to help California reach its stated future goal of methane reduction. Toledo Dairy is a family operation that has been operating since 1980 when it was started by John Toledo. Toledo Dairy is 100% committed in seeing this project through with partners such as US Farm Systems. We will work our hardest to ensure this project is completed efficiently and to the highest of environmental standards. We would like to thank the State of California for providing this opportunity to help the Dairy Industry Progress and look forward to possibly working together in the future.	Solid Separation, Solid Storage	\$412,059	\$0	San Joaquin	7,915

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25 Fernjo Farms	Fernjo Farms is proposing to install a solid manure separator on a flushed freestall dairy and convert several dry cow and heifer housing areas from wet manure handling to dry manure handling with a manure vacuum and concrete drying pad.	Solid Separation, Open Solar Drying	\$742,155	\$30,000	Tulare	45,741
26 Bordessa Family Dairies	The Ocean Breeze Dairy Project will involve a flush to scrape conversion of an existing freestall barn and weeping wall separator. The conversion from wet to dry will allow the scraped manure to be collected and composted on site for use as a soil fertility input. A new Compost Bedded Pack (CBP) barn will be constructed to house heifers and dry cows. This project utilizes a completed Carbon Farm Plan as the basis for implementation. The goal of the project is to increase manure management efficiencies while mitigating atmospheric greenhouse gas emissions and increase soil health through compost application.	Solid Separation, Composting	\$675,359	\$78,515	Sonoma	5,337
27 Brodts Dairy	Brodts Dairy's Bovine Carbon Conquerors project is designed as a comprehensive upgrade to the manure management system on the dairy. It is categorized primarily as solid manure separation and composting in passive windrow management for the existing scrape system. The project will install a new 200 foot x 134 foot pole barn for use as a bedded pack barn and a 90 foot x 80 foot pole barn under which will be a solid manure storage area. Two passive composting areas under both barns 10-foot overhangs will help facilitate manure composting production. The project also includes decommissioning an older lagoon and a small underground concrete manure storage tank. It is estimated that the total project GHG emission reductions over 5 years will be 3,582 mtCO <sub>2</sub> e.	Solid Separation, Composting	\$750,000	\$87,920	Humboldt	3,582
28 Woods dairy	Installation of a sloped screen separator system at the Woods Dairy. The manure separator would separate solids from flush water.	Solid Separation, Solid Storage	\$282,822	\$4,495	San Joaquin	3,705
29 Brindeiro and Danbom Dairy Farm	Our farming operation currently farms 420 acres. Of this 420 acres, we are only able to get manure water onto 130 acres. This project will allow us to more accurately distribute the manure waste on our farm ground that is not adjacent to the dairy facility. This is a two prong project, with prong number one: the conversion of the heifer and dry cow flush facility to a dry scrape facility. Prong number two: the installation of a manure separator and construction of a composting area and equipment to compost in intensive windrows. We are looking forward to doing this project and are excited to be involved in a project to help the environment and reduce our carbon signature. We feel as farmers that we have to be good stewards to the land and that is our ultimate legacy and this project helps us to be more environmentally responsible.	Solid Separation, Composting	\$744,250	\$26,500	Stanislaus	7,753
30 Bosma Milk Company	We will reduce our green house gas emissions by converting our flush lane dairy to a vacuum scrape system with a Loewen Honey Vac. The vacuumed product will be processed by a 3 stage roller drum separator to reduce the moisture content prior to solar drying. After solar drying manure will then be used as bedding or field nutrients. This process will prevent the manure from entering the anaerobic conditions present in the manure lagoon. Total 5 year reductions of green house gas emissions of 56,157 mtCO <sub>2</sub> e are estimated, or a total of 60% annually.	Flush-to-Scrape, Open Solar Drying	\$704,618	\$0	Tulare	56,137

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31 GM Silva Dairies	Proposal to install a two-stage separator, receiving pit and compost drying slab on existing dairy facility. Proposal outcome is to reduce GHG emissions and implement better manure management practices and ease of export through composting to reduce anaerobic conditions.	Solid Separation, Composting	\$400,000	\$15,001	Merced	11,229
32 Silva Dairy Farms	Silva Dairy Farms will be installing a mechanical separator with screw press along with a processing pit and concrete pad for intensive windrow manure composting and also purchasing a utility tractor with compost-tiller for intensive composting. The installation of the mechanical separator proposes to remove 40% of the solids currently conveyed to our storage ponds and allow us to windrow the removed manure for composting purposes on a concrete pad. The installation of the processing pit allows for collection of flushed solids in the pit to be conveyed through the separation system as the rate required for maximum separation. The installation of these practices is predicted to significantly reduce greenhouse gas emissions on the facility	Solid Separation, Composting	\$694,507	\$0	Merced	5,830
33 Willem Postma Dairy #1	We will be installing a multi stage manure separation system consisting of a new sloped screen separator and a LWR First Wave manure processing system. The combined systems along with the injected polymers will remove 90% of the total soluble solids and fibrous material from the wastewater prior to its discharge to the lagoon system. All removed material will be processed by presses to de-water and create nutrient cake. This process will reduce GHG emissions by 83% annually. Total reductions over the 5 year project will amount to 28,668 mtCO <sub>2</sub> e.	Solid Separation, Open Solar Drying	\$732,090	\$0	Stanislaus	28,668
34 Blue Sky Dairy L.P.	This project proposes to install a mechanical solid manure separator on an existing flushed dairy to remove some of the solid manure in the flush stream before it enters the anaerobic storage ponds and compost that material.	Solid Separation, Composting	\$628,321	\$7,165	Merced	26,124
35 J Troost Dairy, LP	We will be converting our flush lane system to vacuum scrape for manure handling. Collected manure will be deposited in a concrete bunker for processing through screw presses, and undergo two additional screenings through slope screen separators. In addition, we will have the option to apply collected manure as slurry to our compost rows and compost it directly. Combining the multistage manure processing and vacuum collection results in an annual reduction of produced GHG's by 83%. The total estimated reductions over a 5 year period is 57,592 mtCO <sub>2</sub> e.	Flush-to-Scrape, Composting	\$723,399	\$0	Madera	57,592
36 Henry A Garcia Dairy	We will be converting flush lanes to a vacuum scrape system utilizing a Loewen Honey Vac. Collected manure will be deposited in a newly constructed concrete bunker, processed through a de-watering screw press and then receiving a second treatment through the existing sloped screen separator. Separated solids will then be spread on a concrete solar drying pad for final drying and stock piled and covered to prevent re-watering. By reducing the organic matter entering the lagoon system we will reduce our greenhouse gas emissions by 79% annually. The total estimated mtCO <sub>2</sub> e reduction over a 5 year period is 25,720 and reductions should continue to accumulate after.	Flush-to-Scrape, Open Solar Drying	\$503,501	\$0	Tulare	25,720

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37 DeVries Farms	We will be installing a sloped screen separator and de-watering screw press to process flushed manure that is currently discharged into an anaerobic separating pond. Green house gas reductions will be achieved by reducing the amount of organic material entering anaerobic conditions.Total projected GHG reductions of 44% will be realized annually. A total reduction of 10,377 mtCO <sub>2</sub> e are estimated to occur over the 5 year project lifespan. Separated manure solids will then be automatically stacked to solar dry and be protected from re-wetting.	Solid Separation, Open Solar Drying	\$335,269	\$0	Tulare	10,377
38 Manuel Oliveira	Installation of a US Farm Systems Sloped screen separator with incline screw press and swing stacking belt conveyor with concrete pad for open solar drying.	Solid Separation, Open Solar Drying	\$646,305	\$0	Merced	5,793
39 Arthur Oliveira Dairy	Oliveira dairy is applying for the alternative manure management program with a goal of reducing methane emissions from manure on the dairy. We would like to acquire a US Farm Systems duel screen separation system with processing pit and conveyor belt,removing a significant amount of methane forming volatile solids from the ponds. This project would also remove significant amount of the manure nutrients from the lagoon and they could be handled in solid form allowing more nutrients to be exported from the dairy. The significant manure removed would be stored on a concrete storage pad for open solar drying.	Solid Separation, Composting	\$544,661	\$0	Merced	16,076
40 Zuppan Dairy	This project aims to improve manure management through installation of a manure solid separator to reduce the use of settling ponds and increase wastewater storage and ease of use. The project will also install a small manure pit, with pump and agitator, to more efficiently get manure from distant barns to the separator. Finally, additional concrete pads will be installed to allow for solids storage with open solar drying.	Solid Separation, Solid Storage	\$343,273	\$25,000	Glenn	4,059
41 California Vermiculture LLC dba Klean Dairy	Bartelink Dairy - 100% of the manure, urine, & washdown water from 800 dairy cows (40,000 gallons/day)flushed to the settling ponds will be fed to two varieties of earthworms. The Vermiculture Digester, will contain 2,000 plus earthworms/sq ft. Two varieties of earthworms (eisenia foetida & eudrilus eugeniae) have been shown effective to digest the black manure water and produce clean water in 90 minutes. The solids in the black water are removed by the digestion process of the earthworms producing clean water with nitrate levels below danger levels (10 ppm) & producing earthworm castings that do NOT emit greenhouse gasses. Dr. Frank Mitloehner performed a two(2) year study confirming the reduction of ammonia by 99%, methane by 99%, CO <sub>2</sub> by 98%, and NO <sub>x</sub> by 95%. System is highly efficient and reliable. Residual losses: 5% of 5hp trans pump & 8% 5hp irrigation pump. Water will be used for crop irrigation, castings for crop yield, & reduced water need.	Solid Separation, Composting	\$931,314	\$0	San Joaquin	9,565
42 Joe Meirinho & Son Dairy, LP	We will be installing a sloped screen separator and de-watering screw press to process flushed manure that is currently discharged into an anaerobic separating pond. Green house gas reductions will be achieved by reducing the amount of organic material entering anaerobic conditions.Total projected GHG reductions of 54% will be realized annually. A total reduction of 16,727 mtCO <sub>2</sub> e are estimated to occur over the 5 year project lifespan. Separated manure solids will then be automatically stacked to solar dry and be protected from re-wetting.	Solid Separation, Open Solar Drying	\$244,384	\$0	Stanislaus	16,727

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43 McClelland Dairy	The McClelland Dairy project will involve a flush-to-scrape conversion of the dairy's existing manure management system. A manure solid separator will be added in conjunction with composting in intensive windrows. An existing flush freestall barn will be decommissioned and converted to a covered composting site. A new freestall barn will be constructed with scrape and solid separator system. This project uses a completed Carbon Farm Plan as the basis for implementation. The goal of the project is to increase manure management efficiencies while reducing atmospheric greenhouse gas emissions and increasing soil health through compost application. The project shows quantifiable GHG emission reductions of 18,089 mt/CO <sub>2</sub> e over 5 years. Additionally, the conversion provides other benefits including the reduction of odors, volatile organic compounds (VOCs), ammonia, and hydrogen sulfide (H <sub>2</sub> S) emissions.	Solid Separation, Composting	\$749,961	\$693,805	Sonoma	18,089
44 Silvas Holsteins Dairy	Silva's Holsteins Dairy is proposing to vacuum scrape manure from the lanes in the animal housing and solar dry that manure on a concrete slab.	Flush-to-Scrape, Open Solar Drying	\$451,053	\$5,000	Stanislaus	9,308
45 Deniz Dairy	Deniz Dairy proposes to significantly reduce methane production by the installation of a separator and in vessel composter. Both large and small fibers in the solid part of all waste materials will be immediately removed from the lagoon for separation and composting, with the construction of a small pit equipped with an agitator and pump. This will allow them to reduce solids in their storage ponds by at least 75% and create a recycled, organic, and sterile bedding material for their cows. This will also reduce the carbon footprint of the dairy by eliminating the need for 200 tons of bedding material each year that adds to the solids currently sitting in the lagoons.	Solid Separation, Composting	\$615,549	\$32,000	Sonoma	10,817
46 Ray-Lin Dairy	We will be converting the housing of the milking portion of the herd to a compost bedded pack barn (loafing barn). The support stock will be moved into the free stall barns and a sloped screen separator will be utilized to process flush waste water from the support herd. The combination of these 2 practices was chosen to maximize the green house gas reduction by diverting the highest manure generating animals to a system that excludes anaerobic conditions. In combining these 2 practices an annual reduction of 77% of produced GHG emissions can be achieved. The total mtCO <sub>2</sub> e reduced over the 5 year project will be 18,784.	Compost-Bedded Pack Barn, Solid Separation	\$750,000	\$19,575	Stanislaus	18,784
47 Lopes Family Dairy	Installation of a mechanical separator with concrete for composting and equipment for intensive composting along with a compost bedded pack barn	Solid Separation, Compost-Bedded Pack Barn	\$749,938	\$0	Stanislaus	4,923
48 AJ Borba Holsteins	Install a Houle double screen mechanical inclined separator with roller press along with a concrete sand trap and processing pit.	Solid Separation, Composting	\$570,113	\$0	Merced	10,561



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49 Den-K Holsteins, Inc.	Den-K Holsteins proposes to construct a weeping wall solid manure separator on our dairy that currently uses no separation of the flushed manure before the storage pond.	Solid Separation, Open Solar Drying	\$98,000	\$2,500	Merced	5,514
50 Migliazzo and Sons Dairy	This project is designed to replace an old manure solid separation system with the following components. A sand separation lane, concrete processing pit, new separation screen, and a press to remove additional moisture from the separated material. This project will use the existing area for solids stacking. The sand lane will remove sand from the flush water prior to being pumped over the sloped screen. The new system is designed to remove 55 percent of the solids. (Our current system removes only 8 percent). The resulting material will be drier when stacked because of the screw press and can be handled more easily. This project will be located on the same site as our current system. Our estimated timeline for the project is ten weeks beginning the spring of 2019. M. Bettencourt, License #698190, will begin the first phase of the project. He is responsible for site preparation for the sand lane and the octagon processing pit. US Farm Systems will install the separation equipment.	Solid Separation, Open Solar Drying	\$255,568	\$40,000	Merced	11,712
51 Delta Woods Dairy	Putting a new separator with a concrete pad near the existing pond system. Proposing a new process pit with a sand trap as another step to cleaning up the manure system.	Solid Separation, Open Solar Drying	\$655,588	\$15,000	San Joaquin	13,802
52 Mt. Whitney Dairy	Alternative Manure Management Project	Flush-to-Scrape, Open Solar Drying	\$749,029	\$45,000	Fresno	21,059
53 FDB Holsteins	Weeping wall manure separation system. The mechanism by which the weeping wall manure separation system works is that when the speed of the water slows down the heavier particles drop out. The build-up of these particles in the cell then act as a filter by further aiding in the capture of more solids. Once a cell is full of manure solids, the water is directed to an adjoining cell allowing the full cell to continue to drain and dry. The solids are removed from the cell and it is ready to fill again. Removed manure solids will be high in moisture and will be dried and composted.	Solid Separation, Open Solar Drying	\$625,000	\$0	San Joaquin	19,753
54 Double B Dairy	The Double B Dairy is proposing a solid manure separator on an existing flush dairy to remove some of the manure solids from the flush water before the lagoon.	Solid Separation, Open Solar Drying	\$635,244	\$39,713	Merced	20,196

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\*\* Total emission reduction is estimated by the applicant and has not been verified.

APPLICANT ORGANIZATION	DESCRIPTION	MANAGEMENT PRACTICE(S)	REQUESTED GRANT FUNDS	MATCHING FUNDS	COUNTY	TOTAL EMISSION REDUCTION OVER 5 YEARS (MTCO <sub>2</sub> e)
55 California Vermiculture LLC dba Klean Dairy	Sousa Dairy - 100% of the manure, urine, & washdown water from 800 dairy cows (40,000 gallons/day) flushed to the settling ponds will be fed to two varieties of earthworms. The Vermiculture Digester, will contain 4,000 plus earthworms/sq ft. Two varieties of earthworms (eisenia foetida & eudrilus eugeniae) have been shown effective to digest the black manure water and produce clean water in 90 minutes. The solids in the black water are removed by the digestion process of the earthworms producing clean water with nitrate levels below danger levels (10 ppm) & producing earthworm castings that do NOT emit greenhouse gasses. Dr. Frank Mitloehner performed a two(2) year study confirming the reduction of ammonia by 99%, methane by 99%, CO <sub>2</sub> by 98%, and NO <sub>x</sub> by 95%. System is highly efficient and reliable. Residual losses: 5% of 5hp trans pump & 8% 5hp irrigation pump. Water will be used for crop irrigation, castings for crop yield, & reduced water need.	Solid Separation, Composting	\$931,314	\$0	Stanislaus	10,950
56 Antonio Brasil Dairy	Construction of a compost bedded pack barn over existing flushing corrals with conversion of flushing to dry scraping.	Compost-Bedded Pack Barn	\$641,196	\$0	Merced	3,917
57 BWC Weststeyn Dairy LP	BWC Weststeyn Dairy's proposed project is to convert from flush to scrape in conjunction with constructing a compost pack barn. With the completion of this project, we will be able to move dry cows and replacement heifers off of flushed alleys into a barn with scraped alleys. This will allow us to eliminate all solids produced by these animals from entering our lagoon. Solids produced in this barn will either be tilled into the pack or composted in static windrows.	Flush-to-Scrape, Composting	\$749,925	\$98,475	San Joaquin	4,568
58 L Corda & Sons	This project aims to increase pasture access to lactating and dry cows and heifers through addition of a concrete cow lane, water access points, permanent and mobile fencing, and irrigation.	Pasture-Based	\$228,243	\$14,240	Marin	231
59 M & M Cardoso & Sons Dairy	We propose to construct a compost bedded pack barn for our support stock animals to convert from flushing to dry scrape in these corrals. We also propose to install a concrete pad for intensive composting of manure to use for bedding.	Compost-Bedded Pack Barn	\$462,862	\$0	Merced	2,083
60 Blake's Landing Farms, Inc.	This project aims to convert a flush system to an automatic scrape system, using less water and reducing liquid volume within the manure lagoon. A new pad will also be constructed to act as a composting area and reducing nutrient leaching into the soil.	Flush-to-Scrape, Solid Storage	\$656,783	\$0	Marin	2,966

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APPLICANT ORGANIZATION	DESCRIPTION	MANAGEMENT PRACTICE(S)	REQUESTED GRANT FUNDS	MATCHING FUNDS	COUNTY	TOTAL EMISSION REDUCTION OVER 5 YEARS (MTCO <sub>2</sub> e)
61 Bianchini Inc.	The proposed project is to build infrastructure to convert the existing freshwater flush system currently in use to clean the loafing barn and replace it with an automated pulley scrape, mechanical roller press separator, concrete solid stacking and compost pads system.	Flush-to-Scrape, Composting	\$630,663	\$20,000	Marin	6,284
62 GM Silva Dairies	Proposal to install a two-stage separator, receiving pit and compost drying slab on existing dairy facility. Proposal outcome is to reduce GHG emissions and implement better manure management practices and ease of export through composting to reduce anaerobic conditions.	Solid Separation, Composting	\$666,959	\$25,000	Merced	11,737
63 Goncalves Dairy	Installation of an upgraded Albers double screen primary separator system with concrete for open solar drying.	Solid Separation, Open Solar Drying	\$137,524	\$0	Merced	2,304

\$34,458,849