OUTSTANDING DAIRY FARM SUSTAINABILITY

Philip Verwey Farms

Hanford, California

A Farmer's Innovation Leads to Cleaner Air, Lower Costs and Better Feed

Driving home one afternoon, Philip Verwey started thinking about changes he could make to improve air quality. His on-road brainstorm led to innovation that cut his dairy's tractor-related emissions substantially, the equivalent of taking 7,800 passenger cars off the road. "I thought maybe I could convert my diesel-powered feed-mixing operation to electric," said Verwey, who milks 9,000 cows.

Philip Verwey Farms' diesel-to-electric conversion was one of 56 funding applications—and the only dairy-related project—to the San Joaquin Valley Air Pollution Control District's Technology Advancement Program. His idea: Rather than blending feed ingredients for his cows in a mixing wagon powered by a diesel tractor, he would blend using an electric stationary mixer. This change significantly reduced the amount of run time by his diesel engines, lowering diesel consumption by 71 percent per month.

"In addition to being good for the environment, the change provided other positive benefits," Verwey said. "The texture and composition of the feed improved, which is good for our cows."

Verwey's idea reduced oxides of nitrogen emissions by 90 percent, providing the inspiration and model for other dairy farmers to take similar action to improve air quality.

"The air district saw the success of our project," Verwey said. "That led to an expanded program that will fund up to 75 percent of the cost of future conversions to electric mixers for dairy feed."

Philip Verwey Farms converted its feed-mixing program from diesel-powered to all-electric, reducing nitrogen oxide by 90 percent and saving costs.

- The electricity that powers the feed mixer is generated on the dairy from a manure digester, which can also generate enough energy to power 3,000 additional homes.
- The electric feed mixer reduces oxides of nitrogen emissions from 22 tons annually to just 2, saving 90,000 gallons of diesel.
- 7,800: The number of cars one would need to remove from the road for equal emissions reductions to those achieved by Philip Verwey Farms, electric feed mixer conversion.

To date, 15 California dairy farms have submitted applications to the program and four are under contract to begin converting their feed mixers to electricity.

"I'm a true believer that you have to produce what the public wants, and that includes being green," Verwey said. "We're also doing that in a way that makes economic sense, which benefits everyone."