Dairy Industry Greens its Fleets

Rising fuel prices might be a good enough reason to improve transportation efficiencies, but the dairy industry is working with carriers to be more environmentally sound as well.

Dairy Fleet Smart members aim to help the industry reduce greenhouse gas emissions by more than 542,000 metric tons—a $58 million fuel cost reduction.

By Jim Mulvenna and Matt Hayden

Transportation and distribution is responsible for 7.7 percent of the greenhouse gas (GHG) emissions associated with the production and disposal of a gallon of fluid milk in the United States. That may not seem like a lot in the scheme of the rest of the value chain. However, GHG emissions in the transport and distribution links of the fluid milk value chain come almost entirely from diesel fuel use in trucks — which means transport and distribution companies can reduce costs and emissions simultaneously.

Retrofitting trucks with trailer aerodynamics, idle-reduction systems and tire upgrades can reduce fuel consumption by more than 8 percent while driving and up to 60 percent while idling. Driver training on simple techniques like proper shifting and braking can save 5 to 25 percent on fuel usage. Additional fuel savings can be achieved by ensuring efficient routing during all phases of dairy transport operations. When applied solely to the largest private haulers associated with dairy, these improvements can achieve annual savings of more than 13 million gallons of diesel fuel.

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Working With and Through the Industry

In 2009, the Innovation Center for U.S. Dairy (www.usdairy.com) announced that the dairy industry is working across the value chain toward a voluntary goal of 25 percent reduction in GHG emissions of fluid milk by 2020. Dairy Fleet Smart is one of 10 GHG reduction projects aimed to get the industry about halfway to its goal.

Dairy Fleet Smart provides a forum for dairy industry leaders and trucking companies to exchange successes and key learnings resulting from their efficiency programs, as well as consider technologies and practices of EPA SmartWay (www.epa.gov/smartwaylogistics), which provides tools and resources for increasing fuel efficiency.

Later this year, the team plans to develop and distribute dairy-specific tools and guidelines to processors and transportation companies, including case studies on refrigeration technologies, driver best practices and aerodynamics. The goal of Dairy Fleet Smart is to accelerate the adoption of transportation and distribution best practices that reduce fuel consumption, costs and GHG emissions.

By sharing information on a pre-competitive basis, the Dairy Fleet Smart team aims to help the industry reduce GHG emissions for fluid milk by more than 542,000 metric tons, which translates to a fuel cost reduction of nearly $58 million. Following are a few success stories from the field.

Healthy Competition

As the senior director of environmental health and safety for HP Hood LLC, Dave Crowley uses best practices from the EPA SmartWay program to improve the fuel efficiency of HP Hood's trucks. He encourages other companies to do the same by using aids like electronic onboard recorders (EOBRs) and driver scorecards that promote fleet efficiency.

HP Hood LLC (www.hood.com), a national dairy products company based in Lynnfield, Mass., leverages best practices with the SmartWay Program, along with EOBRs and driver scorecard tools to aid the responsible management of fuel consumption.

EOBRs help monitor the fuel-efficiency behaviors of individual drivers and are installed on almost the entire fleet. These recorders measure speed, total and moving miles per gallon, idle time, abrupt starts and stops, and more. This data can be shared with drivers to help modify their driving habits and improve fuel efficiency.

Driver scorecards have inspired friendly competition among the employees of HP Hood to see who can get the best scores from incorporating SmartWay practices including the use of cruise control; coasting when appropriate; and progressively shifting.

Not only has HP Hood achieved substantial fuel and cost savings with the program, but drivers have realized a renewed sense of control and an increased sense of job pride and contribution.

More and Less

Ruan Transport Corporation (www.ruan.com), headquartered in Des Moines, Iowa, has found that hauling larger loads at shorter distances is not only the most efficient and cost-effective, but it is one of the easiest opportunities for transport and distribution companies to employ. Ruan recently reduced a major client's transportation costs by 4 percent by rerouting more than 80 percent of its milk to travel less than 10 miles to its destination.

The transportation company has implemented multiple environmental efficiencies to its fleet, including longer-lasting,

lower-emitting engines with improved performance and lower fuel consumption; larger capacity tanks in order to transport loads up to the legal limit; and, where feasible, lighter power units which further increase payload size.

Operationally, Ruan focuses on optimizing its transportation network through the use of their exclusive RedTrak information system, which improves efficiency in all aspects of milk pickup, transportation and delivery. Network optimization allows the company to put fewer trucks on the road and to drive those trucks fewer miles.

The result has been a cost savings Ruan can pass on to its customers.

Technological Advancement

The Dairy Farmers of America (www.DFAmilk.com) Mountain Area offers a service unique to DFA's cooperative members by operating a fleet of 150 trucks for milk transport from their eight-state region to locations across the country. In November 2007, the DFA Mountain Area worked with Zonar Systems to install an electronic fleet management system. The system is a GPS-based inspection, tracking and management solution that gives fleet managers specific data about fuel consumption, route information, inspection data, driver speeds and more. Trip-level, driver-specific data is collected automatically and uploaded wirelessly to fleet managers, who can then evaluate driver performance and needs to make the most economical and environmentally sound transport decisions.

Since implementing the electronic fleet management system, the DFA Mountain Area experienced improvements in fuel savings, fleet maintenance, driver safety and route management. Return on investment was six months, based on an annual fuel savings of 377,000 gallons of diesel fuel at $4/gallon. The savings in fuel represents a reduction of more than 949 metric tons of CO_2 emissions per year.

The Zonar Systems trip data revealed significant fuel savings could be achieved by reducing idle time during milk pickup or delivery. Based on this information, the DFA Mountain Area established a fleet policy to limit idling to 13 minutes per trip. It was a simple solution that yielded impressive results: the fleet saved 24,000 gallons of diesel fuel in the first quarter of 2008. Idling fuel costs for the first half of 2008 decreased from $17,000 per month to $2,500 per month, an 85 percent savings in idling-time fuel costs — without additional investment in trucks or equipment.

The electronic system allowed the DFA Mountain Area fleet to automate and standardize their pre- and post-trip inspections, ensuring that inspections are performed consistently and that maintenance and compliance issues are addressed immediately. The system also helps with driver training, guiding new drivers through the proper inspection process. Better fleet maintenance helps ensure trucks are running as efficiently as possible, often saving even more fuel over time.

In terms of driver safety, DFA Mountain Area fleet managers now can use clear, concise driver specific data, including route information and road speed, to address training and safety issues. This information, combined with inspection data, then can be used to identify training needs that can improve driver behavior and safety. And by monitoring pick-up and delivery routes, DFA Mountain Area transportation managers have been able to more accurately predict arrival times at farms and processing plants. In some cases, managers have been able to plot shorter delivery routes to save fuel.

By taking a leadership role in sustainability, the dairy industry can ensure the health and well-being of the planet, communities, consumers and the industry — now and for future generations.

The dairy transportation industry is facing both economic and environmental challenges. Profit margins are being squeezed, while prices are rising on the diesel fuel used to transport fluid milk. Transportation companies must develop sustainable solutions if they are to attract new customers and new employees, improve operations and provide solutions that impact clients' business.

By taking a leadership role in sustainability, the dairy industry can ensure the health and well-being of the planet, communities, consumers and the industry — now and for future generations. MH&L

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