



Innovation in action

New palm-free fat supplement seeking to increase the environmental sustainability of UK dairy farming

CIEL supported industry-led research

Challenge

Fat supplements are routinely incorporated into dairy diets to provide energy and enable cows to maintain butterfat levels. Most of those used in the UK are currently formulated with palm acid oil. While there is nothing nutritionally wrong with this, palm oil production in general is associated with deforestation and a high carbon footprint.



Action

Nutrition and supplement company UFAC-UK partnered with the University of Nottingham for a CIEL-supported research project focussed on the development of a new approach to feeding ruminants.

Utilising the research capabilities within the Centre for Dairy Science Innovation (CDSI), the project aimed to increase the environmental sustainability of UK dairy farming, improve productivity and enhance animal health & welfare.

The project compared a new palm-free fat supplement developed by UK nutrition and supplement company UFAC-UK, manufactured from locally sourced vegetable oils together with marine oils, against a palm-oil based control diet.

The overwhelmingly positive results from the trial also revealed cows were more efficient when fed on the new fat supplement, increasing milk yields and protein concentrations, with no difference in dry matter intake.

Impact

Results demonstrated clear performance benefits: increased milk yield, fat & protein; enhanced cow health and reproduction; and improved production efficiency. Initial results point at a potential financial benefit to the entire UK dairy herd in excess of £85m, based on April 2022 market prices for the products under trial and liquid milk.

Significantly, the feed carbon footprint of the new fat supplement, named Enviro-lac, was approximately one third of the footprint of the control palm-based supplement, reducing the feed carbon footprint per kg of milk by 11%. The reduction in carbon footprint could also help to reduce land use change associated with growing palm trees. The lower carbon footprint and zero reliance upon palm oil and palm oil derivatives could additionally stimulate local crop production, reducing dependency on imports.



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