

## **On-farm near infrared (NIR) analysis to improve feeding management in dairy farms**

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High producing dairy cows are challenged to their of metabolic limits, particularly around parturition and early lactation. Feeding optimization then becomes critical to maintain animal health, maximise production and profitability and reduce environmental impact. However, large feed and forage variability reduce consistency of composition of diet delivered to dairy cows. A feeding management plan must implement a program of feed sampling and analysis (St-Pierre and Cobanov, 2007), that can improve nutrients precision in diets. Traditional reference wet chemistry methods are accurate, but expensive, they can be implemented at specialized labs with relative long time of response. As an alternative to the traditional methods, near infrared spectroscopy (NIR) has received an increasing attention, with a large use in many commercial and private labs. On-farm NIR analysis of forages can be used to identify variation in the composition of forages and feed and correction in the diet formulation could be applied immediately, improve feeding precision. The challenges for a successful implementation of on-farm NIR analysis will depend on the accuracy of analysis, the implementation of diet reformulation and the operation costs associated with the purchase of instruments and software.

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