



How viable is feeding high levels of by-products in the dairy herd?

The Challenge

Increasing demands on land directly for human food production and energy crops will mean that dairy farming has to use land for grazing which cannot be cultivated, or rely more heavily on feeds not normally eaten by humans.

The Research

A trial being undertaken at SRUC Dairy and Innovation Centre involves 100 cows on a system relying on by-products (co-products) for three lactations.

The ration consists of biscuit meal, sugar beet pulp, chopped straw, breakfast cereal, wheat distillers dark grains, soya bean meal (Hipro 50%), Vitagold, protected Fat (Megalac), molasses and minerals.

In addition, 10 litres of water per cow per day are added to the mix to bring the dry matter down to about 50%.

The cows are milked three times per day and continuously housed. Individual feed intake is recorded. Detailed data on animal performance, behaviour, fertility and health are also being measured.

The Results

Satisfactory intakes and production can be achieved from a ration based solely on by-products without any direct requirement for land.



The cow shed at SRUC Dairy Research and Innovation Centre

Milk quality was low, especially for cows at average UK genetic merit for fat and protein production.

Year: 2015/16	Yield (kg/ cow)	Fat (%)	Protein (%)	Calving Interval (days)
By-product select*	10,274	3.88	3.25	407
By-product control*	8,735	3.48	3.05	420

* 'select' genetic lines are females of top 5% genetic merit, based on milk solids; 'control' genetic lines are females of average genetic merit.

By-product feed costs are highly sensitive to their availability. Variability of quality can also be an issue.

Purchased feed costs (excluding straw) are estimated at between 11.9 and 12.3ppl (2015/16) respectively for select and control lines*

The Impact

The system is not intended as a blueprint but to provide producers and policy makers with data on alternatives (wider options) to consider for integration into existing systems.

ALSO SEE RESEARCH SUMMARY SHEET FOR *HOME GROWN FEEDS* FOR DAIRY COWS.

Project Detail

Project start date: 04/2011, finish date: 31/03/2021.

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SRUC Dairy Research and Innovation Centre.

For further info http://www.sruc.ac.uk/info/120195/dairy_research_centre

This work is supported by The Scottish Government

Summary printed 9/2016.

Further Information

Dairy cow nutrition is central to profitable production. If you would like more information on dairy cow nutrition and management contact your local consultant or SAC Dairy Specialist at dairy@sac.co.uk