

# Dairy study in top agriculture journal

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Massey University researcher Dr Jean Margerison has had a research article accepted for publication in the prestigious *Journal of Dairy Science*.

The paper, "The Effect of Increasing the Nutrient and Amino [Acid Concentration](#) of Milk Diets On Dairy Heifer Individual Feed Intake, Growth, Development, and Lactation Performance," tracked how calves raised with a milk diet enriched with carefully selected carbohydrates and amino acids grew during rearing and performed in their first lactation.

The *Journal of Dairy Science* is the world's top-ranked [academic journal](#) for agriculture, dairy and animal science.

Dr Margerison, from the Institute of Agriculture and Environment, followed the development of groups of [dairy cattle](#) from birth through two years of rearing and a year of milk production. One group of 20 calves was given a normal diet of [whole milk](#), another group of 20 calves was supplemented with plant carbohydrates, and the last group of 20 calves was given plant carbohydrates and amino acids.

She used the supplement Queen of Calves for the study at Massey's number four dairy farm.

Dr Margerison says her study showed that calves that were fed the supplement of plant carbohydrates and amino acids grew 10 per cent faster and were significantly bigger at 12 weeks of age than those that

were given just whole milk.

She also found that in their first milking season the heifers on the milk supplemented with carbohydrates and [amino acids](#) produced 12 per cent more milk solids than those that were not.

"Calf nutrition, animal growth and lactation are all important factors in increasing both the environmental and financial sustainability of dairy production systems," she says.

"The [milk protein](#) yield and total fat corrected milk yield was found to be greater in calves raised on the carbohydrate and amino acid supplemented milk diet, and this is most likely down to the improved growth and development prior to weaning from milk."

Provided by Massey University

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