CAPRINZ PUBLIC SUMMARY

Contract reporting for the period ending 31 August 2019

The CAPRINZ programme began in August 2018 and will grow a sustainable, high-value goat milk infant formula industry in New Zealand. Goat milk infant formula is a premium, niche export product, providing sustainable payouts for farmers. The CAPRINZ programme will protect this premium by providing consumers and health care professionals with information on the benefits of goat milk infant formula that are backed by clinical science and delivered through sustainable farm systems.

Breastfeeding is the best source of nutrition for babies and infants. Our aim through this PGP programme with MPI is to provide consumers and health care professionals with science-based information to allow them to make the best decision in situations where breastfeeding requires supplementation or isn't feasible.

Highlights

Work in all objectives continues to progress well with three achievement measures relating to research on milk formulas completed this quarter. Results from one of these subprojects are published (see below). The Systems team are continuing to progress steps to develop environmental benchmarks for dairy goat farms. These will be useful for farmers when looking at where to make improvements.

Recently completed research[1] has highlighted that:

- The caseins in milk aggregate to form a gel-like curd when subjected to acidification similar to the stomach environment
- The gel formed from goat milk has thinner protein strands and more open protein network compared to the gel formed from cow milk
- Cow milk gels are stronger and require a greater mechanical force to break apart than goat milk gels
- Whey proteins added to formula made with cow milk affects the gel structure and reduces the force required to break apart protein gels
- The observed differences in mechanical and microstructural properties of cow and goat milk may impact their digestive behaviour

The evidence supports the hypothesis that the main differences in the digestion characteristics of goat and cow milk relate to the physicochemical characteristics of the goat casein gel formed during digestion.

Investment

	DGC contribution	MPI contribution	Total investment
During this quarter	$0.323 m	$0.216 m	$0.539 m
Programme to date	$2.079 m	$1,386 m	$3.464 m

[1] Published in the international peer-reviewed journal, Food Hydrocolloids (2019) 96:161-170