



Cattle Rumen Digestibility Study Results

Research Team

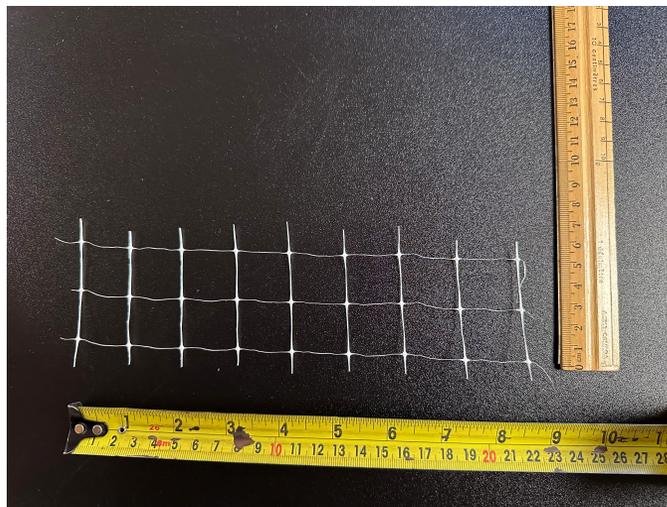
The digestibility study was conducted by the University of Saskatchewan and Lakeland College.

Name	Organization	Expertise
Dr Brenda Ralston	Lakeland College	Principle Investigator, Ruminant Nutrition/Beef Production Systems/Field Study Execution
Dr Gabriel Ribeiro	University of Saskatchewan	Ruminant nutrition, Ruminal fermentation, Sustainable beef cattle production Saskatchewan Beef Industry Chair
Andrea Hanson	Lakeland College	Extension Program Development and Execution, Research Assistant
Dr Obioha Durunna	Lakeland College	Beef production/management, forage and grazing management, Biostatistics Genetics/Genomics and Adjunct Prof U of S
Abigail Wall	University of Saskatchewan	Masters Student U of S
Carien Vandenberg	Lakeland College	Research associate
Janet Nowosad	Lakeland College	Research technologist

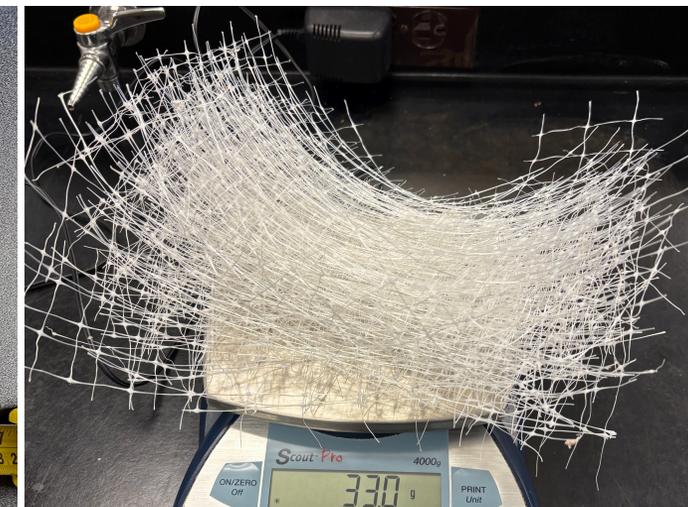
Acknowledgments: We would like to thank Results Driven Agriculture Research (RDAR) and Alberta Beef Producers (ABP) for their research funding support.

Methodology

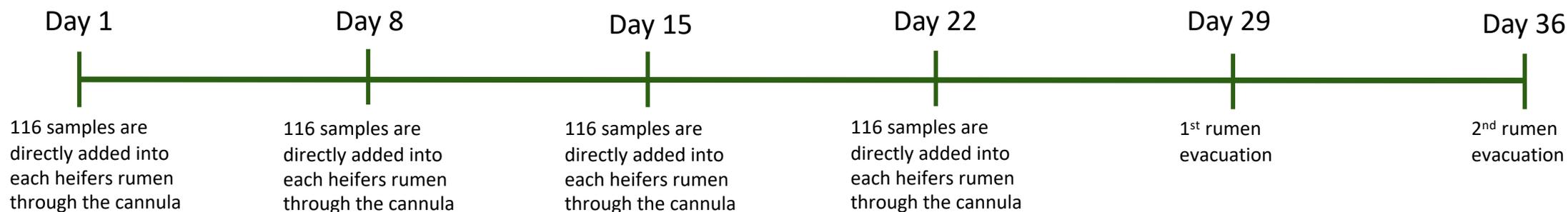
- Individual Sample Size: 8.5" x 2.5"
- 116 samples were added directly into each of the 6 cannulated heifers rumen through the cannula each week for 4 straight weeks.
- 464 samples total were directly added into each heifers rumen through the cannula over 4 weeks.
- The rumen of each cannulated heifer was evacuated at the start of week 5 and week 6.



↑
1 individual sample



↑
116 Samples Per Week



Results



Cow #	NNW Samples Put Inside Each Heifer		1st Rumen Evacuation	2nd Rumen Evacuation	Week 6 % Remaining	Week 6 % Digested	Additional Notes
	Weeks 1- 4	Total Grams Over 4 Weeks	Week 5 Grams Remaining	Week 6 Grams Remaining			
#32	33 g / Week	132 g	<0.00 g	<0.00 g	0.00%	100.00%	
#279	33 g / Week	132 g	0.16 g	<0.00 g	0.00%	100.00%	
#6	33 g / Week	132 g	0.36 g	<0.00 g	0.00%	100.00%	
#307	33 g / Week	132 g	1.54 g	0.13 g	0.098%	99.90%	
#29	33 g / Week	132 g	2.28 g	0.40 g	0.30%	99.70%	Plastic twine was found inside this cannulated heifer at the the 1st rumen evacuation.
#58	33 g / Week	132 g	20.02 g	2.03 g	1.54%	98.46%	Plastic net wrap was found inside this cannulated heifer at the the 1st rumen evacuation.

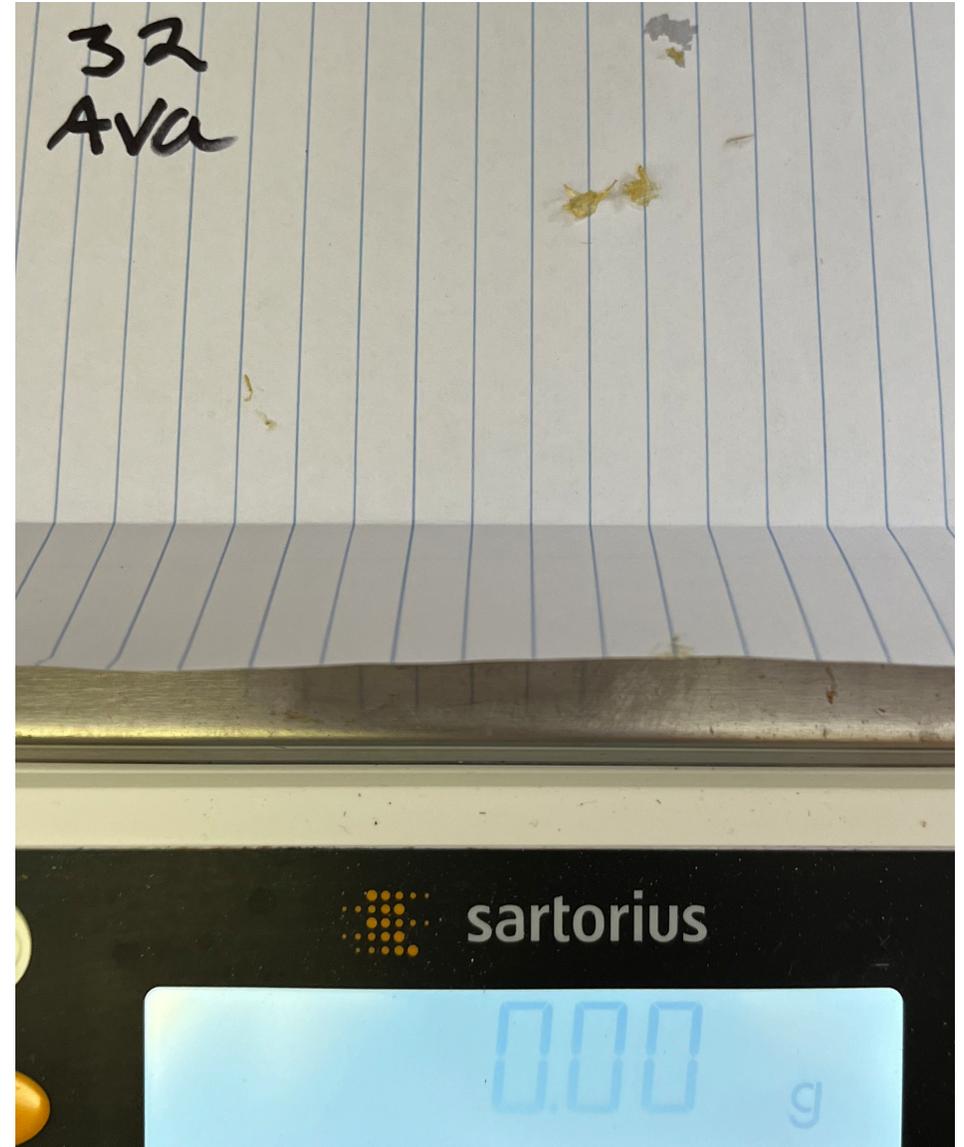
Week 5 Results

1st rumen evacuation



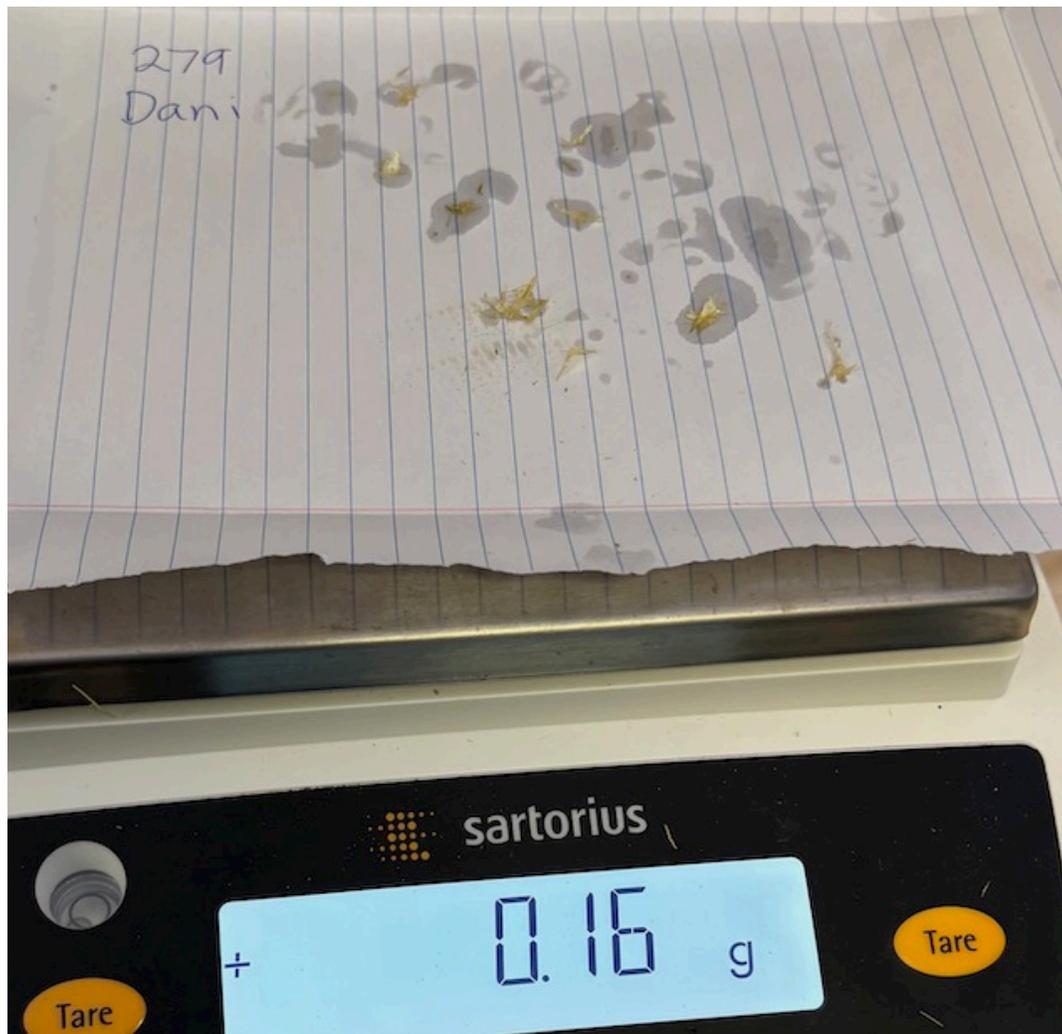
Week 6 Results

2nd rumen evacuation



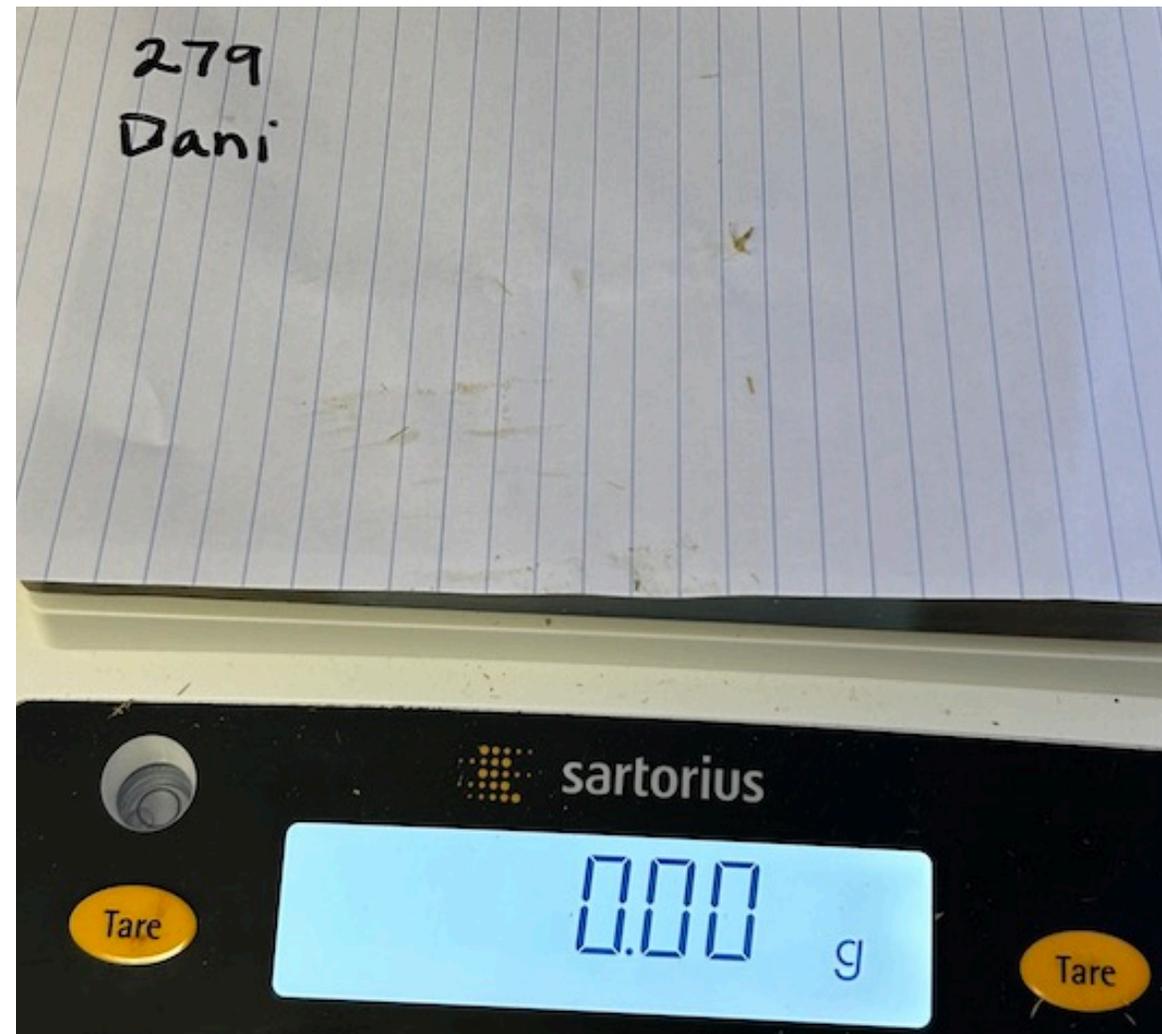
Week 5 Results

1st rumen evacuation



Week 6 Results

2nd rumen evacuation

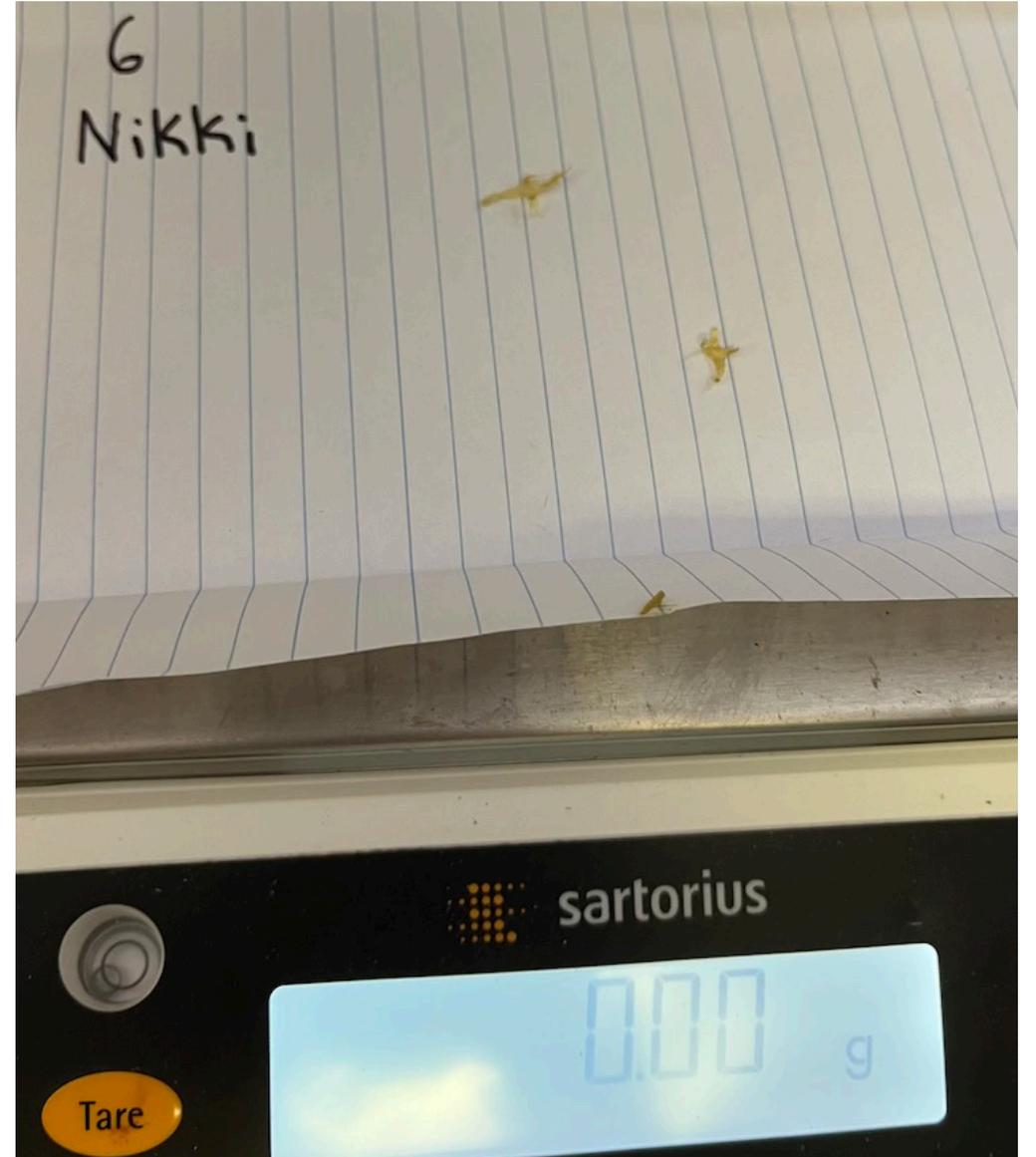
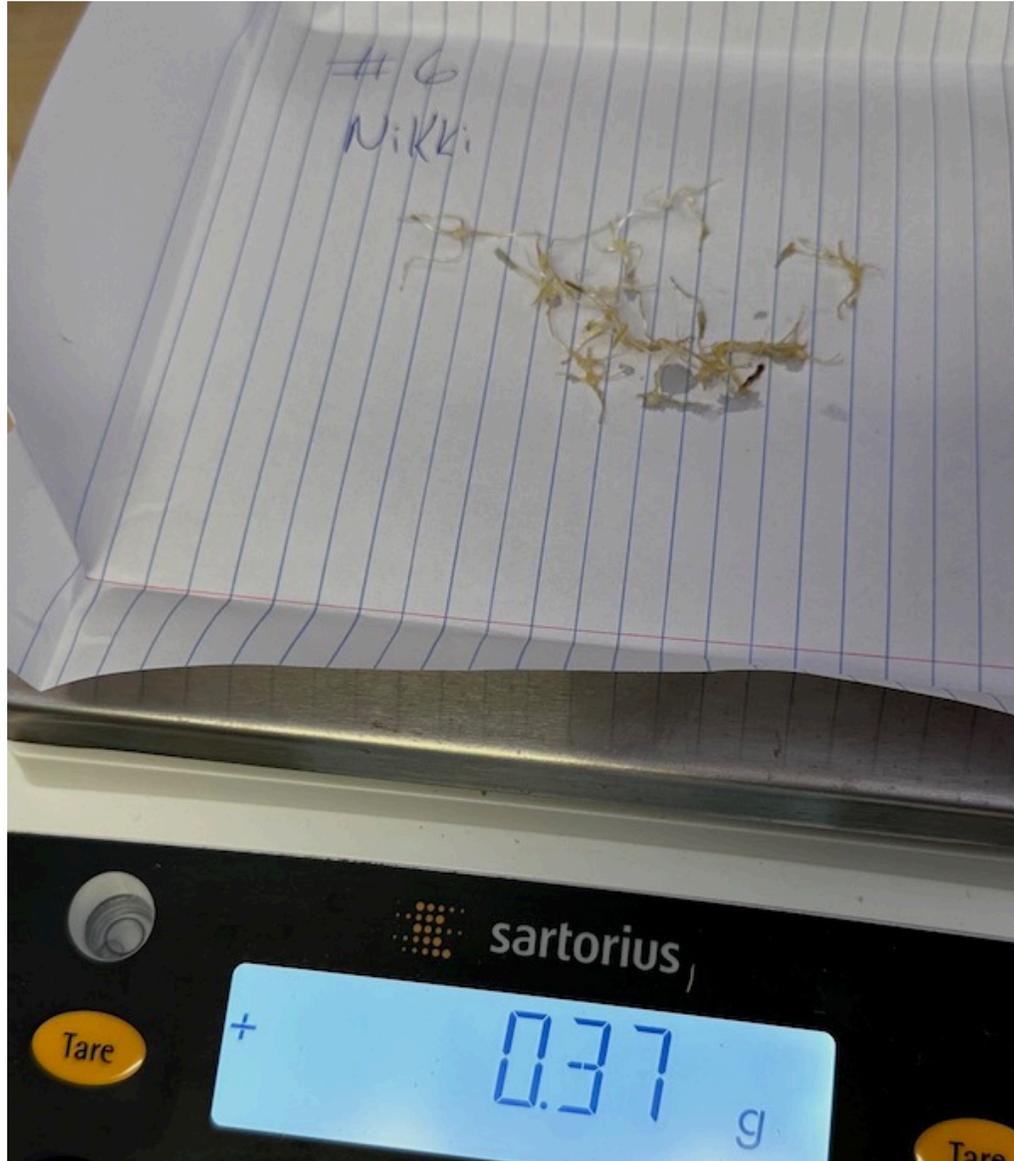


Week 5 Results

1st rumen evacuation

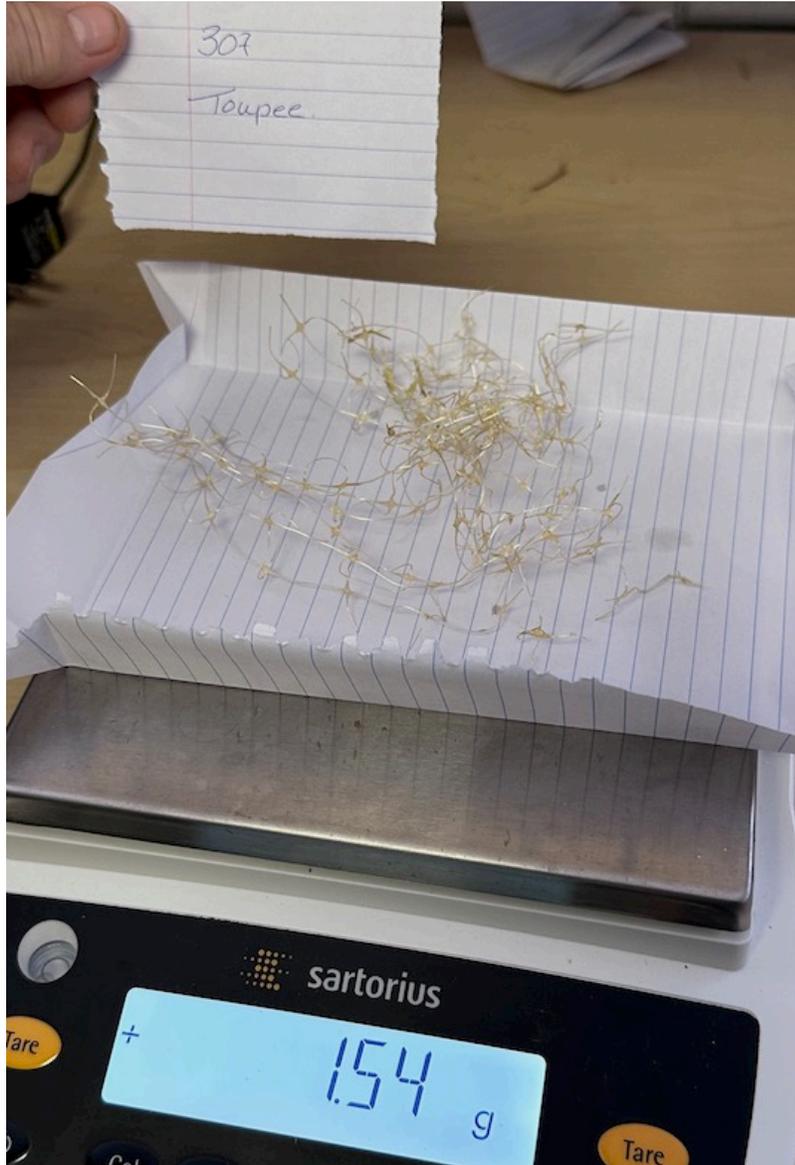
Week 6 Results

2nd rumen evacuation



Week 5 Results

1st rumen evacuation



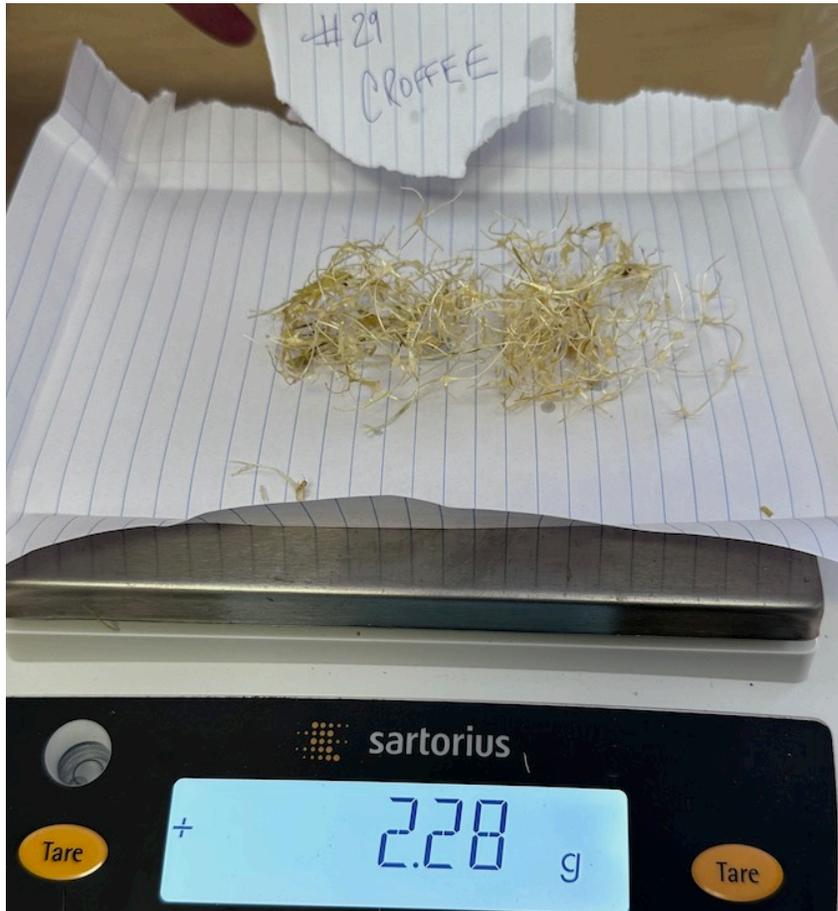
Week 6 Results

2nd rumen evacuation



Week 5 Results

1st rumen evacuation



Plastic twine



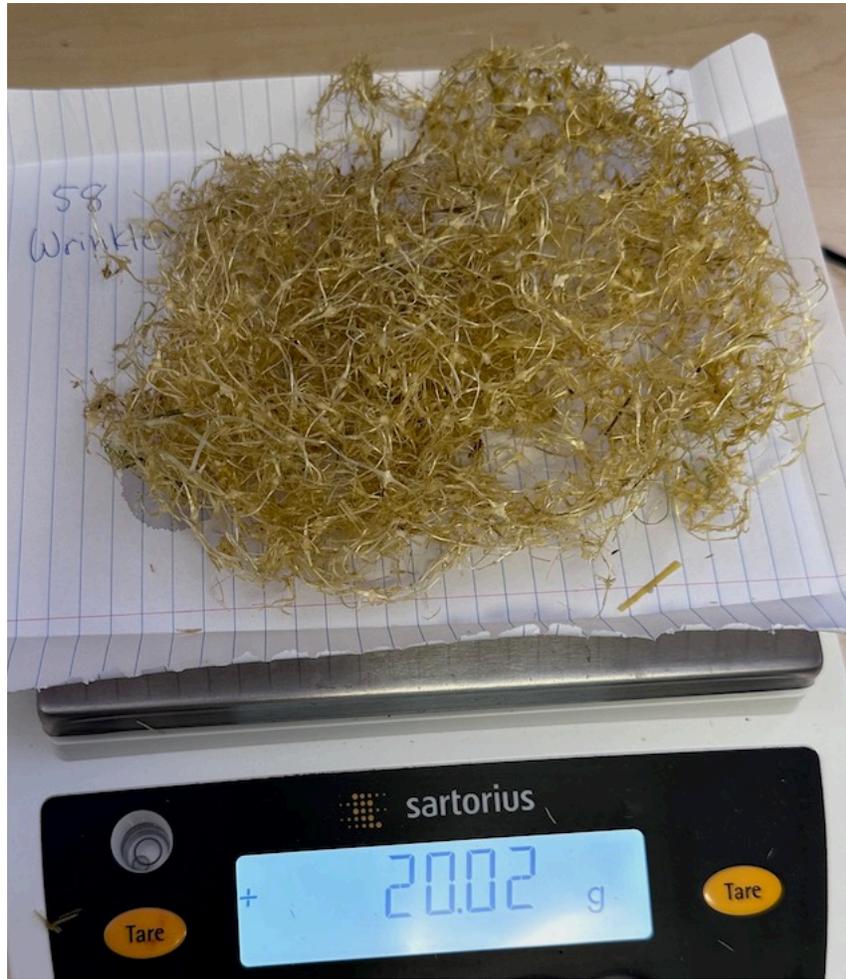
Week 6 Results

2nd rumen evacuation



Plastic twine was found inside this cannulated heifer at the the 1st rumen evacuation. The plastic twine caused Nature's Net Wrap to get entangled with it slowing down the degradation, yet 98% of NNW was digested at the 1st rumen evacuation. The plastic twine was removed and not placed back inside the rumen for the remainder of the study.

Week 5 Results 1st rumen evacuation



Week 6 Results 2nd rumen evacuation



Plastic net wrap was found inside this cannulated heifer at the the 1st rumen evacuation. The plastic net wrap caused Nature's Net Wrap to get entangled with it slowing down the degradation, yet 85% of NNW was digested at the 1st rumen evacuation. The plastic net wrap was removed and not placed back inside the rumen for the remainder of the study.