



final report

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TERRA, The Leading Food & Agriculture Accelerator, Outcomes Report 2020

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Executive summary

In 2019, Meat and Livestock Australia (“MLA”) participated in the fourth cohort of the leading Food & Agriculture Accelerator TERRA. Founded in 2016, TERRA is a leading global innovation accelerator program fuelling ground-breaking transformation in the Food & Agriculture industry. The program brings together experts, decision-makers and innovators across the entire value chain – fostering connections that catapult major breakthroughs into scalable solutions by pairing emerging growth companies with established multinationals, in a pilot-driven engagement that leads to tangible results. Since launching, TERRA has brought together 12 corporate collaborators worth over \$100B in annual revenue, 79 emerging growth companies and launched 61 pilot partnerships.

As one of the corporate collaborators of TERRA Cohort IV, MLA partnered with four startups during a 5-month pilot engagement to co-develop new products, gain market and consumer insights, and to experiment with new technologies and or practices such as upcycling. The four startup engagements included:

- *Phyto Corporation* – co-creating three new products of salt-based ingredients mixed with Australian beef to test the perception of the South-Korean market towards functional ingredients in meat products.
- *Shameless Pets, LLC* - co-creating new product lines together with the sustainable pet food company Shameless pets to experiment with upcycling in their supply chain and to test the adoption of blended Australian pet food meat in the US market.
- *The Better Meat Co.* – co-creating new products of blended Australian meat with plant-based ingredients to gain insights in the adoption of this product in the Australian market.
- *Corumat Inc.* – co-creating alternative packaging solutions to gain insights into the adoption of biodegradable packaging.

This report provides an overview of the structured pilot process and the successful pilot outcomes of MLA’s participation in the fourth cohort of TERRA.

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1 Background

1.1 TERRA, the leading Food & Agriculture Accelerator

Founded in 2016 by RocketSpace and Rabobank, TERRA is a leading global innovation accelerator program fuelling ground-breaking transformation in the Food & Agriculture industry. The program brings together experts, decision-makers and innovators across the entire value chain – fostering connections that catapult major breakthroughs into scalable solutions by pairing emerging growth companies with established multinationals, in a pilot-driven engagement that leads to tangible results.

Since launching, TERRA has brought together 12 corporate collaborators worth over \$100B in annual revenue, 79 emerging growth companies and launched 61 pilot partnerships. TERRA's collaborators covered a range of innovation areas, including supply chain optimization, food traceability and transparency, waste reduction, and novel ingredients such as alternative proteins to increase production efficiency and meet changing consumer preferences.

TERRA has brought to life tangible successes for both corporates and startups to stimulate potential growth beyond the program.

1.1.1. About RocketSpace

Founded in 2011 in San Francisco, RocketSpace is a global ecosystem of people and ideas that provide the necessary velocity - both speed and direction - to help the world's top innovators bring the future to market. By uniting the highest quality corporate innovators, startups and investors across a holistic platform, RocketSpace fuels collective growth for the entire innovation ecosystem. Learn more at rocketspace.com.

1.1.2 About Rabobank Group

Rabobank is a leading global food and agriculture bank providing sector expertise, strategic counsel and tailored financial solutions to clients across the entire food value chain. Rabobank believes sustainability and innovation are critical in promoting a thriving food and ag industry that will feed growing global populations for years to come, which is a key focus Rabobank's Banking for Food vision to feed the world more sustainably by 2050. Rabobank's two global innovation platforms, TERRA and FoodBytes! by Rabobank help turn today's most promising ideas into tomorrow's impactful solutions through two global initiatives that are designed to build lasting connections between corporates, investors and the most promising Food and Ag startups.

1.2 Overview of TERRA's Cohort IV

TERRA brings together cutting edge startups with forward thinking corporates to co-develop new products, adapt technologies to new industries, build lasting commercial partners and more. Startups will design and implement pilot tests over six months together with their corporate partners, each focusing on a designated business challenge.

MLA participated in Cohort IV as one of the corporate collaborators. Other corporates in the fourth cohort include Beta San Miguel, GrainCorp, Griffith Foods, OSI, and Tate & Lyle. Challenges that were tackled during the fourth cohort outside of MLA's pilot included rapid food safety testing, supply chain tech to reduce waste and novel ingredients like plant-based protein from upcycled carbon dioxide with newly selected startups who beat out over 300 applications spanning 50 countries.

1.2.1 Corporate partners of Cohort IV



Fig 1. Corporate collaborators of TERRA's Cohort IV

1.2.2 Startups of Cohort IV



Fig 2. Selected startups for Cohort IV

1.2.3 MLA's ambition to partner with startups

Working in collaboration with the Australian Government and the wider red meat industry, MLA invests in initiatives that contribute to producer profitability, sustainability and global competitiveness. MLA invests \$270M each year in R&D and marketing, representing over 50,000 members. Australian exports nearly 70% total volume to global markets – the company actively searches out for innovations that can grow demand and increase productivity and value for their stakeholders. Through TERRA, MLA has the opportunity to collaborate with ground-breaking startups through pilot sprints to co-develop new products, learn about new technologies and adapt to new markets.

As a first time participant of TERRA, MLA's overarching ambition with the program is to work with start-ups to build and test assumptions to expand Australian beef and lamb applications for the consumer. The gained insights and developed concept products serve as valuable intelligence for the Australian red meat value chain partners to further define long term strategy around innovation and business development.

2 Project objectives

2.1 Pilot engagement with startups

Through TERRA, MLA is set to collaborate with startups to explore new solutions and technologies and engage with early stage companies that can aid MLA's ambition to improve the perception of meat and spread the word on the benefits of meat products. The company identified four innovation objectives to focus on during TERRA's fourth cohort.

- Alternative packaging and packaging systems: currently, the packaging industry is controlled by big players in the market. Are there startups in the space that have solutions for this?
- Novel products from meat/nutraceuticals from meat: Are there startups in the space that focus on novel products or nutraceuticals from meat? Could MLA finance R&D and startups in the space to spread the word on the benefits of meat products.
- Supply chain and logistics: How can new technologies and startups improve freshness and reduce waste through artificial intelligence and/or Internet of Things?
- Food safety: What are new solutions for rapid testing of food quality?

2.1.1 Alternative packaging

MLA has the ambition to position Australian red meat as clean and green in the international markets, aligning to MLA's CN30 sustainability goal. To realize this, the company is looking for startups in the industry that have solutions for alternative packaging or new packaging systems. Criteria for these startup solutions are:

- Plastic free packaging
- Same preservation properties as compared to plastic
- No migration of toxic components to food
- Red meat applicable

2.1.2 Bioactive and nutraceutical ingredients

MLA wants to identify business models and new applications to animal-derived sub products for nutraceuticals, pharma, pet and fish feed that are able to capture value or drive adoption by commodity traders. Criteria for these startup solutions are:

- Bioactive ingredients

- Utilization of subproducts from beef production
- Value added, new ingredients

2.1.3 Novel foods and technologies

Another objective of MLA is to explore food and technology solutions that enable the creation of novel food products. The company aims to provide new utilizations for red meat and derivatives, where it wants its consumers to move from 'ready-to-eat' to 'ready-to-cook' solutions. Target criteria for startups to fit this ambition are:

- New utilization and novel products from red meat
- Investment opportunities
- Natural and clean
- Mass market

2.1.4 Consumer insights and industry positioning

MLA has the ambition to better understand how markets are shifting from animal-based protein to plant-based/cell-based proteins and position the red meat market for the future. Target criteria for startups include:

- Provides consumer insights
- Cross-over between animal and future protein, e.g. plant-based or cell-based
- Red meat industry positioning

3 Methodology

The TERRA program is a yearlong engagement that is based on four key principles:

- Access to an expansive network of innovators across the food and ag industry
- Experimentation in a low-risk format to validate technologies, products and ideas
- Results realized in an accelerated timeline
- Reputation as forward-thinking leader in the industry

The program is characterized by a 5 step process that starts with setting of innovation objectives to identify ideal startup matches for each specific challenge or innovation goal.

3.1 The 5 step pilot process



3.2 Pilot Program Phases

3.2.1 Corporate Onboarding

During onboarding, the TERRA team and MLA set program expectations and KPIs that will help guide the following steps.

3.2.2 Innovation Sprints

Corporate innovation sprints are designed to focus on:

- Internal Innovation Assessment
- Innovation Trends
- Scoping Deep Dive
- Global Impact

Through 4 sprints of approximately 1 hour each in conjunction with the TERRA team, innovation objectives and industry trends are identified, refined, and mapped against the United Nations Sustainable Development Goals.

3.2.3 Innovation Exploration

Following the sprints, the TERRA Team sources and guides the startup selection process to align with each innovation objective.

- Step 1 – TERRA Team sends list of startup matches
- Step 2 – Shortlisting top 20 startups
- Step 3 – Shortlist corporate-startup interviews
- Step 4 – Finalist selection (up to 4 startups)

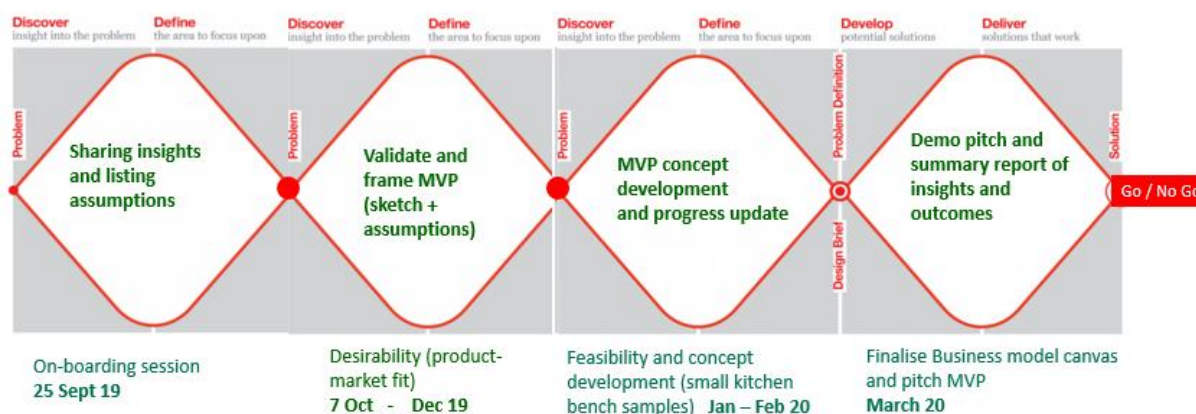
3.2.4 Business Unit Navigation

Initial meetings are set up with startup collaborators to introduce them to the business unit leading the pilot. During this phase milestones and other objectives are finalized to prepare for execution.

3.2.5 Pilot Execution

Pilot execution begins with the Kick-off Day, an in-person event to meet with startup collaborators and fellow corporates in the Cohort. Over the next 5 months, the business unit and startup collaborators execute on pilots, with regular check ins with the TERRA team to monitor progress. The pilot execution stage culminates in a Demo Day event, with a presentation of all pilot results from the Cohort.

3.3 Structured pilot engagement



4 Results

4.1 Startup selection

TERRA's Cohort IV received over 300 applications from startups all over the globe. The TERRA team prepared a shortlist 63 startups that fit the MLA objectives. During the startup selection phase, MLA reviewed the pitches and materials from the start-ups against their innovation objectives. Among the applications, MLA interviewed 12 startups selecting 4 to pilot with that fit with their innovation objectives: Corumat, Shameless Pets, The Better Meat Co and Phyto Corp, whose solutions range from blended meat products to alternative packaging.

4.1.1 Corumat

MLA wants to test the assumption that many US consumers want to understand where their meat comes from and if consumers derive value from knowing the corporate social responsibility policies of the brands, including animal welfare, sustainability and food security practices. In addition, CN30 is an aspirational target for the Australian red meat industry to be carbon neutral by 2030 (GHG


emissions – emissions captured / offset = 0 tonnes CO₂). As such, MLA is exploring alternative packaging solutions to reduce emissions and tap into the consumers' perceived importance on sustainability.

MLA collaborated with Corumat, a high-tech, biodegradable packaging startup to co-develop a new packaging product, complete customer surveys at the end of the pilot program and potentially MLA to introduce Corumat to industry network partners for future collaborations.


MLA's ambition to collaborate with Corumat

- Leading edge patented technology
- Value proposition for upcycling food waste
- Aligns to Australian Meat industry sustainable goals and clean green reputation (CN30) + consumer drivers for less plastics
- Expectation - test and develop Aussie Beef in sustainable tray prototype + size of the prize in upcycling meat/food waste

Corumat

 <p>CORUMAT BETTER MATERIALS</p> <p>www.corumat.com</p> <ul style="list-style-type: none"> • Founded: 2012 • Headquarters: Pomona, CA • Employees: <5 <p>Management</p> <ul style="list-style-type: none"> • Michael Waggoner, Co-Founder & CEO <p>Stage of development</p> <p>Pre-revenue → Revenue generating → Profitable</p> <p>Proof of concept → Tested product → Commercialization</p> <p>Sector</p> <ul style="list-style-type: none"> • Supply Chain 	<p>Description</p> <ul style="list-style-type: none"> • Corumat is a material science company that develops 100% plant-based, compostable, renewable packaging. • Corumat's bioplastics generate 60% less CO₂ during production than the plastics traditionally used to make red party cups. Further, Corumat's plastic cups use 30-50% less material by weight. The Company has a patent pending on the structure, process, and machine to enable this. • Corumat is currently partnering with one company for product development, but plans to continue building out their entire product line. <p>Current needs</p> <ul style="list-style-type: none"> • Funding • Product development partnerships <p>Recent developments</p> <ul style="list-style-type: none"> • Pitched at FoodBytes! San Francisco 2019 • Accepted to TERRA program in 2019 to partner with MLA 	<p>Revenue</p> <ul style="list-style-type: none"> • Not available <p>Funding</p> <ul style="list-style-type: none"> • Deal type: Grant • Raised to date: USD 1.07mln • Most recent raise: USD 692k, Jan-2018 <p>Investors</p> <ul style="list-style-type: none"> • National Science Foundation, Environmental Protection Agency
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Overview products



Source: Rabobank, Pitchbook, Crunchbase

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Fig. Company profile Corumat

4.1.2 Shameless Pets, LLC

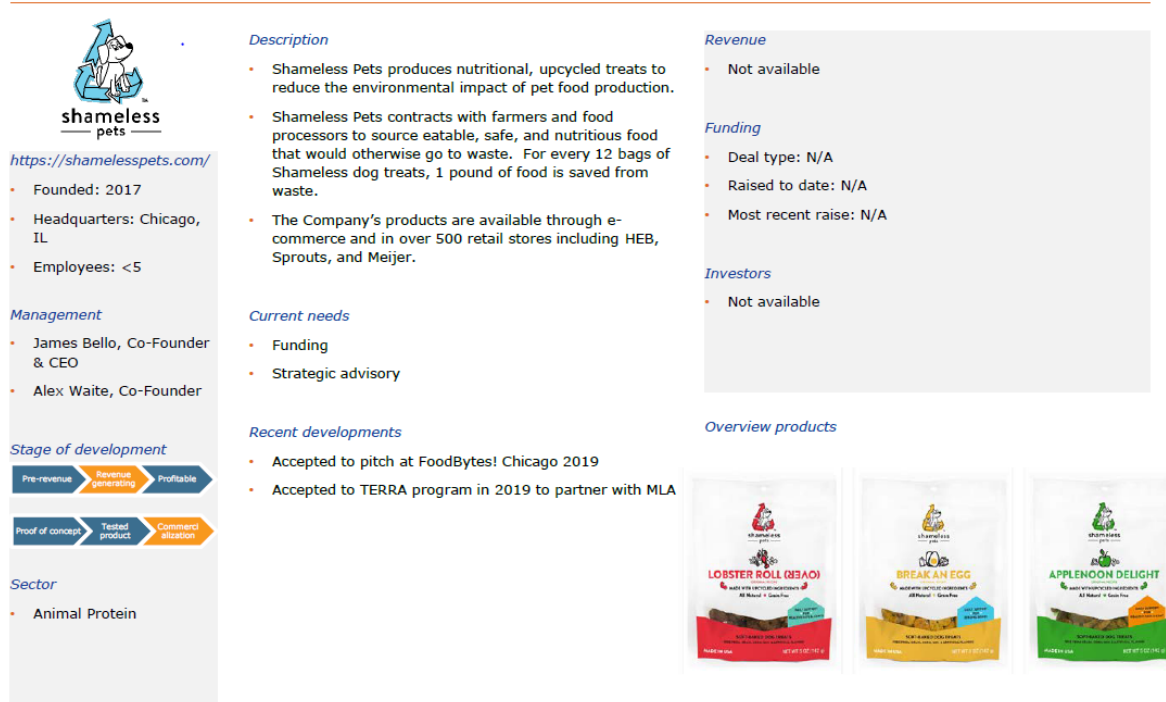
One of the objectives of MLA was to gain information on what the perception of Australian meat as pet food is in the US. The assumption to test is if consumers will see Australian meat products as a higher value brand. Therefore, the company collaborated with Shameless Pets to co-develop a new product that uses a combination of meat and future protein. Shameless Pets, LLC (USA) sources

edible, safe, and nutritious food that would otherwise go to waste. Besides developing a product together, MLA wants to use this opportunity to dive into its supply chain and find out if there are more possible partnerships.

MLA's ambition to collaborate with Shameless Pets, LLC

- Shameless Pets value proposition for upcycling food waste
- Agile, incumbent US pet food brand owner with category insights
 - What can consumers learn from MLA True Aussie Beef from pet food
 - How can meat producers add more value to the whole carcass
 - Shared assumptions + expectation to prototype Australian Beef + upcycling:
 - Beef and Reef soft baked biscuit

Shameless Pets



Source: Rabobank, Pitchbook, Crunchbase

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Fig. Company profile Shameless Pets

4.1.3 The Better Meat Co.

USA Grass-fed beef retail sales have doubled in the past four years – this has been driven by a belief that grass-fed beef is ‘better’ – better quality/taste, better for their health, better animal welfare, and better for the environment which Australian Beef positions well against. In addition, the US market has seen increased entrepreneurial and funding activity in the alternate proteins industry

and MLA had interest explore a meat-plant protein blended offer and understand this category better.

The Better Meat Co. (USA) provides innovative plant protein formulas for foodservice providers and meat processors to enhance taste and sustainability. What stood out for MLA to collaborate with The Better Meat Co, was the success that the startup had with Perdue Chicken Plus range in a blended poultry/plant protein range and their expertise in ingredient functionality and interest to supply ingredients globally.

MLA's ambition to collaborate with The Better Meat Co.

- Food ingredient expertise - Clean labels & blended meats (Perdue Chicken)
- USA Shoppers insights – alternate protein trend
- MLA has good understanding fresh natural beef shopper
- Expectation: test and develop Aussie beef as blended snack and burgers

The Better Meat Co.



www.bettermeat.co

- Founded: 2018
- Headquarters: Sacramento, CA
- Employees: 5-10

Management

- Paul Shapiro, CEO
- Gus Pattillo, CTO

Stage of development

Pre-revenue → Revenue generating → Profitable

Proof of concept → Tested product → Commercialization

Sector

- Animal Protein

Description

- The Better Meat Co. produces plant-based protein formulas for institutional food sellers to enhance the nutrition, taste, and sustainability of their meat products.
- The Better Meat Co.'s plant protein ingredients blend seamlessly into meatballs, sausages, chicken nuggets, chicken patties, burgers, and other ground meats, all in a cost-competitive way.
- The Company offers three products: Albina 100, Thunderbird 100, and Damona 100, in addition to custom formulations for specific customer needs.

Current needs

- Strategic partnerships
- Funding

Recent developments

- Accepted to pitch at FoodBytes! Chicago 2019
- In June 2019, Perdue Foods announced the launch of its Chicken Plus line, which utilizes the plant-based ingredients of The Better Meat Co.
- Accepted to TERRA program in 2019 to partner with MLA

Revenue

- Not available

Funding

- Deal type: Seed
- Raised to date: USD 1.6mIn
- Most recent raise: USD 1.6mIn, Aug-2018

Investors

- Not available

Overview products



Source: Rabobank, Pitchbook, Crunchbase

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4.2 Kick off day

On September 25, 2019, TERRA hosted an in-person meeting in San Francisco for a kick off with all startups and corporate collaborators and to network with the members of the ecosystem.

For a summary of the day, have a look at this video:

<https://www.youtube.com/channel/UCagnLTaB37ba4-2ybPAHqCA>

4.3 Pilot progress

After kick-off, the pilot execution phase took off and spend 4-5 months executing their pilots with the startups. The collaborators are asked to create a pilot project planning. The TERRA team checks in monthly with each collaborator to monitor the progress of the pilot.

Questions for the pilot project planning:

- What is the scope of the project?
- How long will it take to execute the pilot scope, is it feasible to run it in 3-4 months?
- What team is required to execute this? Do the scale-up and your team have bandwidth to execute?
- What is the estimated budget for each project?
- Are there any barriers with importation/exportation (biotech restrictions/hazards, seeds/plants, batteries, fuels, and so on)?
- What are the potential wins not only for your company, but for your startup collaborator?
- What does success looks like for you: A business relationship? A potential investment on the startup? The expansion of the project?

4.3.1 Pilot progress with Corumat, Inc.

MLA and Corumat have been able to deliver its objectives and run a successful pilot. The companies worked on producing a new product and conducted consumer tests. The pilot was a great entry for Corumat in the Australian market and internationally. During the pilot, MLA and Corumat scheduled an in-person meeting for the 5th of December when Corumat showcased two prototypes and developed preliminary marketing materials. A mutually agreed target launch date helped to accelerate the production and receive consumer insights. As a result, the company was able to show consumer data on Demo Day showing the potential of the product.

The approach

- Shared understanding of greater opportunity sustainable Ag-Food value chain
- Pilot scale trials – prototype
- Consumer/Market testing – 10 packaging converters + 50 consumers + on-line survey
- High level feasibility

The outcome

- 88% of the consumers surveyed preferred packaging made from recoverable and organic materials.
- All manufacturers (100%) surveyed said at least some of their customers are requiring compostable packaging.
- There is universal interest in partnering to bring technology to market among manufacturers and packers.
- There is strong pressure from municipalities and customers for sustainable packaging.
- Younger customers are more enthusiastic in general.
- The branding and messaging needs to be bigger and bolder. Customers understand the benefits of making packaging from waste but they didn't think it stood out enough.



Fig. Co-developed Corumat plastic free meat tray and concept brand developed with MLA

4.3.2 Pilot progress with Shameless Pets

MLA has run a successful pilot together with Shameless Pets. Both companies gained a lot of consumer and market insights around the sustainable pet care market. The companies aimed to produce four new product lines that consist of Australian meat and upcycled products. One of the products that was launched was called 'Beef & Reef', a play-on surf-and-turf, consisting of Australian beef mixed with lobster. In order to gain more customer information, the new products have been sent out together with a survey. In addition, MLA used this opportunity to explore how to use upcycling in their current supply chain. The sprint validated the supply chain capabilities for upcycling while at the same time testing the value proposition of Australian meat in the US pet market.

The approach

To answer MLA's questions, the sprint was split into two specific parts. Firstly, research was conducted with R/Ga and Simmons. Secondly, MLA and Shameless Pets co-created a new product for sale, and consequently conduct consumer research from paying customers.

- Shameless Pets produced 5,000 bags and sold them on Shamelesspets.com and Pupjoy subscription box.
- Include key callouts around Australian beef on front and back of pack along with health callout.
- Send surveys to better understand consumer preferences along with talking to business owners in Chicago.

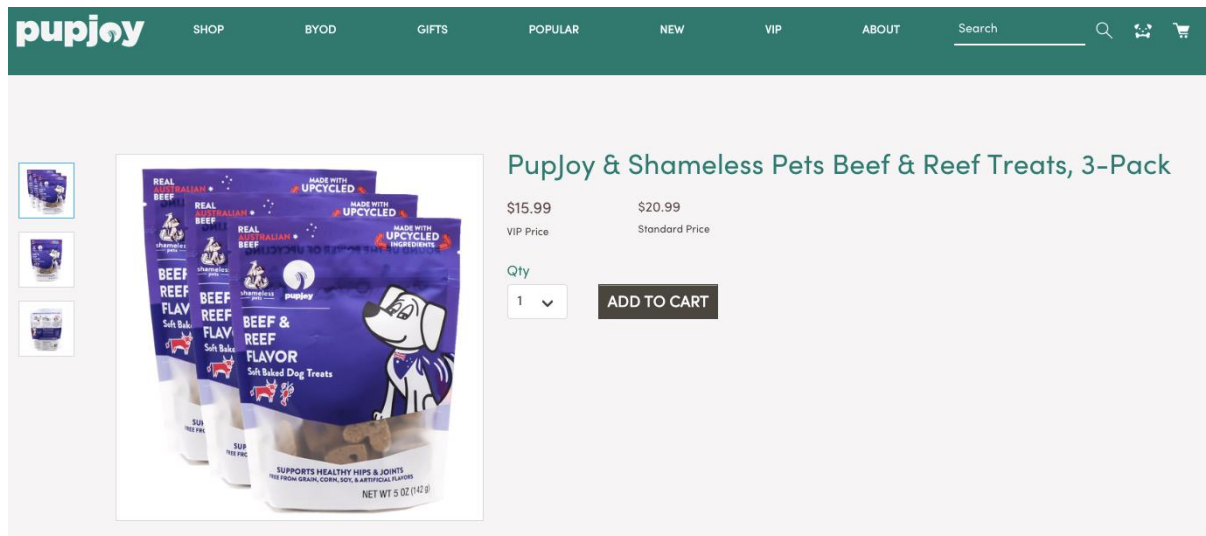


Fig. Co-developed product Beef & Reef Treats offered to the market

The outcome

- Consumer perception of dog food & treats is changing to equal quality food for pets compared to humans. Premium is the fastest growing category and consumers are looking for similar attributes like sustainability and traceability.
- After conducting market research the size of the category is large – more than 90M dogs and over a \$33B in sales. The pet treat market alone is over \$6B.
- As the study reviewed market segments that talked to sustainability and pet ownership, a market potential of 65M consumers was uncovered.
- Consumers care a lot about sustainability and the source of meat.
- Consumers prefer pet food to be certified, and are looking for healthy and tasty flavour profiles.
- The US consumer awareness of Australian red meat and benefits of red meat is low.
- Consumer Learnings:
 - Treat their dogs like owners treat themselves
 - Looking for healthy alternatives
 - Sustainability and transparency matter
 - Flavor/taste is critical
- Value creation:
 - Combining Shameless Pets proposition with Australian red meat can really differentiate within the market: Flavor, Sustainability, Health, Transparency
 - MLA can partner with Shameless Pets to upcycle nutrient dense cuts of meats allowing for even greater sustainability messaging
 - Opportunity to drive lamb & goat as meat alternatives

4.3.3 Pilot progress with The Better Meat

MLA collaborated with Better Meat to co-develop a new product consisting of meat and future protein. The main goal was to further invest in market research for blended products. During the pilot process, the companies set the ambition to develop blended lamb meatballs and lamb dumplings. Besides that, MLA wanted to look into the market potential of blended meatsticks. Better Meat has developed a new type of ingredient that is sodium free. Focus groups were organized with consumers to test these new products. During the sprint, the two companies set up an in-person meeting in San Francisco on December 2, 2019.

The approach

- Adapt ingredient solution from Chicken to Beef, air dried snack concept
- Pilot test – meat-plant meat snack with manufacturer
- Consumer – market analysis:
 - > In person focus group: 32 US meat consumers
 - > Quantitative survey: 488 US adult meat consumers

The outcome

The development of lamb meatballs is still in testing phase to optimize the texture. However, the development of the dumplings and meatsticks was completed within the pilot time frame and progressed to production and testing. During the conducted focus groups with 30 consumers, results show consumers have a favorable stance towards plant-forward and consumers believe blends are more nutritious.

- Consumers overwhelmingly preferred blended sticks to solely-meat sticks of the same brand.
- Key painpoints: reduced saturated fat, cholesterol, and calories, while boosting fiber.
- Able to reduce costs.
- Most consumers view blending favorably - 20% willing to pay more
- Women are more likely to prefer blended meats than men.
- Consumers view blended meats as better for health and the planet, though are concerned about taste, processing, and sodium.
- Most American consumers are agnostic when it comes to Australian beef vs. American beef. Some consumers shared concern to go against locavorism, but more consumers associate it positively than negatively.



Fig. The Better Meat Stick co-developed with MLA

4.3.4 Pilot progress with Phyto Corporation

MLA ran a successful pilot test with Phyto Corporation. The companies were planning to co-create and produce new products together and gain insights through marketing customer surveys. As a result, Phyto developed delicious and healthy products such as burgers and meatballs for weight loss and bone broth to prevent memory loss made of Australian beef (bones), PhytoMemory and PhytoSalt. Consumer surveys and market research were conducted on their new products.

The approach

- Take a well-known product “Beef” with a novel food tech ingredient (Salicornia plant-based salt)
- Created three prototypes
- Conducted 26 customer interviews to identify target market and pain points
- Blind taste testing with 10 consumers to compare new products against a popular Korean product as well as a product with no Phyto Corp wellness ingredient.

The outcome

The products gained promising feedback from Korean shoppers. As a result Phyto and MLA are exploring if there are any Australian Beef brand-owners who are interested to progress with this opportunity.



Fig. Newly developed products by MLA and Phyto

1	Chronic health suffers of high cholesterol, obesity, and high blood pressure
2	Upper-middle class interested in health issues
3	Meat lovers who would be interested in a superfood
4	Consumers who have an unfair advantage in energy/memory/staying fit while hoping to improve their wellness
5	Stressed students/workers desiring a performance boost

Fig. Key findings of customer interviews

4.4 Demo day

On March 3, 2020 in the Neuehouse in Los Angeles, all corporate partners and startups came together to present their results of the pilot sprints. The day started with a presentation of all startups and corporates on the outcomes of their sprints, followed by a panel discussion. In the afternoon, innovation consultant Bionic facilitated a workshop for all corporates to deep dive into how innovation is transforming current business models in the food & ag industry.

For a summary of the day, have a look at this video:

<https://www.youtube.com/watch?v=E70nNUY8z-k>



Fig . MLA and Startup Collaborators



Fig . All Corporates and Startups during Demo Day

5 Discussion

5.1 Project objective outcomes

5.1.1 Explore alternative packaging solutions

Summary and Implications: Successfully tested a meat tray made from upcycled food waste. 88% of consumers preferred packaging made from recoverable and organic materials, and 100% of manufacturers said at least some of their customers are requiring compostable packaging.

Implications include a growing desire for high-performing, sustainable packaging both midstream and downstream. Additionally, messaging on sustainable packaging needs to be bold to catch consumer attention and differentiate it to command a premium.

5.1.2 Explore bioactive and nutraceutical ingredients

Summary and Implications: Gained insights in a new region on product-market fit of Australian beef with plant-based salt. Among Korean shoppers, 80% preferred the test product over the popular Korean brand once aware of ingredients and nutrition (product attributes included weight loss and prevention of memory loss). There is promising intent from Korean shoppers for “enhanced” Australian beef products, and room for further exploration of Australian Beef brand-owners who wish to look into this opportunity.

5.1.3 Explore novel foods and technologies

Summary and Implications: The tests validated that consumers are looking for increased quality in pet food, and brands are able to command a premium for quality meat. The success of the new product has broader implications on sustainability in the industry, with pet food applications adding value to secondary cuts. Takeaways from this pilot included the value of startup agility in prototyping a new product and taking it to market swiftly.

5.1.4 Explore consumer insights and industry positioning

Summary and Implications: The pilot validated the functionality of plant-based ingredients within beef products, and that blended products command a higher willingness to pay among 20% of consumers. Although Australian beef is associated positively, American consumers are generally agnostic between Australian and American beef, so products will not inherently command a higher price point. Blended meat products provide an opportunity for the industry to lower costs while at the same time reaching a growing demographics of health and environmentally-conscious consumers.

5.2 Startup Collaborator feedback

Startup collaborators provided feedback on the pilot process during regular check-ins. Access to mentors was highly valued. Testimonials on the mentorship program from MLA’s startup collaborators include:

- “We are blown away by our mentors. One of the mentors helped with market research they’re currently conducting - questions, marketing strategy, etc.”
- “Our mentor has helped with logistics processes and has been helpful in connecting us to other companies.”
- “They helped put together a discussion guide to call 50 customers on the website, refine learnings and help think through branding.”

There were no major red flags identified in the process.

6 Conclusions/recommendations

Connecting with start-up community to experiment with Australian red meat was successfully completed in the TERRA program with 4 start-ups participating in the pilot. Rabobank-Rocketspace were successful in sourcing over 300 applicants and support in screening 63 down to 12 partners for MLA that aligned to the research brief. Over a 4-5 month design sprint, each of the 4 startups successfully develop Minimum Viable Product (MVP) concept and deduced insights that were presented back to MLA.

7 Appendix

7.1 Press release TERRA Cohort IV Kick Off

ENTERING ITS FOURTH COHORT, TERRA FOOD & AGTECH ACCELERATOR BUILDS ON SUCCESS TO TACKLE FOOD AND PACKAGING WASTE, FOOD SAFETY, AND MORE

Multinational leaders including Beta San Miguel, GrainCorp, and Tate & Lyle team up with top emerging growth companies from around the world to fuel groundbreaking transformation in Food and Agriculture

San Francisco - September 9, 2019: [TERRA](#), the leading Food & Agriculture Accelerator, is kicking off its fourth Cohort next week, partnering 13 innovative Food and Ag startups with a consortium of the industry’s most influential companies: [Beta San Miguel](#), [GrainCorp](#), [Griffith Foods](#), [OSI](#), [Meat & Livestock Australia](#), and [Tate & Lyle](#).

TERRA began in 2016 with founding partners [RocketSpace](#), a Silicon Valley-based external innovation consulting company, and [Rabobank](#), the leading provider of financial services in the food, agribusiness, and beverage industry, intended to fuel groundbreaking transformation in Food & Agriculture in order to advance the well-being of our people and our planet. TERRA’s collaborators initially covered a range of innovation areas, including supply chain optimization, food traceability and transparency, waste reduction, and novel ingredients such as alternative proteins to increase production efficiency and meet changing consumer preferences. From [Griffith Foods’ investment into upcycling startup Regrained](#) and [superfoods startup Kuli](#)

[Kuli](#) to [GrainCorp and TE-FOOD's blockchain for beer](#), TERRA has brought to life tangible successes for both corporates and startups to stimulate potential growth beyond the program.

Now, TERRA collaborators hope to test more specialized applications and products within these areas, such as high-tech, biodegradable packaging or generating edible ingredients from air's upcycled carbon dioxide via newly accepted startups [Corumat Inc.](#) (USA) and [Kiverdi](#) (USA). Rounding out the fourth cohort are:

[Altum Technologies](#) (Finland): Uses software-guided power ultrasound to remove fouling from industrial equipment with no production stoppages and no toxic chemicals.

[Burlap & Barrel](#) (USA): Sources unique, beautiful spices for professional chefs and home cooks.

[ClearLeaf S. A.](#) (Costa Rica): Designs and commercializes innovative pre- and post-harvest solutions that protect the environment and optimize farmer profits.

[DataFarming](#) (Australia): Aims to unlock the potential of Precision Agriculture products and farm data by putting easy-to-use, simple, automated and low-cost digital solutions in the hands of agronomists and producers.

[Digested Organics](#) (USA): Converts organic waste into clean water, concentrated co-products, and renewable energy.

[Phyto Corporation](#) (South Korea): Creates the future of food with Salicornia, a plant grown by seawater.

[Shameless Pets, LLC](#) (USA): Sources edible, safe, and nutritious food that would otherwise go to waste.

[SnapDNA](#) (USA): Executes rapid food safety testing through pathogen analysis.

[SwissDeCode](#) (Switzerland): Helps food and feed manufacturers transform contamination threats into sustainable opportunities.

[The Better Meat Co.](#) (USA): Provides innovative plant protein formulas for foodservice providers and meat processors to make their meat, in a word, better.

[Yarok Microbio](#) (Israel): Develops a fast microbiological testing system for the fresh food industry to protect consumers and safeguard producer interests.

These startups beat out over 300 startup applications from over 50 countries. With their corporate collaborators, they will design and implement pilot tests over the next 6 months, focusing on a designated business challenge.

MLA Comms – FEEDBACK magazine December 2019, featuring Shameless Pets

<https://v3au.zone-secure.net/drive/6703/1112005/#page=40>



SUPPLY CHAIN
THE CHANGING VALUE

Sniffing out new markets

Consumers around the world are starting to rethink the humble tin of pet food.

Now, they're demanding quality, fresh, new ingredients for their furry friends, presenting a growing opportunity for Australia's red meat industry.

Pet food isn't a new category of use for red meat, but it's underused and under-valued, according to Michael Lee, MLA Donor Company Manager of High Value Food Frontiers (pictured below).

"Now's the time to reimagine pet food to benefit Australian producers," Michael said.

A project funded by the MLA Donor Company has identified new opportunities for the red meat industry to capture value not currently captured on by local producers and food centres.

"Pets are increasingly seen as part of the family," Michael said.

"People want their dog or cat to be given the best – perhaps eating better than they do themselves."

Some pet food costs more than \$50/kg.

The MLA research found that, globally, the pet food market is projected to reach a value of US\$28.4 billion by 2024, growing at a rate of 4.5% from 2019 to 2024.

The Australian market is also expected to grow from US\$2.4 billion to US\$3.8 billion at 4.6% annually through to 2023.

"We wanted to search for high-value opportunities for red meat within the pet food market segment," Michael said.

"This seems understating the changing consumer and seeing opportunities where we can work with Australian red meat."

"Consumers increasingly want to live sustainably and they want their pets to do the same. Food waste has a big role to play here."

Michael said there's no conflict between providing food for humans and providing food for pets.

Despite a recognised problem of food waste and the problem of food waste, these factors combine to create an opportunity to upcycle products by developing low-value cuts with food waste to make pet products.

"Products that don't qualify as food-grade products for human consumption can be used to make pet food products at increased value and in premium formats that the pet owner relates to," he said.

"There's untapped potential in pet food categories within Australia and internationally – we need to now look at product and business model innovations to succeed."

Just as MLAs market insights have identified "aging consumer" as a growing market for red meat consumption, aging pets could also drive purchasing trends.

"Pets are living longer, which presents opportunities. For example, a high-protein supplement for older dogs with arthritis joints has been developed using bones that were previously wasted."

Michael said there are capitalising on opportunities such as this is a step towards bringing increased market share to Australian red meat producers. It is also a step towards new value chains to grow red meat demand.

Michael Lee
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MLA Insights2Innovation
pet food report
mla.com.au/petfood

FINE DINING FOR PETS

Is there a place for Australian red meat in the US's premium pet food market?

Michael Lee, MLA Donor Company Manager of High Value Food Frontiers, posed this question to a Chicago-based pet food company that is making waves.

Shameless Pets is tapping into a specific demographic within the huge US premium pet food market that has potential for ethically produced Australian red meat.

"Our goal of differentiation is around sustainability," Shameless Pets founder and director James Belts said.

"Fighting food waste is our ultimate mission."

"We go looking for ingredients that aren't being used – ones that were going to landfill or compost – and we 'rescue' those ingredients and upcycle them to healthy pet food that meets key values for animal health."

Shameless Pets is a new company but is on track to be in 2,500 retail stores by January 2020, as well as online through its own e-commerce site and Amazon.

MLA and Shameless Pets are working together on a two-part project.

"Firstly, we're testing the value proposition of Australian red meat in the American pet food market – what does the consumer think of it?" James said.

"The other part of the project is developing new products, which has us utilising where potential waste points are in the processing chain."

The project has already seen new products containing Australian red meat.

Shameless Pets developed a new beef, bison, and lamb, containing Australian beef.

In December, the biggest month for pet food sales in the US, 5,000 packs of Beef and Bison were distributed through subscription boxes. These boxes of pet food treats are ordered online and delivered to customers once a month.

As well as featuring the Australian flag, the Beef and Bison packaging incorporates questions asking the purchaser what they think of Australian meat, providing a survey component to guide the project.

Within the next month, the results of this market test and survey will be collected, which could well open a whole new suite of opportunities for Australian red meat.

RESEARCH IN REVIEW

PROJECT NAME
MLA - TERRA Corporate Accelerator (Pilot)

RESEARCH ORGANISATIONS
MLA

FUNDING ORGANISATIONS
Shameless Pets

GOAL
Test the US premium pet food market's interest and acceptance of Australian red meat.

BUDGET
\$43,500

DURATION
May 2019 – March 2020

KEY FINDINGS TO DATE
• New pet food being developed ready for distribution in December 2019.

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About TERRA

Founded in 2016, TERRA is a leading global innovation accelerator fueling groundbreaking transformation in Food & Agriculture. The program brings together experts, decision-makers and innovators across the entire value chain – fostering connections that catapult major breakthroughs into scalable solutions by pairing emerging growth companies with established multinationals, in a pilot-driven engagement that leads to tangible results. Unlike other accelerators, TERRA does not require equity from startups. Startups must have a product in market/ready to launch and have raised a minimum of seed-funding, better positioning them for productive pilots with corporate collaborators. For more information on TERRA, please visit www.terraaccelerator.com. Since launching, TERRA has brought together 12 corporate collaborators worth over \$100B in annual revenue, 51 emerging growth companies and launched 47 pilot partnerships.

About RocketSpace

Founded in 2011 in San Francisco, RocketSpace is a global ecosystem of people and ideas that provide the necessary velocity - both speed and direction - to help the world's top innovators bring the future to market. By uniting the highest quality corporate innovators, startups and investors across a holistic platform, RocketSpace fuels collective growth for the entire innovation ecosystem. Learn more at rocketspace.com.

About Rabobank Group

Rabobank is a leading global food and agriculture bank providing sector expertise, strategic counsel and tailored financial solutions to clients across the entire food value chain. Rabobank believes sustainability and innovation are critical in promoting a thriving food and ag industry that will feed growing global populations for years to come, which is a key focus Rabobank's Banking for Food vision to feed the world more sustainably by 2050. Rabobank's two global innovation platforms, TERRA and FoodBytes! by Rabobank help turn today's most promising ideas into tomorrow's impactful solutions through two global initiatives that are designed to build lasting connections between corporates, investors and the most promising Food and Ag startups.