AGRICULTURE 4.0
Australia as a global hub for agtech and foodtech innovation

Kylie Clark
Senior Adviser, Agribusiness and Food
For Australian businesses:
- Advice on doing business overseas
- Information and insights on international trends and new business opportunities
- Introductions to networks of key decision makers, customers and contacts

For international companies:
- Provide insight on Australian capabilities
- Identify potential investment projects and strategic alliance partners
- Identify and contact Australian suppliers.
CURRENT STATE OF PLAY

AUSTRADE-LED RESPONSE

- Global competition
- Enquiries increasing
- Fragmentation
- Services exports?
- Client confusion
- Investment opportunities?

AUSTRALIA FOR AGRICULTURE 4.0

- Launched by Minister Birmingham on 19 February 2019 at evokeAG.
WHY AUSTRALIA FOR AGRICULTURE 4.0

- World-leading producer
- Strong government support for R&D
- Addressing global trends and challenges
- An ideal test market
- Research excellence
- Thriving agtech & foodtech sector
- Track record of innovation

WHAT AUSTRADE IS DELIVERING: EVOKEAG MISSION
WHAT AUSTRADE IS DELIVERING: NEW ASSETS AND SOCIAL ADVOCACY

Brochure, case studies and insight pieces
Agriculture 4.0 website
Social media toolkit & asset library
ibrand.Austrade.com

AUSTRALIA: SHAPING THE FUTURE OF FOOD AND AGRICULTURE

From robotics and remote sensors to bioscience and advanced food manufacturing solutions
- AUSTRADE’S ROLE
- AUSTRADE’S AUSTRALIA FOR AGRICULTURE 4.0 INITIATIVE
- MARKET LANDSCAPE FOR ALTERNATIVE PROTEINS

GLOBAL PROTEIN MARKET

- Global protein ingredients market valued at AU$50.8 billion (US$36.1 billion) in 2017.
- Plant-based proteins market valued at AU$12.4 billion (US$8.8 billion) in 2017.
- Animal and plant-based proteins are expected to grow to reach AU$71.9 billion (US$51 billion) by 2022 and AU$16.7 billion (US$11.9 billion) for plant-based proteins.
MARKET DRIVERS AND OPPORTUNITIES FOR PLANT-BASED PROTEINS

Drivers and opportunities

- Increasing awareness of health and wellness – higher nutritional properties of plant-based proteins
- Increasing desire for sustainability and food security
- Changing demographic with younger populations not as brand loyal
- Rise in acceptance of plant-based milk and meat analogs
- Increased availability and knowledge of plant species
- Advancement in extraction and taste-masking technologies and novel ingredients
- Increased veganism and lactose intolerance
- Increased availability and knowledge of plant species


AUSTRALIAN CASE STUDIES

UTS’s Deep Green Biotech Hub
Microalgae in a range of alternative food products

Edible Bug Shop
Breeding insects for human consumption

Life Health Foods
Largest manufacturer in Australia of analogues

“By 2020, Australia’s packaged vegan food market will be worth $215 million”
EuroMonitor International

“2.25 million Australians aged 18 and over live a meat-free life”
Source: Roy Morgan Research

“Australia is the third fastest growing market in the world for vegan foods”
EuroMonitor International
## GLOBAL PLANT PROTEIN INVESTMENTS

<table>
<thead>
<tr>
<th>Company</th>
<th>Market Activity Type</th>
<th>Year</th>
<th>Plant Protein Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roquette</td>
<td>Expansion</td>
<td>2017</td>
<td>Pea Protein</td>
<td>The company is constructing a giant pea facility in Canada and the production is expected to begin in 2019 with a production capacity of 120,000 tons per year. Production of other plant-based proteins is also anticipated to add to the lines at a later stage in the coming years.</td>
</tr>
<tr>
<td>Dupont Nutrition</td>
<td>Product Launch</td>
<td>2017</td>
<td>Soy Protein</td>
<td>The company launched SUPRO A 100 isolated soy protein that addressed functional limitations of previous technologies and offering product manufacturers direct cost savings.</td>
</tr>
<tr>
<td>ADM</td>
<td>Product Launch</td>
<td>2017</td>
<td>Wheat Protein</td>
<td>Launched a range of wheat protein concentrates, Nutrissence. The hydrolyzed wheat-sourced protein concentrate delivers 85% protein content, high glutamine content, and is expected to be used in formulation of cakes, biscuits, bars, and beverages.</td>
</tr>
<tr>
<td>Tate &amp; Lyle</td>
<td>Expansion</td>
<td>2017</td>
<td>All plant protein</td>
<td>The company unveiled its global innovation center in Germany, which aims to expand its customer-facing facilities. The facility now has dedicated areas of prototype production for dairy, convenience, bakery and meat preparation. The center will also hold innovation workshops, seminars, and on-site technical training.</td>
</tr>
<tr>
<td>Zivo Biosoience</td>
<td>Partnership</td>
<td>2017</td>
<td>Algae protein</td>
<td>The company partnered with feed additive producer NutriQuest to jointly develop and test animal nutrition products using Zivo’s algae bios. The company also partnered with Algakei based in Spain. This is a cultivation partnership to produce its proprietary algae strain in photobioreactors.</td>
</tr>
</tbody>
</table>

*Source: Frost & Sullivan (2018), *Agriculture and Nutrition Opportunity Engine Series: "Opportunities in the Global Protein Ingredients Market, Forecast to 2022*

## START-UPS AND FUNDING IN PROTEIN MARKET*

<table>
<thead>
<tr>
<th>Company</th>
<th>Product Category Focus</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soylent</td>
<td>Sports nutrition and meal replacements category; Offers products in the form of powder, beverages – free from animal protein, lactose and nuts.</td>
<td>$50 million Series B</td>
</tr>
<tr>
<td>Before Brands</td>
<td>Infant formula: Peanut based products that allow kid’s immune system to be prepared for any kind of food allergies. The products are a combination of peanut, egg, milk, fish, shellfish, tree nuts, soy, wheat, sesame, and vitamin D.</td>
<td>$35 million Series B round</td>
</tr>
<tr>
<td>Omni Active Health Technologies</td>
<td>The company excels in lutein and astaxanthin natural extracts.</td>
<td>$35 million in a late-stage round</td>
</tr>
<tr>
<td>Macacha</td>
<td>Nutritional shake for women health</td>
<td>Undisclosed</td>
</tr>
<tr>
<td>NutriLeads</td>
<td>An innovative nutrition &amp; health startup that makes ingredients for specific customer groups</td>
<td>Undisclosed – series A</td>
</tr>
<tr>
<td>Nutriati</td>
<td>Focused on developing new plant-based ingredient alternatives</td>
<td>$8 million Series A</td>
</tr>
<tr>
<td>Finless Foods</td>
<td>Cultured meat and fish – The category involves growing meat or fish in a laboratory by applying methods of tissue engineering</td>
<td>Undisclosed</td>
</tr>
<tr>
<td>Memphis Meats</td>
<td>Cultured meat and fish</td>
<td>$17 million Series A</td>
</tr>
<tr>
<td>Miyoko’s Kitchen</td>
<td>Animal-based protein; dairy alternatives such as cheese using cashew nuts, rice and plant-derived oils</td>
<td>$8 million Series B</td>
</tr>
<tr>
<td>Impossible Foods</td>
<td>Plant-based ingredients</td>
<td>$257 million</td>
</tr>
<tr>
<td>Chips and Bugisoclute China</td>
<td>Insect-based foods</td>
<td>Undisclosed</td>
</tr>
<tr>
<td>Myo Technology</td>
<td>Sugar replacement category</td>
<td>$35 million Series B</td>
</tr>
<tr>
<td>Doublmatok</td>
<td>An Israeli-based sugar replacement product category company</td>
<td>$8.1m in a Series A</td>
</tr>
</tbody>
</table>

*Amounts are in USD and proteins include animal and plant-based.*

*Source: Frost & Sullivan (2018), *Agriculture and Nutrition Opportunity Engine Series*
Get in touch!
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