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MEAT RE-IMAGINED
THE GLOBAL EMERGENCE OF ALT-MYCELITE PRODUCTIONS - WHAT DOES IT MEAN FOR AUSTRALIA?
Plant-based meat alternatives - growth

- Plant-based meat alternative market estimated to be worth US $4.3B – $6.4 in 2018
- In the US, sales of plant-based meat alternatives increased 23% in 2018
- The Beyond Burger is now available in over 20,000 grocery stores and 11,000 restaurants
- Tyson Foods and General Mills have invested in Beyond Meat
- Impossible Foods alone has raised over US$400M
- Considerable opportunities exist in crop optimisation, ingredient exploration and processing advancements
- Price: typically the same range as premium conventional meat
Cell-based meat

- Began at NASA in 2005
- First cell-based burger prototype announced in 2013 by Professor Mark Post
- Since then, more than 25 companies have emerged globally
- Over US $100M invested in cellular agriculture companies, including from some of the biggest meat producers in U.S. and Europe.
- Greatest challenges include cell media optimisation and bioreactor scale-up
- 2018 production costs per/kg AUD:
  $6000 (Memphis Meats)
  $1100 (Future Meat Technologies)
- Regulation: U.S. and Singapore have express interest in fast-tracking
- Consumers: the more information they have, the more interested they are to try it
**CELL LINE DERIVATION**
A small sample of cells is obtained from an animal.

**Phase 1: Cell proliferation**
The cells are added to a bioreactor along with cell culture media, which causes the cells to proliferate.

**Phase 2: Tissue Perfusion**
A change in culture conditions pushes the cells to differentiate into muscle, fat, and connective tissue.

**Final Product**
Primarily muscle, fat, and connective tissue.

**CELLS AT MATURATION**
Fat Cell | Muscle Cell | Fibroblast Cell
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**NEW AGE MEATS**
Finless Foods
AUSTRALIA & NZ’S STRENGTHS

1. Outstanding Reputation for Quality, Safe Food
2. Close Proximity & Direct Trade Channels
3. Strong Food Industry Infrastructure
4. World-Class Research & Development Capabilities
5. Safe and Secure Commercial Environment
6. Governments Eager to Support New Innovation
ACTIVATE
Activating new plant-based and cell-based meat R&D, start-ups and investment.

ACCELERATE
Accelerating market supply of quality products within a fair regulatory environment.

ADVOCATE
Advocating the adoption of those options amongst consumers and food outlets.

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