

TOWARDS SUSTAINABLE MICROALGAE CULTIVATION IN SINGAPORE THROUGH FOOD WASTE

Our business aims to enable long-term, financially viable mass production of microalgae in Singapore by doing more with less - upcycling the food waste that we already produce and using it to grow microalgae.

Singapore is a little red dot and farming gave way to industrialization

PROBLEM



Food security is vulnerable to global crises (e.g. pandemics like Covid-19)

SUSTAINABLE SOLUTION

MICROALGAE



can help provide Singapore's nutrient needs



Nutritional

19 essential

vitamins &

minerals





Sustainable

Little land and resources required

Good for animals

Improves growth rate and resistance to diseases

Effluent



Cell Culture

PROCESS FLOW



Purification & Storage

Harvest

MARKET SIZE

US\$ 2.7 billion (2027)

> **US\$ 1.7 bin** (2018)

Global microalgae market size (CAGR of ~5%)

2050

Animal Feed:

Meat production to grow by **70%** Aquaculture to grow by 90% Dairy to grow by 55%

Human Consumption:

Demand for food will grow by 60%

MARKET STRATEGY

Business to Business

Phase 1

Phase 2

Phase 3

Photobioreactor

Animal Feed

Looking for seed

\$440K

2021

funding of \$960k for

the first 24 months

FINANCIAL PROJECTION

\$760K

-\$6K

2023

Cashflow

Profit/Loss

\$580K

\$420K

2024



Human Food

Biofuel



Marketing

Direct selling Trade fairs & exhibitions

\$520K

-\$270K

2022

Promotion

Online presence Academic symposiums Government collaborations

\$1,770K

\$230K

2025

DEVELOPMENT PLAN

Year1

Company setup R&D for animal feed Market research Year 2



Launch & sale of microalgae for animal feed Market research

R&D for human

consumption

Year3



Launch & sale of microalgae for human food Continued R&D

Ramp up production for both market segments

Year 4



Market research for biofuel Overseas expansion

CONNECT WITH US

FRUGAE **TEAM**



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