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# COMMERCIALIZE CLIMATE TECH

PHASE I REPORT OUT – SUSTAINABLE FOOD AND MATERIALS

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# RECOMMENDATION SUMMARY

# Recommendation: Plantd



Plantd offers a strong value proposition in its efforts to rapidly remove atmospheric CO2 and transform it into durable materials to sustain life on Earth. It offers carbon negative building materials like wall sheathing, roof decking and sub-flooring. Key risks that should be understood early in Phase II include scalability and IP protection.



Bosque is on a mission to combat climate change through innovative fermentation technology starting with food. Foods stands at the forefront of fermentation innovation, committed to reshaping the food industry and combating climate change.





Kumu offers a well-intended solution to reduce single-use and carbon intensive products in waste streams, while promoting transparency and using clean ingredients. However, regulatory barriers and an education gap prevent the proposed business model from having a successful pathway to commercialization in the near term in its proposed market.

# Opportunity Assessment

Need	Kumu	Bosque Foods	Plantd
What is it?	3	3	3
Who has it?	4	4	4
How critical is it?	3	3	3
How pervasive is it?	3	4	4
What are the obstacles to adoption of a solution?	2	4	2
What is the potential WTP?	2	3	2
<b>Solution</b>			
How well does it solve problem?	1	4	3
How mature is it?	1	3	4
<b>Sustainability</b>			
Basis for sustainable competitive advantage?	4	4	3
<b>Investment</b>			
Capital required to bring to market?	5	2	2

# Comparing Leading Contenders

		
Team Size, Reputation, History	Founder has background in sustainable agriculture, well developed diverse team	Founders are ex-SpaceX
Green Impact	Impact is created when replacing meat products (not when replacing with other meat substitutes)	Impact is created by reducing vast tree cover cutting, third party verification
Product Stage	Bosque has tested the product and is launching their product in H2 2024 (Gate 4: Validation and Testing)	Plantd has created a product but has not yet finalized their supply chain (Gate 3: Detailed Design)
Funding Stage	Seed round secured in May 2022 (\$4m)	Series A round secured in Jan 2023 (\$10m)
Technology Novelty	Three non-provisional patents filed	Technology is proprietary, first mover advantage
Probability of Success	20 LOIs signed (Annual recurring revenue potential of \$900k)	Partnership with biggest homebuilder in U.S.
Biggest Risks	Alternative meat sales declining trends, lack of brand recognition to develop B2B market, competition	Green premium, technology defensibility, deeply embedded traditional supply chains
Potential Market Size	~\$78m	\$30m-\$130m



# KUMU

Kumu is developing a bioplastics formula to license to manufacturers to develop biodegradable products that can replace traditional packaging including plastic, foam, and cardboard.

# KUMU: Research Suggests Large Market...

## TOP DOWN

TAM of 6 Proposed Packaging Replacements  
**\$155bn**

SOM based on barriers to entry, market share distribution, eco-friendly interest, CAGR, licensing fee model  
**\$33m**

Predicted potential market share:  
**~\$9m - \$33m**

Market size based on single large corporate partial capture and licensing fee model  
**\$9m**

## Bottom Up

### Market Reports Key Insights:

“Favorable **legislation will boost demand for [bioplastic] products over the next five years.** The government hopes to reduce petro-based plastic to mitigate the negative environmental effects.”

*-IBISWorld report on U.S. bioplastics manufacturing*

“...Compostable bioplastics, coated paper (which may be recyclable, compostable, or neither, depending on the coating), and paper (which may be compostable if wet or food-soiled

and free of harmful additives)...**may be a viable option for packaging that cannot be eliminated, reused, or recycled.**”

*-Sustainable Packaging Coalition Compostable Packaging Guide*

### External Market Drivers

- ✓ Plastic and rubber products manufacturing demand
- ✓ Research and development expenditure
- ✗ Trade-weighted index
- ✓ World price of crude oil

*Source: IBISWorld*

# KUMU: Industry Experts Weigh In

## Stakeholder Quotes (select quotes paraphrased):

"We are deliberately not interested in the compostability segment – the **market we serve does not have the infrastructure** to facilitate this"

-VP of Global Sustainability at large CPG Company

"The **best place to sell bio-based products is Asia** – you can say almost anything, produce almost anything. But **at the end of the day, its still a guilt-reduction play**"

-Global Sustainability Consultant

"Consumers are not ready for sustainability – everyone wants it, **no one wants to pay for it**"

-Packaging Engineer at Top-Ranked Sustainability CPG Company

"The Federal Trade Commission's guidelines do not allow for biodegradable marketing – **it is literally illegal**"

-Sustainable Packaging Consultant

## Additional Takeaways:

- ✓ Manufacturers are innovating internally and sourcing innovation externally
- ✓ Compostable packaging may be useful in contained environments
- LCA is not positive for current compostable packaging
- ✗ Focus on improving recycling streams, not shifting to composting
- ✗ State- and city-level policy results in fragmented market



# KUMU: The Risks Stack High

Risk	Risk Attributed To*:	
	Business Model	Sustainability Goals
<b>U.S. Composting Infrastructure:</b> There is not infrastructure to facilitate widespread composting in the U.S.	Yes – target customer segment is not interested in compostable formulas and is opting instead to improve recycling	Yes – most materials will end up in landfill or recycling streams
<b>Cost:</b> The cost to create the material exceeds the cost of alternatives.	Yes – customers do not show widespread willingness to pay. Some WTP may exist in already eco-brands	No
<b>Lifecycle Analysis:</b> Many compostable packaging options are more energy intensive from a lifecycle perspective than plastic options	No	Yes – use of the product will have a net negative impact on emissions, even if composted properly
<b>Consumer Practices and Education:</b> Most consumers are not aware of the chemical processes needed for composting and will trust compostable materials to “disappear” in landfill.	No – consumers who see “compostable” packaging may still feel a sense of environmental stewardship and purchase the product	Yes – packaging will assuage consumer guilt but will still go to landfill

\*We understand business and sustainability goals are intertwined. These help parse select where the explicit barrier exists because of the

# KUMU: Going Forward, Consider Shifts In:

## Geographies

*The **fragmented nature of U.S. waste stream market and policy** poses challenges in widespread adoption, which has cost and customer acquisition implications. Kumu should **research other potential markets**, such as Asia, but consider that while the business environment may be more favorable, deploying the solution elsewhere may **lack true impact**.*

## Business Model

*Due to barriers already outlined, Kumu may find it challenging to tackle a formula licensing model for widespread use. Instead, Kumu can consider customers that are in more **contained environments** (for example, stadiums or dining halls). Consider that **this shift will compress scalability**, which may drive down cost reduction potential.*

## Target Market

*Kumu has listed its priority market to be non-perishable packaging. After market review of this segment and the food packaging segment, **customers are not interested in compostable alternatives**. Kumu may consider its secondary segments of **healthcare and textiles** to deploy its formulas. Bear in mind that some of the barriers, such of **lack of infrastructure and education**, may persist.*

## Align Sustainability Messaging

*Kumu offers a solution that is advertised to “biodegrade or compost in the natural environment” and as “recyclable in a circular business model.” We recommend **reexamining the challenges** with compostability and biodegradability claims (access to natural environment, timeline), and consider **leaning into the recyclability components** the product offers.*



# BOSQUE

Bosque Foods stands at the forefront of fermentation innovation, committed to reshaping the food industry and combating climate change.

# BOSQUE: Research Findings

## From the desk...

### *Top-Down Analysis*

TAM - global meat industry  
**\$1,472bn**

SAM - health-conscious people who and 18+, pps  
>18,500, who are currently consuming meat  
alternatives + those who are willing to change from  
meat to meat-based alternatives specifically chicken  
and pork in United states region annually  
**\$370m**

SOM – Food manufacturers in LA and NYC

**\$78m**

## ...to the customer

### *Walmart customer interviews*

"I would love to try alternate  
meat product if it mimics the taste  
and  
texture of chicken"

"I am willing to switch  
to alternate meat  
alternatives as it's a  
healthier option"

"I am okay to  
pay more as  
alternate  
meat is a  
healthier  
option"

### *Customer Survey Findings (n=57)*

These shows that there is a demand among consumers for alternate meat products as they perceive it to be healthier and are willing to pay more for the same. We are currently looking for B2B as the customer are more willing to try from well known brands and going through B2B helps us reach the consumers effectively and helps us meet their needs while reducing the skepticism.

# Survey Respondents Weigh In (n=57)

*70% consume meat*



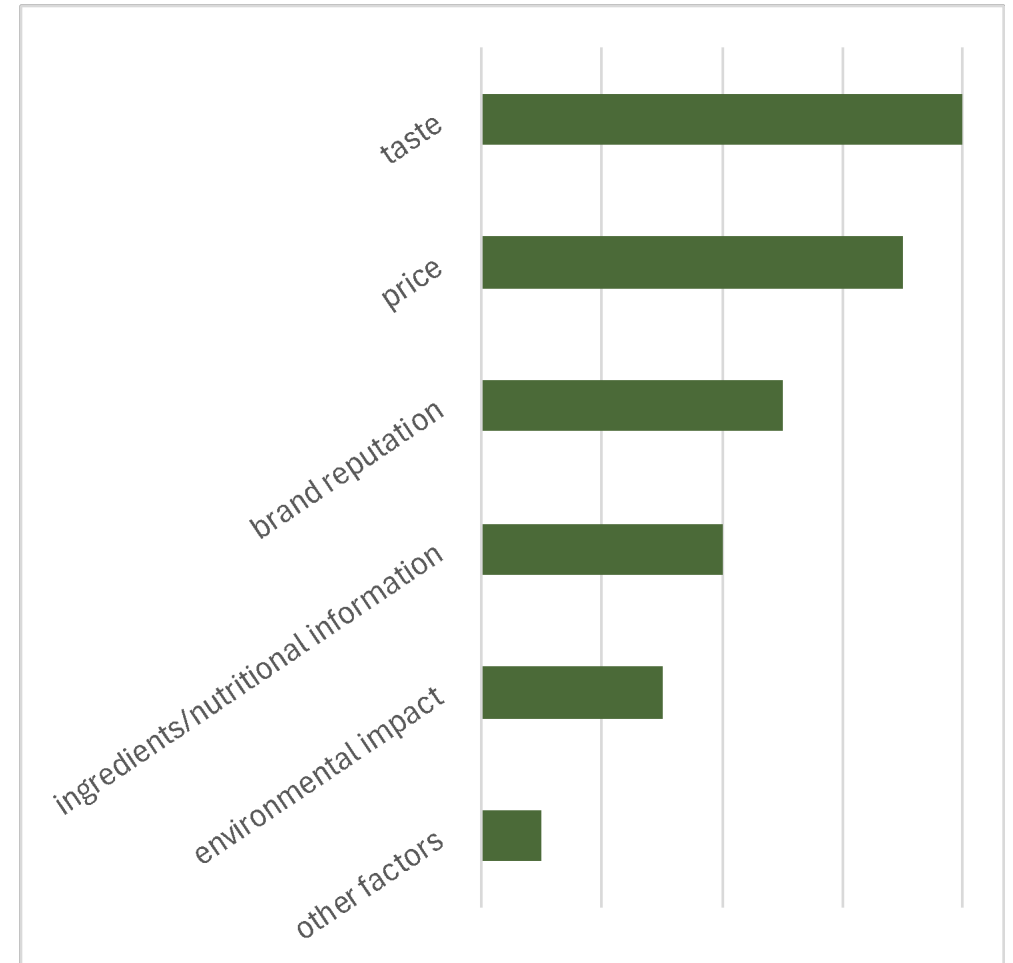
*50% have tried alternate meat products*



■ meat consumers ■ not meat consumers ■ have tried alternative meats ■ have not tried alternative meats

Sample Size = 57

*Taste, price and brand reputation lead in priority*



# BOSQUE: Risks Exist, Mitigation Pathways

Risk	Mitigation Recommendation
<b>Regulatory Compliance:</b> The regulatory landscape surrounding food production and alternative meat products can be complex and subject to change. Compliance with food safety standards, labeling requirements, and other regulations poses a significant risk.	To de-risk regulatory compliance, Bosque Foods should invest in thorough research and legal expertise to stay updated on relevant regulations. Establishing strong relationships with regulatory agencies and obtaining necessary certifications early in the process can help mitigate compliance risks.
<b>Market Acceptance:</b> Consumer preferences and acceptance of alternative meat products may vary across different regions and demographics. Uncertainty regarding consumer adoption and willingness to pay for Bosque Foods' products poses a substantial market risk.	To mitigate market acceptance risk, Bosque Foods should conduct extensive market research and consumer testing to understand target market preferences and behaviors. Developing strong branding and marketing strategies that emphasize the health, sustainability, and taste benefits of their products can help build consumer trust and acceptance.
<b>Competitive Pressure:</b> The alternative meat industry is becoming increasingly competitive, with both established players and new entrants vying for market share. Intense competition could lead to price wars, margin pressures, and challenges in gaining market traction.	To address competitive pressure, Bosque Foods should focus on differentiation through innovation, quality, and sustainability. Investing in ongoing research and development to continuously improve products and processes can help maintain a competitive edge. Additionally, building strategic partnerships and securing exclusive distribution agreements can help secure market share and protect against competitive threats.
<b>Supply Chain Vulnerabilities:</b> Bosque Foods' supply chain, including sourcing raw materials for fermentation and ensuring consistent quality, could be vulnerable to disruptions such as supply shortages, quality issues, or logistical challenges.	To mitigate supply chain vulnerabilities, Bosque Foods should diversify its supplier base and establish robust quality control measures. Developing contingency plans and alternative sourcing options can help minimize the impact of supply chain disruptions. Additionally, fostering strong relationships with suppliers and maintaining open communication can facilitate quick resolution of any issues that arise.





# Down-selection: PLANTD

Plantd specializes in creating sustainable, carbon-negative building materials. Their innovative approach involves transforming fast-growing perennial grass into durable home construction products (structural sheathing and roof decking)

# Plantd: Research Suggests Huge Market...

## TOP DOWN

SAM (Wall Sheathing, Roof Decking and subflooring)  
building material - **\$26 bn**

SOM based on barriers to entry, market share  
distribution, CAGR, Green building material adoption  
**\$130 mn**

Predicted potential market share:  
**~\$30 mn - \$130 mn**

Market size based on competitive pricing and supply  
chain capacity and GTM strategy  
**\$30 mn**

## Bottom Up

### Key Insights:

- Traditional OSB and plywood are manufactured using trees like **aspen, pine, poplar, douglas fir** and **spruce** which require **10-50 years** to mature
- Grass used by Plantd has an estimated maturity **period 1-3 years** and withstands seasonal drought and flood and regenerates soil health
- Plantd produces same amount of material **using 9x less land.**
- Medium sized wood OSB mill requires **140k acres** of managed timber lands vs **15k acres** of grass plantations
- Plantd wants to establish their agriculture supply chain and build the first-of-its-kind, **modular automated continuous press.**
- Factory – automated, low emissions, 100% electric, low fixed and operational cost, Multi-product capable (panels, studs, and CLT)



# Plantd: Industry Experts Weigh In

## Stakeholder Quotes (select quotes paraphrased):

“Homebuilders are conservative and risk averse, so they would not experiment with a new building material that can collapse. The product must be tested and safe.”

“Moreover, they don’t care about green benefits, and nobody is going to see the material as it is behind a dry wall”

“Structural sheathing and roof decking are not critical to the the stability and safety of the house. They are high volume, low risk, low margin products”

**“The real MOAT which will determine the future success of Plantd is the novel “factory”. The scale and quality of products would be determined by this innovation.”**

## Additional Takeaways:

- ✓ Plantd factory will hypothetically emit 71% fewer CO2 emissions when compared to traditional counterparts
- ✓ For 1 house using Plantd panels for walls and roofs 17 trees are saved and 8 tonnes of CO2 is locked away
- ✓ **3<sup>rd</sup> party certification (Center for Building Innovation) for carbon lock away by materials**
- ✗ Success for various claims strongly depends on the efficiency of the manufacturing facility

# Plantd: Numerous Risks to Overcome

Risk	Context For Plantd
Operational Efficiency	Essential to Plantd's success is their innovative manufacturing process, a cornerstone that validates their ambitious claims. Efficiency here is not just operational but also a reflection of their competitive edge.
Market Adoption	The construction sector's established supply chains and the end customer's focus on cost and functionality present hurdles in embracing eco-friendly alternatives.
Single Customer Dependency	Relying predominantly on DR Horton exposes Plantd to fluctuations in one company's demands or strategy shifts, risking revenue stability.
Cost	Without the benefit of economies of scale, Plantd may struggle to offer competitive pricing, potentially stalling broader market acceptance.
Intellectual Property	In the absence of robust IP protection, Plantd's innovations are vulnerable to replication by larger industry players, threatening their unique market position.

# Plantd: Addressing Risks as a Next Step

*We will focus on the following areas for commercialization planning as we move into Phase 2:*

## 1 Customer Portfolio Expansion

*Broaden the client base to reduce dependency on a single customer and stabilize revenue streams. The carbon-capture capabilities of the product have been proven. Homebuilder Associations' benefit from a cost-play and **ESG score** boost.*

## 2 Market Education and Engagement

*Intensify efforts to educate the market on the environmental and functional benefits of Plantd's products to foster broader adoption. They should start working on branding and marketing.*

### Team's Next Steps:

- ✓ Gather green building insights from Duke professor (Chris Wedding)
- ✓ Calls scheduled with HVAC company leader and sustainability architect
- ✓ **Build out remaining customer engagement plan**

## 3 Operational Scalability

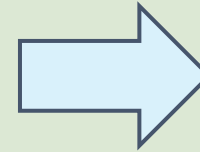
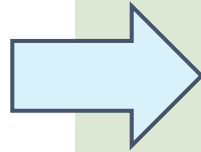
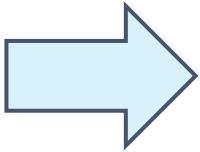
*Invest in scaling production capabilities efficiently to reduce costs and increase market competitiveness. It must leverage the first-mover advantage and carve out an operational MOAT across all the verticals of the supply-chain*

## 4 Intellectual Property Fortification

*Ensure protection of intellectual property to secure market position and innovation advantage. Patenting their unique manufacturing processes will allow Plantd to deter competitors from replication. This strategic focus on IP not only fortifies Plantd's competitive edge but also underpins its long-term growth and industry leadership.*





Sustainable, carbon-negative building materials to drive decarbonization of the building industry, boasting third party verification (Center for Building Innovation) of its innovative perennial grass to capture and store more carbon than traditional materials.



# APPENDIX

# Comparing Leading Contenders

		
<b>Team Size, Reputation, History</b>	Founder has background in sustainable agriculture, well developed diverse team	Founders are ex-SpaceX
<b>Green Impact</b>	Impact is created when replacing meat products (not when replacing with other meat substitutes)	Impact is created by reducing vast tree cover cutting, third party verification
<b>Product Stage</b>	Bosque has tested the product and is launching their product in H2 2024 (Gate 4: Validation and Testing)	Plantd has created a product but has not yet finalized their supply chain (Gate 3: Detailed Design)
<b>Funding Stage</b>	Seed round secured in May 2022 (\$4m)	Series A round secured in Jan 2023 (\$10m)
<b>Technology Novelty</b>	Three non-provisional patents filed	Technology is proprietary, first mover advantage
<b>Probability of Success</b>	20 LOIs signed (Annual recurring revenue potential of \$900k)	Partnership with biggest homebuilder in U.S.
<b>Biggest Risks</b>	Alternative meat sales declining trends, lack of brand recognition to develop B2B market, competition	Green premium, technology defensibility, deeply embedded traditional supply chains
<b>Potential Market Size</b>	~\$78m	\$30m-\$130m

plantd 

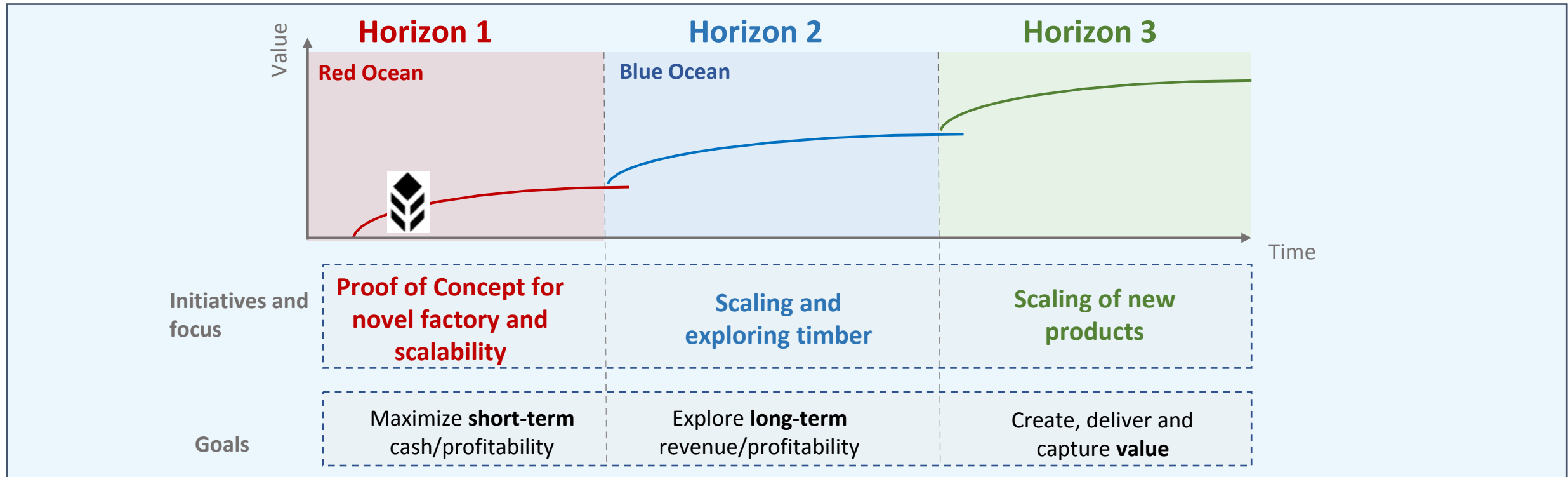
# PLANTD: Opportunity Assessment

Need	Ranking (5: best; 1: worst)	Comments	Reference
What is it?	3	Green building materials focused on structural sheathing and roof decking	Pitch deck
Who has it? (potential customer)	4	Homebuilder association and retail homebuilders	Pitch deck and interview
How critical is it?	3	Green benefits, cost play and ESG rating for HA	Pitch deck and interview
How pervasive is it?	4	Market analysis suggests \$30mn-\$100mn	Market sizing and interview
What are the obstacles to adoption of a solution?	2	Established supply chain of OSB and plywood and pricing	Research and interview
What is the potential WTP?	2	Price sensitive market – high volume, low risk, low margin product	Research, pitch deck and interview
<b>Solution</b>			
How well does it solve problem?	2	There is still not conclusive problem identification	Pitch deck
How mature is it?	3	Working on agri supply chain and establishing manufacturing capabilities	Pitch deck and Stage Gate process
<b>Sustainability</b>			
Basis for sustainable competitive advantage?	1	They are competing in commoditized market with a simple product	3 horizons, pitch deck and interviews
<b>Investment</b>			
Capital required to bring to market?	2	Considering cost of R&D and incumbents - \$50 mn	

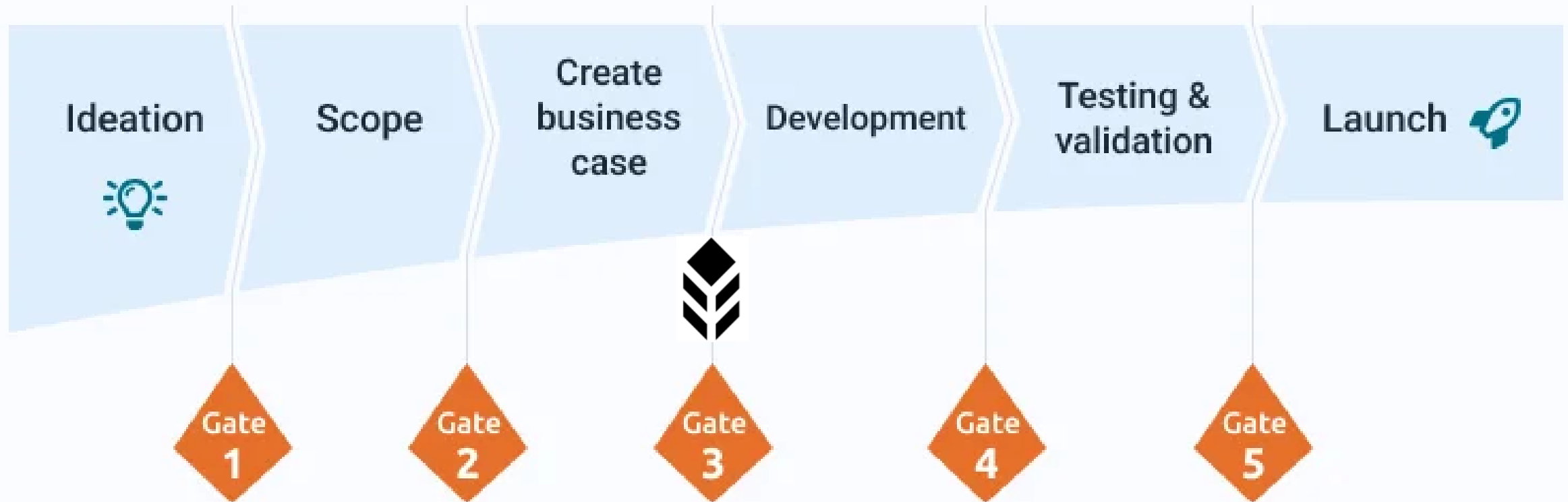
 Blue highlight indicates critical components of opportunity decisioning



# Plantd: How to Reach Blue Ocean



# PLANTD: Current Product STAGE



# Plantd: Works Cited

- <https://www.fortunebusinessinsights.com/construction-materials-market-107415>
- <https://www.globenewswire.com/en/news-release/2023/01/26/2595895/0/en/Plantd-Secures-10M-in-Series-A-Funding-to-Commercialize-Carbon-Negative-Building-Materials.html>
- <https://www.plantdmaterials.com/product>
- <https://www.angi.com/articles/cost-of-osb-board.htm>
- <https://www.ezwoodshop.com/plywood/plywood-prices.html>
- <https://finance.yahoo.com/news/oriented-strand-board-osb-market-140000495.html>
- <https://www.futuremarketinsights.com/reports/plywood-market>
- <https://my-ibisworld-com.proxy.lib.duke.edu/us/en/industry-specialized/od6580/industry-at-a-glance>
- <https://app.hubspot.com/documents/40089232/view/636257537?accessId=510e32>

*Kumu*

# KUMU: Opportunity Assessment

Need	Ranking (5: best; 1: worst)	Comments	Reference
What is it?	3	Fully backyard compostable/biodegradable packaging formula	Pitch deck
Who has it?	4	Consumer goods companies with stakeholder pressure	Market research, customers
How critical is it?	3	Need to solve the problem is there – but the solution that has emerged is improving recycling processes	Customers
How pervasive is it?	3	Potentially transferrable across multiple industries: high single \$m	Market sizing, customers
What are the obstacles to adoption of a solution?	2	Cost of transition of product, manufacturers (high); incumbents	JPG
What is the potential WTP?	2	Some eco-focused brands are willing to pay	Customer conversations
<b>Solution</b>			
How well does it solve problem?	1	No widespread infra/education/adoption of composting, LCA of comparable products not environmentally beneficial	Pitch deck, customers
How mature is it?	1	Not mature; preliminary prototype, no independent testing, verification, IP	TRL assessment (level 2/3)
<b>Sustainability</b>			
Basis for sustainable competitive advantage?	4	Feeling of environmental stewardship at end user level; awareness of recycling industry	Customers
<b>Investment</b>			
Capital required to bring to market?	5	~\$5m; no manufacturing, major costs: testing, verification, prototypes, IP	Class conversations



Blue highlight indicates critical components of opportunity decisioning

# KUMU: Identifying the Value Proposition

## *Customer Experience:*

### Jobs

- Deliver products to consumers in high quality packaging

### Pains

- Confusion around eco-friendly certifications, green marketing; prohibitions from biodegradable labeling
- Premium added to cost of products
- Slowdowns due to transition to new manufacturing partners and/or processes
- Premiums and other costs associated with new packaging

### Gains

- Added value to existing customers and addition of new customers by achieving sustainability goals and emissions reductions without loss of quality
- Reputational benefits

## *Value Proposition:*

Kumu's technology allows companies to market and sell products using biodegradable packaging with existing manufacturer relationships, which offer sustainability advantages not offered by other packaging products that are marketed as "eco-friendly".

## **Additional market intelligence gathered from:**

- Calls with Clorox, P&G, other sustainability experts with history at BPI, Dow, Sustainable Packaging Coalition

# KUMU: Works Cited

[IBISWorld: Bioplastics Manufacturing in the US](#)

[IBISWorld: Foam Manufacturing in the US](#)

[IBISWorld: Thin Film Manufacturing in the US](#)

[IBISWorld: Rigid Cardboard Manufacturing in the US](#)

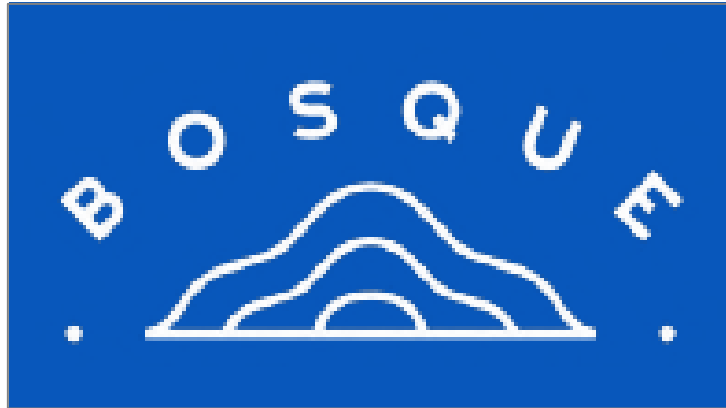
[IBISWorld: Rigid Glass Manufacturing in the US](#)

[IBISWorld: Rigid Metal Manufacturing in the US](#)

[IBISWorld: Rigid Hard Plastics Manufacturing in the US](#)

[SPC: Position Statement on Biodegradable Packaging](#)

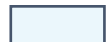
[SPC: Compostable Packaging Guide](#)





# BOSQUE: Opportunity Assessment

Need	Ranking (5: best; 1: worst)	Comments
What is it?	3	Innovative fermentation platform for biobased solutions, focusing on sustainable, environmentally friendly meat alternatives
Who has it?	4	Health-conscious consumers and the food industry, individuals actively seeking healthy protein options and willing to switch to alternatives
How critical is it?	3	Critical for health-conscious individuals aiming to reduce saturated fat intake while ensuring high protein consumption through minimally processed meat alternatives
How pervasive is it?	4	Increasing as demand rises for healthier meat alternatives, estimated at \$0.11bn in current market value
What are the obstacles to adoption of a solution?	4	Consumer skepticism, brand recognition, and price sensitivity
What is the potential WTP?	4	Consumers express willingness to pay similar prices for healthy meat alternatives, especially with sustainability benefits
<b>Solution</b>		
How well does it solve problem?	4	Bosque effectively addresses the need for healthier and sustainable meat alternatives through minimally processed chicken and pork alternatives
How mature is it?	3	The production of products already underway, indicating moderate maturity in the solution
<b>Sustainability</b>		
Basis for sustainable competitive advantage?	4	While affordability, taste, and texture are significant factors, sustainability remains a compelling aspect that sets the product apart.
<b>Investment</b>		
Capital required to bring to market?		A ballpark figure of \$5,000,000 is estimated for the initial capital required to launch and establish the product in the market.



Blue highlight indicates critical components of opportunity decisioning

# BOSQUE: Competitive Landscape

## RIVALRY AMONG EXISTING COMPETITORS:

High: The competitive rivalry in the food manufacturing industry, particularly in the ready meal segment, is high. Bosque Foods competes with both established players and emerging startups offering alternative meat products. Competitors may compete on factors such as product quality, pricing, distribution channels, and brand recognition.

## THREAT OF NEW ENTRANTS

## THREAT OF NEW ENTRANTS:

Low to Moderate - The threat of new entrants into the market may be moderate due to the potential barriers to entry, such as high initial capital requirements for research and development, regulatory compliance, and establishing distribution channels. However, the growing demand for sustainable food solutions and alternative meat products may attract new players to the market.

## BARGAINING POWER OF SUPPLIERS

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Low to Moderate: Bosque Foods may have moderate bargaining power over its suppliers, particularly for raw materials and technology inputs required for its fermentation platform. However, suppliers with unique or specialized resources may have some leverage, although alternatives may be available.

## THREAT OF SUBSTITUTE PRODUCTS:

Moderate: The threat of substitutes exists, especially in the food manufacturing industry where there are various options for ingredients and food products. However, Bosque Foods' innovative approach and focus on sustainable meat alternatives may mitigate some of this threat, particularly within the ready meal segment where there may be fewer direct substitutes.

## THREAT OF SUBSTITUTE PRODUCTS

## BARGAINING POWER OF BUYERS

Moderate: Buyers in the food manufacturing industry, including both large national and multinational companies and smaller providers of ready-made meals, may have moderate bargaining power. Bosque Foods' value proposition of innovative fermentation-based biobased solutions may differentiate its products, but buyers have various options and may negotiate on pricing and terms.

*Going with B2B helps us to effectively compete in the industry with existing competitors by effectively leveraging our Value proposition of our product providing the satisfaction and feeling of consuming meat but more of a healthier version by reducing the saturated fat intake while enjoying the taste and texture.*



# List of Survey Responses (n=57)

## 1. Meat Consumers:

1. Percentage of meat consumers: 70% (From the responses where "Do you consume meat?" was answered as "Yes")
2. Percentage consuming chicken: 60% (From the responses where "Chicken" was selected under "Which type of meat products do you consume?")
3. Percentage consuming beef: 40% (From the responses where "Beef" was selected under "Which type of meat products do you consume?")
4. Percentage consuming both chicken and beef: 30% (From the responses where both "Chicken" and "Beef" were selected under "Which type of meat products do you consume?")

## 2. Non-Meat Consumers:

1. Percentage of non-meat consumers: 30% (From the responses where "Do you consume meat?" was answered as "No")

## 3. Alternate Meat Consumers:

1. Percentage of alternate meat consumers: 50% (From the responses where "Have you ever tried alternate meat products?" was answered as "Yes")

## 4. Percentage of Non-Meat Consumers Consuming Alternate Meat:

1. 20% of non-meat consumers have tried alternate meat products

## 5. Percentage of Meat Consumers Consuming Alternate Meat:

1. 60% of meat consumers have tried alternate meat products

## 6. Percentage Considering Each Factor While Purchasing Alternate Meat:

1. Price: 70%
2. Brand reputation: 50%
3. Ingredients/nutritional information: 40%
4. Taste: 80%
5. Environmental impact: 30%
6. Other factors: 10%

## 7. Percentage of Each Type of Ethnicity:

1. Asian/Pacific Islander: 71%
2. African American/Black: 5%
3. Hispanic/Latino: 1%
4. Caucasian/White: 20%
5. Middle Eastern/North African: 3%
6. Mixed/Multiethnic: 0%
7. Native American/Indigenous: 0%
8. Other: 0%

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## 4. Percentage of Non-Meat Consumers Consuming Alternate Meat:

1. 20% of non-meat consumers have tried alternate meat products

## 5. Percentage of Meat Consumers Consuming Alternate Meat:

1. 60% of meat consumers have tried alternate meat products

## 6. Percentage Considering Each Factor While Purchasing Alternate Meat:

1. Price: 70%
2. Brand reputation: 50%
3. Ingredients/nutritional information: 40%
4. Taste: 80%
5. Environmental impact: 30%
6. Other factors: 10%

## 7. Percentage of Each Type of Ethnicity:

1. Asian/Pacific Islander: 71%
2. African American/Black: 5%
3. Hispanic/Latino: 1%
4. Caucasian/White: 20%
5. Middle Eastern/North African: 3%
6. Mixed/Multiethnic: 0%
7. Native American/Indigenous: 0%
8. Other: 0%

# Whom are we catering to?

## ***Consumers:***

Health-conscious people who are 18+, pps >18,500, who are currently consuming meat alternatives & those who are willing to change from meat to meat-based alternatives specifically chicken and pork

## ***Customers:***

### 1. Food Service Providers

- Metropolitan East (New York) and West coast (Los Angeles) cities in North America, USA
- Secured commitments from first food service customers for selected pop-ups and launched in mostly East Coast based restaurants

### 2. Overall food manufacturers

- North America, USA

# Potential Customers

## ***Ready Meal Providers:***

These companies specialize in producing and distributing pre-packaged meals that require minimal preparation by consumers. Ready meal providers are likely to be interested in Bosque's products as they can incorporate the mycelium-based chicken filet into their meal offerings, catering to consumers looking for convenient, healthy, and sustainable food options.

## ***Frozen Food Manufacturers:***

Manufacturers of frozen food products, including frozen entrees, snacks, and appetizers, may see value in Bosque's mycelium-based chicken filet as a versatile ingredient for their product lines. The filet's frozen storage capability and potential for customization make it appealing for companies in this sector.

## ***Health Food Companies:***

Companies focusing on health-conscious and sustainable food products may find Bosque's mycelium-based chicken filet aligns with their brand values and consumer preferences. These companies often prioritize natural, plant-based, and environmentally friendly ingredients, making Bosque's product a potential addition to their portfolios.

## ***Meal Kit Companies:***

Meal kit providers offer subscription-based services that deliver pre-portioned ingredients and recipes to consumers, enabling them to cook meals at home. Bosque's mycelium-based chicken filet could be included in meal kit offerings, providing subscribers with innovative and convenient meal options while promoting sustainability and health.

## ***Contract Manufacturers:***

Contract manufacturers specialize in producing food products on behalf of other companies. Bosque could collaborate with contract manufacturers to scale up production of its mycelium-based chicken filet and expand its reach in the market efficiently.

## ***Natural and Organic Food Brands:***

Companies focused on natural and organic food products may view Bosque's mycelium-based chicken filet as a premium ingredient that appeals to health-conscious consumers seeking sustainable alternatives to conventional meat products.