

GO  
OD

Meat



Mission

Make the world's  
most consumed  
animal protein



# Food insecurity, climate change, and zoonotic risk are driving change.

## Zoonotic disease

The main driver of zoonotic disease is the increasing demand for animal consumption. When you reduce conventional consumption, you reduce food safety risks.



Zoonotic disease: UN Environment Programme

## Climate change

The IPCC states that animal agriculture is one of the top three causes of greenhouse gas emissions; lists cultivated meat as one of the “transformative” options to reduce emissions.



Climate Change: IPCC

## Food security

China has released its Five-Year Agricultural Plan, which includes cultivated meat for the first time. Singapore has indentied cultivated meat as an important technology to mitigate food security issues.



The waiter placed the duo of chicken dishes on the table at 1880, a private members’ club in Singapore. On one dark ceramic plate was a golden maple waffle shoring up a crisp piece of chicken, while the other dish was hidden within a bamboo steamer. Entrepreneur Stephanie Dickson, who has been a vegetarian for most of her life, lifted the lid to find a plump bao bun filled with crispy chicken drizzled with sesame and orange sauce. “The chicken pieces looked really crispy and tender and the meat was really moist,” she describes. On the surface, this looked like any restaurant setting, but what was different about the menu was the key ingredient came from a laboratory.

Food security: TIME





The success of GOOD Meat heralds the beginning of a new food revolution.

Peter H. Diamandis  
Founder and executive chairman of XPRIZE



First country to approve cultivated meat



Scientific Breakthroughs of the Year



Breakthroughs of the Year



20 Things That Made the World Better



#1 Moment of 2020



Food & Drink Awards





GOOD Meat is leading the industry.

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## First to approval

**November '20**

Non-GMO, stable cell lines, low-cost media, high cell densities, along with an industrial-biotech modeled process

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## First to large-scale

**December '21  
ABEC agreement**

Seven-year agreement with the world's leading bioreactor company to engineer 250,000-liter bioreactors for avian/mammalian cell culture

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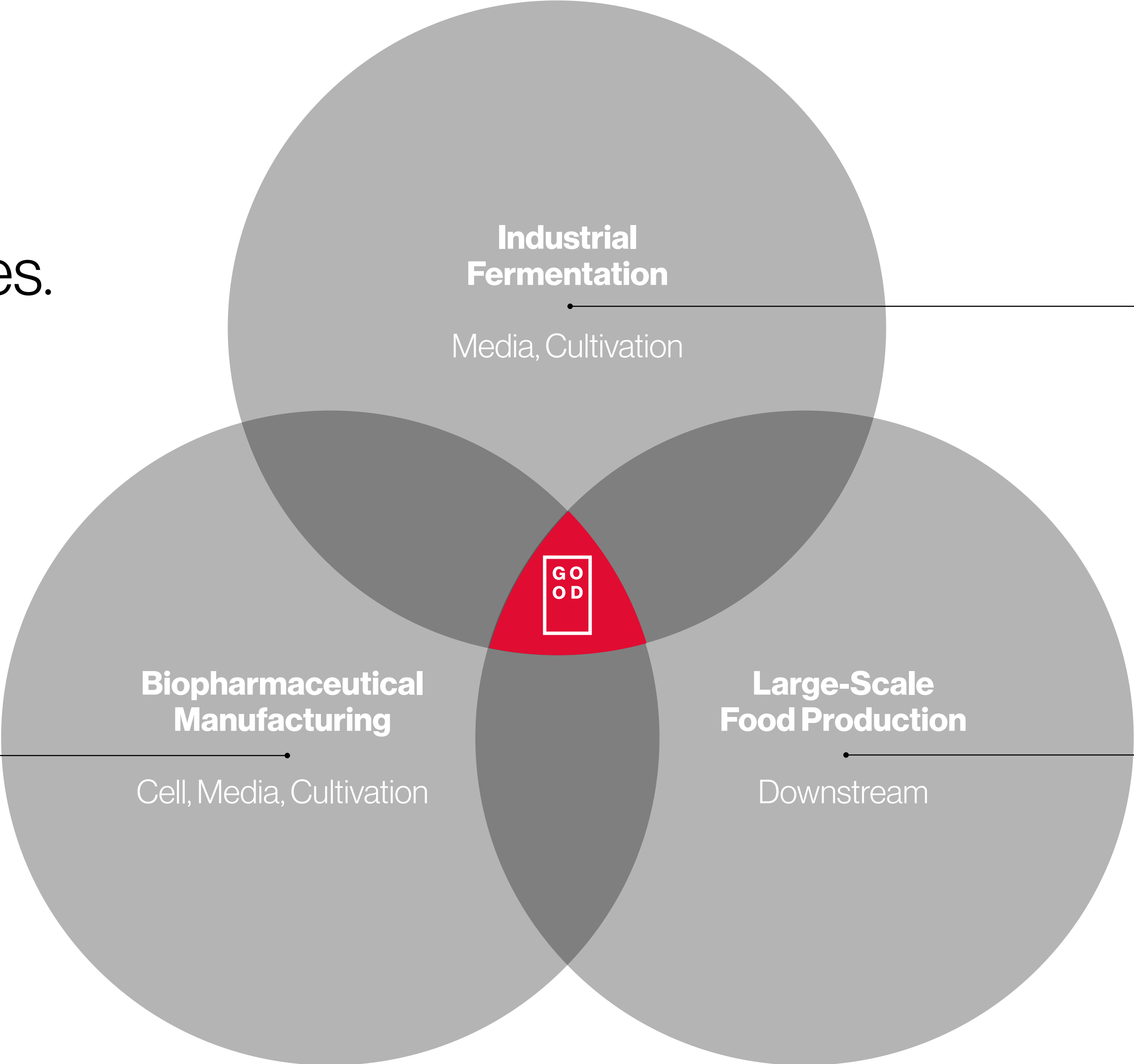
## First to market

**December '20**

Go-to-market capabilities in a time of urgent needs



GOOD Meat is operating at the intersection of multiple industries.



Applying fermentation know-how that has been used to cultivate microorganisms at scales over 600,000-liter per batch. Developing facilities, process equipment and technologies that deliver a consistent product from a single cell at scales that achieve cost of goods targets.

Cultivating animal cells using cell culture techniques to isolate and adapt cells to an environment conducive to large-scale cultivation. Assuring safety and consistency through development, processing and testing routinely used in the production vaccines and other therapies.

Making healthy food products that consumers are excited to eat. Assuring safety, quality and cost effectiveness of every product intended for human consumption through scalable food technologies.



# GOOD Meat is the first to large-scale vessel production, driven by long-term agreement with world's leading bioreactor company.

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**First-ever**

Ten 250,000-liter, ABEC-manufactured vessels will form the foundation of the world's first large-scale cultivated meat facility.

**Exclusive**

ABEC has already started design process material ordering for this manufacturing project.

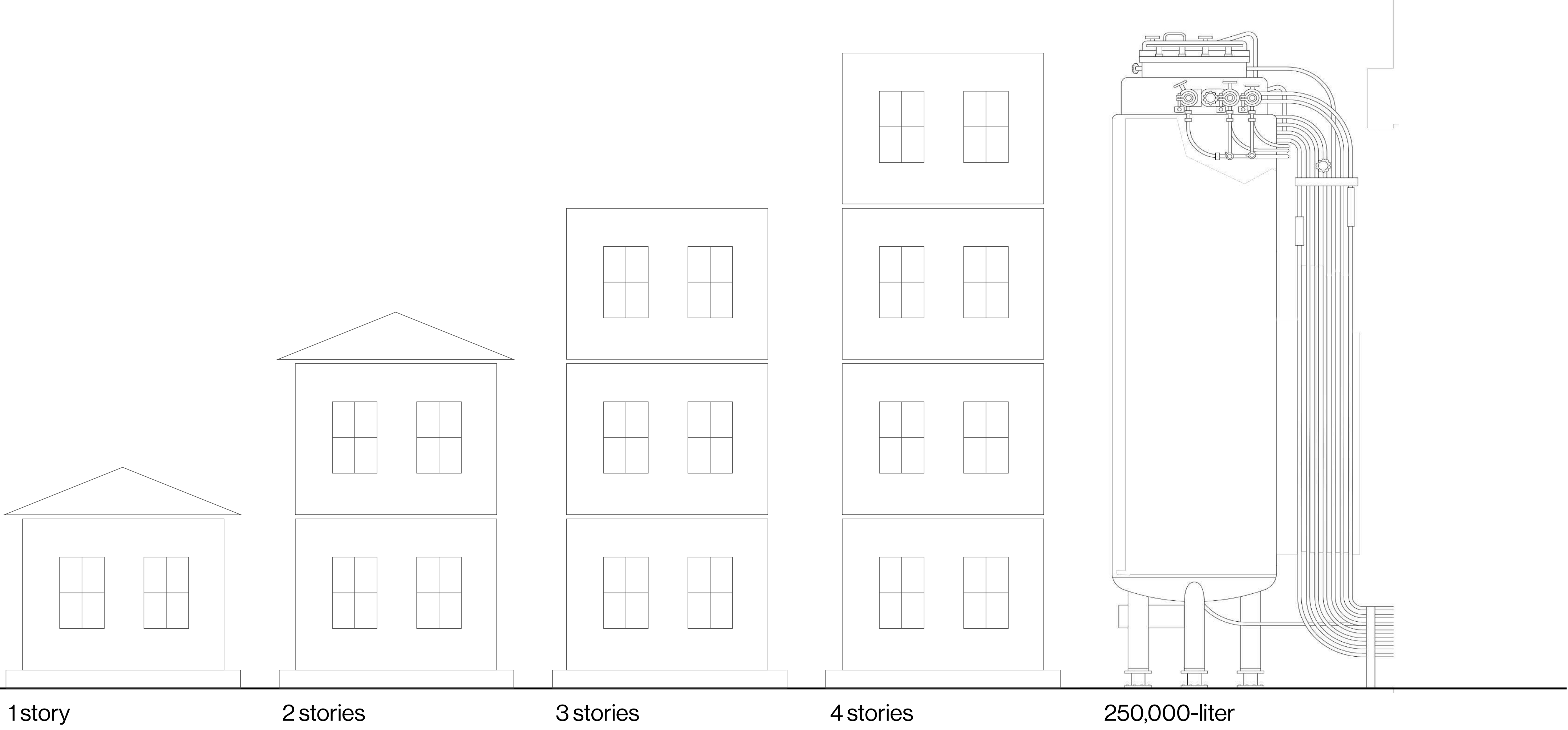
**About ABEC**

A majority of the world's pharmaceutical and biotech companies are ABEC customers with many of today's leading therapies manufactured in vessels that are designed and engineered by them.

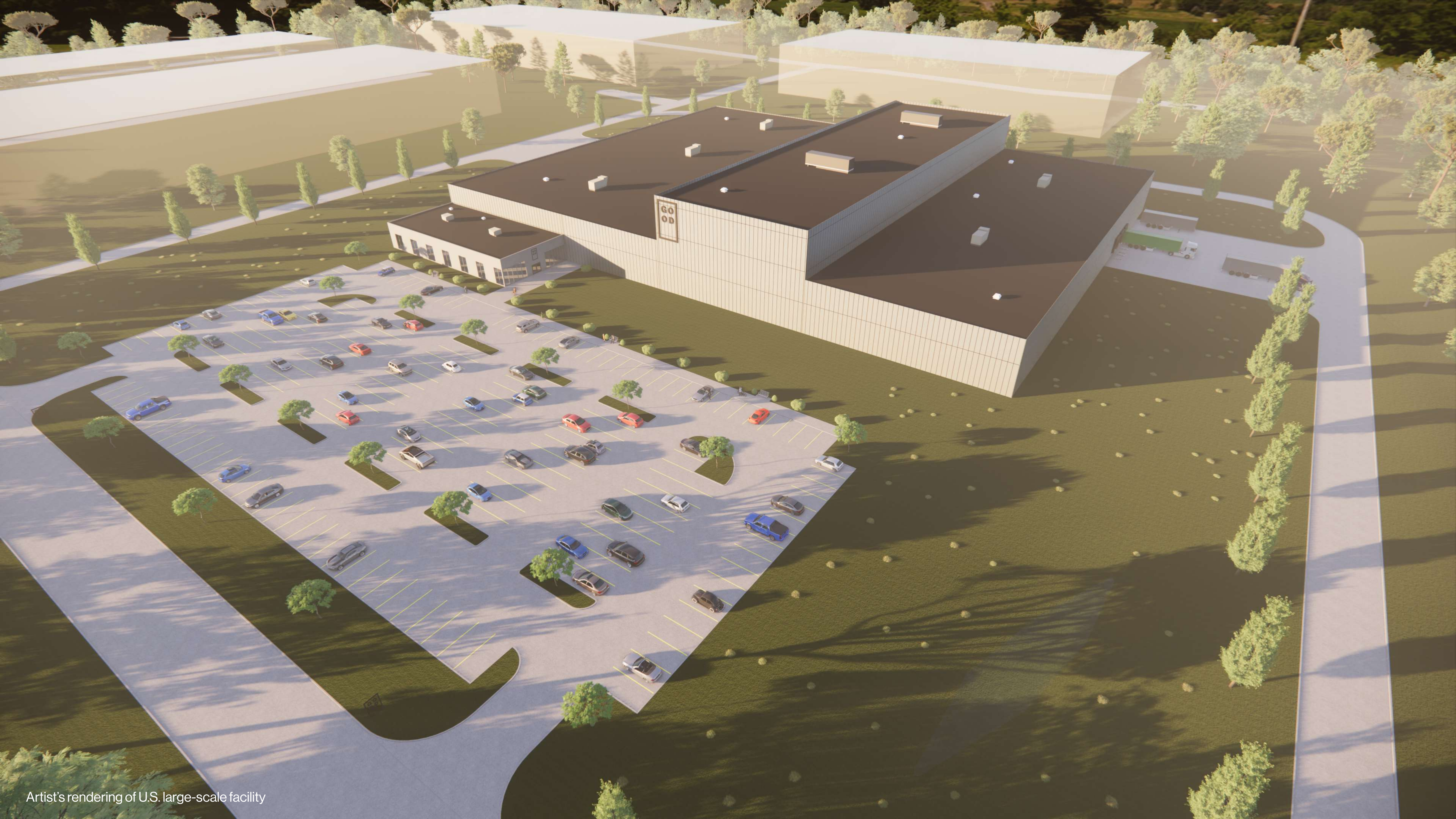




250,000-liter = 4 stories







Artist's rendering of U.S. large-scale facility





Artist's rendering of U.S. large-scale facility



# GOOD Meat is safer than conventional chicken.

GOOD Meat cultivated chicken versus conventional chicken

<b>Microbiological analysis</b>	<b>GOOD Meat cultivated chicken (n&gt;20)</b>		Conventional chicken <sup>1</sup>	
	<b>Mean value</b>	<b>Positive samples (%)</b>	Mean value	Positive samples (%)
Aerobic plate count (cfu/g) <sup>2</sup>	<b>&lt;10</b>	<b>0</b>	558,018,333	98.8
Coliforms (mpn/g) <sup>3</sup>	<b>&lt;3</b>	<b>0</b>	2,544	88.5
E. coli (mpn/g)	<b>&lt;3</b>	<b>0</b>	701	62.3
Fecal streptococcus (cfu/g)	<b>&lt;10</b>	<b>0</b>	16,645	96.3
Salmonella (/25g)	<b>Not detected</b>	<b>0</b>	0.82	26.3

<sup>(1)</sup> The Nationwide Microbiological Baseline Data Collection Program: Raw Chicken Parts Survey (USDA, 2012)

<sup>(2)</sup> CFU/g: colony forming unit per gram of material

<sup>(3)</sup> MPN/g: most probable number per gram of material



Consistent quality and safety data has been submitted to multiple regulators.

Representative batch (RB)	Specs	RB1	RB2	RB3	RB4	RB5	RB6
<b>Proximate analysis</b>							
Moisture (%)	85–95	88.73	89.91	90.54	89.87	88.77	89.07
Protein (%)	5–10	9.75	7.88	7.75	8.19	8.88	8.12
Fat (%)	0.5–2.0	1.55	1.20	1.66	1.38	1.20	1.18
Ash (%)	0.0–2.0	0.84	1.00	0.78	0.71	0.95	0.86
Carbohydrate (%)	0.0–2.0	< 0.1	< 0.1	< 0.1	< 0.1	0.2	0.77
<b>Heavy metals</b>							
Arsenic (ppm)	< 1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Lead (ppm)	< 2	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Mercury (ppm)	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cadmium (ppm)	< 0.2	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001
Chromium (ppm)	< 2	0.02	0.01	0.01	0.02	0.01	0.02

**Consistency and reproducibility**

Production batches with consistent composition, high protein and absence of heavy metals (as expected)

**Quality standards and absence of contaminants**

Multiple representative batches meeting quality and safety specifications



# Regulatory status: Approved in Singapore and awaiting U.S. approval

## Approved

Singapore approved the commercialization of GOOD Meat cultivated chicken in November 2020, followed by the first sale in December 2020.

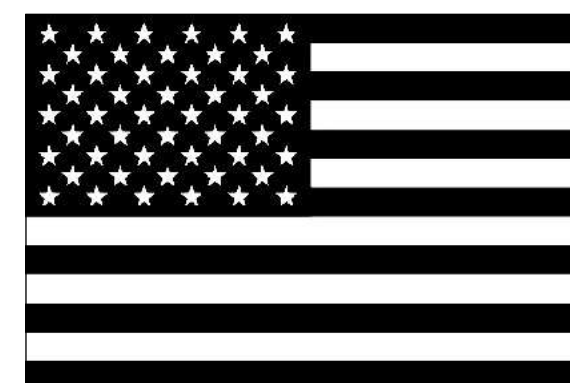
Singapore extended its approval in November 2021 to broader categories of chicken meat products, including chicken breast.

We filed a process amendment to produce cultivated chicken in serum-free culture media (currently under review).



## Pending

The Food and Drug Administration (FDA) acknowledged the receipt of GOOD Meat safety submission and accepted it for evaluation. The FDA shares jurisdiction with the U.S. Department of Agriculture (USDA). The agencies will work together on approval, including facility registration and a grant of inspection for production of GOOD Meat cultivated chicken.





Consumer feedback



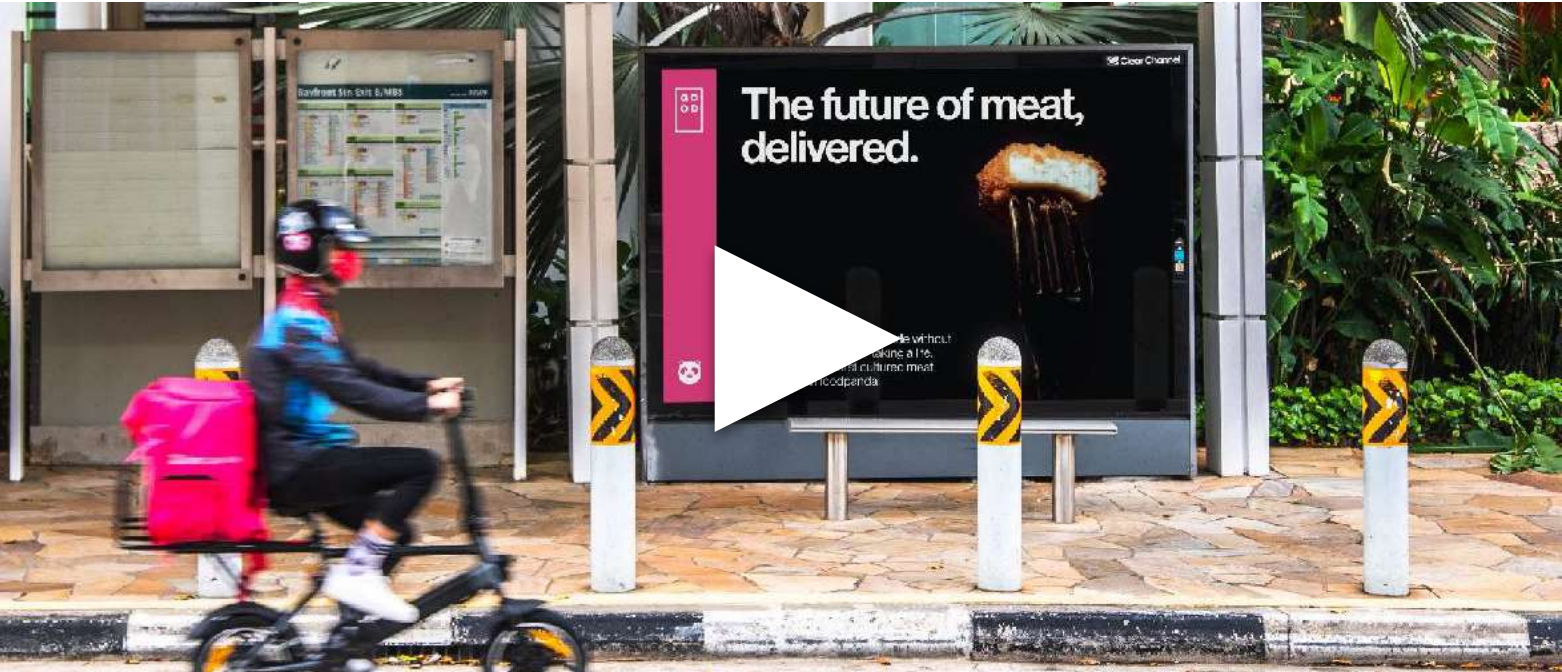
# GOOD Meat is the first to sell, first to deliver and first in traditional recipes



GOOD Meat + KEK Hawker



First-ever sale on Dec. 21, 2020



GOOD Meat + foodpanda delivery



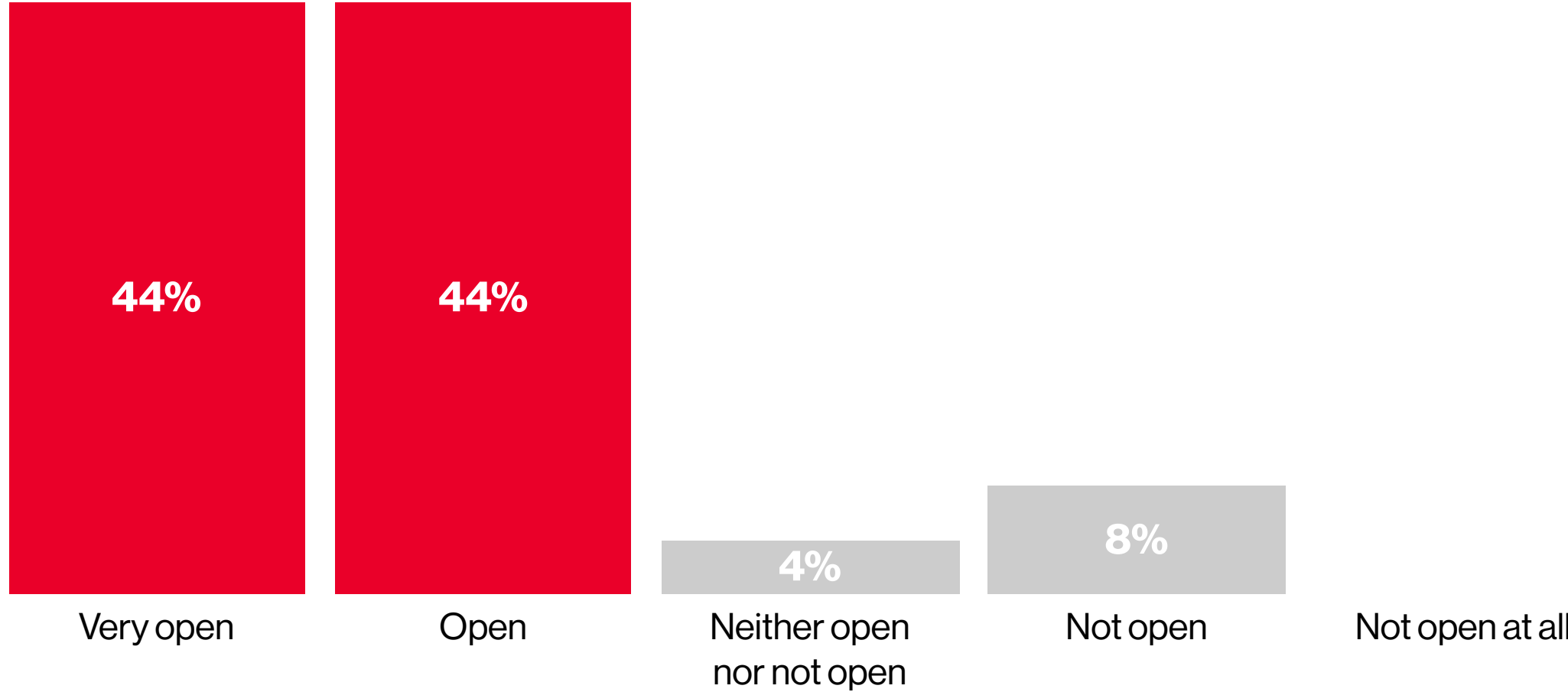
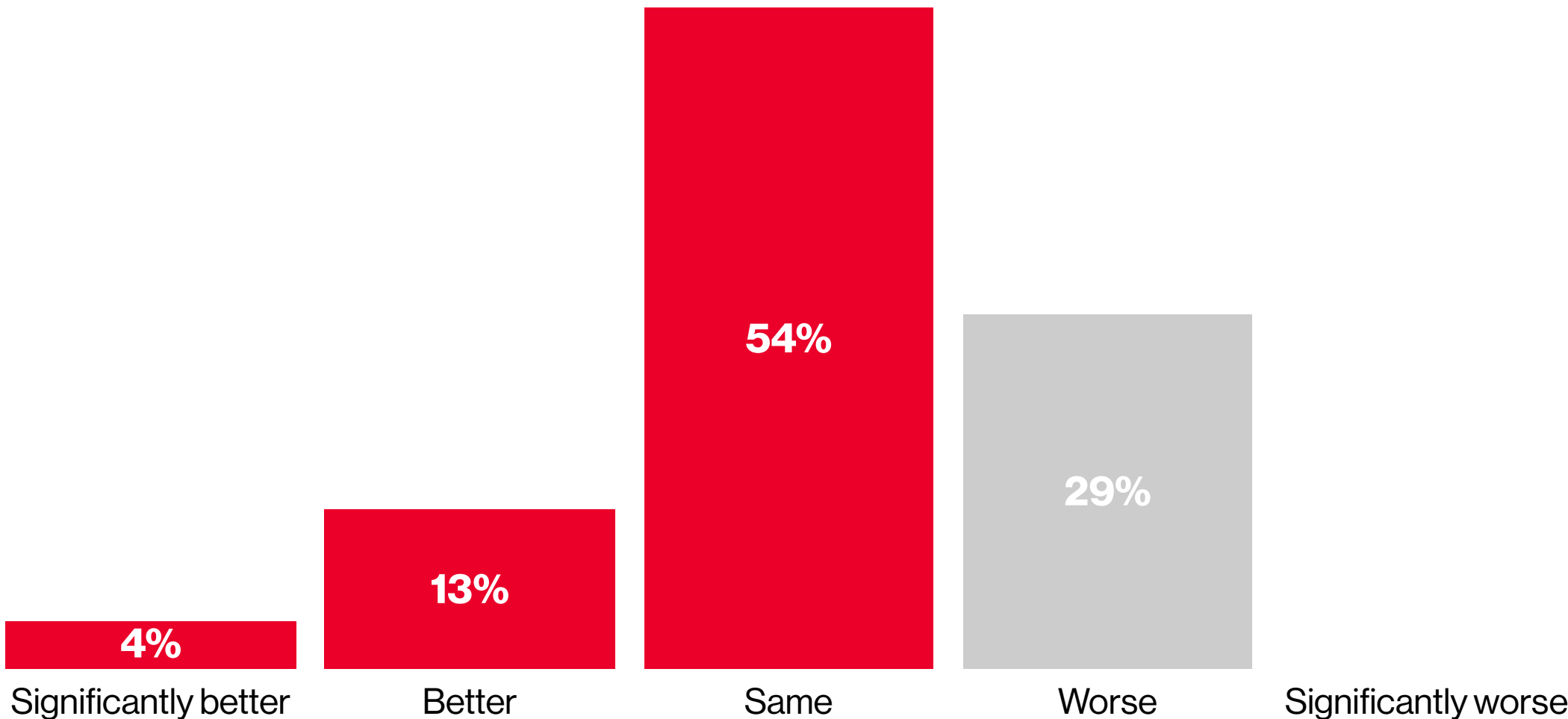
GOOD Meat + Loo's Hawker



# 88% of consumers at launch are open to replacing conventional with cultivated chicken.

**71% of consumers** said the product tastes as good or better than conventional chicken.<sup>1</sup>

**88% of consumers** are open to substituting conventional chicken consumption with cultivated chicken.<sup>2</sup>

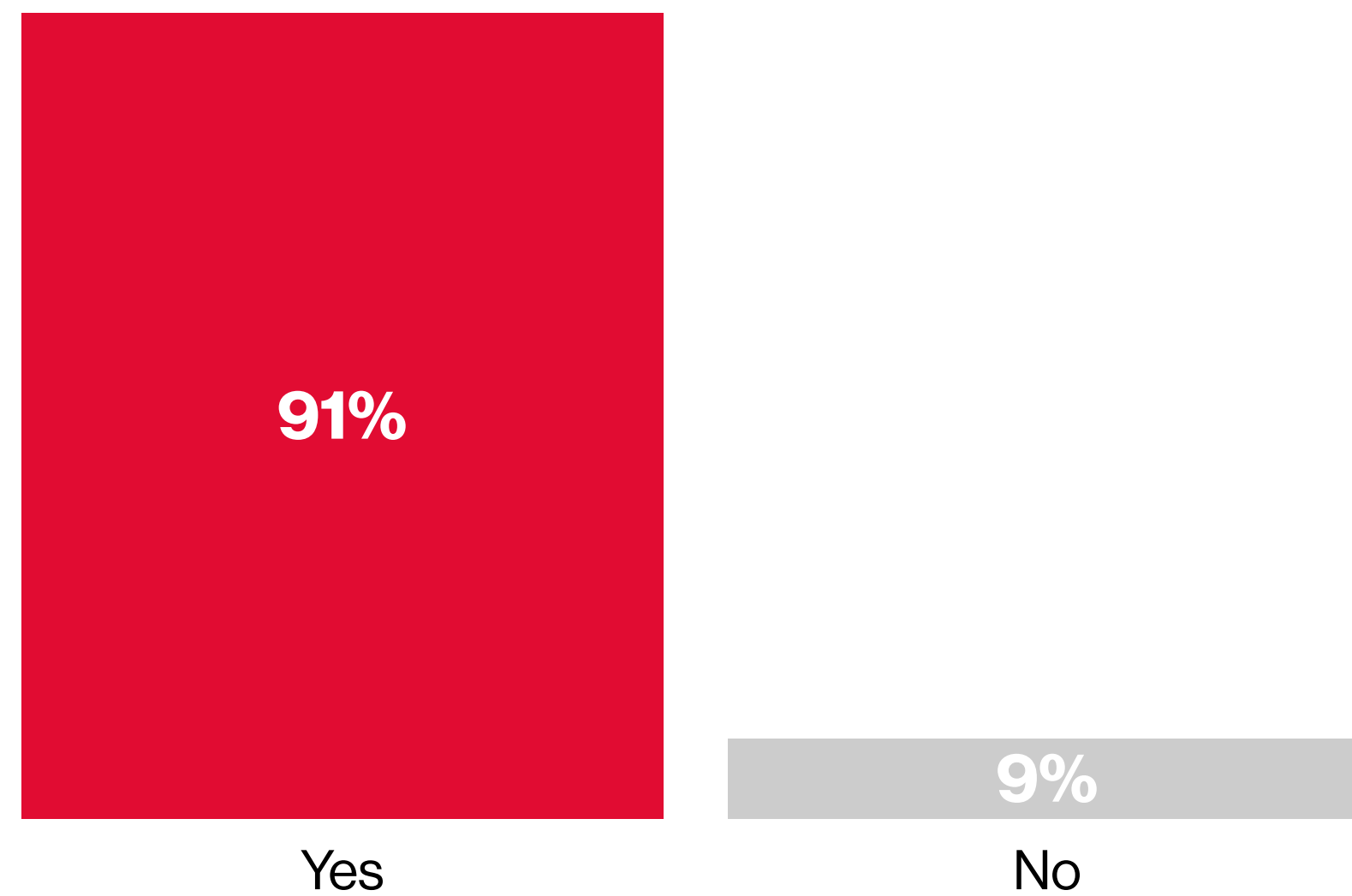


<sup>(1)</sup> How does the product's taste / texture compare to chicken produced through conventional methods?  
<sup>(2)</sup> How open would you be to substituting your chicken consumption (includes plant-based alternatives) with GOOD Meat's cultivated chicken products?  
Source: quotes from interviews with consumers who ate GOOD Meat's cultivated chicken at 1880 in Singapore, quantitative insights based on survey (n=25) with consumers who ate GOOD Meat's cultivated chicken at 1880 in Singapore. Survey conducted by an independent leading consulting firm.

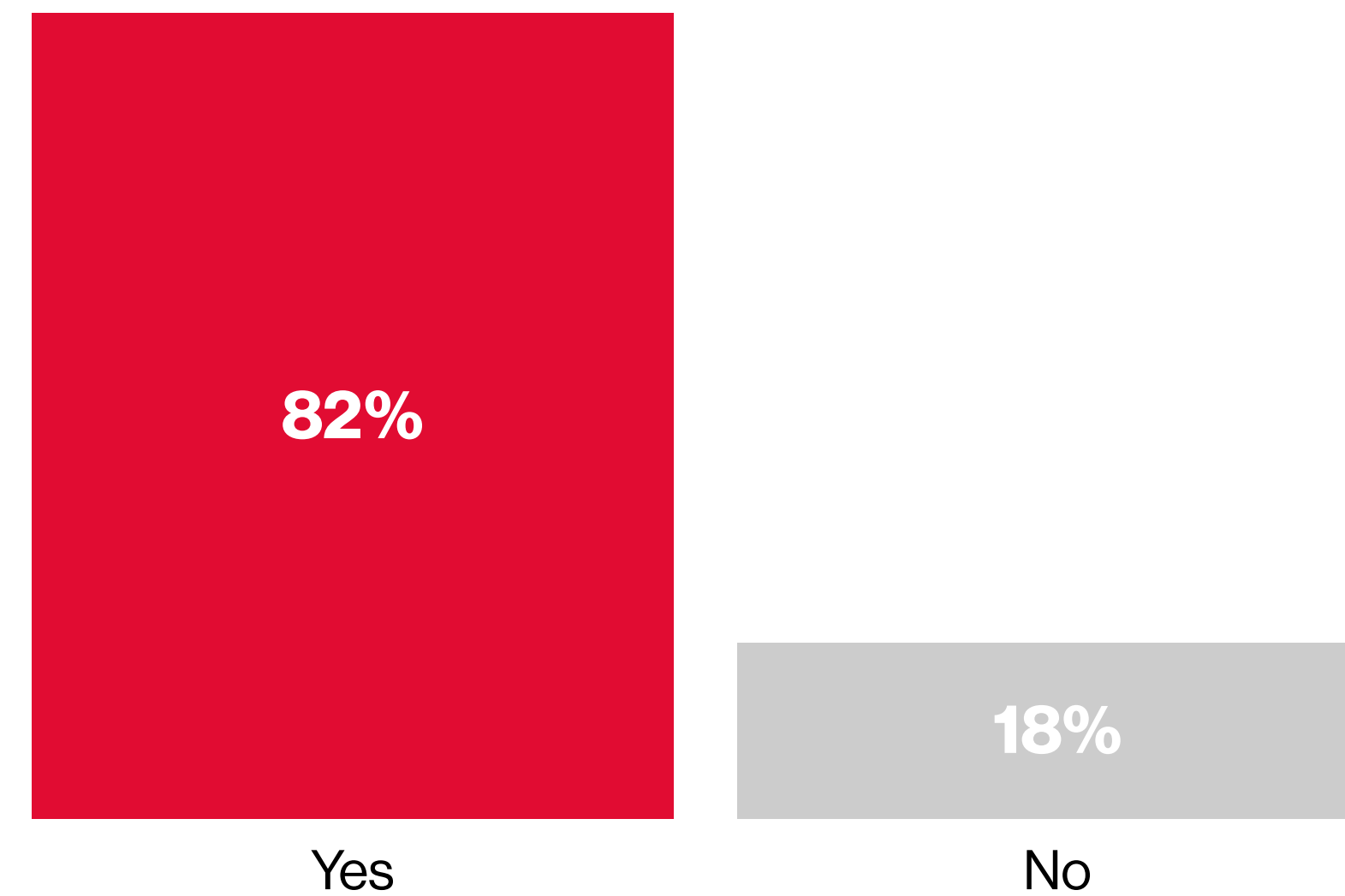


# 82% of restaurants are open to replacing conventional meat with cultivated meat in 10 years.

Would you consider selling cultivated meat at your restaurant when it becomes available?



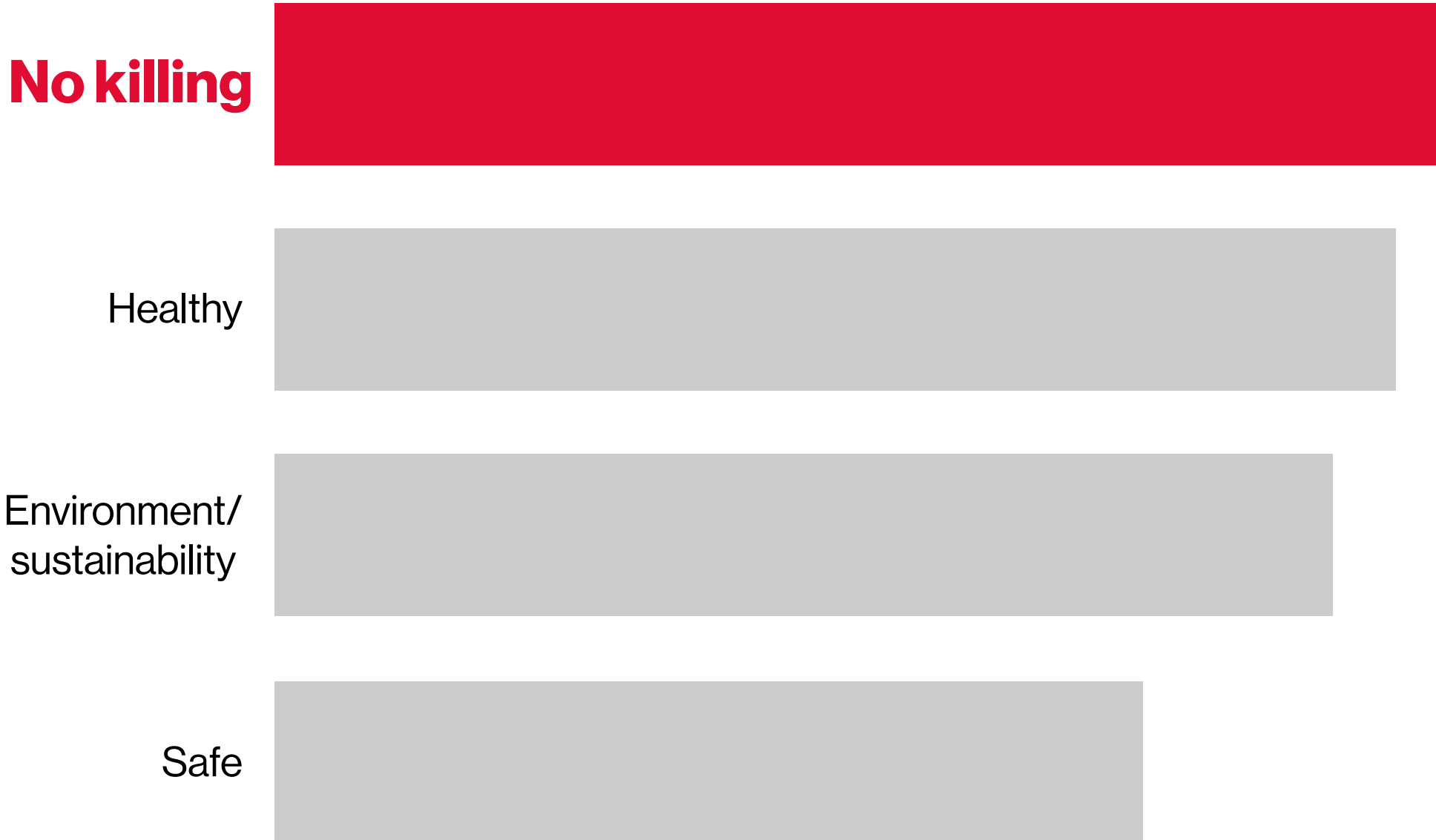
In 10 years, do you envision a menu in which all of your conventional meat is replaced with cultivated meat?





# How U.S. and Singaporean consumers feel about cultivated meat

Why would you be open to substituting your current meat for cultivated?



GOOD Meat / McKinsey U.S. survey (n=2,522), Top 4 answers, February 2021

How has this experience made you feel about the future?



GOOD Meat Hawker stand survey (n=27), Top 4 answers, May 2022



# How open are you to consuming cultivated meat *instead* of conventional meat?<sup>1</sup>

General population

Open to substituting

**66%**

Not open

35%

Plant-based consumers

Open to substituting

**77%**

Not open

23%

<sup>(1)</sup> For animal-based beef, question asked "How open would you be to substituting your beef burger consumption with plant-based or cultivated beef burger products?" in contrast to chicken question which did not include plant-based as an option

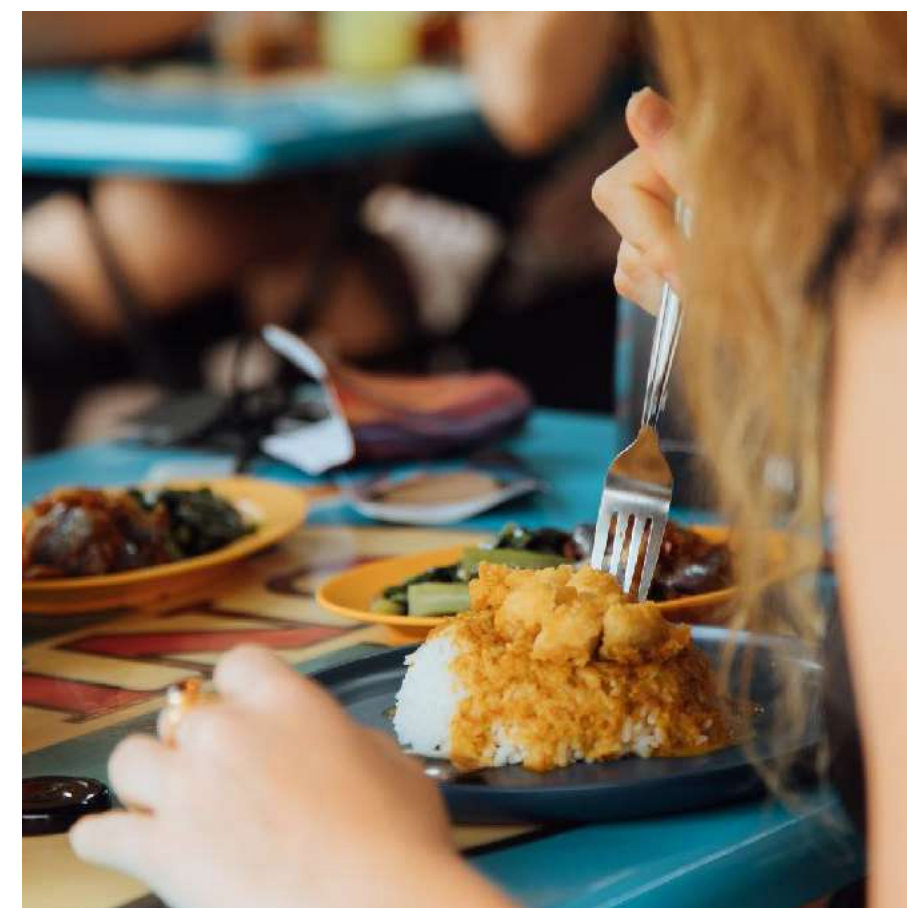
<sup>(2)</sup> Includes pescatarian, vegetarian, and vegan diets

<sup>(3)</sup> Includes the following responses: "very open", "open", "slightly open"

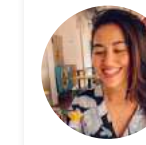
<sup>(4)</sup> Includes the following responses: "not open at all", "not open", "slightly not open"

Source: GOOD Meat U.S. survey (n=2,522), February 2021. Survey conducted by an independent leading consulting firm.





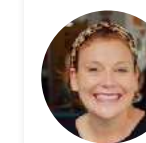
It just feels good to have chicken without feeling guilty.  
- Videep, age 11, first-ever consumer



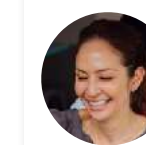
Hawker Loo has proven we can keep our family traditions while using meat that doesn't harm our forests, our oceans or our animals.  
- Shelly Davies (@shelleyleadavies)



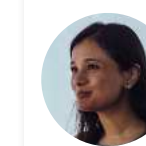
I came for dinner but left with hope for a better sustainable future for our planet and our children.  
- Ravi Nahappan (@rmarzipan)



Wow! First meat we've eaten in years...delicious and pain free.  
- Claire Psillides (@clairepsillides)



GOOD Meat opens the doors to conversations about the world and our future in the most fascinating ways; there's so much to discuss!  
- Angela May (@angemay)



So moist! I could not tell the difference if it was a blind taste test.  
- Leena Shah



# “This is the meat that will be consumed by my child...”

**Mr. Loo**  
Third-generation hawker, Loo's Curry Rice



This cell-cultured meat is a big step forward for humanity's food-related needs and is more environmentally friendly while also being ethical. As it is a noble cause, I don't mind supporting it.

**Audrey Tan**  
The Straits Times Reporter



Today I tried @goodmeat for the first time! Loved the effort to incorporate this novel food into local fare, and at an affordable rate too at \$4 for this set. When more widely available would definitely gladly replace conventional meat with this!

**Alton Huang**  
Head chef, The Guild Restaurant



The first thing that came to my mind was, well, chicken. Wow. Flavors are mind-blowing. Textures are mind-blowing.

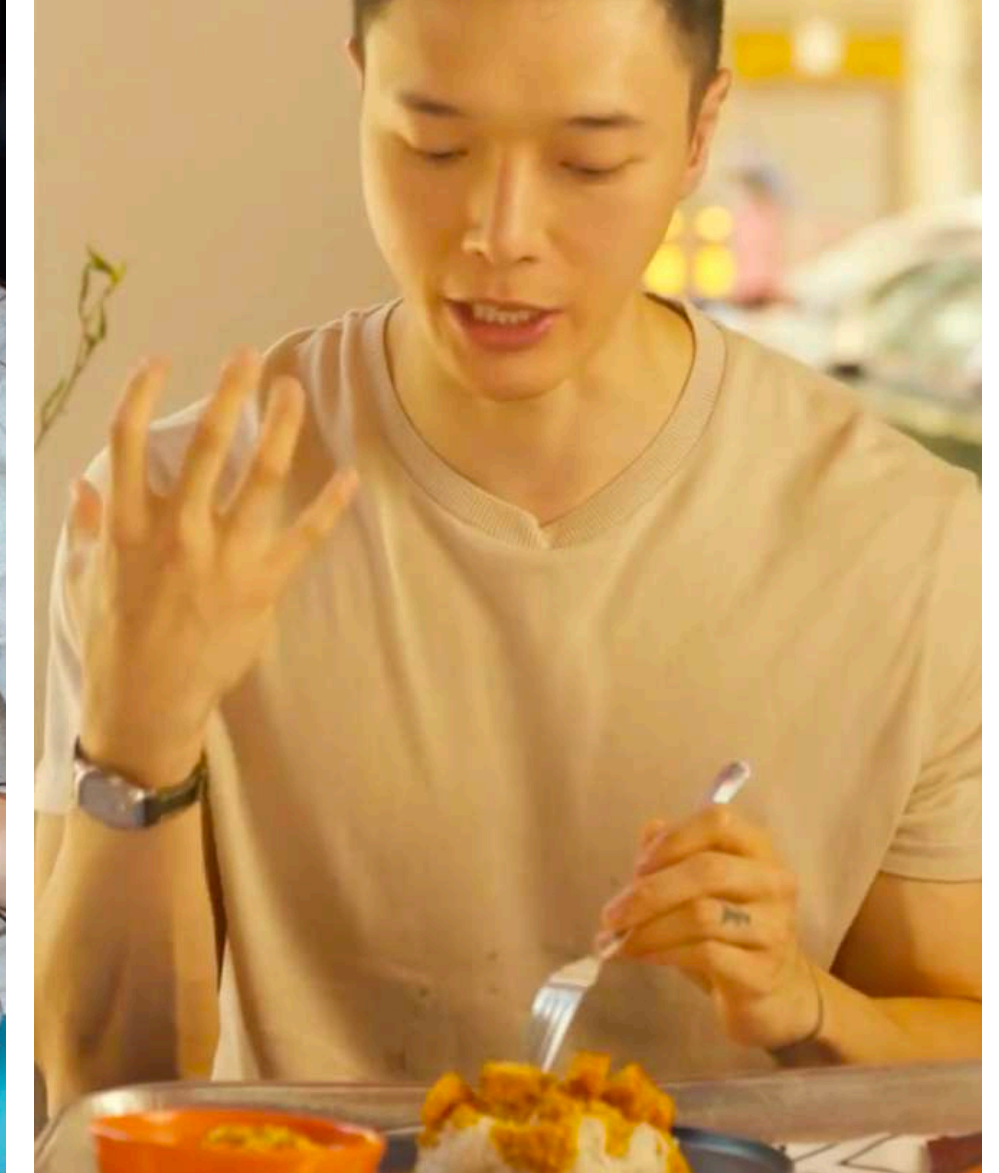
**Bella Koh**  
Founder, Slow House, eco mom



The meat was tasty, tender and much lighter in comparison to the usual chicken meat. It conveyed feel-good vibes after consuming it was hard to stop. Perhaps, it's knowing the meat is free of diseases, and a life wasn't taken just for my own indulgence that made me feel pleased.

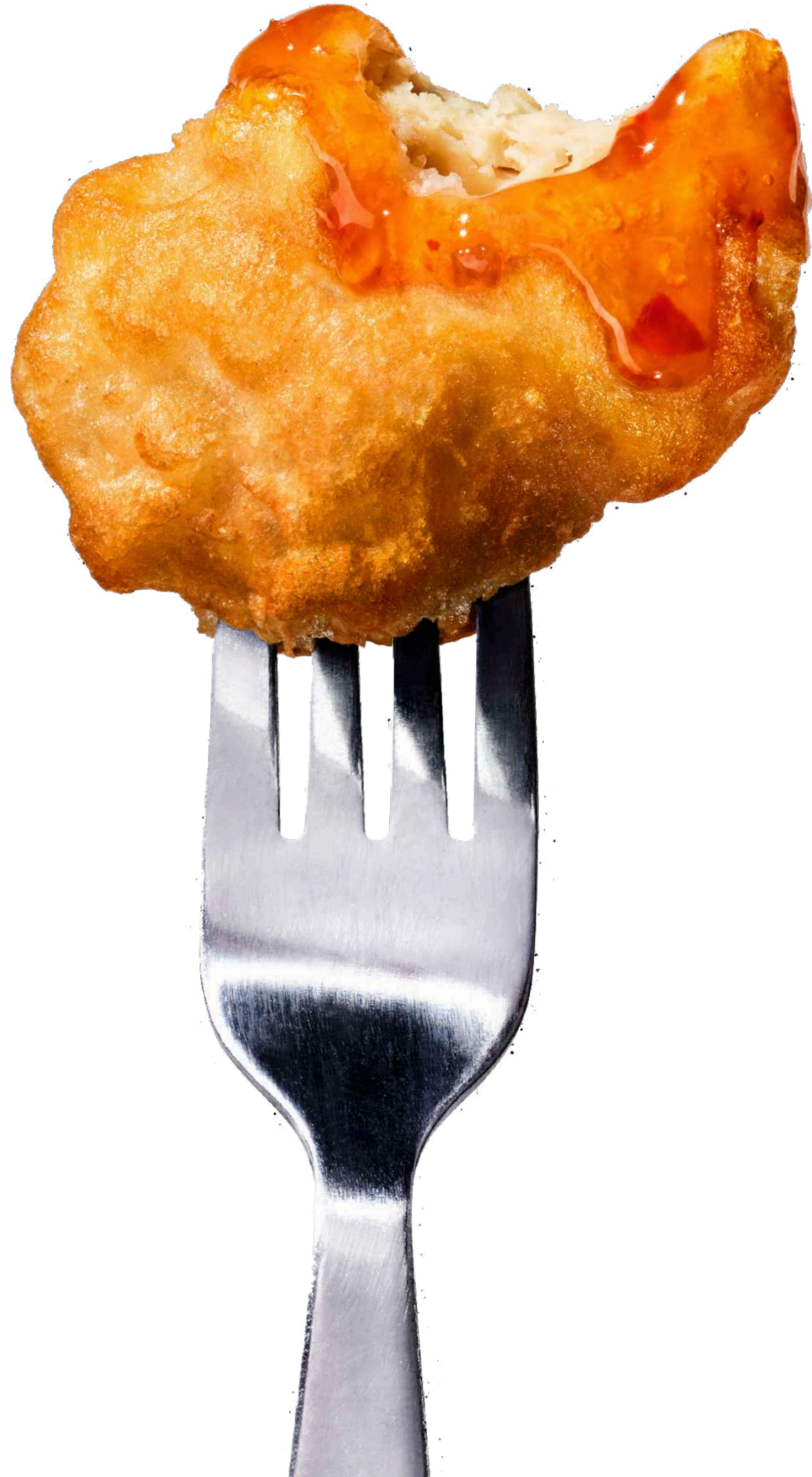
This is the meat that will be consumed by my child and young generations to come! Just envision that!

**Lennard Yeong**  
Engineer and chef, Miele



@goodmeatinc has created meat that's been grown from chicken cells. This sounds like some crazy futuristic science experiment, but trying this genuinely felt like this might be where securing the future of food sustainability might be headed toward.





“

Very good. Just like actual chicken.  
Very tasty and tender.

- Saumya

So moist! I could not tell the difference  
if it was a blind taste test.

- Leenah

Tasted like actual chicken, and less  
artificial than McDonald's.

- Emily

It actually tastes like chicken. Nuggets  
are hard to judge on flavour, but this is  
an incredible step to the future.

- Alton

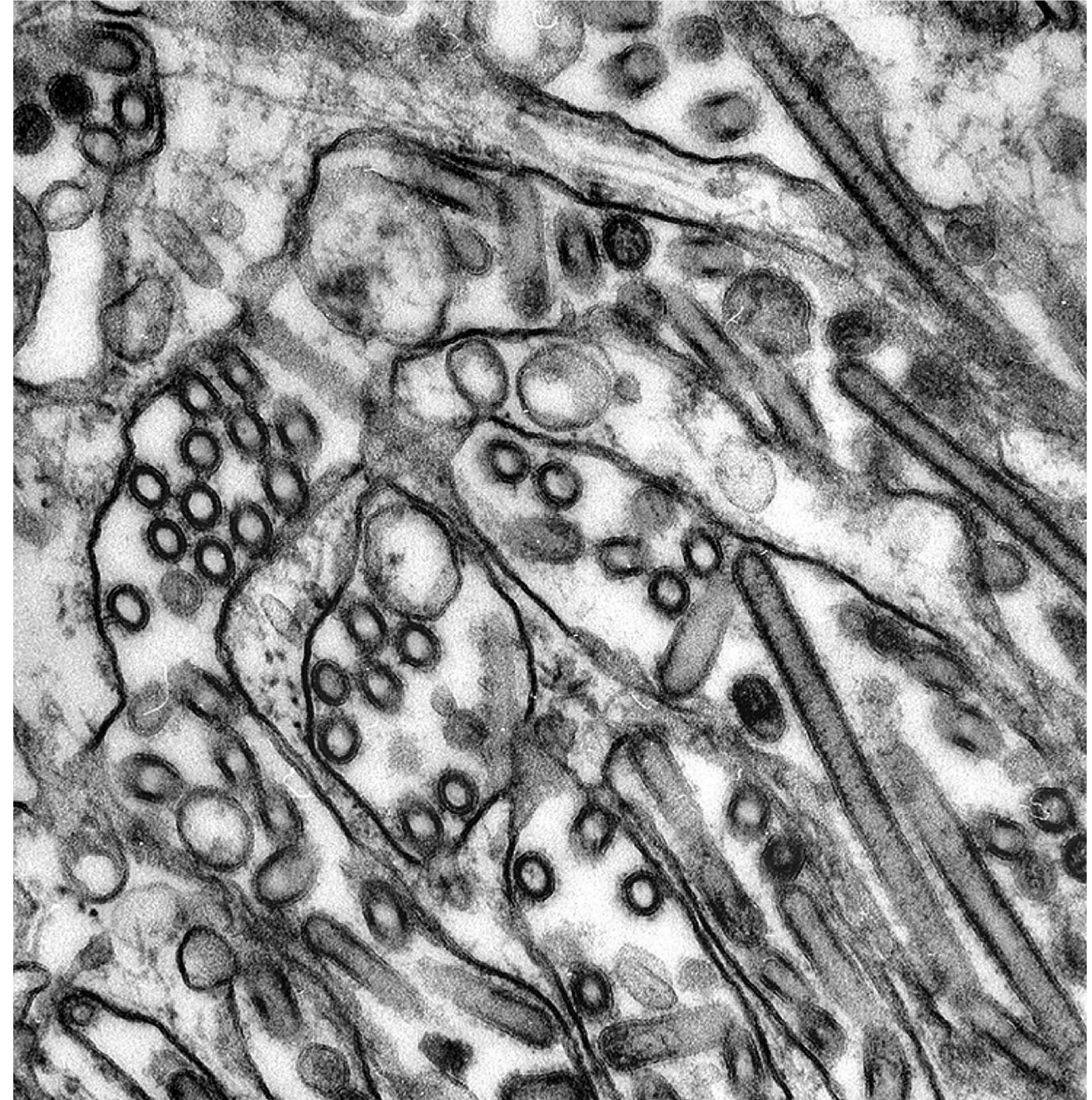


The need



# Conventional production is driving zoonotic disease emergence.

- 1** Increasing demand for animal protein
- 2** Unsustainable agricultural intensification
- 3 Increased use and exploitation of wildlife
- 4 Unsustainable utilization of natural resources accelerated by urbanization, land use change and extractive industries
- 5 Travel and transportation
- 6 Changes in food supply chains
- 7 Climate change



Transmission electron micrograph of avian influenza A(H5N1) virus





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**There is no single more dangerous influenza virus than the avian flu circulating in China today.**

Dr. Dennis Carroll,  
Chair of the Global Virome  
Project Leadership Board

Egg production facility, Asia



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## GOOD Meat

Growing meat directly in a controlled environment — and without byproducts like bones or feathers — is vastly more efficient.

92%

Fewer CO2e emissions

95%

Less land used

78%

Less water used

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## Conventional meat

Conventional meat production is inefficient and the result is accelerating deforestation and climate change.

9kcal → 1kcal

Nine calories of food are fed to a chicken to produce one calorie of chicken meat.

77% → 18%

77% of our farmland is used for animal agriculture, yet produces only 18% of our calories.





“

I'm proud to  
join the GOOD  
Meat team in  
that mission.

**United States Launch Partner**

José Andrés

Award-winning chef and one of TIME's 100 most influential people





“

I'm proud to eat  
their chicken.

**South America Launch Partner**

Francis Mallmann  
South America's most influential chef



Images from 1.5 years  
of selling



The future of meat,  
hawker style.



GOOD Meat is cultivated meat, a process of making sustainable, safe meat from animal cells instead of slaughtered animals.

For the first time, hawkers in Singapore are adding this new approach to making meat to their menus.



goodmeat.co/hawker  
#goodmeat

海南家乡咖喱饭

LOO'S  
HAINANESE  
CURRY RICE  
SINCE 1946

















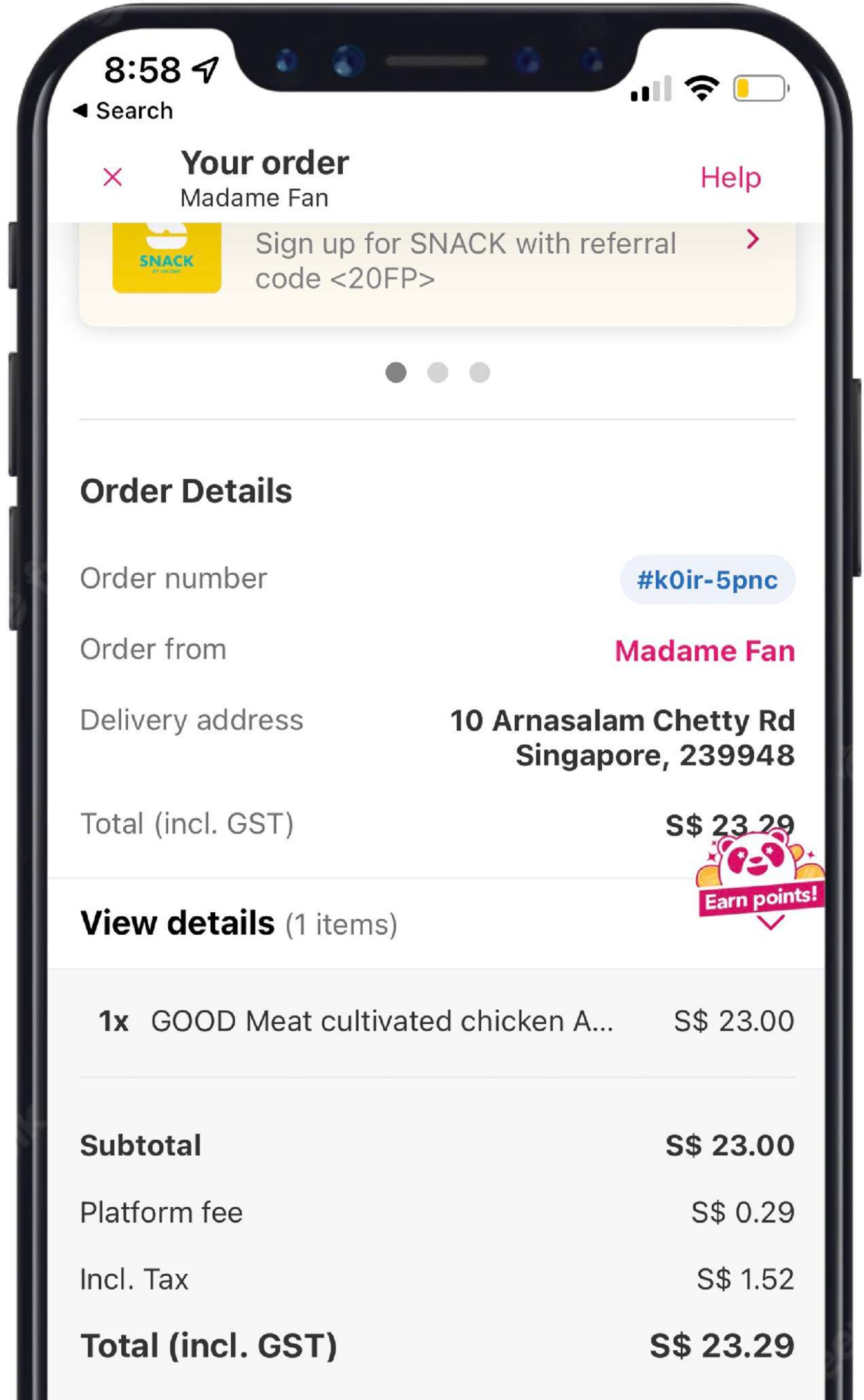
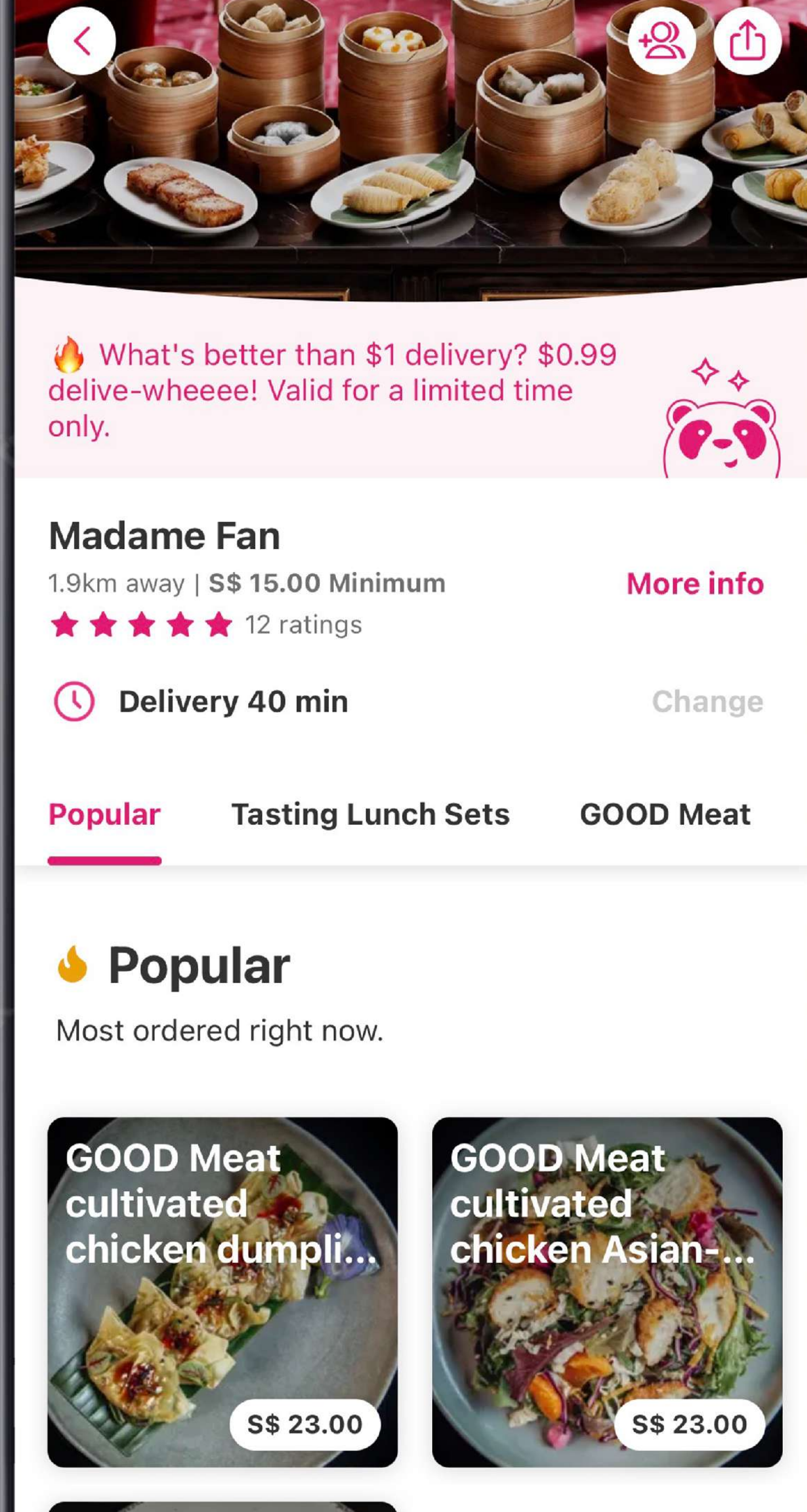








Most popular on days available





# What's on the menu

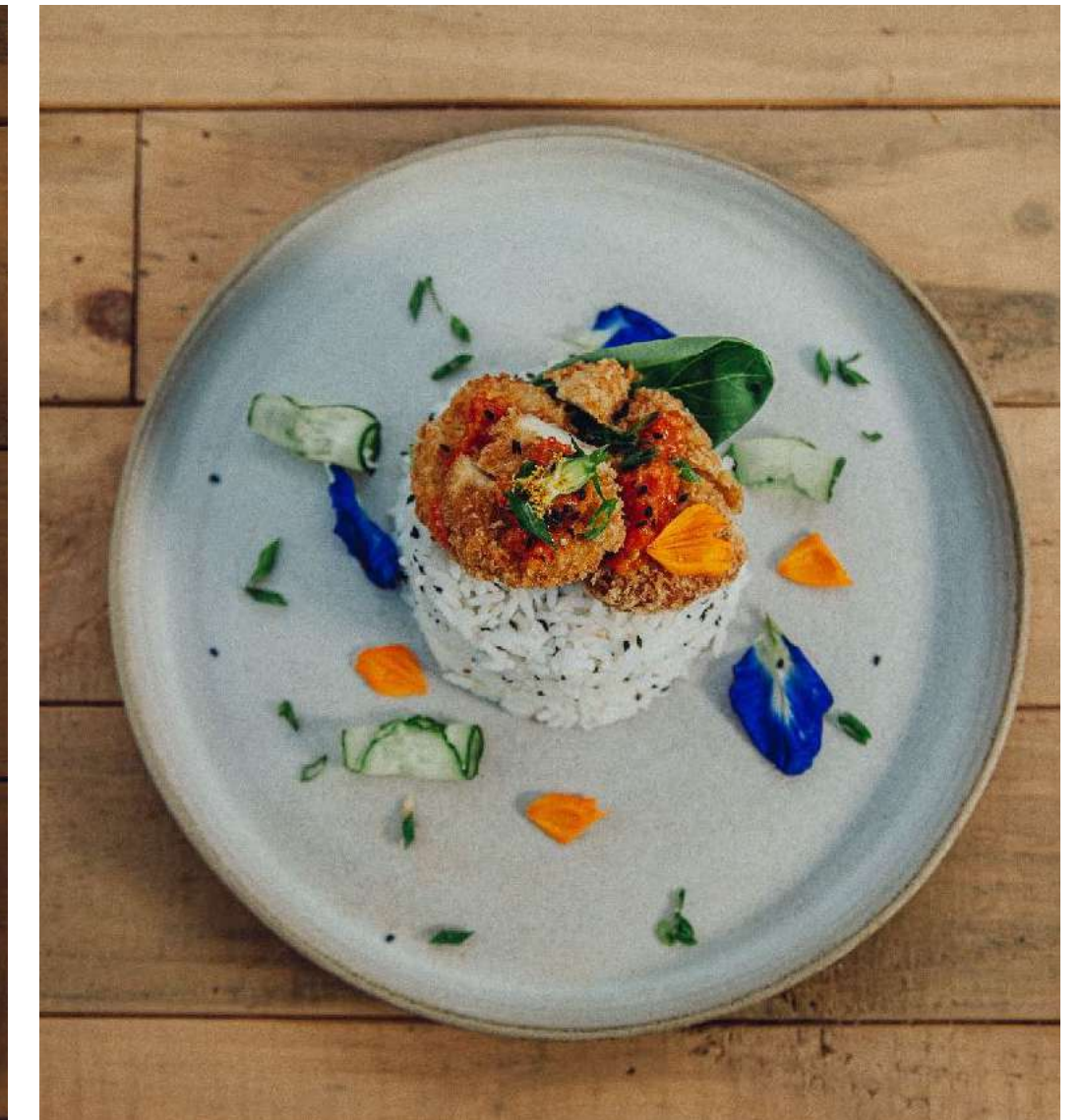
GOOD Meat delivery from 1880 and  
Madame Fan



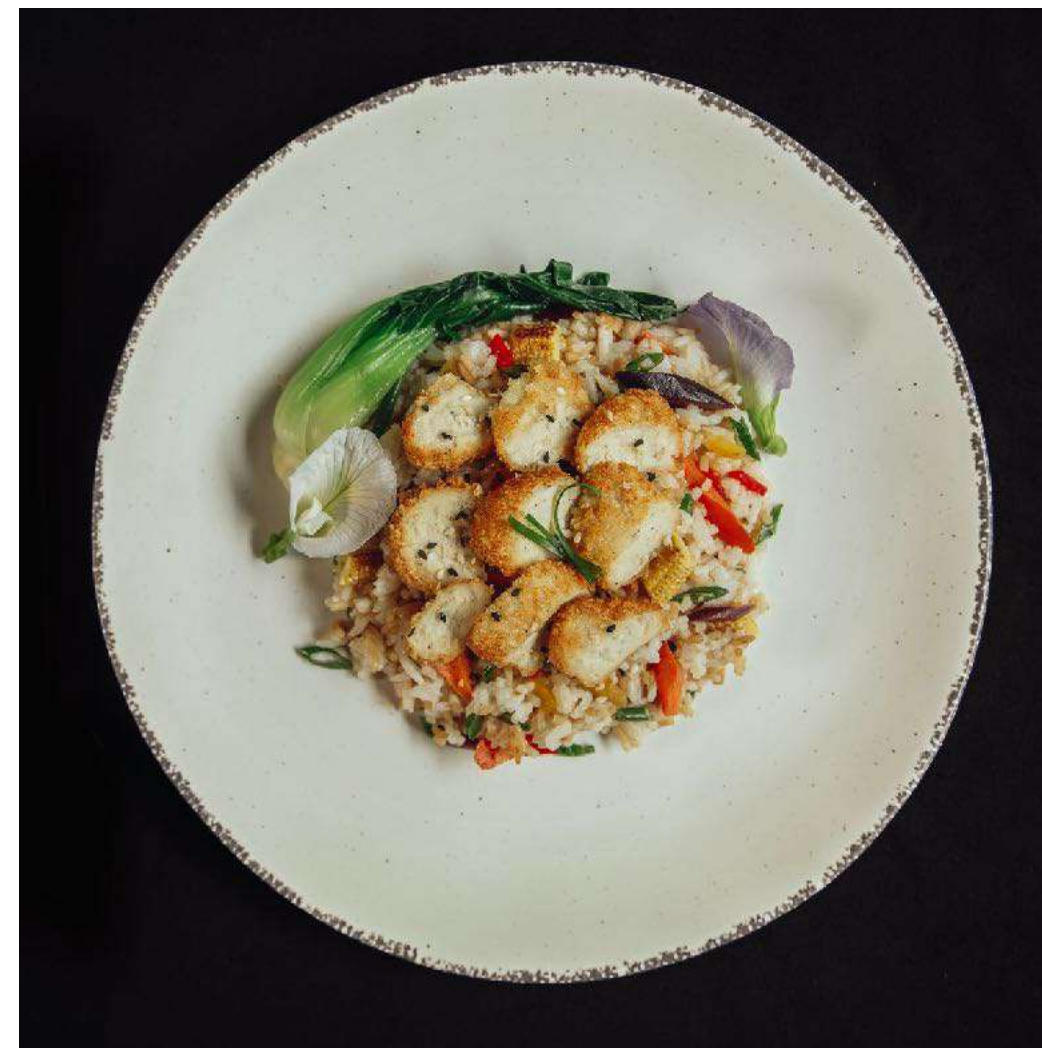
Chicken Caesar salad with kale, romaine,  
edible flowers, shaved radish



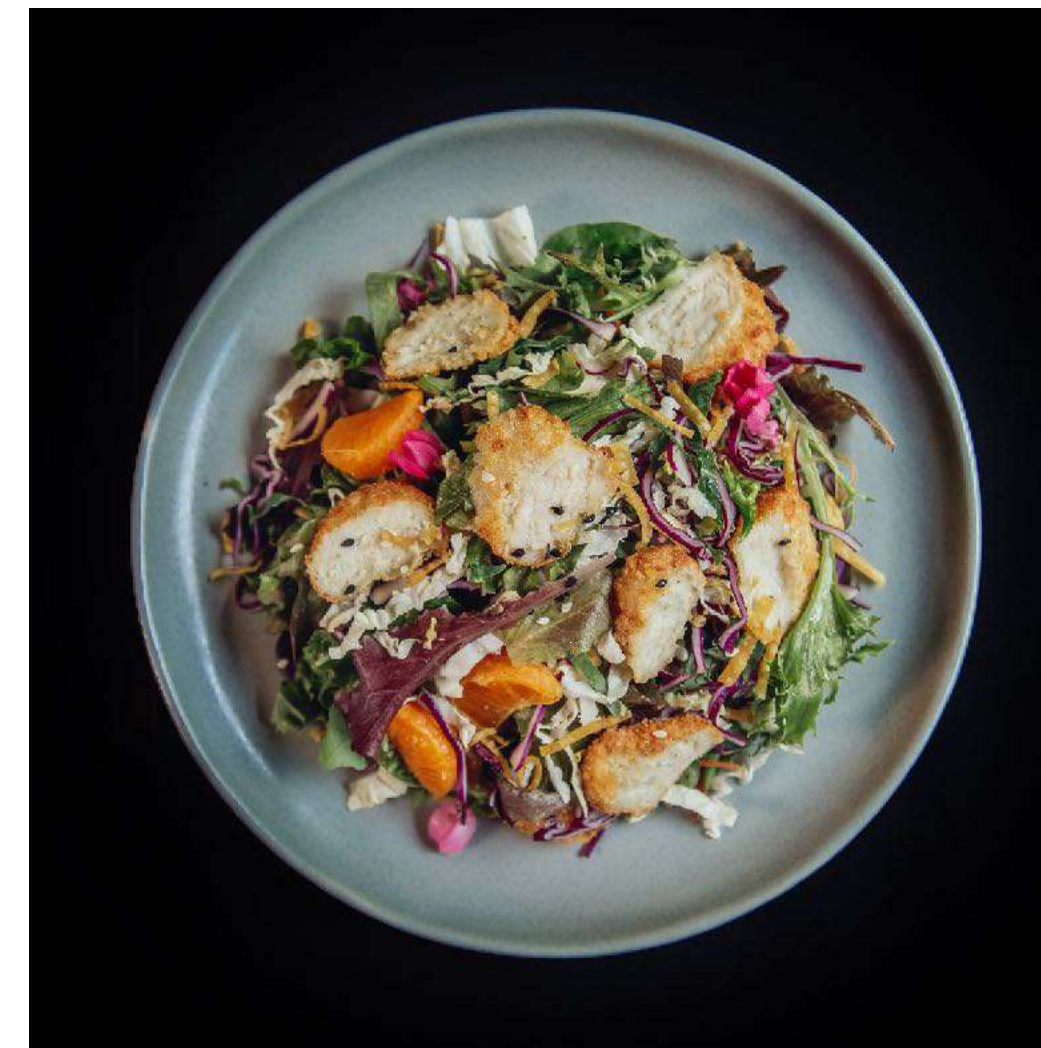
Katsu chicken curry with jasmine rice,  
heritage carrots, micro shiso, edible flowers



Chicken and rice with coconut rice, pak choi,  
sweet chili, chrysanthemums, microgreens



Capsicum, carrots, cabbage, pak choi,  
baby corn, spicy hoisin



Mixed cabbage, radish, edible flowers,  
cucumber, carrots and microgreens



Shiitake mushrooms, carrot, cabbage,  
water chestnuts, chilli padi, edible flowers



GO  
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Meat