

## ✿ 外刊阅读第 9 篇

### The science of cultivated meat

The Good Food Institute

难度指数：★★★★☆

#### ✿ 原文阅读

##### What is cultivated meat?

P1: Cultivated meat, also known as cultured meat, is genuine animal meat (including seafood and organ meats) produced by cultivating animal cells in a safe and controlled environment. The end product is nutritionally comparable to conventional meat, allowing us to feed more people with fewer resources and meet the growing global demand for protein in a more humane way.

P2: Dutch scientist Mark Post unveiled the first cultivated meat burger on live television in 2013. Two years later, the first four companies were founded. As of 2024, the industry has grown to over 175 companies on six continents, backed by over \$3.1 billion in investments. Each company aims to produce cultivated meat products or offer technology solutions along the value chain.

P3: Decades of accumulated knowledge in cell culture, stem cell biology, tissue engineering, fermentation, and chemical and bioprocess engineering preceded the field of cultivated meat. Hundreds of companies and academic laboratories worldwide are conducting research across these disciplines to establish a new paradigm for manufacturing commodity meat products at industrial scales.

##### What are the benefits of cultivated meat?

P4: Cultivated meat is expected to have numerous benefits over conventional animal agriculture by nature of its controlled and more efficient production process. Prospective life cycle assessments indicate that cultivated meat will use significantly fewer resources and can reduce agriculture-related pollution and eutrophication. One study showed that if produced using renewable energy, cultivated meat could reduce greenhouse gas emissions by up to 92 percent and land use by up to 90 percent compared to conventional beef. Additionally, it's expected that antibiotics will not be used in production (as of 2024, all approved products are manufactured without antibiotics) and will likely result in fewer incidences of foodborne illnesses due to the lack of exposure risk from enteric pathogens.

P5: Over the next few decades, cultivated meat and other alternative proteins are predicted to take significant market share from the \$1.7 trillion conventional meat and seafood industries. This shift could mitigate agriculture-related deforestation, biodiversity loss, antibiotic resistance, and zoonotic disease outbreaks.

**When will cultivated meat make it to market?**

P6: Cultivated meat has been approved for sale in a few regions, but its availability is still limited in geography and production volume. Additional regulatory approvals and solutions to scaling challenges are needed to bring cultivated meat to a broader range of consumers.

P7: Several leading cultivated meat companies are transitioning to pilot-scale facilities that will manufacture the first wave of commercialized products following regulatory approval. In December 2020, the Singapore Food Agency approved the world's first cultivated chicken product for sale, and a hybrid version of the product is currently sold at a local retailer.

✿ 思考题

**According to the passage, which of the following is NOT a benefit of cultivated meat?**

- A. It uses fewer resources.
- B. It helps reduce greenhouse gas emissions.
- C. It tastes better than conventional meat.
- D. It may lead to fewer incidences of foodborne illnesses.

## ✿ 外刊阅读第 9 篇

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#### ✿ 外刊笔记

##### What is cultivated meat?

P1: Cultivated meat, also known as cultured meat, is genuine animal meat (including seafood and organ meats) produced by cultivating animal cells in a safe and controlled environment. The end product is nutritionally comparable to conventional meat, allowing us to feed more people with fewer resources and meet the growing global demand for protein in a more humane way.

##### 什么是培养肉？

培养肉，也称为人造肉，是通过在安全且受控的环境中培养动物细胞而生产的真正的动物肉（包括海鲜和内脏肉）。最终产品在营养上与传统肉类相当，使我们能够以更少的资源养活更多的人，并以更人道的方式满足全球对蛋白质日益增长的需求。

----- 1 -----

**cultivated** adj. 栽培的，培植的；有素养的，有修养的

【固】**cultivated meat** n. 培养肉，人造肉，通过细胞培养技术生产的肉类产品

**cultured** ①adj. 培养的；人工养殖的；有教养的；有修养的；文雅的 ②v. **culture** 的过去分词形式（培养；栽培，种植）

**genuine** adj. 真的；名副其实的；真诚的；真心的

**organ** n. （人体或动植物的）器官；风琴；（官方的）机构，机关

**nutritionally** adv. 营养；滋养地；营养的补给

**comparable** adj. 类似的；可比较的；相当的

**conventional** adj. 依照惯例的；遵循习俗的；墨守成规的；传统的

**protein** n. 蛋白质

**humane** adj. 善良的；仁慈的；人道的

P2: Dutch scientist Mark Post **unveiled** the first cultivated meat burger on live television in 2013. Two years later, the first four companies were founded. As of 2024, the industry has grown to over 175 companies on six **continents**, **backed by** over \$3.1 billion in investments. Each company aims to produce cultivated meat products or offer technology solutions along the **value chain**.

2013 年，荷兰科学家马克-波斯特（Mark Post）在电视直播中首次**展示**了第一个培养肉汉堡。两年后，首批四家公司成立。截至 2024 年，该行业已发展到 175 家公司，遍布六大**洲**，**获得**超过 31 亿美元的投资**支持**。每家公司都致力于生产培养肉产品或提供**价值链**上的技术解决方案。

P3: Decades of **accumulated** knowledge in **cell** culture, **stem** cell **biology**, tissue engineering, **fermentation**, and chemical and **bioprocess** engineering preceded the field of cultivated meat. Hundreds of companies and **academic laboratories** worldwide are conducting research across these disciplines to establish a new **paradigm** for manufacturing **commodity** meat products at industrial scales.

在培养肉领域出现之前，**细胞**培养、**干细胞****生物学**、组织工程、**发酵**以及化学和**生物工艺**工程等领域的知识已经**积累**了数十年。全球数百家公司和**学术实验室**正在这些学科领域开展研究，以建立一种在工业规模上生产普通肉类**产品**的**新模式**。

## -----2-----

**unveil** v. 为…揭幕；揭开…  
上的覆盖物；拉开…的帷幔；  
（首次）展示，介绍

**continent** n.大陆；陆地；洲  
【固】**be backed by** 由…资助；被支持；得到支持

【固】**value chain** （商业）  
价值链

## -----3-----

**accumulated** ①adj.累计的  
②v.积累（accumulate 的过去式与过去分词）

**cell** n.细胞；小牢房；电池  
**stem** n.茎；（高脚酒杯的）柄脚；（语法中的）词干；烟斗柄；主干

**biology** n.生物学；生命机理，作用方式

**fermentation** n.发酵

**bioprocess** n.生物过程；生物处理；生物工艺

**academic** ①adj.学业的，学术的；学校的 ②n.大学教师

**laboratory** n.实验室，实验大楼

**paradigm** n.典范，范例；样板

**commodity** n.商品，货物；有用的东西

## What are the benefits of cultivated meat?

P4: Cultivated meat is expected to have **numerous** benefits over **conventional animal agriculture** by nature of its controlled and more efficient production process. **Prospective** life cycle assessments **indicate** that cultivated meat will use significantly fewer resources and can reduce **agriculture-related** pollution and **eutrophication**. One study showed that if produced using renewable energy, cultivated meat could reduce greenhouse gas emissions by up to 92 percent and land use by up to 90 percent compared to conventional beef. Additionally, it's expected that **antibiotics** will not be used in production (as of 2024, all approved products are manufactured without antibiotics) and will likely result in fewer incidences of **foodborne illnesses** due to the lack of exposure risk from **enteric pathogens**.

### 培养肉有哪些好处？

由于其可控且更高效的生产流程，培养肉相较于**传统畜牧业**预计会有**诸多**优势。**未来**生命周期评估**表明**，培养肉将显著减少资源消耗，并能降低**农业相关**的污染和**富营养化现象**。一项研究表明，如果使用可再生能源生产，培养肉相比传统牛肉，可减少高达 92%的温室气体排放和高达 90%的土地使用。此外，预计在生产过程中不会使用**抗生素**（截至 2024 年，所有获批产品均不含抗生素），并且由于缺乏**肠道病原体**的接触风险，可能会减少**食物中毒**事件的发生频率。

P5: Over the next few decades, cultivated meat and other **alternative** proteins are predicted to **take** significant **market share** from the \$1.7 **trillion** conventional meat and seafood industries. This shift could **mitigate** agriculture-related **deforestation**, **biodiversity** loss, **antibiotic resistance**, and **zoonotic** disease **outbreaks**.

4

**numerous** adj.众多的，许多的

**conventional** adj.依照惯例的，遵循习俗的

【固】**animal agriculture** 畜牧业

**prospective** adj.有希望的；可能发生的

**indicate** v.表明，标示；象征，暗示

**agriculture-related** 与农业相关的

**eutrophication** n.富营养化；超营养作用

**antibiotics** n.[药] 抗生素

**foodborne** 食物传播的

【固】**foodborne illness** 食源性疾病；食物中毒

**enteric** adj.肠的；肠溶的（等于 enteral）

**pathogen** n.病原体，致病菌

5

**alternative** ①adj.可替代的，备选的；另类的 ②n.可供选择的事物，替代物

【固】**take market share** 占据市场份额

**trillion** num.万亿；百万兆

**mitigate** v.减轻，缓和

**deforestation** n.毁林，滥伐森林

**biodiversity** n.生物多样性

未来几十年，培养肉与其他**替代**蛋白预计将从价值 1.7 **万亿**美元的传统肉类及海鲜产业中占据相当大的**市场份额**。这一转变或可**减轻**与农业相关的**森林砍伐**、**生物多样性丧失**、**抗生素耐药性**及**人畜共患病爆发**。

### When will cultivated meat make it to market?

培养肉什么时候能上市？

P6: Cultivated meat has been approved for sale in a few regions, but its **availability** is still limited in geography and **production volume**. Additional **regulatory approvals** and solutions to scaling challenges are needed to bring cultivated meat to a broader range of consumers.

培养肉已在少数地区获批销售，但其**供应（可得性）**仍受到地理范围与**产量**的限制。为了将培养肉带给更广泛消费者，需要更多的**监管审批**和解决规模化挑战的对策。

P7: Several leading cultivated meat companies are **transitioning** to **pilot-scale** facilities that will **manufacture** the first wave of **commercialized** products following regulatory approval. In December 2020, the Singapore Food Agency approved the world's first cultivated chicken product for sale, and a **hybrid** version of the product is **currently** sold at a local **retailer**.

数家领军培养肉企业正向**试点规模**的设施**转型**，待监管批准后**生产**第一波**商业化（的）**产品。2020年12月，新加坡食品局批准了全球首款培养鸡肉产品的销售，其**混合版本****现在**已在当地一家**零售商**处销售。

### 【固】antibiotic resistance

抗生素耐药性

**zoonotic** adj. 动物传染病的

**outbreak** n. (战争、疾病、暴力等的) 爆发，突然发生

### 6

**availability** n. 可用性，可得性；空闲；单身

### 【固】production volume

产量

### 【固】regulatory approval

监管批准

### 7

**transition** ①v. 转变，过渡 ②n. 过渡，转变

**pilot** ①adj. 试点的；试验性的 ②v. 驾驶；领航；试验，试行 ③n. 飞行员；领航员

【固】**pilot-scale** 试点/中试规模的；试验性规模的

**manufacture** ①v. (用机器大量) 生产；捏造；生成 ②n. 大量制造，批量生产；工业品

**commercialized** ①adj. 商业化的 ②v. 使...商业化；靠...赚钱 (commercialize 的过去分词)

**hybrid** ①adj. 混合的；杂交的 ②n. 混合物；杂交种

**currently** adv. 现时，当前

**retailer** n. 零售商，零售店；讲述者

## ✿ 长难句分析

1. **Cultivated meat**, also known as cultured meat, **is genuine animal meat** (including seafood and organ meats) produced by cultivating animal cells in a safe and controlled environment.

(1) 主干: Cultivated meat...is genuine animal meat... (主+系+表)

(2) 修饰:

- 同位语, 解释主语“Cultivated meat”, 用逗号隔开: , also known as cultured meat,
- 插入语, 用括号, 提供关于“genuine animal meat”的额外信息: (including seafood and organ meats)
- 分词短语作后置定语修饰“genuine animal meat”: produced by cultivating animal cells in a safe and controlled environment.

(3) 译文:

培养肉, 也称为人造肉, 是通过在安全且受控的环境中培养动物细胞而生产的真正的动物肉 (包括海鲜和内脏肉)。

2. **One study showed that** if produced using renewable energy, cultivated meat could reduce greenhouse gas emissions by up to 92 percent and land use by up to 90 percent compared to conventional beef.

(1) 主干: One study showed that... (主+谓+that 引导的宾从)

(1) 修饰:

- 宾语从句: cultivated meat could reduce greenhouse gas emissions and land use
- if 引导条件状语从句: if (it is) produced using renewable energy 省略 it is
- 程度状语 1: by up to 92 percent
- 程度状语 2: by up to 90 percent
- 过去分词短语作比较状语: compared to conventional beef

(3) 译文:

一项研究表明, 如果使用可再生能源生产, 培养肉相比传统牛肉, 可减少高达 92% 的温室气体排放和高达 90% 的土地使用。

3. **Several leading cultivated meat companies are transitioning to pilot-scale facilities** that will manufacture the first wave of commercialized products following regulatory approval.

(1) 主干: Several companies are transitioning to pilot-scale facilities (主+谓+宾)

(2) 修饰:

- 定语从句, 修饰 facilities: that will manufacture the first wave of commercialized

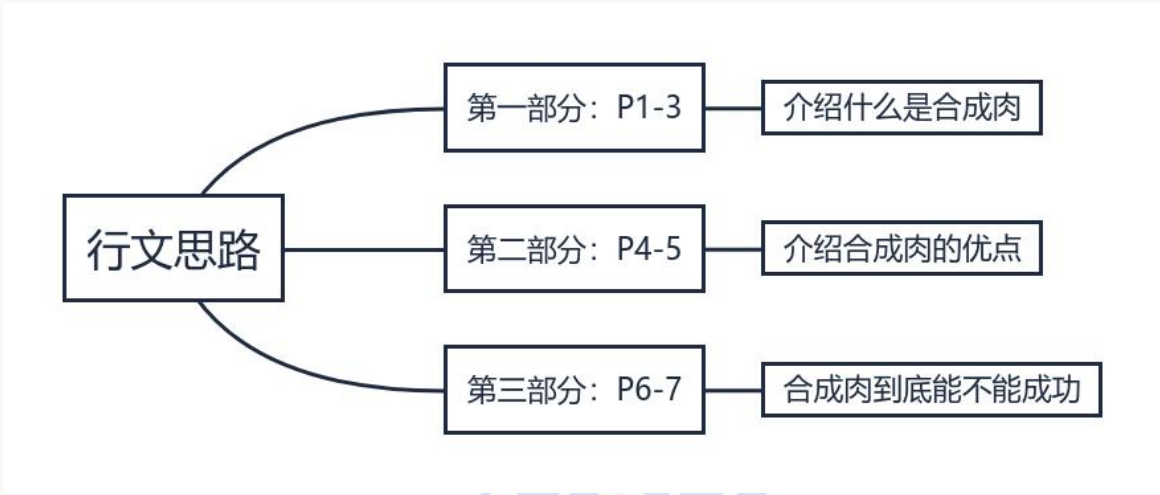
products

•现在分词短语作时间状语，修饰动作 manufacture: following regulatory approval

(3) 译文：

数家领军培养肉企业正向试点规模的设施转型，待监管批准后生产第一波商业化（的）产品。

✿ 行文思路



✿ 类似真题速览

真题	相似点
英语二 2022 年 T1	农场将“气候友好鸡蛋”视为蛋品行业下个风口

✿ 思考题解析

According to the passage, which of the following is NOT a benefit of cultivated meat?

- A. It uses fewer resources.
- B. It helps reduce greenhouse gas emissions.
- C. It tastes better than conventional meat.
- D. It may lead to fewer incidences of foodborne illnesses.

答案：C

解析：

文章中提到了培养肉具有使用更少资源、减少温室气体排放、因不使用抗生素且无肠道病原体暴露风险而可能减少食源性疾病发生率等好处，但未提及培养肉的味道比传统肉类更好。故选 C