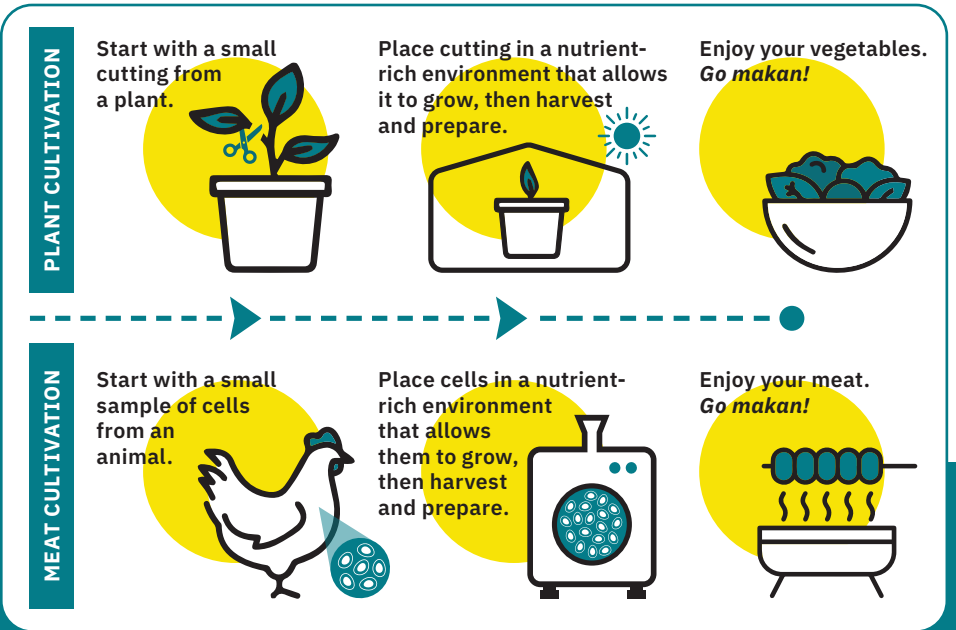


# REIMAGINING PROTEIN

**Cultivated meat** is genuine animal meat that is produced by cultivating it directly from animal cells. By decoupling protein production from industrial animal agriculture, cultivated meat eliminates the risk of zoonotic disease and could significantly reduce potential contamination by pathogens like *E.coli*, making it a more secure and sustainable food source. **It's simply a smarter way to make meat—full stop.**



**Cultivated Meat, Explained:** Just as greenhouses help farmers cultivate full-sized plants from tiny seeds, meat can be grown directly from animal cells by placing a seed-size collection of cells in a nutrient-rich environment, known as a cultivator.

Cultivators facilitate the same biological process that happens inside an animal by providing warmth, oxygen, and the basic elements needed to build the components of meat, such as water, amino acids, proteins, carbohydrates, fatty acids, vitamins, and minerals (a mix known

as cell culture “media”). Plant-based “scaffolding” is often combined with the cells to produce structured meat cuts, and 3-D printing, extrusion, and molding techniques can assemble cultivated cells into familiar dishes.

The result is a product that can **replicate the meat experience diners know and love**, while significantly reducing supply chain disruptions and using a tiny fraction of the land, water, and other finite resources—a quintessential win-win-win.

## Modernising Meat Production:

Under a business-as-usual scenario, Asia's appetite for conventional meat and seafood has been projected to increase by 78 percent by 2050, contributing to historic levels of deforestation, water depletion, and greenhouse gas emissions. **A change of trajectory is urgently needed and cultivated meat is an essential part of that shift.**



Up to **92%** lower climate footprint compared to conventional beef ...



Reduced risk of zoonotic disease and antimicrobial resistance



... requiring **95%** less land ...



More efficient production



... and **93%** less air pollution



Clean and slaughter-free



Can be produced anywhere, increasing food security



Creates new high-paying jobs



[Credits: GOOD Meat and ShioK Meats]

**State of the Industry:** Singapore is the first and only country on Earth to have granted regulatory approval for the commercial sale of a cultivated meat product, but the sector is accelerating quickly. More than 100 companies are now dedicated to producing cultivated meat and key food industry leaders like Thai Union, ADM, and CPF are investing and partnering with startups to help them scale up. Projections show that **cultivated meat could be cost-competitive with some conventional meats by 2030**, allowing it to become a staple of high-end restaurants and a value-add ingredient that can take mainstream plant-based meat products to the next level.\*

**Despite this progress, the success of cultivated meat is not inevitable.** Significantly more investment is needed from the public and private sectors to address critical knowledge gaps, optimise processes to scale up, and lower costs. Regulatory approvals are also an essential element for market access, but outside of Singapore, current frameworks for alternative proteins lag behind consumer demand.

**Building the Roadmap:** Headquartered in the Lion City, the Good Food Institute APAC—Asia's leading alternative protein think tank—works tirelessly to accelerate a shift away from conventional meat production through open-access scientific R&D, corporate engagement, and public policy.

**GFI APAC is powered entirely by philanthropy.** To help us build a more secure and sustainable food future for Asia, visit **GFI-APAC.org**.

\* Cost and environmental impact reports: <https://gfi-apac.org/science/the-science-of-cultivated-meat/>