

Plant-Based and Animal Cell-Based Approaches for Production of Meat

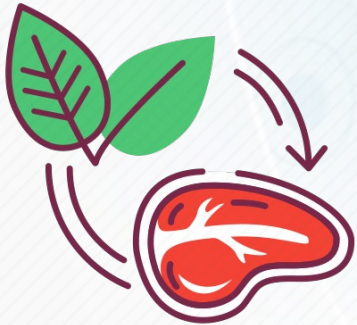
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The search for alternative meat



~800 million people face chronic hunger

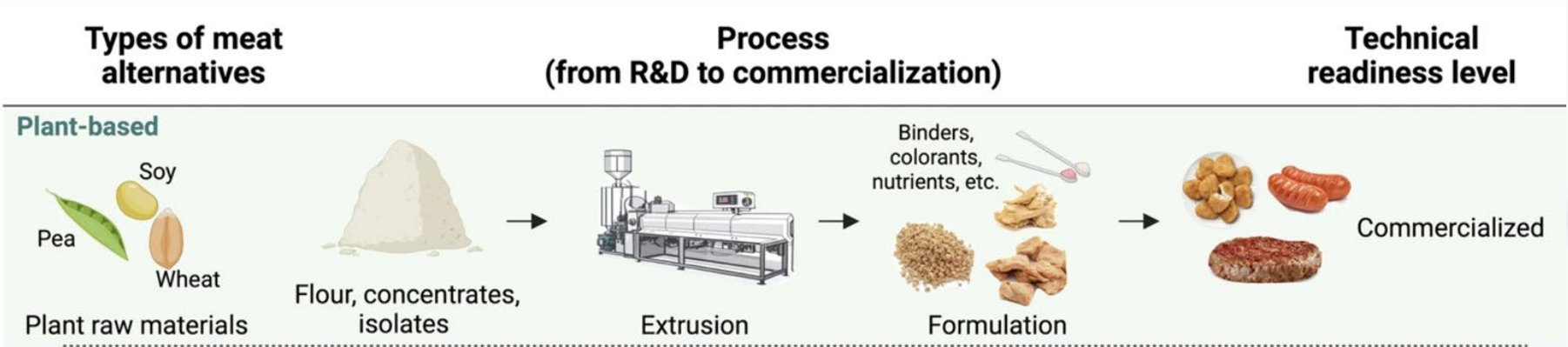
~2 billion people have micronutrient deficiencies

~growing demand for meat production

~alternative meat production methods



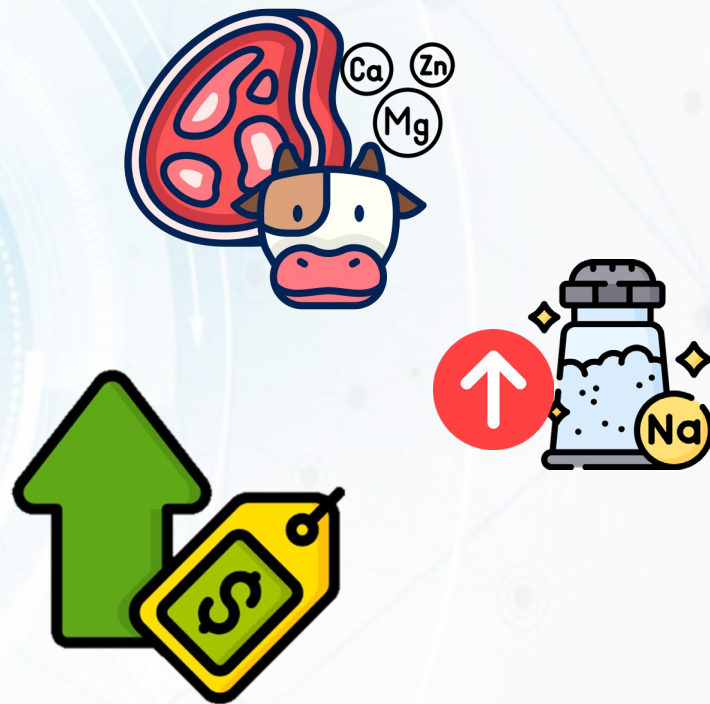
Plant-based Meat



Pros



Cons



Animal cell-based Meat

Types of meat alternatives

Process (from R&D to commercialization)

Technical readiness level

Animal cell-based



Live animals



Stem cells



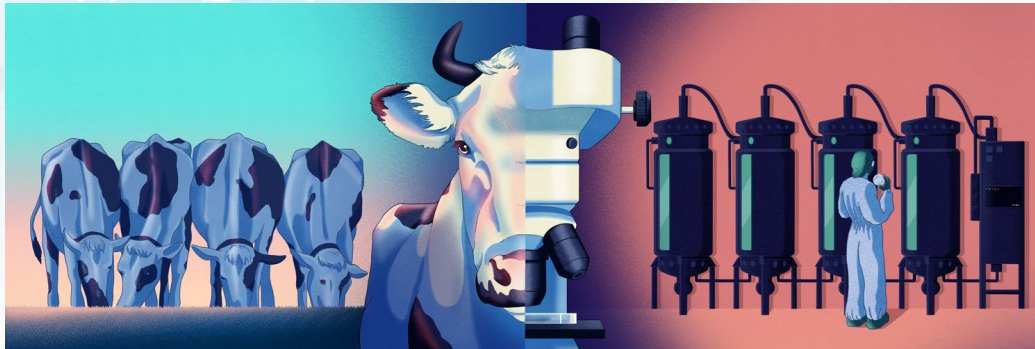
Proliferation & differentiation



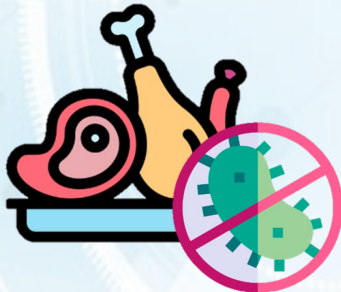
Bioprinting & tissue engineering



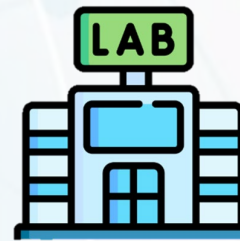
R&D



Pros



Cons



Prions



Summary

	Plant-based	Animal Cell-based
Sustainability	<ul style="list-style-type: none">● Does not require to raise farm animals	<ul style="list-style-type: none">● Does not require to raise farm animals
Taste, Flavor, Appearance	<ul style="list-style-type: none">● Similar to real meat	<ul style="list-style-type: none">● Similar to real meat
Cost	<ul style="list-style-type: none">● Cheaper than animal cell-based	<ul style="list-style-type: none">● High cost
Nutritional composition	<ul style="list-style-type: none">● Fewer calories and less saturated fat than animal-based meat.● almost always contains fiber.● Not same nutrient composition found in real meat● Less red meat lowers cardiovascular disease	<ul style="list-style-type: none">● Same nutritional profile from meats of farmed animals.
Environmental effect	<ul style="list-style-type: none">● lower carbon footprint compared to traditional animal agriculture	<ul style="list-style-type: none">● Reduce agriculture-related pollution and greenhouse gas emissions
Safety	<ul style="list-style-type: none">● Preservatives, high sodium● Existing approach with proved beneficial effects	<ul style="list-style-type: none">● Not exposed to foodborne pathogens● No exposure to antibiotics compared to farmed animals meat● Since it is a novel approach, impact on human health is unknown

ありがとうございます



Thank you!