

## ***Producing Food Products from Cultured Animal Tissues***

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### **Overview:**

Cell cultivated meat is a relatively new (only about 20 years old) idea using a technology that has been around for over one hundred years. The technology to culture cells for human consumption is developing at a rapid pace.

While the concept of producing cell cultivated meat is simple, the implementation has proven to be very challenging. Today, cell cultivated meat is not available for consumer purchase at retail or food service outlets. Still, current efforts are underway to scale up production of cell cultivated meat, but the industry faces several technology hurdles. Those hurdles include lowering the cost of media used to cultivate cells, developing cell lines that can be propagated indefinitely and producing finished products that possess the same palatable and nutritional characteristics of traditionally produced meat products. At the same time that technological challenges are being navigated, other issues such as governmental regulatory oversight, product labeling, and even nomenclature policy must be addressed.

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### **Learning Outcomes**

- *Explain how tissues are cultured for consumption, from biopsy to finished product.*
  - *Identify technological challenges surrounding the culturing of edible tissues.*
  - *Explore the different cultivated food products that could be available for consumer purchase.*
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### **Resources**

Access the Issue Paper, Ag quickCAST, and webinar here: <https://www.cast-science.org/publication/producing-food-products-from-cultured-animal-tissues/>

“Will Cultured Meat Soon Be a Common Sight in Supermarkets Across The Globe?”: <https://www.forbes.com/sites/briankateman/2020/02/17/will-cultured-meat-soon-be-a-common-sight-in-supermarkets-across-the-globe/>

“Lab-Grown Meat Climbs to New Heights on Scaffolds of Soy”: <https://www.discovermagazine.com/health/lab-grown-meat-climbs-to-new-heights-on-scaffolds-of-soy>

“Is lab-grown meat actually worse for the environment?”: <https://www.vox.com/future-perfect/2019/2/22/18235189/lab-grown-meat-cultured-environment-climate-change>

“Climate Impacts of Cultured Meat and Beef Cattle”: <https://www.frontiersin.org/articles/10.3389/fsufs.2019.00005/full>

### **Assessment Questions**

1. Write a summary of this article highlighting 3-5 important facts you learned.
2. Describe the process of producing cultured tissues, starting with the initial cells through the finished product.
3. What challenges have to be overcome before cultivated cells can be used for human food?
4. Describe the proposed three different phases of cultivated meat products and any manufacturing or regulatory considerations with each product.
5. What governmental agencies will be in charge of regulation and oversight of food produced from cultivated cells? How do they plan on working together?

### **Student Reflection**

1. Would you be willing to eat cultivated meat? Why or why not? Do you think the general public would be willing to eat it? Why or why not? Would price be a consideration for you on whether you'd be more or less likely to purchase it?
2. Some people think cultivated meat may be a solution to help feed the world in a changing climate and lessen our dependence on traditional animal agriculture. Do you agree with this thought? Explain why or why not.