

# Consumer Response to Cellular Agriculture Messaging and Nomenclature: A Focus Group Pilot Study

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**Courtney Dillard, PhD**

Visiting Professor  
Willamette University

**Keri Szejda, PhD**

Senior Consumer Research Scientist  
The Good Food Institute

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## Executive Summary

The purpose of this pilot study was to obtain deeper insights into consumers' perceptions of nomenclature and messages designed to explain meat produced through cellular agriculture. The aim of this focus group study was to provide key input for a larger project titled *Meat Cultivation: Embracing the Science of Nature*. A total of 27 students participated in one of four focus groups in March 2019. Participants offered feedback on a narrative explaining meat produced through cellular agriculture, a corresponding visual analogy, and potential names for this new type of meat production. We conducted a global analysis of aggregated responses, with an emphasis on consistent questions, concerns, confusion, preferences, and suggestions. This research revealed that the narrative helped participants understand the product as a distinct type of meat (different from plant-based meat and conventional meat). However, the narrative needed more depth of explanation, detail, and evidence. The visual analogy, which consisted of one graphic illustrating the process of growing vegetables from a plant cutting and a second illustrating the process of cultivating meat from animal cells, was well-received overall as an explanatory tool. However, participants also readily identified confusing or off-putting elements of the second graphic. Finally, participants indicated a notable preference for the term *cultivated meat*, particularly during group discussions. We used these focus group insights to inform modifications to science communication materials and nomenclature in the *Meat Cultivation* project.

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## Objective

The purpose of this pilot study was to obtain deeper insights into consumers' perceptions of nomenclature and messages designed to explain meat produced through cellular agriculture. This focus group study was part of a larger project titled *Meat Cultivation: Embracing the Science of Nature* (Szejda & Urbanovich, 2019).

## Methods

### Procedures

We conducted four focus groups over two weeks in March 2019. Participants completed a basic demographics questionnaire, wrote individual responses to particular message elements, and participated verbally in the focus group discussion. Participants offered comments on 1) a narrative explaining meat produced through cellular agriculture, 2) a corresponding visual analogy, and 3) potential names for this new type of meat production. Please see [Appendix A](#) to view the interview guide.

### Participants

Focus group participants were students at a liberal arts college in Salem, Oregon (Willamette University). Three of the focus groups consisted of seven participants and one focus group consisted of six participants (27 participants in total). Participants expressed a diverse range of political views and were strongly skewed toward a younger age group (primarily 18–21 years). A slight majority of respondents were female ( $n = 16$ ), while a large majority were omnivores or flexitarians ( $n = 21$ ). All four focus groups met for about an hour and a half. We recorded audio and video for all sessions.

### Stimuli

Participants were exposed to two different stimuli passed out separately. The first was a brief narrative that presented the need for a new way of producing meat and explained the process of meat cultivation. The second was a visual analogy that likened this new technology to the familiar process of creating a new plant from the cutting of an existing plant.

Please see [Appendix B](#) to view the handout.

### Qualitative analysis

Guiding our data analysis was the need to provide timely feedback and overarching takeaways. We emphasized determining key aspects to retain or change in the stimuli. Analysis of the stimuli involved reviewing the materials (discussion notes and marked-up narrative and graphic worksheets) for consistent positive and negative responses.

## Key Findings

### The narrative

After listening to the narrative and reading along, participants considered their responses to the narrative and wrote down any immediate questions. The discussion revealed that, in general, participants had a positive reaction to the narrative, finding it clear and concise. In addition, they readily understood that this new type of meat was not plant-based; rather, it was derived from animal cells. Some participants indicated that because this production method was a new concept, messaging that helped them categorize it was useful in building

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understanding. While participants could readily distinguish this new category after reading the narrative, they also expressed a desire for more-specific information. Questions arose around cost, health risks and benefits, sensory characteristics (taste, appearance), environmental impact, specifics of the production method, and overall appeal concerns. Some participants also showed skepticism, noting that the narrative seemed both oversimplified and too narrowly focused on benefits (without evidence). After sharing their responses as a group, participants provided specific recommendations about words and phrases that they felt worked well or should be changed.

## The visual analogy

After viewing the corresponding visual analogy, participants considered their reactions to it, wrote comments, and noted aspects they liked and disliked. During group discussion, participants provided specific recommendations about words, phrases, and images that they felt worked well or should be changed. Notable reactions to the visual elements of the second graphic included dislike of the syringe pictured; confusion over the cultivator image (both the construction of the apparatus itself and the image of the meat produced); and questions about specific production aspects, such as the number of cells needed to create a specific quantity of meat. Another notable reaction was a desire for consistent imagery at the conclusions of the processes depicted (a plate of food for both).

## Nomenclature preferences

After participants considered the narrative and visual analogy, the facilitator explained the challenges involved in finding an appropriate name. Specifically, participants were asked to bear in mind the following criteria when considering a name:

1. Helps consumers understand what they are buying (real meat but produced in a new way)
2. Differentiates from other types of meat (not conventional meat or plant-based meat)
3. Has overall appeal (sounds appetizing)

Then participants evaluated five potential names for this new type of meat—*cultivated*, *cultured*, *cell-based*, *cell-cultured*, and *propagated*—first by ranking them 1–5 (1 being the most appealing given the above considerations and 5 being the least) and then by discussing their rankings. Preferences were as follows:

### Cultivated meat

Eleven participants ranked *cultivated* meat as their most preferred term overall, and another 10 selected it as their second choice. Reactions during discussion were overall quite positive. Examples of positive comments are “sounds most natural,” “makes me think of growing,” “implies that it’s cared for,” and “associated with farming.” However, in written comments, two participants noted that they perceived the term as “less accurate,” “not straightforward.”

### Cultured meat

Eight participants ranked *cultured* meat as the most preferred term overall, and another five selected it as their second choice. Reactions were mixed during discussion. Among the positive comments are “culture has a double meaning—we all want to be cultured,” “sounds new, innovative,” and “suave.” Examples of negative comments are “cultured sounds too lab-like, hospital-like,” and “cultured doesn’t sound right—it’s almost like it sounds aged or old.”

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### Cell-based meat

Seven participants ranked *cell-based meat* as their most preferred term overall, and another four selected it as their second choice. Reactions were mixed during discussion. “Simple,” “the most accurate,” “the most straightforward,” and “points toward science” are some of the positive comments. “Cell ... not appetizing,” “I don’t want to eat a science project,” and “people will be turned off” are among the negative ones.

### Cell-cultured meat

One participant ranked *cell-cultured meat* as their most preferred term overall, and another four selected it as their second choice. Reactions during discussion were primarily neutral or negative. An example of a neutral comment is “differentiates it from regular meat.” Examples of negative comments are “sounds lab-based and unnatural,” “sounds a bit creepy—body snatchers,” and “too long.”

### Propagated meat

Zero participants ranked *propagated meat* as their most preferred term overall, although four selected it as their second choice. Reactions during discussion were primarily neutral or negative. One neutral comment is “most people won’t know what this word means.” Among the negative comments are “sounds weird and not meat-ish,” “sounds like ‘propaganda,’” and “off-putting.”

## Conclusions

Findings from this pilot study of four focus groups shed important light on messaging choices associated with meat produced through cellular agriculture. The study offers the following insights:

Narrative elements that explain the process should be well-reasoned and evidenced, especially for an educated consumer. Consumers appear to favor an initial narrative that is simple, clear, and even-handed while offering more depth to interested consumers. This can easily be crafted with a mix of messaging tactics, some offering the more basic narrative and others providing a deeper dive.

Visual analogies work well in building a sense of familiarity, but both images and textual choices should be thoroughly considered with an emphasis on drawing clear parallels wherever possible while maintaining credibility by not overclaiming. An interactive infographic is likely to provide the best clarity and simplicity for a general audience while offering those who desire more detail the opportunity to access additional information.

The nomenclature for the overarching process is obviously a key decision in message design and should be considered from many angles. While considerations must be given to a number of stakeholders as well as regulatory obligations, consumer preference is paramount to success in the marketplace. The terms *cell-cultured meat* and *propagated meat* are not likely to encourage consumer interest. *Cell-based* and *cultured meat* are likely to be met with mixed responses. The term *cultivated meat* evoked positive responses, such as connections to farming. Overall, when participants considered the full set of criteria, *cultivated meat* was their preferred term.

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## Appendix A: Focus Group Guide

### Introductions (7 minutes)

Let's start with introductions. Please tell me your first name, your age, and your favorite thing about Willamette. I will start, and then we can go around the group.

### Part 1 - narrative (30 minutes - major focus)

We'll begin with an introduction to a new concept. [pass out narrative handout and read aloud]

See handout for text.

#### Written response regarding general concept

- Prior to participating in this study, how familiar were you with this new way of producing meat?
  - Not at all familiar
  - Slightly familiar
  - Moderately familiar
  - Very familiar
  - Extremely familiar
- Please write down the first thoughts that come to mind in response to this concept.
- Please write down any questions that come to mind.

#### Discussion regarding general concept

- Please briefly share your first thoughts with the group.
- Please share your most important question with the group.
- **Probe:** Does the narrative help you understand that the product will be real meat, not a plant-based alternative?

#### Written response regarding behavioral intentions

- Would you be interested in trying meat produced in this way?
  - Yes
  - No
  - Maybe

#### Discussion regarding behavioral intentions

- Please briefly share your intention and reasoning behind it.

#### Written activity - marking up the narrative

- Please indicate aspects (including specific words and phrases) you like by circling them and aspects that you don't like/are confused by underlining them.

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## Part 2 - analogy (20 minutes)

We'll move on to an analogy to help explain the process. [pass out analogy handout]

### Written response regarding analogy

- Please write down the first thoughts that come to mind in response to this analogy.
- Please write down any questions that come to mind.

### Discussion regarding analogy

- Please briefly offer your general response to this analogy.
- **Probe:** Does describing meat like this make sense?

### Written activity - marking up the visual

- Please indicate aspects you like by a check mark and aspects that you don't like/are confused by an X.

## Part 3 - nomenclature (name fit) (30 minutes)

Now let's move on to discuss possible names for the product. [pass out and read aloud]

This new type of meat will be a new product on the market, unfamiliar to most consumers.

Therefore when selecting a name, we're looking for a name that:

1. Helps consumers understand what they are buying (real meat but produced in a new way)
2. Differentiates from other types of meat (not conventional meat or plant-based meat)
3. Has overall appeal (sounds appetizing)

### List of Potential Names

- Propagated meat
- Cultivated meat
- Cultured meat
- Cell-cultured meat
- Cell-based meat

Please rank the names (with 1 being the most appealing and 5 the least), and then add a comment about your response for each.

\_\_\_\_\_ Propagated meat

\_\_\_\_\_ Cultivated meat

\_\_\_\_\_ Cultured meat

\_\_\_\_\_ Cell-cultured meat

\_\_\_\_\_ Cell-based meat



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### Written response regarding name fit

- Please rank the names (with 1 being the most appealing and 5 the least), and then add a comment about your response for each.

### Discussion regarding name fit

- Please tell me which name has the best overall fit for the new product. Once we've written all responses on the board, we can discuss them. [round robin]

## Part 4

[Note: Before closing, we asked participants about message frames, but this was not part of the current study.]

## Closing

[Thank participants and provide time for questions]

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## Appendix B: Handout

### Part 1 - narrative

#### **Saving Nature Through Discovery**

##### **Our Purpose:**

Mother Nature is feeling the weight of humanity. She is being asked to feed more and more people with fewer and fewer resources. This pressure is unsustainable, and if we don't do something to help, the way we live and eat will be changed forever.

Our goal is to develop, through science and technology, safe ways to help Mother Nature do her thing with less social, environmental, and economic burden.

##### **Our Solution:**

##### **Embracing the Science of Nature**

There will always be a desire for conventional animal farming. As a complement to it, there's now a new way to take a few cells from those living farm animals and grow them into familiar meat, poultry, and fish products in something called a cultivator. The cultivator creates an environment that allows for cell growth... like the fertile soil, water, and nutrients used to help plant cuttings take root.

- The inputs for these meats are simply the basic building blocks of meat and life itself: amino acids and simple sugars.
- This meat grows the way animal cells multiply naturally. We harness the wonders of nature but do it in a different environment.
- The result is an abundance of pure, wholesome meat that was made with a fraction of the natural resources, without the need for antibiotics, and without having to raise and slaughter animals.

### Part 1 - written response regarding general concept

Prior to participating in this study, how familiar were you with this new way of producing meat?

- Not at all familiar
- Slightly familiar
- Moderately familiar
- Very familiar
- Extremely familiar

Please write down the first thoughts that come to mind in response to this concept.

Please write down any questions that come to mind.

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Would you be interested in trying meat produced in this way?

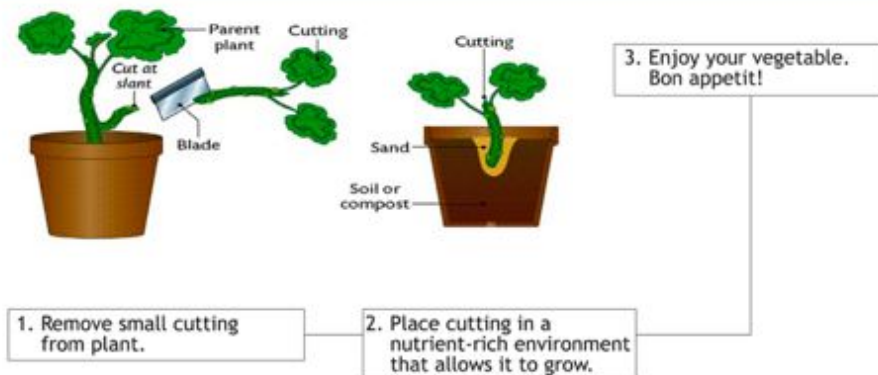
- Yes
- No
- Maybe

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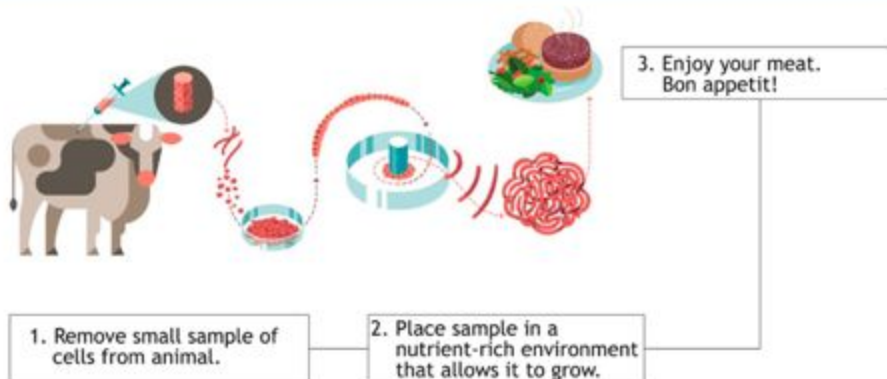
Please indicate aspects (including specific words and phrases) that you like by circling them and aspects that you don't like or create confusion by underlining them.

## Part 2 - analogy

One way to grow vegetables is by starting out with a small cutting of a parent plant.



By taking a small sample of an animal, we can grow meat in a similar way.



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Please write down the first thoughts that come to mind in response to this analogy.

Please write down any questions that come to mind.

### Part 3 - nomenclature

This new type of meat will be a new product on the market, unfamiliar to most consumers. Therefore when selecting a name, we're looking for a name that:

4. Helps consumers understand what they are buying (real meat but produced in a new way)
5. Differentiates from other types of meat (not conventional meat or plant-based meat)
6. Has overall appeal (sounds appetizing)

#### List of Potential Names

- Propagated meat
- Cultivated meat
- Cultured meat
- Cell-cultured meat
- Cell-based meat

Please rank the names (with 1 being the most appealing and 5 the least), and then add a comment about your response for each.

- \_\_\_\_\_ Propagated meat
- \_\_\_\_\_ Cultivated meat
- \_\_\_\_\_ Cultured meat
- \_\_\_\_\_ Cell-cultured meat
- \_\_\_\_\_ Cell-based meat

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## About the Authors

### Courtney Dillard, PhD

Visiting Professor, Willamette University

✉ [cdillard@pdx.edu](mailto:cdillard@pdx.edu)  [Courtney Dillard](#)

Since receiving a PhD in communication studies from the University of Texas-Austin, Courtney has devoted her academic career to research in the field of communication with a focus on audience and contextual analysis and effective persuasive techniques by animal advocacy organizations. As a visiting professor at Willamette University in Salem, Oregon, for the past 16 years, Courtney has included in her research agenda approaches to audience analysis, message framing techniques, and communication campaign strategies. She currently teaches courses on campaign planning and grant writing at Portland State University.

### Keri Szejda, PhD

Senior Consumer Research Scientist, The Good Food Institute

✉ [keris@gfi.org](mailto:keris@gfi.org)  [Keri Szejda](#)

Keri's research advances the plant-based and cultivated meat market sectors by generating effective messaging that helps consumers make sustainable, healthy, and just food choices. She is also a visiting scholar with the School of Social and Behavioral Sciences at Arizona State University (ASU). Keri earned her PhD in communication from ASU's Hugh Downs School of Human Communication and completed postdoctoral work in science communication with ASU's School for the Future of Innovation in Society.

## Suggested Citation

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## About GFI

The Good Food Institute is a global nonprofit building a sustainable, healthy, and just food system. With expertise across the scientific, regulatory, industry, and investment landscape, we are accelerating the transition of the world's food system to alternative proteins, using the power of food innovation and markets.