


2020 fen

The science behind growing meat without animals is fairly simple. Growing the cells that form cultured meat is not hugely different from other 'cell culture' methods that biologists have used to study cells since the early 1900s. The process starts with a few "satellite" cells, which can be obtained from a small sample of muscle taken from a live animal. These are stem cells that can turn into the different cells found in muscle. Just one cell could, in theory, be used to grow an infinite amount of meat. When fed a nutrient rich serum, the cells turn into muscle cells and proliferate, doubling in number roughly every few days. After the cells have multiplied, they are encouraged to form strips, much like how muscle cells form fibres in living tissue. These fibres are attached to a sponge-like scaffold that floods the fibres with nutrients and mechanically stretches them, 'exercising' the muscle cells to increase their size and protein content. The resulting tissue can then be harvested, seasoned, cooked and consumed as boneless processed meat.



Kıyas

1. The science behind growing meat without animals ^{very} is fairly simple.
2. Growing the cells that form cultured meat is not hugely different from other 'cell culture' methods that biologists have used to study cells since the early 1900s.
3. The process starts with a few "satellite" cells, which can be obtained from a small sample of muscle taken from a live animal.
4. These are stem cells that can turn into the different cells found in muscle.
5. Just one cell could, in theory, be used to grow an infinite amount of meat.
6. When fed a nutrient rich serum, the cells turn into muscle cells and proliferate, doubling in number roughly every few days.
7. After the cells have multiplied, they are encouraged to form strips, much like how muscle cells form fibres in living tissue.
8. These fibres are attached to a sponge-like scaffold that floods the fibres with nutrients and mechanically stretches them, 'exercising' the muscle cells to increase their size and protein content.
9. The resulting tissue can then be harvested, seasoned, cooked and consumed as boneless processed meat.

****ek bilgi / varsayım

ikiye katlayarak

√ ig 2'ye

once /* as soon as

multiply, fibres in living tissue.

similar to just like

supply like / akin to

mw

olarak

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69. It is clearly stated in the passage that ----.

- A) it is not a must to have a sample cell from a living animal to produce meat
- B) studying cells is a relatively new concept in the current decade
- C) producing meat from a muscle cell in a lab is quite a complicated process
- D) the first step in creating meat is to double the number of muscle cells
- E) growing meat without animals is a process similar to other cell culture methods

not

by 205

205

205

not

2

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70. According to the passage, stem cells ----.

- A) are cells that do ~~not~~ have the ability to multiply
- B) are composed of various cells that have different functions
- C) have the ability to transform into different cells in a muscle
- D) ~~need~~ to be attached to other cells to form living tissues
- E) ~~decrease~~ in number at the end of the production process

artmak
azalmak
degismek

that

from ... to ... / into

models

→

21

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71. The passage is mainly about ----

- A) the advances in human cell production under scientific intervention 1,2,3
- B) the reasons why cell production may not be practical for common use 1,2,3
- C) different types of cell culture methods used by biologists since the early 1900s 1,2,3
- D) an alternative way of growing meat through unconventional means
- E) some steps followed by scientists to cure animal diseases by producing cells to ✓

Handwritten annotations in red ink: A large arrow points from the question to option D. Option D is circled in red. The phrase "unconventional means" is highlighted in yellow. Option E is crossed out with a large red 'X'. Below the options, there are handwritten notes: "1,2,3" under A, "1,2,3" under B, "1,2,3" under C, "1,2,3" under E, and "2!" with a checkmark under E.

