## GMO lab-grown insect meat key to sustainable food production, researchers argue

Livestock farming is destroying our planet. It is a major cause of land and water degradation, biodiversity loss, acid rain, coral reef degeneration, deforestation – and of course, climate change. Plant-based diets, insect farming, lab-grown meat and genetically modified animals have all been proposed as potential solutions. Which is best?

All of these combined, say researchers at Tufts University.

Writing in <u>Frontiers in Sustainable Food Systems</u>, they explain why lab-grown insect meat – fed on plants, and genetically modified for maximum growth, nutrition and flavor – could be a superior green alternative for high volume, nutritious food production.

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"Compared to cultured mammalian, avian and other vertebrate cells, insect cell cultures require fewer resources and less energy-intensive environmental control, as they have lower glucose requirements and can thrive in a wider range of temperature, pH, oxygen and osmolarity conditions," reports [lead author Natalie Rubio.]

"Alterations necessary for large-scale production are also simpler to achieve with insect cells, which are currently used for biomanufacture of insecticides, drugs and vaccines."

Research for these applications has led already to inexpensive, animal-free growth media for insect cells ....

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