Cricket Shelter

Modular edible insect farm, New York City, USA

Summary and appraisal of the project by the jury

This pavilion is a demonstration of an urban farming system that minimizes the ecological footprint of protein-rich food production. Animal meat production is extremely resource intensive. This project proposes an alternative that emits just 1% of the greenhouse gas emissions and requires 0.001% of the land to produce the same amount of protein annually, which compares to beef production, which is carbon intensive. It proposes a form of protein that is less carbon intensive. The exuberant architectural expression was understood by the jury as a means of calling attention to the possibilities of insect farming, making it appear sanitary and futuristic, if not palatable.

As provocative as this entry might seem, it is nonetheless commended by the jury for its radical approach to food systems. The project should be seen as a provocation to the status quo of meat production, which is carbon intensive. It proposes a form of protein that is less carbon intensive. The exuberant architectural expression was understood by the jury as a means of calling attention to the possibilities of insect farming, making it appear sanitary and futuristic, if not palatable.

Further authors

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Project data

Project group: Materials, products and construction technologies
Client: Art Works for Change
Project background: Research and development
Planned start: November 2018

Project description

Cricket Shelter is a self-sufficient, interconnected system of structural pods which doubles as an optimal temporary shelter that minimizes the ecological footprint of protein-rich food production. It is a well-established fact that industrialized animal agriculture accounts for one fifth of all greenhouse gas emissions, and with global demand for meat projected to double between 2000 and 2050, the industry’s space requirements constitute one of the most significant drivers for deforestation in the world. This project proposes an alternative: with 1% of the greenhouse gas emissions and requiring 0.001% of the land to produce the same amount of protein annually as cattle farming, environmental destruction need no longer be the consequence of ensuring our food supply.

People: Ethical standards and social inclusion

Cricket Shelter operates as a hybrid typology providing an ultrahygienic farming method for consumption of insects. As a modular structural system, it lends itself to simple construction and deconstruction in various site-specific orientations, making it easy to educate consumers on use and maintenance. As a shared farming system, in the spirit of community gardens, it contributes to the formation of inclusive, socially viable environments and the sustainable development of vacant lots. By bringing alternative agricultural practices and entomophagy into a given community’s collective consciousness, Cricket Shelter contributes to the education and empowerment of the public with regard to their role in sustainable production and consumption.

Progress: Innovation and transferability

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Planet: Resource and environmental performance

Cricket Shelter is an urban farming system and temporary shelter that minimizes the ecological footprint of protein-rich food production. It is a well-established fact that industrialized animal agriculture accounts for one fifth of all greenhouse gas emissions, and with global demand for meat projected to double between 2000 and 2050, the industry’s space requirements constitute one of the most significant drivers for deforestation in the world. This project proposes an alternative: with 1% of the greenhouse gas emissions and requiring 0.001% of the land to produce the same amount of protein annually as cattle farming, environmental destruction need no longer be the consequence of ensuring our food supply.

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North America

Acknowledgement prize 2017

LafargeHolcim Awards
The world’s most significant competition in sustainable design.

Image 1: The UN has mandated insect-sourced protein a major component to solving global food production problems. This impacts people globally, as growing insects is not possible at our current rate of consumption and resource extraction. A new-carbon protein source, crickets are a key option to provide a Feed with regenerative protein, combating the impending food crisis.

Image 2: Interior, housing 224 biounits for 22,000 crickets. Modular bio-units designed to fulfill cricket specific spatial needs, allowing them to thrive in controlled environment to encourage propagation and electronic monitoring.

Image 3: Visual comparison of archetypes, wks, greenhouse gas emissions, and water between cow and cricket.

Image 4: Research on cricket life cycle and habits and its implications and expression in space and volume.

Image 5: Quills magnify chirping, linked arches and colonies for genetic propagation and electronic monitoring.

Image 6: Typical shelter set up, adaptable to meet various site conditions from empty lots to rooftops.

Image 7: The cricket shelter for ventilated spaces and porous surfaces led to manipulations of the form.

Image 8: Details of dial locked combined feeding and harvesting gates.

Image 9: Built model, cladding, linked arches and colonies for genetic propagation and electronic monitoring.

Image 10: Adjustable agricultural system applicable for various urban conditions from empty lots to rooftops.

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