

Food in future

by

Structure

- Production of food
- Lab-grown meat
- Genetically modified food
- Vertical Farming
 - Problem
 - What is Vertical Farming?
 - Positive and negative aspects
 - What is the future of Vertical Farming?
- 3D printed food
- Eating habits

Production of food



highest sales:
meat 21%
dairies 16%
alcoholic drinks 9.6%



Genetically modified food

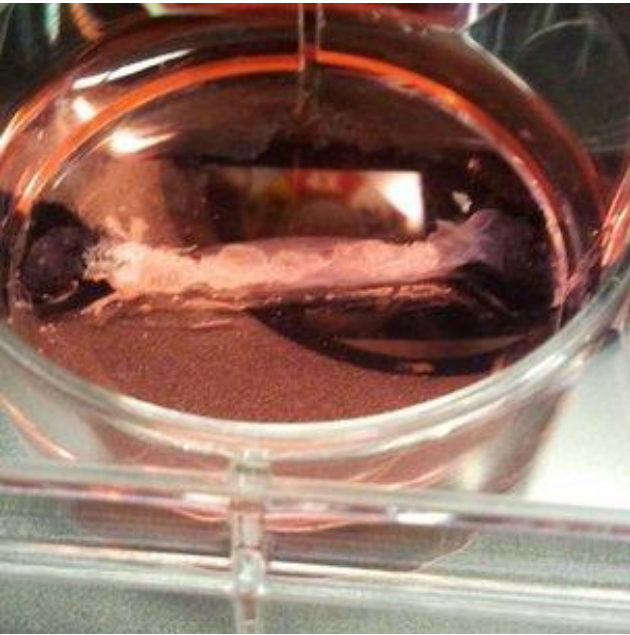
- began 1994
- today focused on: soybean, corn, canola,
cottonseed oil

Europe:

- 47 different plants are allowed
- fruits are not allowed
- food need note on package



Lab-Grown meat



Vertical Farming

Problem:

- 3 billion people in 2050
- We need much space to grow food for them
- Traditional farming spends too much space
- Vertical Farming is a method to grow food in small areas

What is Vertical Farming?

- Alternative to traditional farming
- Plants grow in high-rise buildings
- It's like a multi-level green-house
- Uses natural sunlight



Positive Aspects

- Protection of weather (hail/frost)
- No chemistry
- Don't get in touch with the wildlife or disease
- Could use methane digesters to produce own electricity
- Methane digesters transforms organic waste to biogas
- This biogas could be burned to generate electricity

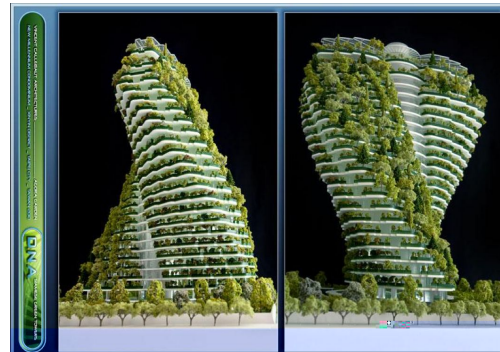
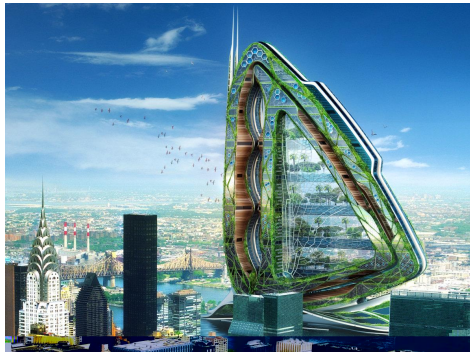


Negative Aspects

- 60 hectare Vertical Farm costs over \$100 million
- Extra costs (lighting, heating...) are also very expensive
- Isn't economical at the moment
- Production costs more than the profit of the plants
- That's the reason why there are just few Vertical Farms

What is the future of Vertical Farming?

- Still have enough land to feed the people
- Haven't reached the crunch point yet
- Vertical Farming isn't economical enough
- In future, when the technology is efficient enough, it is an good opportunity to traditional farming



3D printed food





Foodini

Eating habits



- lot of meat
- lose of food cultures
- oversupply of food



- Vegetarianism

- insects
 - large quantities
 - very nutritious



Solutions for the future

**THANK YOU
FOR
YOUR
ATTENTION!
ANY QUESTIONS?**

Sources:

<http://www.verticalfarm.com/>

http://en.wikipedia.org/wiki/Vertical_farming

<http://www.countryfarm-lifestyles.com/vertical-farming.html>

<http://www.ecofriend.com/the-good-the-bad-and-the-ugly-about-vertical-farming.html>

<http://www.bbc.com/news/magazine-18813075>

http://en.wikipedia.org/wiki/Animal_husbandry

<http://www.theguardian.com/technology/2013/jun/16/future-of-food-insects-gm-rice-on-the-menu>

http://en.wikipedia.org/wiki/In_vitro_meat

<http://www.theguardian.com/science/2014/jul/13/laboratory-grown-beef-meat-without-murder-hunger-climate-change>

<http://www.bbc.com/news/science-environment-23576143>

<http://www.bbc.com/news/science-environment-16972761>

http://en.wikipedia.org/wiki/Genetically_modified_food#Fruits_and_vegetables

http://www.who.int/foodsafety/areas_work/food-technology/faq-genetically-modified-food/en/

<http://www.zeit.de/2010/18/N-Bartmer-Interview>

<http://www.novafeel.de/ernaehrung/gentechnisch-veraenderte-lebensmittel.htm>

leo.org

http://www.focus.de/gesundheit/ernaehrung/gesundessen/tid-34003/gen-mais-gen-soja-babybrei-so-riskant-ist-gentechnik-im-essen-wirklich_aid_1124314.html