




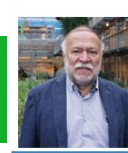






Wageningen MFC

**Providing good food for everyone in an
urbanizing world**

Wageningen Metropolitan Food Clusters (WMFC) is a spin-off from Wageningen University & Research (WUR)

 <p>#1 Agriculture University</p> <p>#1 Agricultural University</p> <p>National Taiwan Ranking 2020</p>	 <p>#2 Environment & Ecology</p> <p>#2 in Environment & Ecology</p> <p>National Taiwan Ranking 2020</p>	 <p>THE #62</p> <p>#62 in the world</p> <p>Times Higher Education World University Rankings 2021</p>
 <p>QS #123</p> <p>#123 in the world</p> <p>QS World University Rankings 2022</p>	 <p>#1 Agriculture & Forestry</p> <p>#1 in Agriculture & Forestry</p> <p>QS World University Rankings 2021</p>	 <p>#5 Environmental sciences</p> <p>#5 in Environmental Sciences</p> <p>QS World University Ranking 2021</p>
 <p>#151-200 In the world</p> <p>#151-200 in the world</p> <p>Academic Ranking of World Universities 2020</p>	 <p>#1 Agricultural sciences</p> <p>#1 in Agricultural Sciences</p> <p>Academic Ranking of World Universities 2020</p>	 <p>BEST UNIVERSITY KEUZEGIDS 2021</p> <p>#1 in the Netherlands</p> <p>Keuzegids Universities 2021 (in Dutch)</p>

- The mission of WMFC is to provide good food for everyone in an urbanizing world.
- WMFC is a spin-off from WUR, aiming to design and implement innovations

<p>Celeste Balmelli 30 years in Sales</p>		<p>Steeff Buijs 50 years in Urban planning</p>	
<p>Yorick de Bruin 8 years in Animal science</p>		<p>Arjen Simons 43 years in Fresh logistics</p>	
<p>Peter Smeets 43 years in Agri-ecology</p>		<p>Madeleine van Mansfeld 43 years in Landscape ecology</p>	
<p>Ewa Wietsma 30 years in plant physiology</p>		<p>Xi Zhu 5 years in Urban planning</p>	

- In order to protect its reputation. Wageningen UR is aloof to lead projects outside the scientific domain.
- WMFC can act as knowledge broker and facilitator between stakeholders in innovation

We offer **tailor-made** & **one-stop** services for:



Modernizing **food production** from all economic, social and environmental perspectives of sustainable development.



Design of **agroparks** and **metropolitan food clusters**.



Developing **agricultural business** with standards for international and national markets.



Co-design of the **transformation of rural areas**.



Governmental strategies for **food security** and **safety**, and for development of the agro-food system as a pillar of the national economy in general.



Developing **agricultural training & education** programmes as well as development and execution of research & innovation projects.

MFC projects since 2000

By WUR

- 2000- 2017: North Limburg NL
- 2004: China Changzhou
- 2005 - 2007: Greenport Shanghai
- 2008 - 2011: India Nellore
- 2009 – 2011: China Caofeidian
- 2011 - 2012: China Beijing
- 2012 - 2016: Mexico
 - National Scheme Agrologistics
 - Aguascalientes
 - Nayarit
 - Tapachula
- 2014 - 2015: China Shandong
- 2014 South Africa
- 2015 - present: REMEDy hightech dairy stable
- 2019: Singapore

By WMFC

- 2016 - present: AgriBrasil
- 2017 – present: Living Lab Vredepeel North Limburg
- 2017: Qatar
- 2018: Oman
- 2019: Russia
- 2019 - present: Paraguay
- 2019 – present: AgroHungary

In our projects, we closely work with **top agri-food technology companies** to achieve best results, including:



Horticulture



Dairy



Poultry



Aquaculture



Pigs



Circular economy

Two examples of relevant projects (1)

Vreba Holding, Vredepeel NL

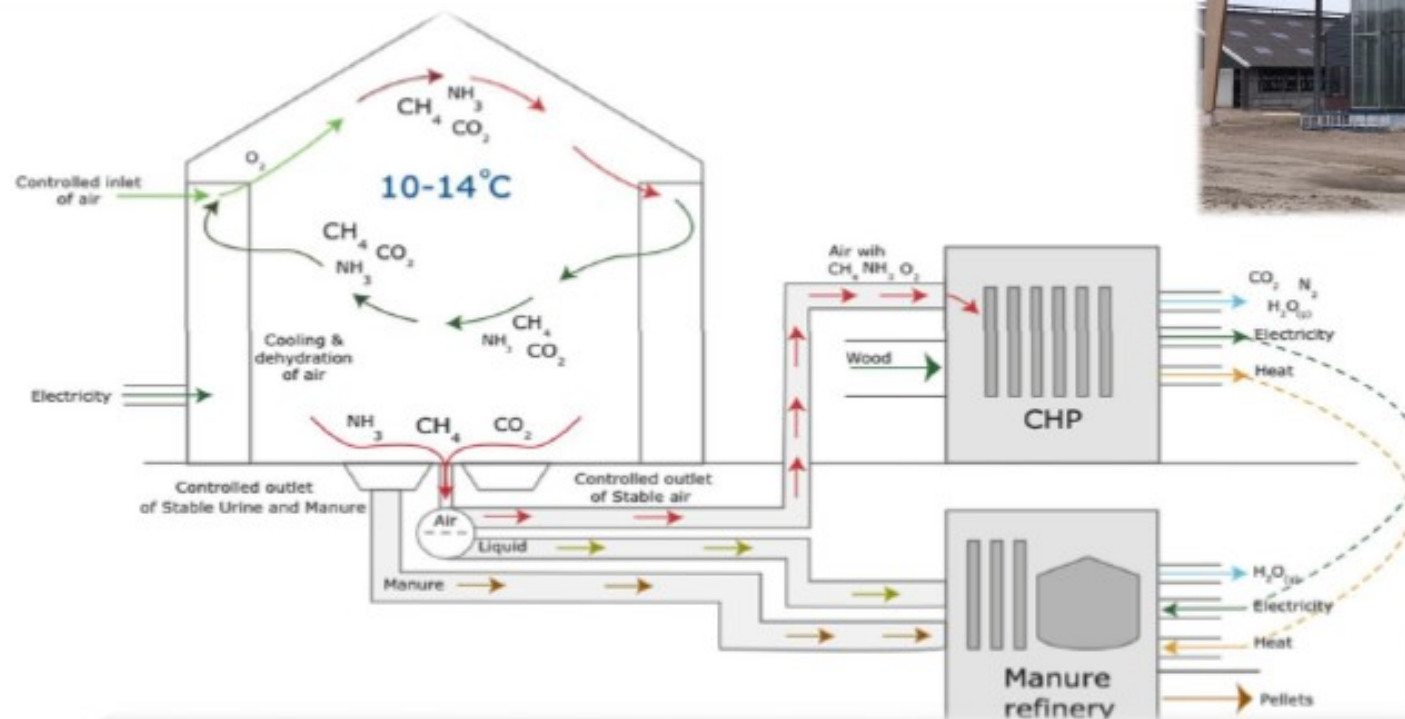
- Design and implementation of integrated plant and protein production production and processing
- Combines:
 - Rotation of fodder and vegetables in arable farming
 - Feed and fodder production in vertical farm
 - Production of meat from young stock
 - Production of milk and meat in advanced closed stables with zero emission
 - Processing of milk into dairy consumer products and pharmaceuticals
 - Processed manure recycled for plant production



Climate Smart Agriculture: Eco-Climate Barns for Ruminants

EcoClimate Innovation:

- Controlled inlet of cooled air
- Captures ammonia, methane and CO₂ for reutilization in CHP
- Transparent roofs and front conserves day and night rhythm
- Protected for power breaks or calamities



In extreme hot and humid climates closed barns with full climate control are the only option to secure animal health

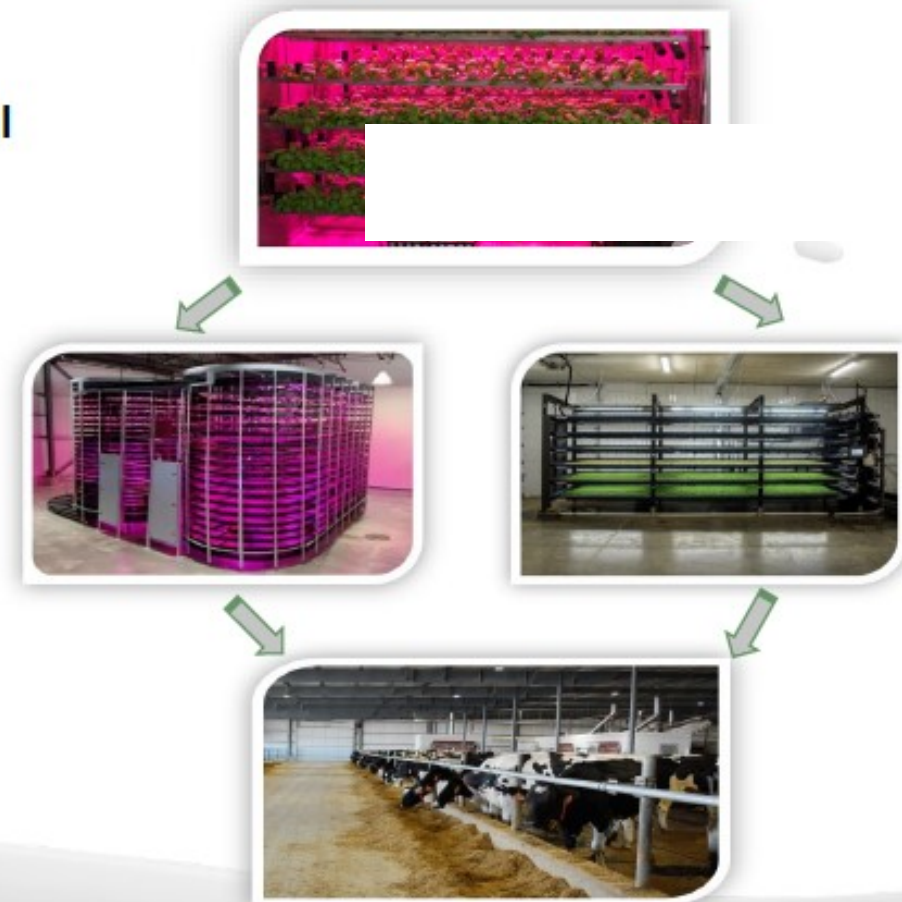
In addition, the EcoClimate barns provide excellent cow comfort with innovative bedding and clean barns

Climate Smart Agriculture: Vertical Farming for Feed Production

Controlled Environment Agriculture offers breakthrough technology to grow animal feed:

- ✓ Fresh, green and **high-quality** feed at 24/7
- ✓ Sprouting grain improve **digestibility** and **nutritional** quality
- ✓ **Consistent** and **balanced** feed rations
- ✓ Full **climate control** and **crop control**
- ✓ Minimum footprint, **maximum production** per m³
- ✓ Fully automated, reducing **labour** drastically
- ✓ Zero **pesticides** and **herbicides**
- ✓ No **farmland** required, 90% less water

Translate proven technology from the Food industry to the Feed industry



Two examples of relevant projects (2)

Alto Paraguay: Advising farmers in growth of production while dealing with sustainable development goals

- Expand the land
 - More land needed
 - Increase of logistic costs
 - Higher costprice per kg
 - Seasonal production
 - High phytosanitary risks
 - Low quality
- Increase productivity and land re-allotment
 - No land expansion
 - Decrease of logistic costs
 - Lower costprice per kg
 - Out of season production
 - Lower phytosanitary risks
 - High quality





www.wmfc.nl

Thank you!