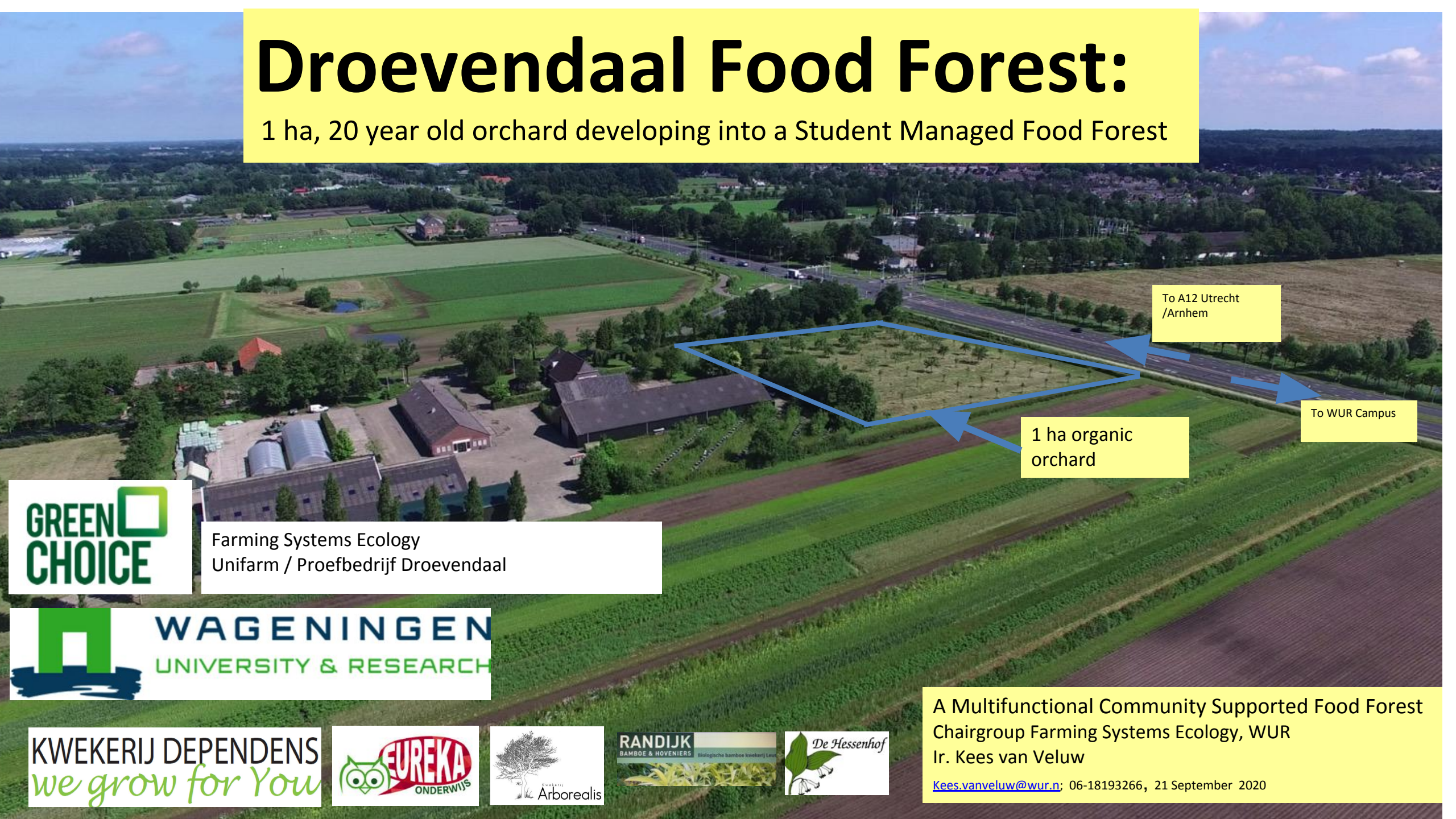


Droevendaal Food Forest:

1 ha, 20 year old orchard developing into a Student Managed Food Forest



Farming Systems Ecology
Unifarm / Proefbedrijf Droevendaal



A Multifunctional Community Supported Food Forest
Chairgroup Farming Systems Ecology, WUR
Ir. Kees van Veluw

Kees.vanveluw@wur.nl; 06-18193266, 21 September 2020

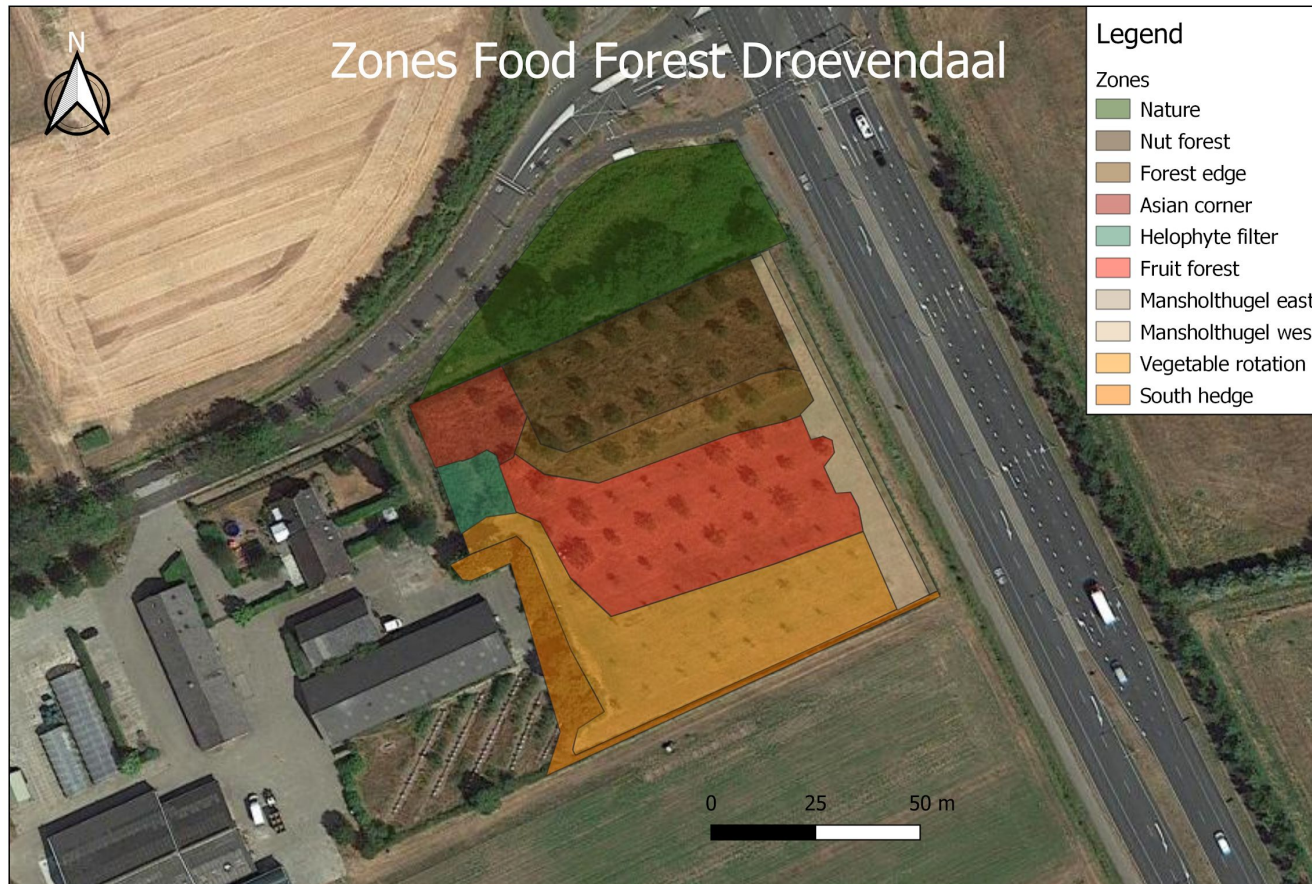
Aims of the Project

Time span: **10 years (2028)** to achieve all aims
(aims are still discussable)

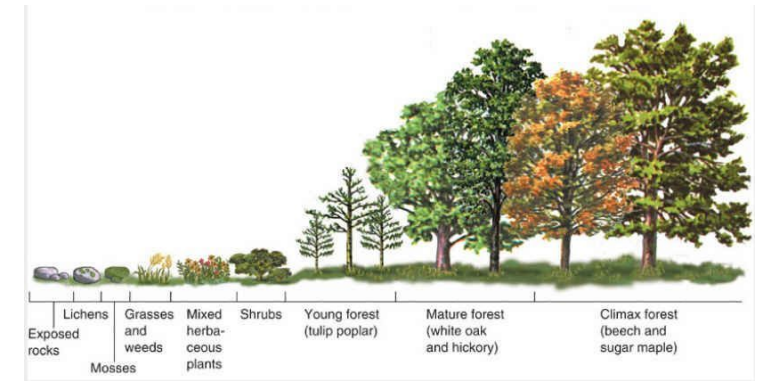
- High Food Productivity (all foods for 10 people per ha/year)
- All ecosystem services are improved, especially: Soil Resilience, C-fixing and Biodiversity
- Raising Eco-literacy level of the participants and the community
- Net income of € 40.000.- / year
- Maximum 40 hours/week labor
- Orchard is supported/used by (WUR)community
- Work/study/research/internship place for students and (primary) school children
- Being an example for other 'Micro-Farmers'.



Food forest design 2020

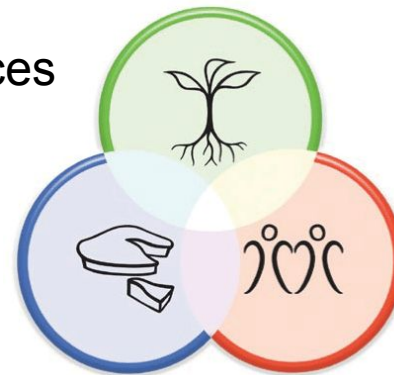


Source: Louise van der Stok and Jordy van Eijk; internship summer-autumn 2019



Thesis /Internship topics:

1. Food Production
2. Ecosystem Services
3. Ecoliteracy
4. Monitoring
5. Others



Thesis and Internship topics Food Forest, 1

Food Production:

Zones Food Forest Droevendaal

1. Harvesting and Processing Acorns. **Internship, Oct.2020.**
2. Reduction of grass competition with apple trees by Yellow rattle (*Rhinanthus angustifolius*), other nature friendly grass suppressing ground covers and low labour maintenance activities. **Thesis, Spring 2021**
3. Present state of the art of the belowground Mycorrhiza and root network in the Food Forest. Is network connecting different trees/shrubs/crops? How do the plants root? **Thesis, anytime**
4. Plant communities/guilds. Literature and Field study about plant communities around the current main trees and crops in the FF and future fruit forest zone. **Thesis, now**
5. No-Dig Gardening in the Droevendaal Food Forest: How to combine annuals/biennials/perennials. Design and Cost Benefit analysis. **Internship, any time**

Legend

Zones

- Nature
- Nut forest
- Forest edge
- Asian corner
- Phlophyte filter
- Fruit forest
- Vegetable forest
- Mansholtugel west
- Vegetable rotation
- South hedge

Ecosystem Services

6. Mineral flows and balances: (N,P,K,C, macro/micro-elements) in relation to harvesting. **Thesis, anytime**
7. Water management plan (modelling/designing in relation to nutrients, pH and target vegetation). **Thesis, anytime**
8. Poultry (chicken/turkey, geese, ducks) integration in the No-dig Garden. How to be self-sufficient in feed? **Thesis/internship, anytime**
9. (Duck) Pond design. How can water based poultry be integrated in the food forest? **Internship, anytime**
10. How to optimize hazelnut, walnut and fruit production. How to deal with pest and diseases? **Thesis/Internship, anytime**

Interested? Contact: Kees.vanveluw@wur.nl or Jordy.vanEijk@wur.nl

Thesis and Internship topics Food Forest, 2

Ecoliteracy:

11. Coordinating the Ecoliteracy class. Primary school children follow 20 ecoliteracy classes in FF Droevendaal. **Internship, spring-summer 2021, preferably period 5-6**

Monitoring:

12. Overall. Developing and implementation of the monitoring plan based on the aims of the food forest. **Thesis/Internship, anytime**

13. Herbs. In 2018, 2019 and 2020 we did an aboveground inventarization; this should be repeated every year. **Thesis, summer 2021** (optionally together with topic 14)

14. Insects: In 2019 we did an inventarization, this should be repeated every 2 years. **Thesis, summer 2021** (optionally together with topic 13)

Other Topics:

15. Communication strategy, which communication tools?, designing social media, newsletter, visualization. **Thesis/Internship, anytime**

16. Daily Food Forest Farmer: daily, practical activities, maintenance, harvesting, monitoring, supporting other thesis/internship students. **Internship, now**

17. Marketing and Sales of FF products. How can we get the best value out of the food forest? **Thesis/internship anytime**

18. What to grow to cover all nutrition requirements of 10 persons? What is the quality, taste and food value of FF products? **Thesis, anytime**

Interested? Contact: Kees.vanveluw@wur.nl or Jordy.vanEijk@wur.nl

1. Harvesting and Processing Acorns. Internship, Oct.2020.



2. Reduction of grass competition with apple trees by Yellow rattle (*Rhinanthus angustifolius*), outcompeting groundcovers and other plants. Thesis, Spring 2021

more explanation to follow

3. Present state of the art of the Mycorrhiza's network in the Food Forest. Is network connecting different trees/shrubs/crops? Thesis, anytime
more explanation to follow

Activities in 2019

- Baseline studies (groundwater, soil fertility, carbon fixation, plant & insect diversity)
- Designing fruit forest zone in detail and tuber, root and veggie zone + Mansholthugel
- Implementing: 2 planting days
- Research: Insect & Plant diversity, National Food Forest Monitoring project, Carrying Capacity, Vit B12, Tuber farm
- Eco-literacy school with the Eureka-school: 20 meetings with 20 'gifted' children
- Receiving visitors (around 1000 !)
- Part of WUR courses; Organic production systems, Agroecology, Permaculture
- Part of other courses/workshops: Worm Charming, Pruning course, Kyoto students, Tours for citizens of Wageningen and Bennekom, Food Forest Festival, Meet-up Agroforestry



Progress in 2019



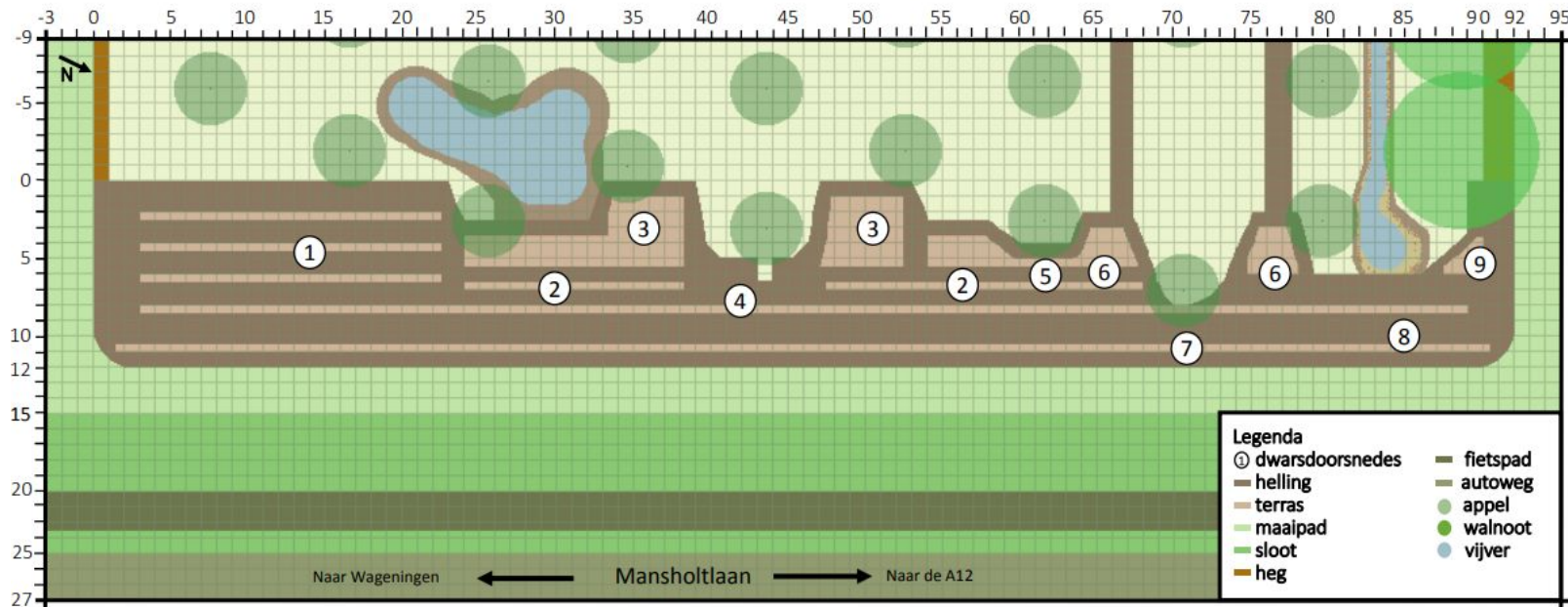
Aim:

Progress

- High Food Productive (all foods for 10 people per ha/year) -> at least 4 persons/ha in 10 year
- All ecosystem services are improved, especially:
 - soil resilience, C-fixing and biodiversity -> all improving
- Raising Eco-literacy level of the community, -> people involved in FF: big raise,
- Net income of € 40.000.- / year -> turn over 2019: ca. €2.500
- Maximum 40 hours/week labor -> 10.000 thinking & working etc. hours in 2019
- Orchard is supported/used by (WUR)community -> summer courses, idea for compensation of conferences, part of courses, living lab for new chair group, etc.
- Work/study/research/internship place for students -> 12 WUR students, 40 Eureka schoolchildren and (primary) school children 5 WUR researchers
- Being an example for other 'Micro-Farmers'. -> FF-Leusden, Food Park Kortenoord Wageningen

Design of the Mansholthugel

Source: Louise van der Stok and Jordy van Eijk; internship summer-autumn 2019



1st priority goals

- Block sound of motorway
- Block view of motorway
- Protect against northeast wind
- Intercept traffic emissions

2nd priority goals

- Increase biodiversity
- Aesthetically appealing for passersby
- Microclimate for southern species
- Economically viable species
- Reinventing cultural historical landscape elements

