

**Work-package group 5:** Agroforestry for livestock systems  
**Specific group:** Fodder trees for cattle and goats in the Netherlands  
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## 1. Context

The AGFORWARD research project (January 2014-December 2017), funded by the European Commission, is promoting agroforestry practices in Europe that will advance sustainable rural development. The project has four objectives:

- 1) to understand the context and extent of agroforestry in Europe,
- 2) to identify, develop and field-test innovations (through participatory research) to improve the benefits and viability of agroforestry systems in Europe,
- 3) to evaluate innovative agroforestry designs and practices at a field-, farm- and landscape scale, and
- 4) to promote the wider adoption of appropriate agroforestry systems in Europe through policy development and dissemination.

This report describes one of about 40 initial stakeholder workshops to address objective 2. Further details of the project can be found on the AGFORWARD website: [www.agforward.eu](http://www.agforward.eu)

## 2. Description of system

Several dairy cow and goat farmers in the Netherlands were participants of the Farms' Network for Fodder Trees and Multifunctional Land Use (2012-2014). The farmers are part of a group of farmers called 'Overlegplatform Duinboeren' ("Dune farmers"), because they are located close to a nature reserve called "Loonse en Drunense Duinen". The Duinboeren is in the southern part of the Netherlands (Figure 1). During the former project four test sites with fodder trees were planted on four farms. Within the original project dairy goats were allowed to browse on fodder trees such as willow (*Salix* spp) (Figure 2).



Figure 1. Location of the 'Duinboeren' in The Netherlands



Figure 2. Dairy goats browsing on the fodder trees (willow), planted at one of the farms in Tilburg, The Netherlands.

## 3. Participants

The stakeholder group was focused on four dairy and goat farmers who had previously work on the Farms' Network for Fodder Trees and Multifunctional Land Use (2012-2014).

#### 4. Initial meetings and field visits

Because another meeting was held with this group of farmers in early 2014, and agroforestry had been frequently mentioned in the original project, we decided not to organize a new meeting for this project. Instead Boki Luske visited the four farms with test sites and interviewed each farmer personally on 11 September 2014. During the interview the AGFORWARD project was explained, test sites were visited and the questionnaires were filled out.

The test sites were visited with the farmers and research questions were discussed in the field. The four farmers had a good working knowledge of each other's farms, so co-ordinated visits were not necessary.



Fig 3. The interviewed farmers during the individual field visits. Upper left: Jo van Balkom uses fodder trees for dairy cows. Upper right: Anton van de Bruggen uses fodder trees for dairy goats. Lower left: Sjaak Sprangers uses trees and shrubs as natural fences and fodder for dairy cows. Lower right: Gerrit Verhoeven has fodder trees in his fields and his dairy goats are being used for tree management in a natural area.

## 5. Ranking of positive and negative aspects of fodder trees

The farmers were asked to complete a brief questionnaire which sought to highlight the key positive and negative aspects of the trees. All four completed the form but in one case a farmer was not able to rank the negative aspects

### *Positive aspects*

The most positive aspects of fodder trees was viewed as improved animal health and welfare by three of the farmers; the other who used goats to manage a natural area identified that the key consideration was a positive relationship between the farmer and the landowner (Table 1). The other positive attributes were the enhancement of biodiversity and the wildlife habitat, landscape aesthetics/tourism/farmer image, crop and pasture quality. All four farmers highlighted the originality and interest of the work. Runoff and flood control and soil conservation were also seen as important. One farmer identified the business opportunity to “use” goats for management of natural areas.

Table 1. Positive aspects of fodder trees as ranked by the four farmers who manage four types of system

Aspect	System			
	Trees & shrubs as fences & fodder for dairy cows	Fodder trees for dairy goats	Dairy cows and fodder trees	Goats for tree control in natural areas
Animal health and welfare	1	1	1	
Relationship between farmer and landowner				1
Biodiversity and wildlife habitat	2	5	2	
Landscape aesthetics/tourism/farmer image	4	3	3	2/4
Crop or pasture quality/food safety		2		
Originality and interest	3	4	5	5
Business opportunities				3
Runoff and flood control			4	
Soil conservation	5			

### *Negative aspects*

The most negative issues, identified by three farmers, was weed control at the start of planted test sites (Table 2). They also indicated the negative effects of the amount of work and the problems of tree survival when fodder trees were used for goats (one test site was destroyed, while the goats were too eager to browse the trees). The other major negative issues were regulations (if trees are planted, this could mean that the soil is seen as “forest” instead of “agriculture”, which means a value decline), and the complexity of work.

Table 2. Negative aspects of fodder trees as ranked by the four farmers who manage four types of system (\*no negative aspects ranked)

Aspect	System			
	Trees & shrubs as fences & fodder for dairy cows	Fodder trees for dairy goats	Dairy cows and fodder trees	Goats for tree control in natural areas*
Disease and weed control	1	4	2	
Labour		2	1	
Tree regeneration/survival		1		
Regulations		3	3	
Complexity of work		5		

## 6. Potential research themes

All interviewed farmers are willing to cooperate for following research, if the research questions are interesting for them. Four potential research themes were identified:

**Business opportunities for management of natural areas by dairy goats:** as the previous project results were very positive and both parties (land owner and farmer) benefited from this cooperation: cheap labour for management of the natural area, low feed costs for the farmer and healthy goats, it would be very interesting to explore new business opportunities.

**Protection of browsing trees from goats:** It is difficult to manage goat browsing on fodder trees as the goats are so fond of trees that they are liable to destroy them. How can we design a good browsing area for goats on a farm?

**Fodder trees for dairy cows:** Which trees do dairy cows prefer as a fodder? How much would they eat from the trees?

**System design:** How many trees do you need to optimize the mineral uptake by dairy cows, and to maximise yields of trees and pasture?

## 7. References

Louis Bolk Institute (2014). Praktijknetwer Voederbomen. Farmers' Network for Fodder Trees & Multifunctional Land Use Accessed 29 Oct 2014. Fodder trees website: [www.voederbomen.nl](http://www.voederbomen.nl)  
 Stichting Duinboeren (2014). Welcome at the Duinboeren. Accessed 29 Oct 2014. [www.duinboeren.nl](http://www.duinboeren.nl)

**8. Acknowledgement**

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