



UNIVERSITÉ  
DE LORRAINE



# Centre R&D La Bouzule ENSAIA

A university farm to support research and development in agriculture

*At the heart of future developments...*

*Overview of the main activities*

*Alexandre LAFLOTTE - Director*

*Welcome to the farm !*



**University farm la Bouzule**

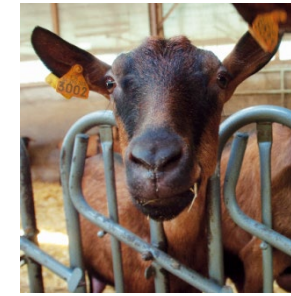
Director : Alexandre LAFLOTTE

La Bouzule, F 54280 LANEUVELOTTE

14 permanent staff



Polyculture system  
 Dairy Farming



Goat breeding and goat  
 cheese production



**RESEARCH AND DEVELOPMENT  
 IN AGRONOMY**



Educational  
 support

**Innovative cropping system**



Nettle cropping



Crop rotation



Agroforestry

**Charolais breed**



High genetic level

**Methanisation  
 Anaerobic digestion**



# *A farm to support research*

*Exemples...*



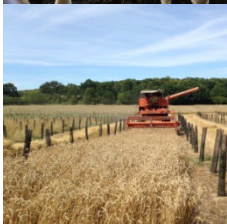
Dairy cows  
Prim'Holstein



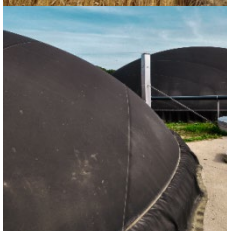
Dairy goats



Suckler cows  
Charolaises



Crops



Agro-energy

**Feeding with alfalfa leaves, nettles**

**Luminous deseasonalization  
(without hormone)**

**Breed Genetic improvement  
Selection of hornless gene**

**Agroforestry, Nettle cropping**

**Methanization, Biological methanation,  
Photovoltaic panels bifacial verticals**

## *.. and to support pedagogy*

- 1200 primary school students
- 350 students from the University
- 60 students from agricultural school
- Visits of farmers, politicians and administrative officials



# *Energetic transition*

- Methanisation

Laboratory with small methanizer of 1 liter, 10 liters, 100 liters and 1000 liters

Industrial unit of 500 m<sup>3</sup> producing 45kWh electricity



- Agri - Voltaic unit

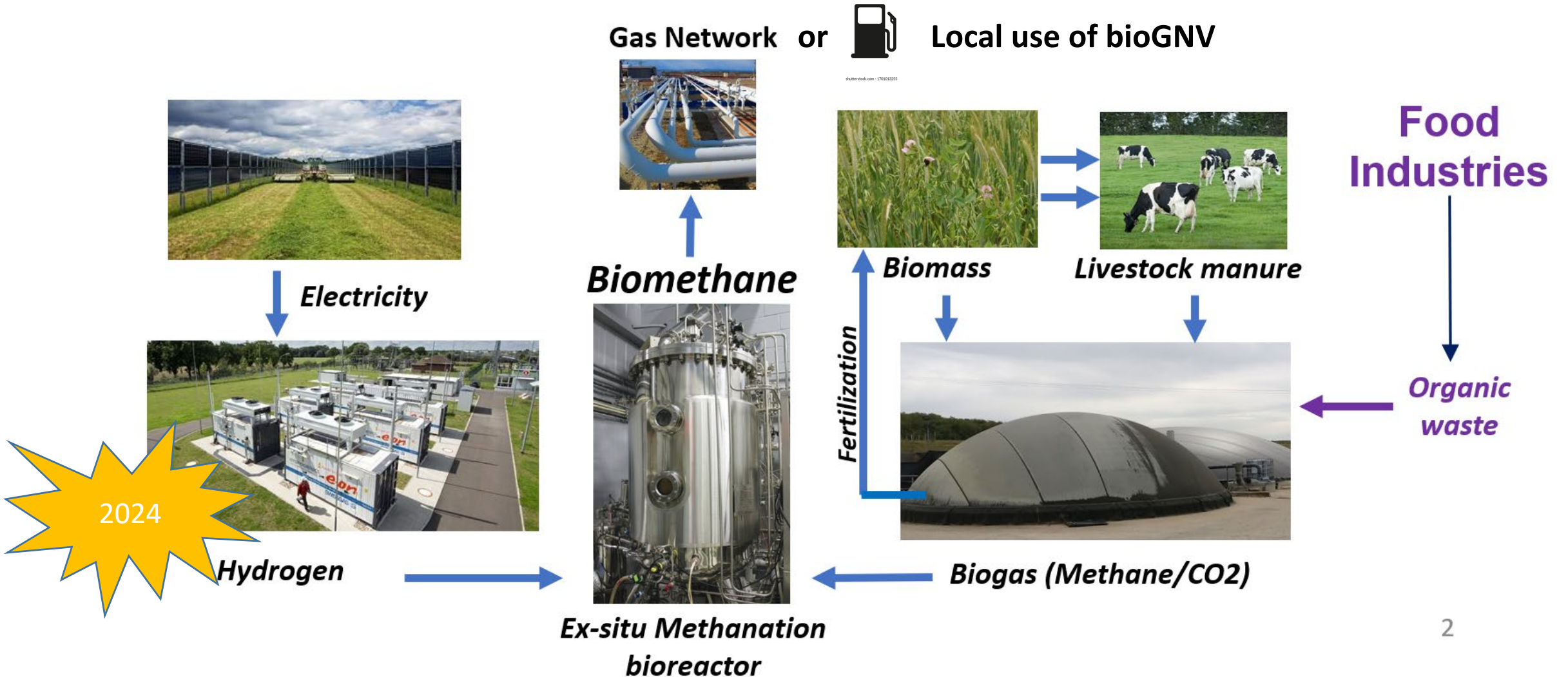
200 m of verticals and bifacial panels

Producing 80 kWc

Allowing cows pasture or cropping



# A new concept : The agricultural Power-to-gas



# Nettles : unwind the thread...



## Planting 1 ha in 2015 for Newfibre

Using nettles in nutraceutical

Trials for fibers



Trials on nettle manure

Trials on feeding cows

Using nettles on sewage treatment plant



# And many other projects around nettles...

South of France :  
nonwoven for  
sailing boat

East of France :  
feeding cows



South of France : nettle compost

Italy : Ortika Clothing

North of France : Orti-K

Finland : Arknokk

# Focus on feeding cows trials



The benefits of nettle are numerous and recognized: general tonic, remineralizing, blood tonic, anti-anaemic, anti-arthritis, anti-inflammatory. It stimulates digestive functions, repels skin conditions, improves horse performance

# Focus on feeding cows trials (on March 2018)

Nettle pellets used came from Belgium and were 22% Nitrogenous Matter

In the trial, 1kg of Nettle was given by cow by day instead of 0,9 kg of habitual protein feed\*

Group 1  
12 cows



Group 2  
12 cows



2 first weeks

Nettle

Control

2 next weeks

Control

Nettle

\*Habitual protein feed is a mix of wet co-products like brewery waste or rapeseed meal

# Results on milk production

		Phase 1	Stat	Phase 2	Stat	Toutes phases	Stat
<b>Milk production</b>	NETTLE	30,3	T (<0,1)	24,6	S (<0,05)	27,5	NS
	CONTROL	27,4		29,1		28,2	
<b>Fat content</b>	NETTLE	41,1	NS	41,4	NS	41,2	NS
	CONTROL	39,9		42,1		41,0	
<b>Protein level</b>	NETTLE	30,5	S (<0,05)	33,2	NS	31,8	T (<0,1)
	CONTROL	32,6		32,5		32,6	

Using nettle in dairy cows feed don't change milk production or fat content

But it seems to decrease the milk protein level.

*Thank you for your attention !*

