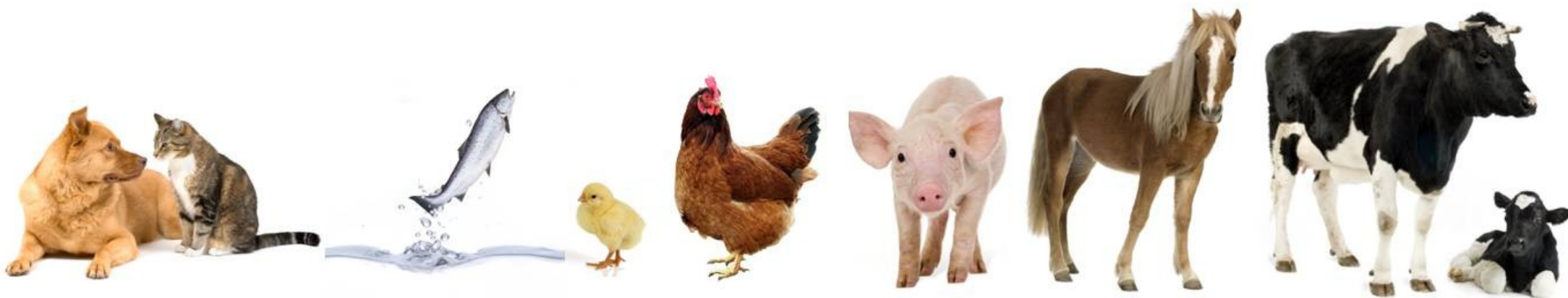


# NOR-FEED SUD

- ✓ COMPANY PRESENTATION
- ✓ SMethane PROJECT



## Botanicals in animal feed

NOR-FEED SUD develops and markets natural additives and ingredients, especially botanicals. These products are developed in order to be included in animals' feed or to be distributed via specialities.

Innovating  
solutions in  
animal feed



## A network approach



### NOR-FEED A/S (1988) Denmark

- > Northern Europe
- > Central Europe
- > North America
- > Oceania

[www.norfeed.net](http://www.norfeed.net)

### NOR-FEED UK (1988) England

- > British islands

[www.norfeed.co.uk](http://www.norfeed.co.uk)

### NOR-FEED SUD (2003) France

- > Southern Europe
- > Mediterranean Basin
- > Near East
- > Middle East

[www.nor-feedsud.fr](http://www.nor-feedsud.fr)

### NOR-FEED TAIWAN (2003)

- > Far East

### NOR-FEED Maghreb (2010) Algeria

- > Morocco, Algeria, Tunisia, Lybie
- > Mauritania

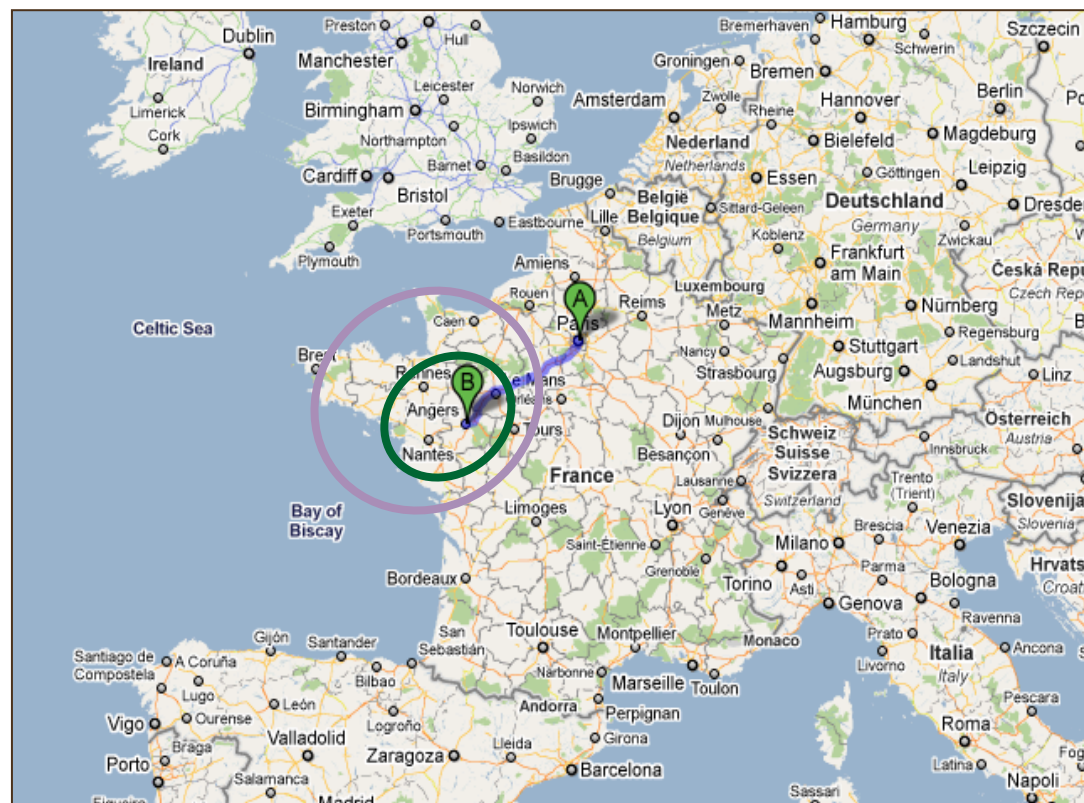
NOR FEED products are sold in more than 30 countries



## At the heart of plant and animal productions

NOR-FEED SUD is located in Anjou, top French area for medicinal plants production.

Anjou also belongs to the main French animal production area, "Grand Ouest".



## The taste of innovation

NOR-FEED SUD puts to good use its knowledge of natural active principles (polyphenols, saponins, ...) in animal feed to develop new product and to create innovation. We are fully committed in different collaborative projects at regional and european scale.

NOR-FEED SUD is member of Vegépolys and Valorial business and research clusters and works with the Interprofessional Technical Institute for Perfume, Medicinal and Aromatic Plants (ITEIPMAI) and the pharmacognosy laboratory of Angers (SONAS).

These skills and our network enable us to propose innovating solutions which are adapted to your needs.

## Innovation at the heart of our projects



## Our key ranges

NOR-FEED SUD proposes additives, functional ingredients and personalized specialities.



Nor-Spice®



Citrus extract  
Prebiotic effect



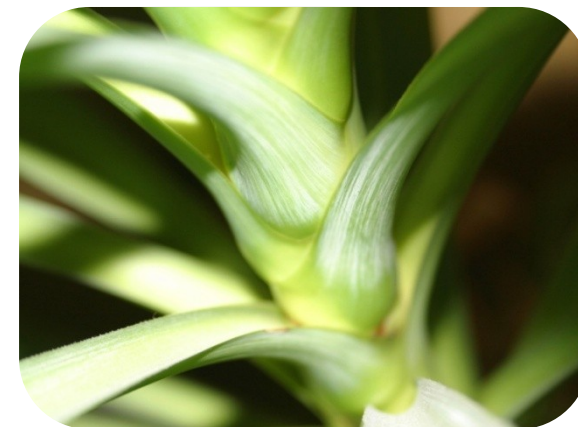
Nor-Grape®



Natural antioxidants  
Grape extract



Yuquina®



Saponins

WORKSHOP 21<sup>st</sup> and 22<sup>nd</sup> of September 2011  
BIRMINGHAM

## Our products

### Nor-Spice®

#### NOR-SPICE AB

Citrus extract with prebiotic like effect

#### CABANIN

Premix of additives for the stabilisation of the gut flora

#### NOR SPICE IL

Premix of additives for young animals

### Nor-Grape®

#### NOR-GRAPE

Grape extracts with strong antioxidant power

#### EFFER-GRAPE

Natural antioxidants for drinking water in an effervescent presentation

#### NOR-GUARD T011 & ROV

Natural antioxidants for the protection of oils and feeds sensitive to oxidation

#### NOR-GUARD OV11

Olive tree and grape extracts rich in natural antioxidants

#### TOCO-GRAPE

Combination of grape extracts and natural vitamin E

### Yuquina®

#### NORPONIN

Powder and liquid Yucca extracts

#### QUIPONIN

Powder and liquid Quillaja extracts

#### YUQUINA FYQ

Blend of different saponin sources for beef cattle

#### YUQUINA XO

Saponins to optimise the control of coccidial risk

### Specialities

#### DU-RELAX

Nutritional supplement for the stress prevention

#### BOTASE

Raw material with a specific enzymatic activity

#### NOR-SWEET

Natural sweetener

We can also create your product. Do not hesitate to contact our R&D team.



WORKSHOP 21<sup>st</sup> and 22<sup>nd</sup> of September 2011  
BIRMINGHAM

## Our quality system

Registration number: 449 090 919 00027

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FAMIqs certification

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Quality management system organized through 7 processus

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HACCP, internal control, certificates of analyses

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More than 75 % of our products usable in Organic Farming

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Provider referencing and follow up

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Acting as a responsible  
business of  
food safety



Organisme Certificateur





WORKSHOP 21<sup>st</sup> and 22<sup>nd</sup> of September 2011  
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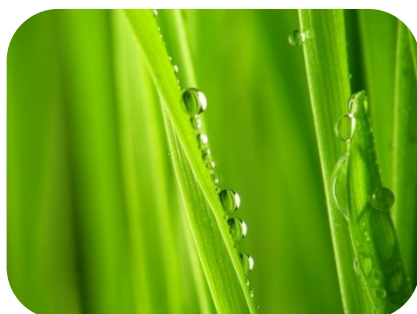
## A dynamic and specialized team



Alexandre, Alexia, Jean-Pierre, Pierre, Sylvain, Charlotte, Nicolas, Cécile, Laetitia, Mickael

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## Attentive to the market



Original and natural  
products



Innovation as  
driving force



Personalized  
formulations



A dynamic and  
specialized team



Quality  
culture



## Our saponins project

### AREA PROJECT « SAPONINS vs GES »

**First step** : evaluate the possibility to grow saponin plant in Pays de La Loire Area

**Second step** : develop new application in feed (main target is greenhouse gases)  
or in other domain like food or cosmetic

**Partner** : ITEIPMAI, Veg'Extra, Eco-Carbone



« Develop secondary  
metabolites from botanicals  
extracts with phytochemical  
and biological analysis »



THESIS of Alexandre  
BUDAN on saponins used  
in feed



### EUROPEAN PROJECT : SMETHANE



Evaluate botanical extracts effects on methane ruminal emission

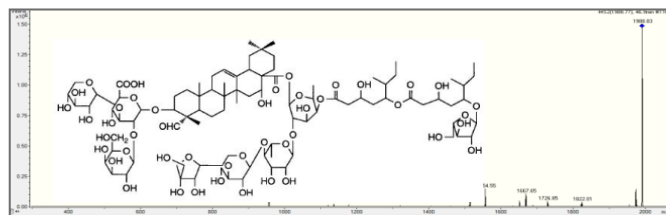
RTD Partners : INRA, University of GENT, ILVO, CSIC

# WORKSHOP 21<sup>st</sup> and 22<sup>nd</sup> of September 2011

## BIRMINGHAM

# Project Steps and Partners

**Step 1:** Selection of 14 plants rich in saponins after bibliography analysis (**AREA PROJECT**)



**Step 2:** Identification of saponins in the botanical extract with HPLC-MS and quantifying (**THESIS and INRA from SMETHANE**)



**Step 3:** Study biological and physical chemistry activities of the extracts with several test (hemolysis activity, antiprotozoal activity, methane emission with in vitro test) (**AREA project and Thesis**)

**Step 4:** Selection of 6 extracts for an evaluation *in vitro* and *in vivo* (**GENT / CSIC**)

**Step 5:** Selection of 3 extracts for *in vivo* long term trials in dairy cow (INRA / ILVO from SMETHANE)

**Step 6:** Others trials to complete our register file **(NOR-FEED SUD)**



# Thank you for your attention

