



## Stimulates the growth of lactic acid bacteria

**Nor-Spice AB** is a feed additive developed from natural citrus extracts which contains a blend of complementary active compounds. It helps to balance the microbiota and to contain the pathogenic bacteria.

### Product Highlights

- ▶ Natural & standardized product
- ▶ A well described and demonstrated mechanism of action
- ▶ A formulation tool to secure the feed formulation
- ▶ Can be incorporated in antibiotic-free programs
- ▶ Can be used in organic farming

### Mode of action

#### Control

↓ pathogenic bacteria  
(Bei et al. 2015)

↑ beneficial bacteria/  
↓ pathogenic bacteria  
(Unno et al. 2015)

Limonene

Citroflavonoids

POS  
Pectic-oligosaccharids

Citrus essential oil

Organic acids

↑ beneficial bacteria  
(Agnan Marie Combo et al., 2011)

#### Prebiotic effect

↓ pathogenic bacteria  
reviewed by Cirmi et al. 2016

↑ beneficial bacteria  
↓ pathogenic bacteria  
(Thomson et al. 1981)



**Nor-Spice AB:**  
a source of active molecules

### Instruction for use

2 500 ppm, 10 days before farrowing and 5 days after



farrowing

## Material & Methods

Trial conducted in a commercial farm | France, 2016.

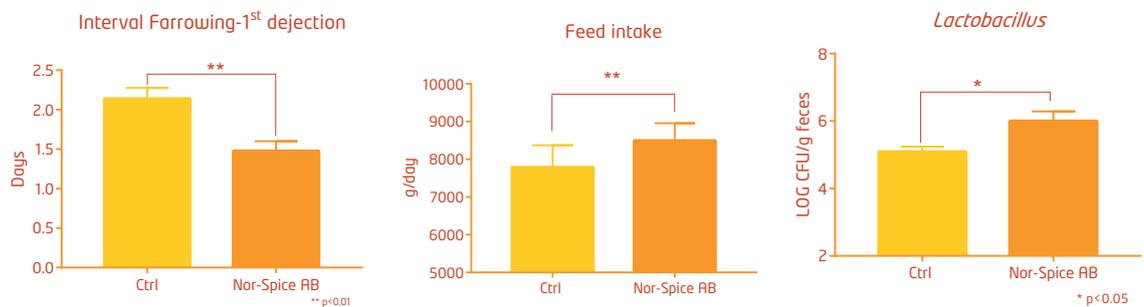
50 sows were divided into 2 groups:



- ▶ **Control group (Ctrl):** standard diet
- ▶ **Nor-Spice AB group:** sows fed standard diet supplemented with 2500 ppm of Nor-Spice AB  
The supplementation occurred only 15 days before and 5 days after farrowing
- ▶ Feed intake, microflora and first dejection after farrowing were all monitored
- ▶ Piglet growth at 7 and 21 days was also recorded

## Results

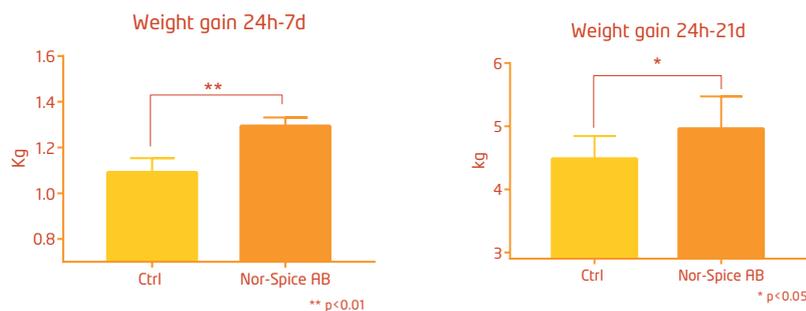
### Sows



Significant reduction of the interval between farrowing and the 1<sup>st</sup> dejection (indicates a faster transit after farrowing)...

...correlated with an increase of *Lactobacillus acidophilus* in feces and an increase of feed intake.

### Piglets



**With Nor-Spice AB supplementation** > a higher weight gain during the first week compared to the standard diet (this good start was confirmed until weaning)

## Conclusion



This trial shows that feed supplemented with **Nor-Spice AB** during the sows' peripartum:

- Stimulates the feed intake
- Stimulates the sow intestinal transit
- Increases the piglets weight gain before weaning (increase in milk production)

Others trials available upon request