

# YOU + BOARBETTER®: REDUCE THE RISKS. MAXIMISE HEAT DETECTION



# HEAT DETECTION

Heat (oestrus) detection is one of the most important tasks in any swine breeding system.

Failure to detect heat, or errors in detection, are two major causes of poor reproductive performance.



## The role of the boar in good reproductive performance



Oestrus detection requires the presence of a boar that provides sexual stimuli to the female.

### Key success factors:

- Mature boar
- Abundant salivation with high pheromone level – for olfactory stimulation
- Appropriate management allowing long nose-to-mouth contact
- Trained and skilled staff for behaviour observation.

## The sow's response

The routine procedure for detecting oestrus involves the back-pressure or riding test in the presence of a boar.

Females reacting to pressure on their back by displaying the 'standing' or lordosis response for at least 10 seconds are generally classified as being sexually receptive.<sup>1</sup>

# RISK FACTORS IN HEAT DETECTION

## Certain factors can lead to failure to detect oestrus:

- Reduced pheromone levels from the boar through sexual immaturity or individual variations
- Reduced libido levels, tiredness or feed attraction.

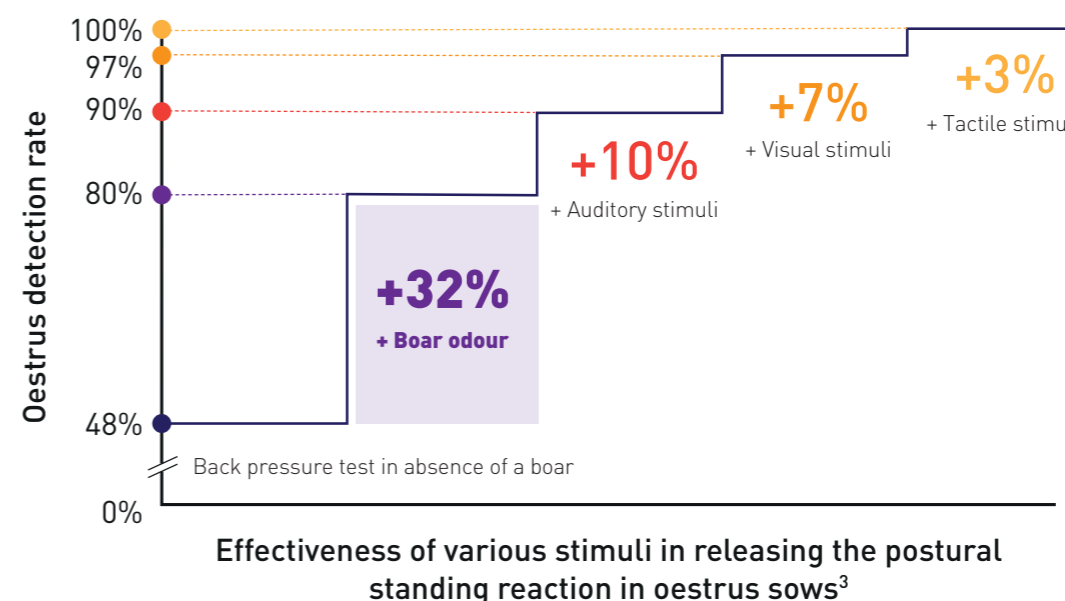
## Why improving your heat detection performance is a must

Cost of a non-productive day:	€3.4*
Cost of one regular return to heat <sup>2</sup> :	€71
Cost of a not-in-pig sow detected at farrowing <sup>2</sup> :	€467

\* Cost of one regular heat divided by 21

# NOT ALL STIMULI ARE THE SAME

## The boar odour is strong enough to trigger a standing reaction in oestrus sows



# THE IMPORTANCE OF ODOUR

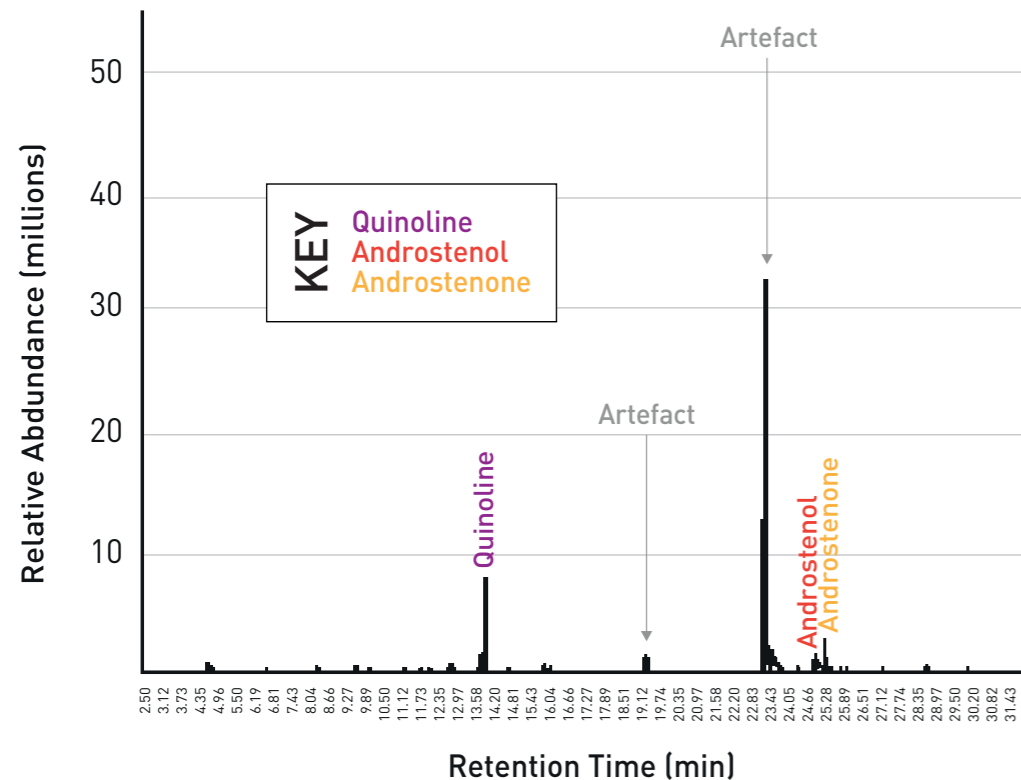


## Maintaining maximal stimulation

A live mature boar provides a large array of stimuli, among which the olfactory stimuli play a major role in oestrus behaviour<sup>3</sup>.

In situations where there is a risk of the olfactory stimuli being hindered, a synthetic analogue of **boar saliva pheromones** can help ensure the maximal level of stimulation.

## Boar saliva contains three pheromones



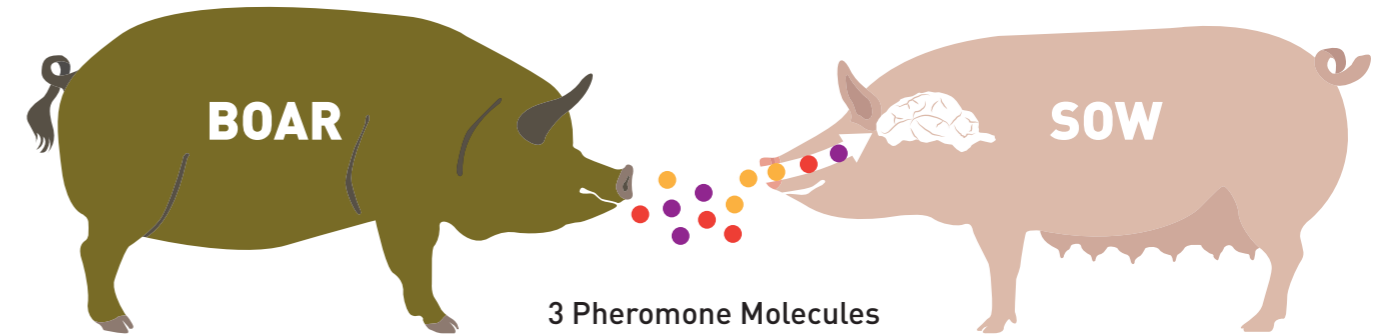
Gas-chromatograph traces of solid-phase microextraction analysis for the immediate air surrounding of boar oral fluid samples.<sup>4</sup>

For many decades, the signal from the boar's olfactory molecules that elicits behavioural signs of oestrus in sows was thought to be only provided by two salivary pheromones: Androstenol and Androstenone.

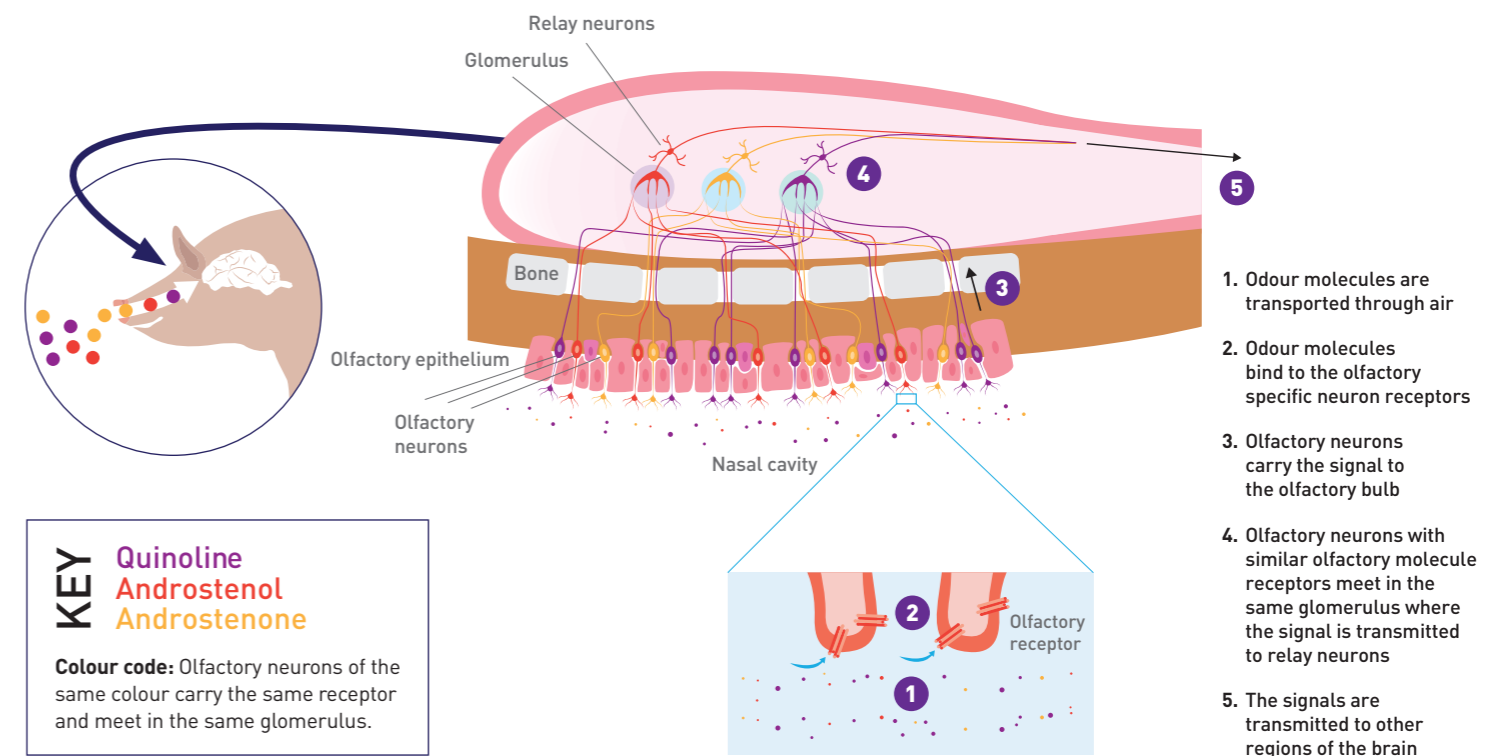
Recent work has shown that a third volatile molecule named Quinoline is also present in boar saliva and shows a pheromonal effect that acts synergistically with Androstenol and Androstenone to achieve the maximal sexual behaviour in oestrus sows.<sup>5</sup>

# THE OLFACTORY TRIGGER

The sexually mature boar emits three pheromone molecules in his saliva. These are transferred to the sow through close contact.



The pheromones are transported to the main epithelial organ, a patch of sensory cells within the main nasal chamber, where they are recognized by specific receptors.



The olfactory sensory neurons transform chemical signals into an electrical signal which is rapidly conveyed to the central nervous system.

One given receptor specifically recognizes one given chemical structure. The maximal sexual message is conveyed to the brain if all three types of receptor is stimulated.

# REDUCE RISK – ADD BOARBETTER®

**BOARBETTER** contains a triple boar saliva pheromone that is a combination of synthetic analogues of three boar pheromone molecules (Androstenone, Androstenol and Quinoline). These act synergistically to trigger the maximal sexual behaviour in oestrus sows.

**BOARBETTER** incorporates a blue dye for easy application and is ready to use in single dosage.



# BOARBETTER RELEASES THE MAXIMAL SEXUAL RESPONSE

## How BOARBETTER exposure affects sow behaviour\*

### Standing reflex

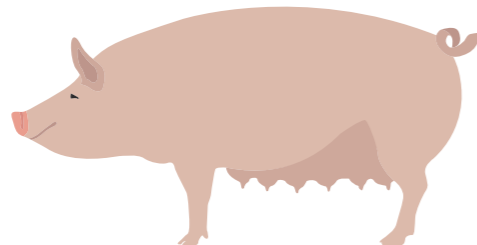
Motionless, with contracting rigid limbs, during or after BPT was applied.

**From 73.3% to 86.4%**

### Vocalisation

The sow vocalises (grunting or squealing) during the BPT.

**From 41.4% to 76.1%**



### Pricked ears

The sow has ears that are erect during or after application of the BPT.

**From 36.2% to 52.3%**

### Lordosis

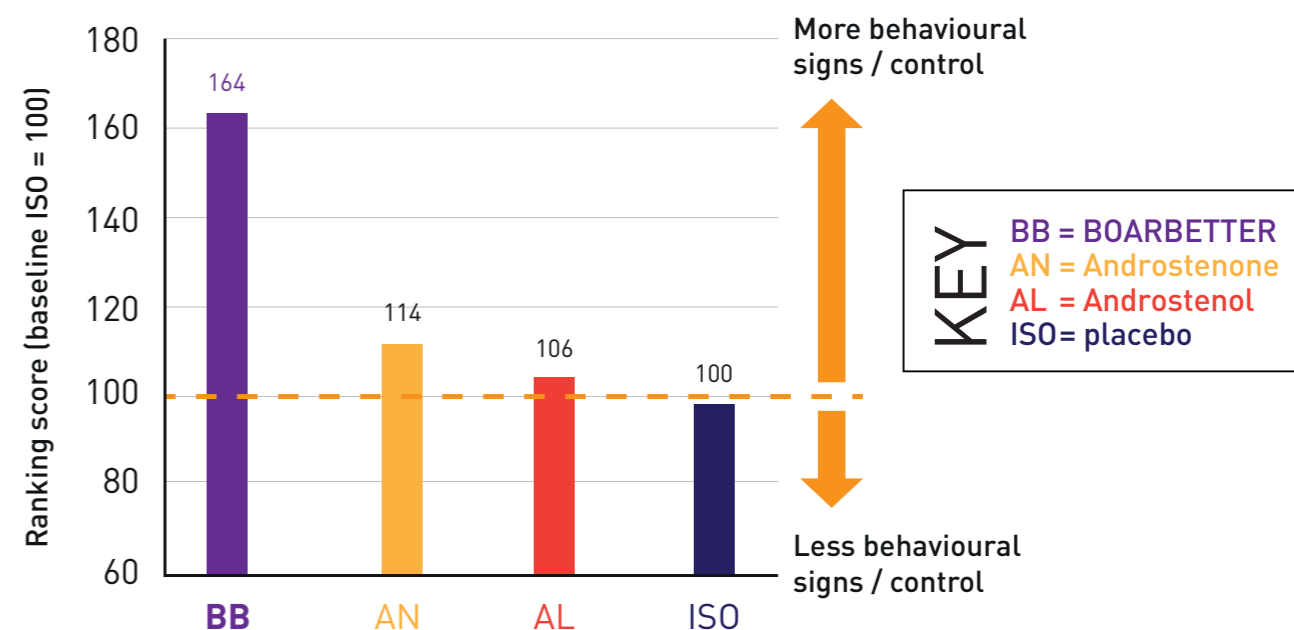
The sow arches her back upwards, tenses her shoulders, puts her legs apart and tenses during or after the BPT.

Other indicators that can demonstrate oestrus: 1. Red, swollen, hot vulva (mostly in gilts – less in sows). 2. Loss of appetite – sows eat less when in heat.

\*Increase in sexual behaviour in oestrus sow treated with BOARBETTER as compared to Back Pressure Test (BPT) alone.

# BOARBETTER® IS 64% MORE EFFECTIVE

The three pheromone combination of **BOARBETTER** has been shown trigger the maximal sexual behavioural response in oestrus sows as compared to individual pheromones.

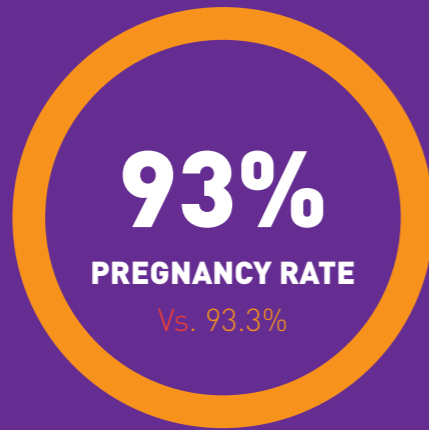
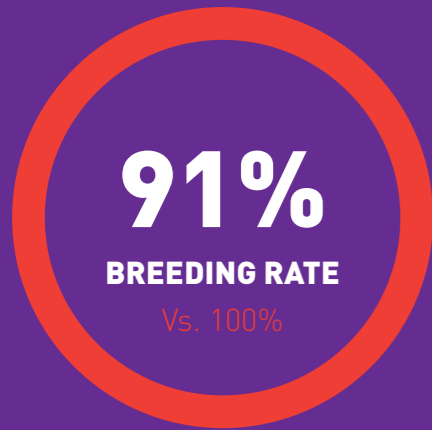


Behavioral response to back pressure test in oestrus sows exposed to different boar sexual pheromones.<sup>5</sup>

Sexual Behaviour Score is calculated based on sows exhibiting pricked ears, standing still and vocalisation behaviours



# HOW BOARBETTER® CAN BENEFIT YOUR HERD



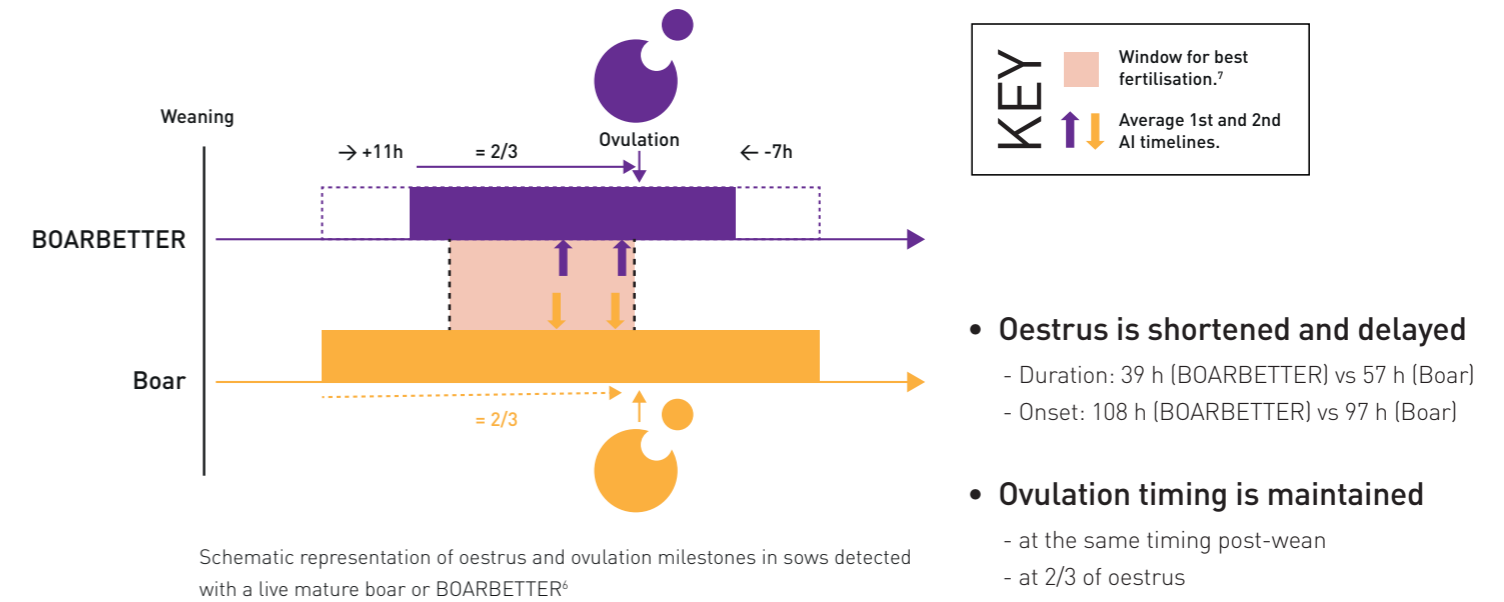
Results of a field study on a commercial farm comparing the performance of BOARBETTER plus auditory grunt and a live mature boar for heat detection.<sup>6</sup>

47 Oestrus sows exposed to BOARBETTER and audio grunts and 45 oestrus sows exposed to a live mature boar.

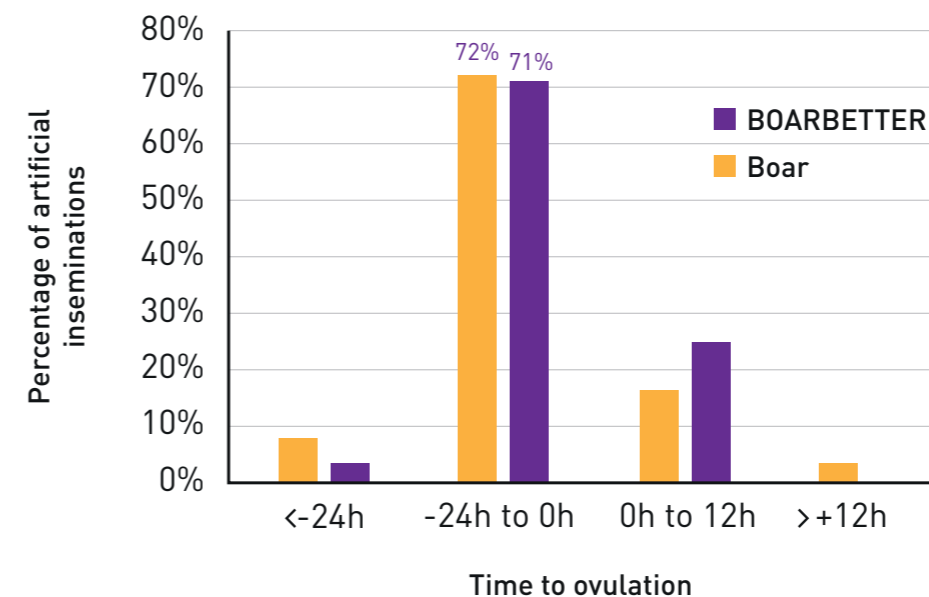


**Using BOARBETTER detects 9 out of 10 sows in heat without the help of a live mature boar.<sup>6</sup>**

# BOARBETTER® IS AN EFFICIENT TOOL FOR HEAT DETECTION



# PHEROMONES CAN HELP SUPPORT AI\*



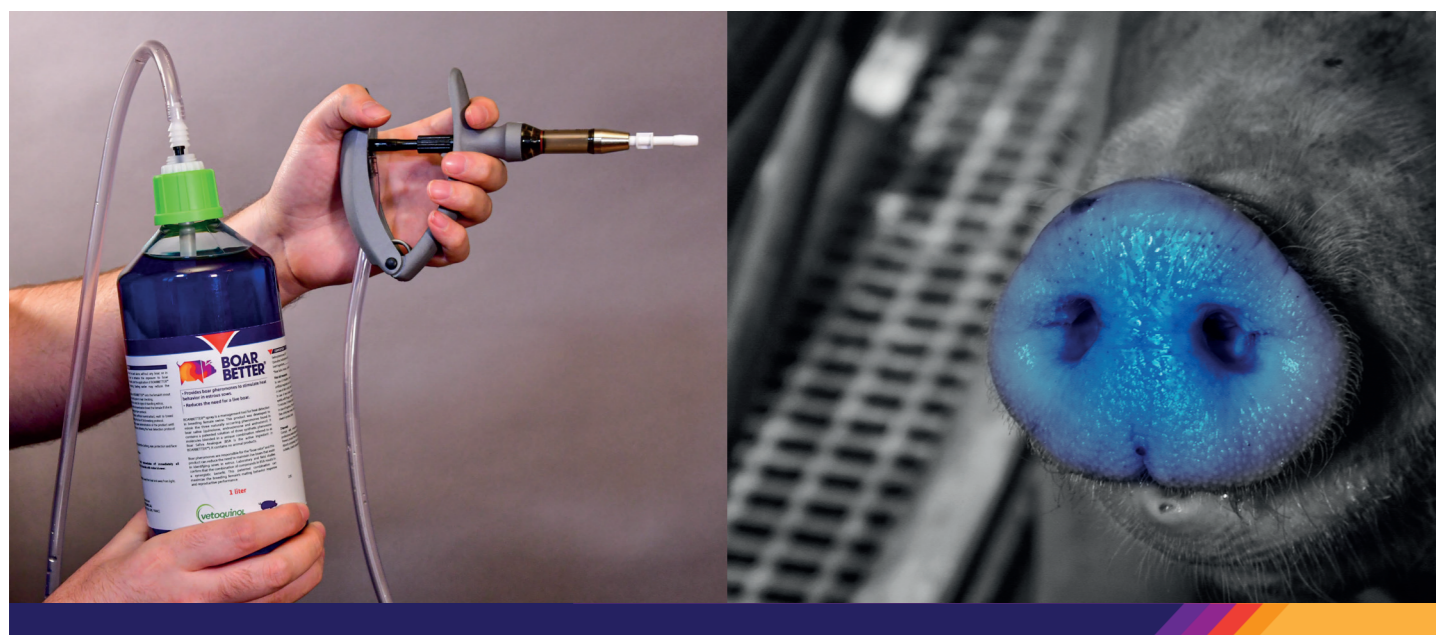
AI distribution relating to ovulation time

**BOARBETTER** helps target the best fertilization window (> 90% fertilization); i.e. during a 24 hour period before ovulation.

\*Artificial insemination

# HOW TO ADMINISTER BOARBETTER®

4ml of **BOARBETTER** is sprayed directly onto the female's snout. Using a suitable applicator spray, spray at 20-30 cm from the snout. **BOARBETTER** contains a blue dye for easy application and visual confirmation.



## Detecting an oestrus sow / sow in heat with BOARBETTER

01

### Bring the boar

Exposure of few sows at the same time is recommended to limit stimulation to as many sows you can process (including breeding in case of conventional AI technique).

02

### Spray BOARBETTER®

Spray onto the snout of the sows. **BOARBETTER** incorporates a blue dye to help you spray **BOARBETTER** correctly.

03

### Apply Back Pressure Test

Mimicking the full boar courtship behaviour is important: Before applying back pressure, make sure you have stimulated the flanks, the groins, the hips and under the genital area.

04

### Sow behavioural response

Sow behaviours:

- Standing still
- Pricked ears
- Sexual vocalisations
- Lordosis.

# BEST-IN-CLASS STIMULATION TO REDUCE RISK IN HEAT DETECTION

**BOARBETTER**® can ensure consistent and reliable exposure to sexual pheromones in your heat detection routine.

## 1 Reduce the risk of low olfactory stimulation – use the boar + BOARBETTER



**BOARBETTER** can help you reduce the risk and maximise heat detection

- Sexual immaturity and individual variations – can heavily affect the pheromone levels in a boar
- Lack of interest – low libido level, tiredness and/or feed attraction can affect the quantity of the boar's pheromones that stimulate the sow.

## 2 Help detect oestrus where the boar will not go

**BOARBETTER** can go everywhere on the farm and work beyond any biosecurity barrier.



PLEASE NOTE: The presence of a boar is recommended wherever possible

Farm design, labour efficiency or biosecurity rules may prevent bringing boars to females – whereas farm productivity would benefit from oestrus check. Examples include:

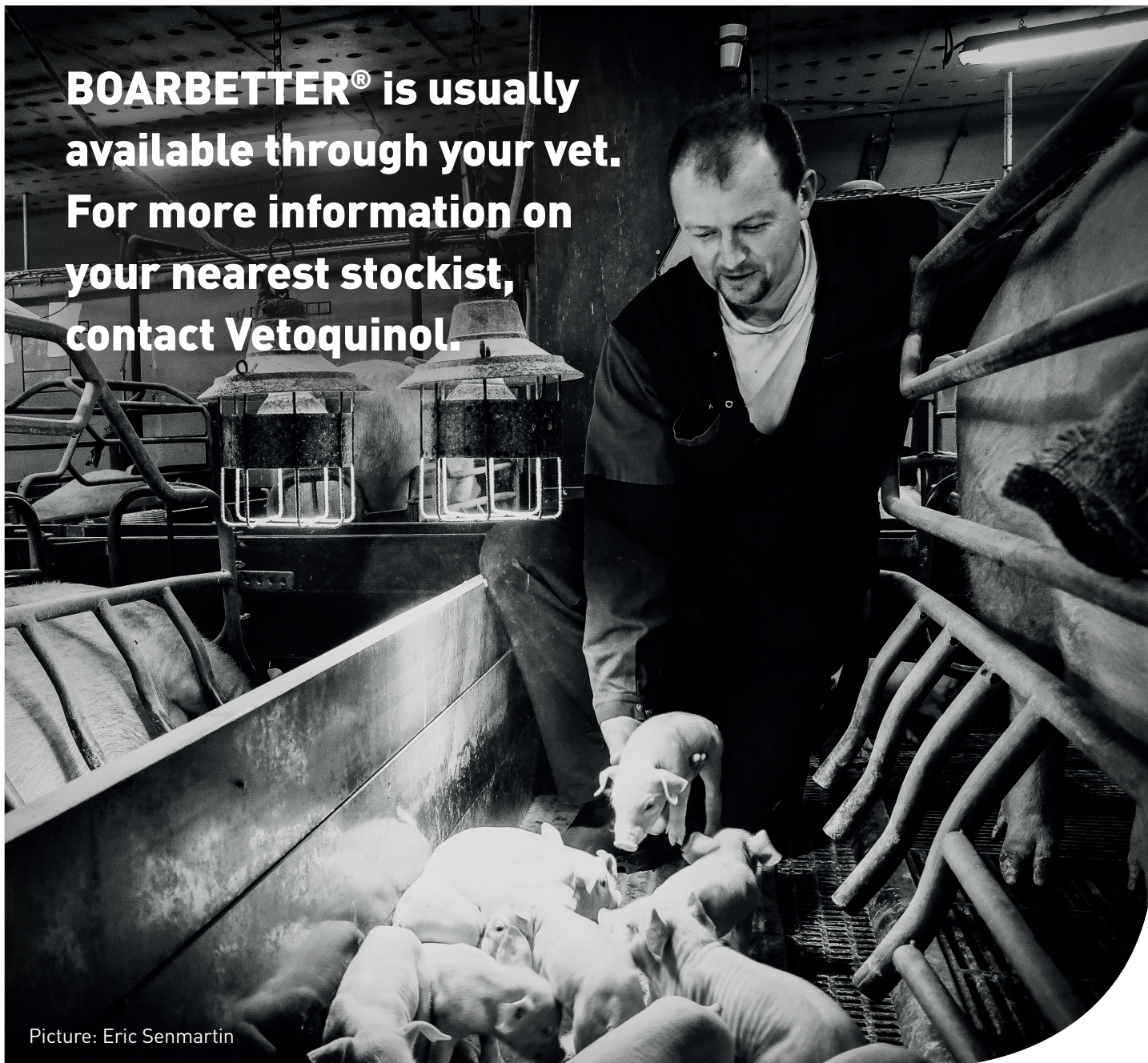
- Post-breeding heat check
- Oestrus check in quarantine
- A quick heat check where time is short.

## Not sure if a sow is in heat?

Spraying **BOARBETTER** on doubtful sows can help guide you to a better decision for breeding.



**BOARBETTER® is usually  
available through your vet.  
For more information on  
your nearest stockist,  
contact Vetoquinol.**



Picture: Eric Senmartin



**BOAR  
BETTER®**

**MAXIMAL HEAT DETECTION**

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**References:** **1.** Hemsworth *et al.* 1988. Habituation to boar stimuli: possible mechanism responsible for the reduced detection rate of estrus gilts housed adjacent to boars. *Appl. Anim. Behav. Sci.* 19:255-64. **2.** Base des références GTTT / GTE Bretagne. IFIP, 2010. **3.** Signoret & du Mesnil du Buisson. 1961. Etude du comportement de la truie en oestrus. *IVth Congr. int. Reprod. Anim.*, La Haye, 171-5. **4.** May Matthieu. 2016. Use of solid-phase microextraction to detect semiochemicals in synthetic and biological systems. Master dissertation, Texas Tech University, 78p. **5.** McGlone *et al.* 2019. A novel boar pheromone mixture induces sow estrus behaviors and reproductive success. *Appl. Anim. Behav. Sci.*;219:104832. **6.** Vela Bello *et al.* in prep. **7.** Soede *et al.* 1995. Effects of time of insemination relative to ovulation, as determined by ultrasonography, on fertilization rate and accessory sperm count in sows. *J. Reprod. Fertil.* 104:99-106.

