

# Minimizing the risk of contamination during artificial insemination improves reproductive results in sows

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## INTRODUCTION

The number of piglets per sow/year is the measure of the productivity of a sow farm. Good hygiene during semen application is one of the keys for a successful AI program.

In this study the effect of a single wrapped and sterilized catheter for artificial insemination of sows was compared with a standard catheter.

## MATERIAL and METHODS

### Germany, 2003

2520 sows from 2 commercial farms:

- farm A: 887 sows
- farm B: 1633 sows



SafeBlue® catheter

### Animals

- Crossbred sows
- 2-4 parities

### 2 groups

- Control: traditional catheter
- Test: single wrapped catheter (SWC)

### AI techniques

- Double AI (8 to 16 hours interval)
- Traditional catheter (not single wrapped, not sterilized)
- Single wrapped sterilized catheter (SafeBlue®, MINITÜB, Germany), the protection bag is used as hygienic sheath:



1. Clean the vulva and introduce the SafeBlue® catheter with the protection bag through the vulva until reaching 5 to 10 cm inside the vagina



2. Perforate the bag with the tip of the SafeBlue® catheter and bring back the bag outside

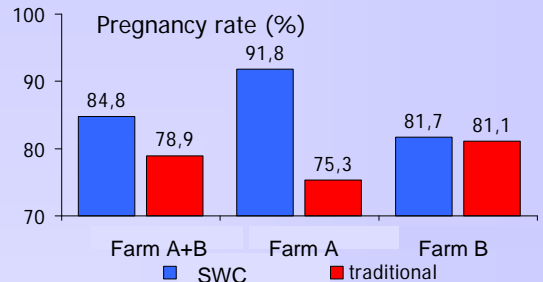


3. Connect the semen tube

## RESULTS

### Pregnancy Rate:

Figure 1: Pregnancy rate using a single wrapped (SWC) or traditional catheter



Summarizing both farms, the pregnancy rate for sows inseminated with single wrapped catheter was significantly higher by 5.9 % ( $p < 0.05$ ) compared to the control sows inseminated with the traditional catheter. In farm A, the pregnancy rate was greater ( $p < 0.05$ ) for sows inseminated with the SWC catheter (91.8%) than for those inseminated with the traditional catheter (75.3%). In farm B, pregnancy rate was not statistically different ( $p = 0.78$ ) [Figure 1].

### Litter Size:

Table 1: Litter size of live born piglets in farms A+B using a single wrapped (SWC) or traditional catheter

group	n	average live born piglets
SWC	998	11.48
traditional	1059	11.16
	2057	+ 0.32; $p < 0.05$

Summarizing both farms, the number of live born piglets for sows inseminated with SWC was significantly higher by 0.32 piglets ( $p < 0.05$ ) [Table 1].

### Productivity:

When calculating the number of piglets per 100 inseminated sows (piglet index), the difference between SWC and the traditional catheter was 93 more piglets per 100 inseminated sows in farms A + B. In farm A, the result was +106, and in farm B the result was +32 piglets per 100 inseminated sows with the single wrapped catheter.

## DISCUSSION and CONCLUSIONS

Excellent hygienic conditions during insemination have a positive effect on the parameters of fertility.

The single wrapped catheter SafeBlue® can lead to an improvement of the pregnancy rate and the litter size of live born piglets in comparison with the traditional catheter.

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