

TRACING PIGS BY USING CONVENTIONAL AND ELECTRONIC IDENTIFICATION DEVICES

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INTRODUCTION

Different devices of individual identification in pig production have been employed: tattoos, marks, ear tags... but none of them has achieved the necessary requirements for an efficient system of identification (unique, permanent, tamperproof, easy to apply and economic). The use of electronic identification could contribute to reach some of these requirements.

The aim of these experiment is to compare the traceability obtained with different devices of identification in pigs.

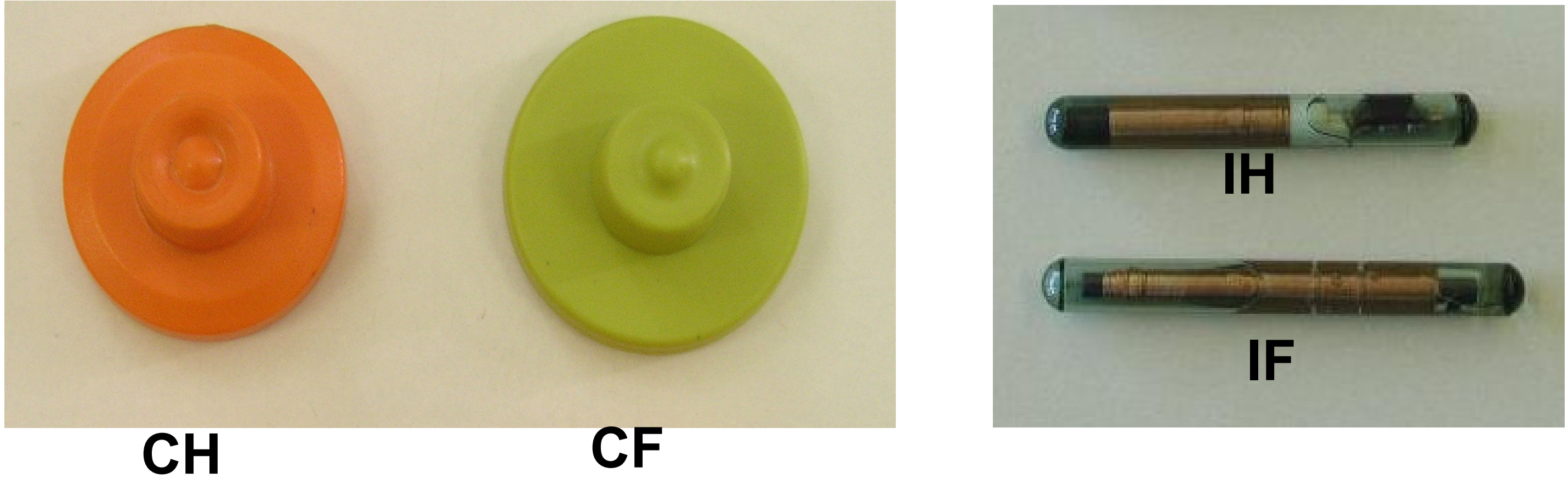
MATERIAL AND METHODS

Animals: 1032 piglets (522 ♂ y 510 ♀) from two lines: ♀ LD x LW crossed by ♂ Du or crossed by ♂ LW x Pi.

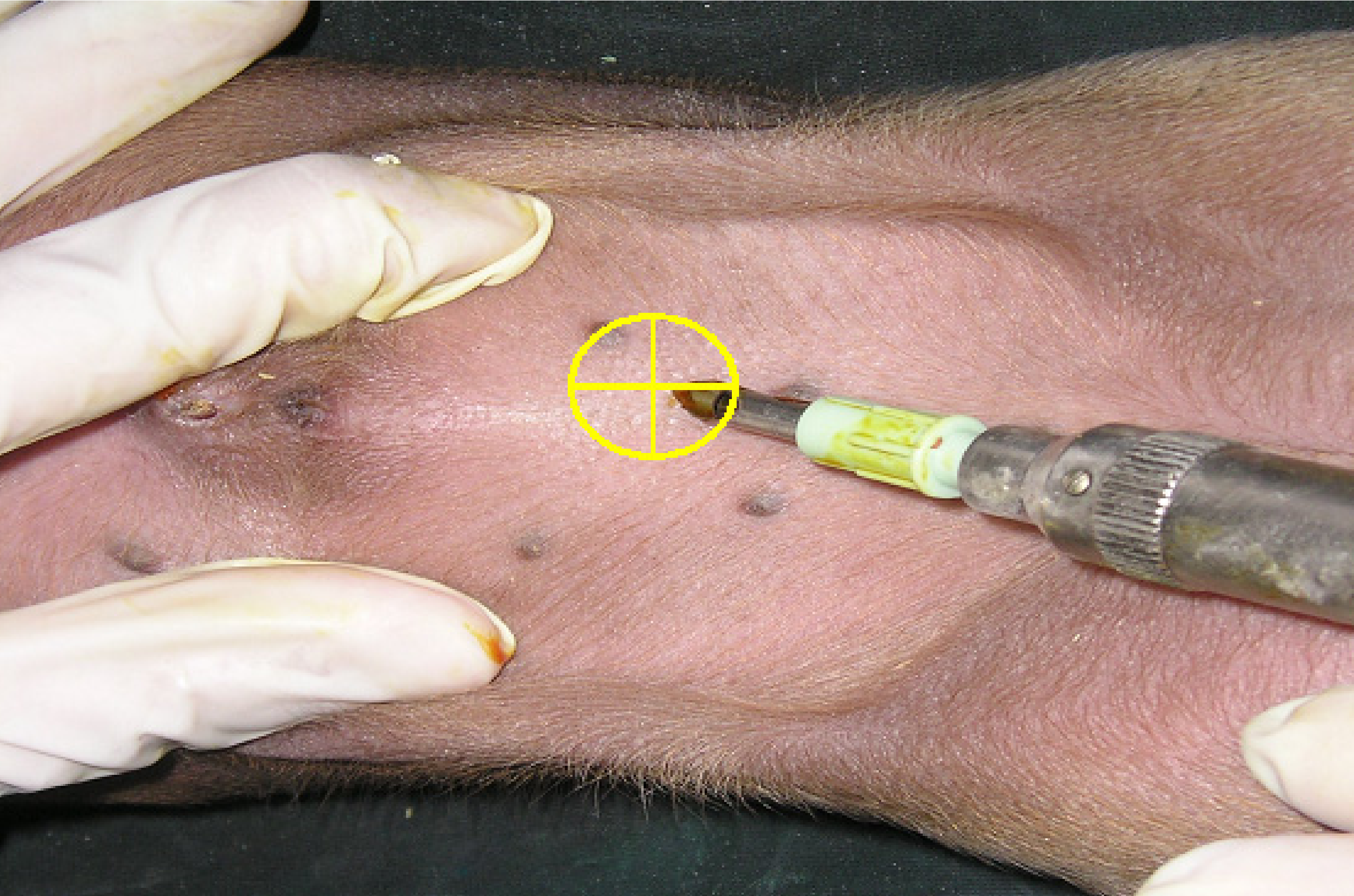
Piglets were reared in intensive conditions and were slaughtered in a commercial slaughterhouse (100 kg).

Identification: employed devices were:

- Plastic ear tags:
 - Conventional ear tags (**PET**; n = 352)
 - Electronic ear tags Half- Duplex (**EEH**; n = 333)
 - Electronic ear tags Full-Duplex B (**EEF**; n = 347)
- Injectable transponders (**IP**):
 - Half-Duplex (**IPH**; n = 340; 32 x 3.8 mm)
 - Full-Duplex (**IPF**; n = 335; 34 x 3.8 mm)



The injectable transponders were applied in intraperitoneal position (**IP**; Caja *et al.* 2002; *J. Anim. Sci.* 80:180).



Controls of readability:

- Farm period (20, 56 and 161 days of age) and slaughter
- Portable readers ISO:
 - Ges2S, Gesimpex Com., Barcelona, España
 - SLX15, Cromasa, Navarra, España
 - Agrident, Barsinghausen, Alemania

Statistical analysis: The readability of the devices was analysed with Logit model and CATMOD procedure of the SAS program v 8.2.

RESULTS AND DISCUSSION

Productive performances: After the application of the devices, no negative alteration in the animals' health or welfare was detected.

Farm and transport (Table 1): The readability of the devices obtained after the farm and transport periods was not different between the different devices.

Slaughterhouse (Table 1): The IP transponders were not affected by slaughterhouse line. The ear tags losses were different ($P < 0.05$) between PET (1.7%) and EEH (5.5%). EEH (4.1%) was not different from the rest. EEH and EEF showed on average a 1.4% of electronic failures.

Recovery of IP transponders in slaughterhouse: A 97.1% of IP transponders was recovered on slaughter line in two positions:

- Stuck on the omentus, between the stomach and the spleen (88.2%).
- Free between the guts (11.8%).

No injectable transponders were found in the carcasses.

Table 1. Traceability of the different identification devices.

	PET	EEH	EEF	IPH	IPF
Farm + Transport	97.3	96.2	95.5	98.7	97.9
Slaughterhouse	98.3 ^a	94.5 ^{ab}	93.1 ^b	100	100
Total Traceability*	95.7 ^b	90.6 ^c	88.6 ^c	98.7 ^a	97.9 ^{ab}

*Farm + Transport + Slaughterhouse

Traceability (Table 1): The best result of traceability was obtained with injectable transponders (IPH and IPF). PET showed a high result not differing from IPF. The worst result

CONCLUSIONS

Pig's identification with IP transponders seems to be a reliable system to improve the traceability in current conditions.