

## ProSchwein: alternative methods to the surgical castration of piglets without pain relief

S. Ampuero<sup>1</sup>, G. Bee<sup>1</sup>, A. Hofer<sup>2</sup>, B. Huber-Eicher<sup>3</sup>, N. Jäggin<sup>4</sup>, T. Kupper<sup>3</sup>, H. Luther<sup>2</sup>, C. Pauly<sup>3</sup>, M. Raaflaub<sup>3</sup>, U. Schatzmann<sup>4</sup>, X. Sidler<sup>5</sup>, P. Spring<sup>3,\*</sup>

<sup>1</sup> Forschungsanstalt Agroscope Liebefeld-Posieux ALP, CH-1725 Posieux, <sup>2</sup> Suisag, CH-6204 Sempach,

<sup>3</sup> Schweizerische Hochschule für Landwirtschaft SHL, CH-3052 Zollikofen, <sup>4</sup> Vetsuisse-Fakultät, Universität Bern, CH-3001 Bern, <sup>5</sup> Vetsuisse-Fakultät, Universität Zürich, CH-8057 Zürich (\* project leader)

### Schlüsselwörter

Boar taint, animal welfare, vaccination against boar taint, inhalation anaesthesia, rearing entire male pigs, consumer attitudes, economical impacts

### Problemstellung und Zielsetzung

To prevent the occurrence of meat with boar taint, which is not accepted by the consumer, male piglets are surgically castrated without anaesthesia. As this method of castration will be banned in Switzerland by 1st January 2010, the project ProSchwein investigated different alternative methods with respect to animal welfare and implementation.

### Material und Methoden

Methods without surgical castration (vaccination against boar taint, rearing entire male pigs), methods with surgical castration (inhalation anaesthesia -anaesthetic gas: isoflurane- combined with an analgesic against postoperative pain, local anaesthesia, nose spray and anaesthesia by injection of ketamine and a benzodiazepine) were tested in field studies or under controlled conditions with respect to animal welfare, meat quality and feasibility for the entire production chain. An electronic nose was developed for detection of boar tainted meat and genetic selection to counter boar taint was studied. Economical impacts and the consumer attitudes towards the alternative methods were investigated. The implementation of the alternative methods in Switzerland was followed and supported.

### Ergebnisse und Bedeutung

Three methods were considered to be feasible for implementation in Switzerland: vaccination against boar taint, methods with surgical castration, inhalation anaesthesia combined with an analgesic against postoperative pain, and rearing entire male pigs for the niche production. A device for inhalation anaesthesia (anaesthetic gas: isoflurane) showed a good anaesthesia for more than 90 % of the castrated animals under field conditions. The studies on rearing entire male pigs revealed a good feed conversion ratio and a high lean meat percentage. The portion of carcasses with boar taint was 5.5 % or higher. Through dietary addition of raw potato starch it was possible to reduce the content of skatole but not the concentration of androstene. The electronic nose developed by ALP Posieux is capable to detect between 95 and 100 % of the samples exhibiting boar taint according to the classical HPLC method at a laboratory scale. The application of the electronic nose in practice requires for technical adaptations which allows for operation under conditions of a slaughter house. The vaccination against boar taint prevented boar taint efficiently. The vaccine has been registered in Switzerland. Vaccinated animals exhibited similar growth performance and a better feed conversion ratio and a higher carcass quality compared to castrates. Acceptance for the vaccination among consumers is achievable but requires a considerable effort in communication. From an economic point of view anesthesia and the vaccination against boar taint can be recommended for larger farms. For smaller farms the investment for the device for inhalation anesthesia is high.

### Publikationen, Poster und Präsentationen

A list of peer reviewed papers, general publications and posters can be obtained from the project leader.

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