



**HAL**  
open science

## Sows fear of human is transmitted to their weaned piglets and impacts piglets behaviour in a spatial memory test

Céline Tallet, Mathilde Lanthony, Emmanuelle Briard, Marek Špinka

### ► To cite this version:

Céline Tallet, Mathilde Lanthony, Emmanuelle Briard, Marek Špinka. Sows fear of human is transmitted to their weaned piglets and impacts piglets behaviour in a spatial memory test. 56. Congress of the international society for applied ethology (ISAE), Aug 2023, Tallinn, Estonia. pp.40. hal-04190182

**HAL Id: hal-04190182**

**<https://hal.inrae.fr/hal-04190182>**

Submitted on 29 Aug 2023

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# 56<sup>th</sup> Congress of the International Society for Applied Ethology ISAE 2023

1st – 5th August, 2023  
Tallinn, Estonia

## BOOK OF ABSTRACTS



---

## Sows fear of human is transmitted to their weaned piglets and impacts piglets behaviour in a spatial memory test.

---

Tuesday, 1st August - 17:15: Human Animal Interactions (Grande Hall) - Oral

---

***Ms. Celine Tallet*<sup>1</sup>, *Mrs. Mathilde Lanthony*<sup>2</sup>, *Ms. Emmanuelle Briard*<sup>1</sup>, *Dr. Marek Špinko*<sup>3</sup>**

*1. PEGASE, INRAE, Institut Agro, 35590 Saint-Gilles, France, 2. PEGASE, INRAE, Institut Agro, 35590 Saint-Gilles, France, AgroParisTech, 75005 Paris, France, 3. Department of Ethology and Companion Animal Science, Faculty of Agrobiological, Food and Natural Resources, Czech University of Life Sciences, 165 21 Prague, Czechia*

Fear of humans can negatively impact offspring's behaviour and cognition whereas early positive handling has positive impacts. The aim of this study was to evaluate the crossed effects of trans-generational transfer of fear of humans and familiarization with an experimenter on piglets' behaviour. Sows were classified into two categories (Fearful, n=11 and Docile, n=13) based on whether they avoided human contact or not during a human approach test at 71 days of gestation. At 72 days of gestation, saliva collection was done by an operator inserting a salivette in sows' mouth so that they could chew during 10 seconds. Salivary cortisol concentrations were measured by doubled luminescence luminoassay. Fear of humans wasn't related to salivary cortisol levels of the sows ( $F = 2.72$ ,  $P = 0.10$ ), sampled. Fearful sows' piglets stood immobilized for longer than docile sow's piglets ( $\text{Chisq} = 6.24$ ,  $P = 0.01$ ), and females stood immobilized for longer than males ( $8.70$ ,  $P = 0.003$ ) during a tonic immobility test (TIT) at 7 days but not at 15 days. The behaviour of two male and two female piglets per sow (n=96) was studied after weaning (28 days). We found no effect of sow's reaction to the experimenter on piglets' emotionality expressed during an open-field test (OFT) at 32-33 days. However, during a Human voluntary approach test (HVAT) piglets born from fearful sows were more fearful than piglets born from docile sows ( $\text{Chisq} = 8.23$ ,  $P = 0.004$ ). Half of the piglets (n=48, 1 male and 1 female per sow) were then familiarized with an experimenter while the others received minimum contact. We found no main or crossed effect of sow's reaction to the experimenter and piglet's treatment on piglets' emotionality during an OFT, nor on their exploratory behaviour during HVAT at 46-47 days. Piglets' born from fearful sows were less attracted to the experimenter during HVAT2 ( $\text{Chisq} = 8.33$ ,  $P = 0.004$ ) and familiarized piglets were more attracted ( $\text{Chisq} = 15.05$ ,  $P < 0.001$ ). Piglets born from docile sows found the reward faster in a spatial maze test than those born from fearful sows. Both sows perception of humans (fearful or docile) and piglet familiarization with an experimenter seemed to specifically affect humans related behaviours without affecting their general emotionality, except in the spatial maze test.