



# Innovative evaluation method of behavioral reactivity for ducks during the 'foie gras' production stage and its link to the 'one welfare' approach

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## Introduction

The substantive improvement of the welfare of farm animals must necessarily be based on scientifically validated assessments. To date, the scientific literature still lacks a behavioural assessment methodology covering all animals at all rearing stages, especially to monitor critical handling phases, such as the overfeeding stage in 'foie gras' farms.

## Objectives

Implement an objective measurement of behavioral responses in ducks during overfeeding.

## Hypotheses

Higher stress levels before and during overfeeding in ducks reared in collective cages than in pens.

## Material and methods

When? 2021

Where? 2 different experimental sites

How many ducks? 1206 male mule ducks

How many times? 3 times/trial, 4 trials

Data? Behaviors and health

Rearing conditions? Collective cages vs pens



### 1. Behaviors & health

#### 1.1. Video recordings

2h before overfeeding

Good housing

- Scratching
- Panting
- Resting

Good feeding

- Drinking

Appropriate behaviors

- Preening
- Interacting with a conspecific
- Stretching
- Head/body/tail shaking
- Ruffled, etc.

→ 192 ducks (30 min video/ind)

### Data collection

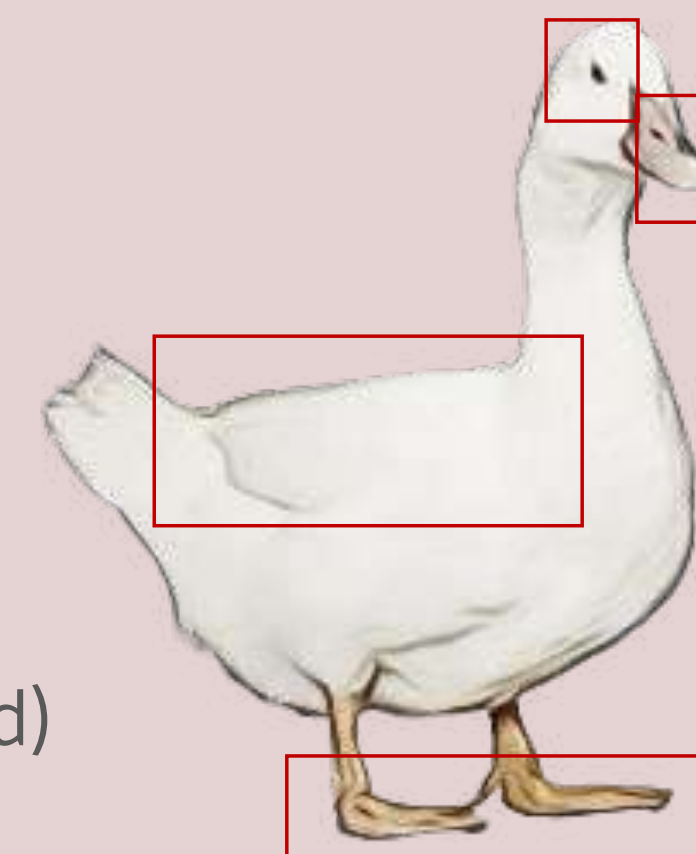
#### 1.2. Direct observations

≈1h before overfeeding

Good feeding and health

- Feed stains on beak
- Dirty eyes
- Feather loss
- Dermatitis

→ 1206 ducks



### 2. Stress reaction to the farmer

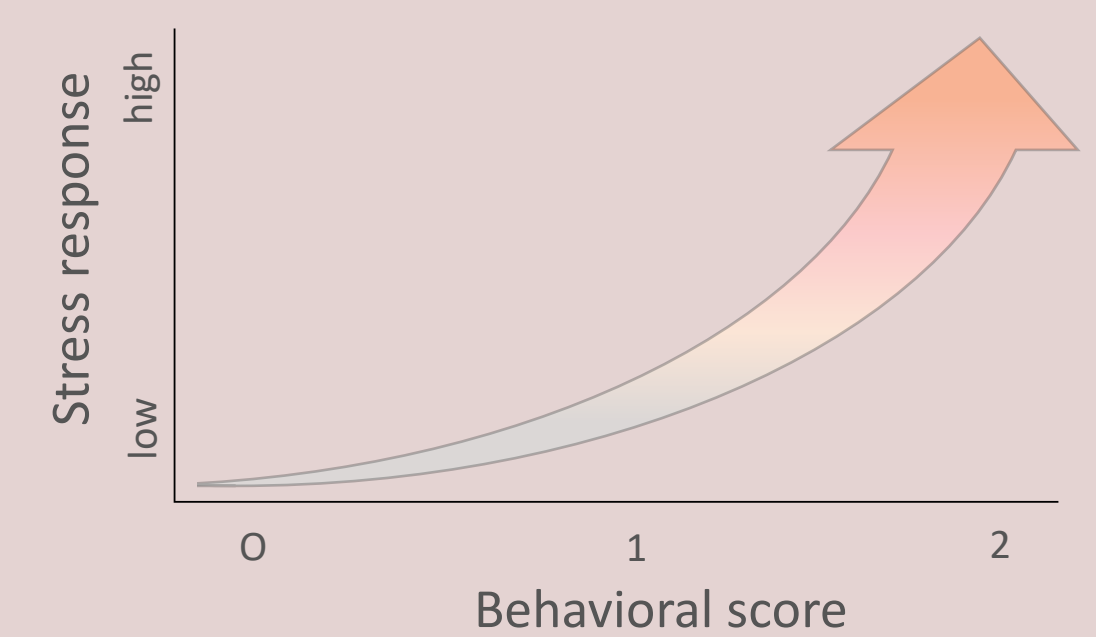
Direct observations during overfeeding

Stress behaviors

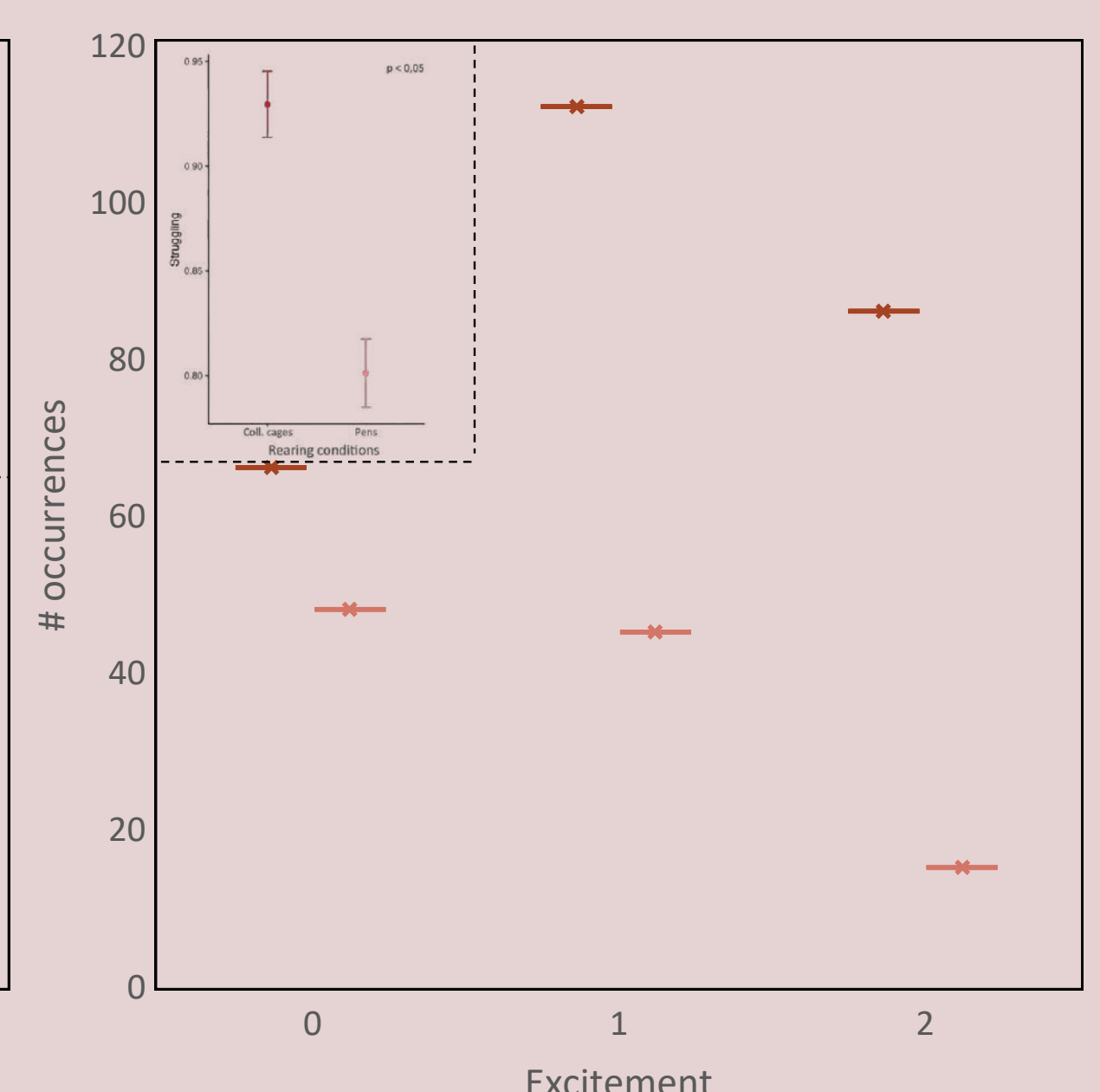
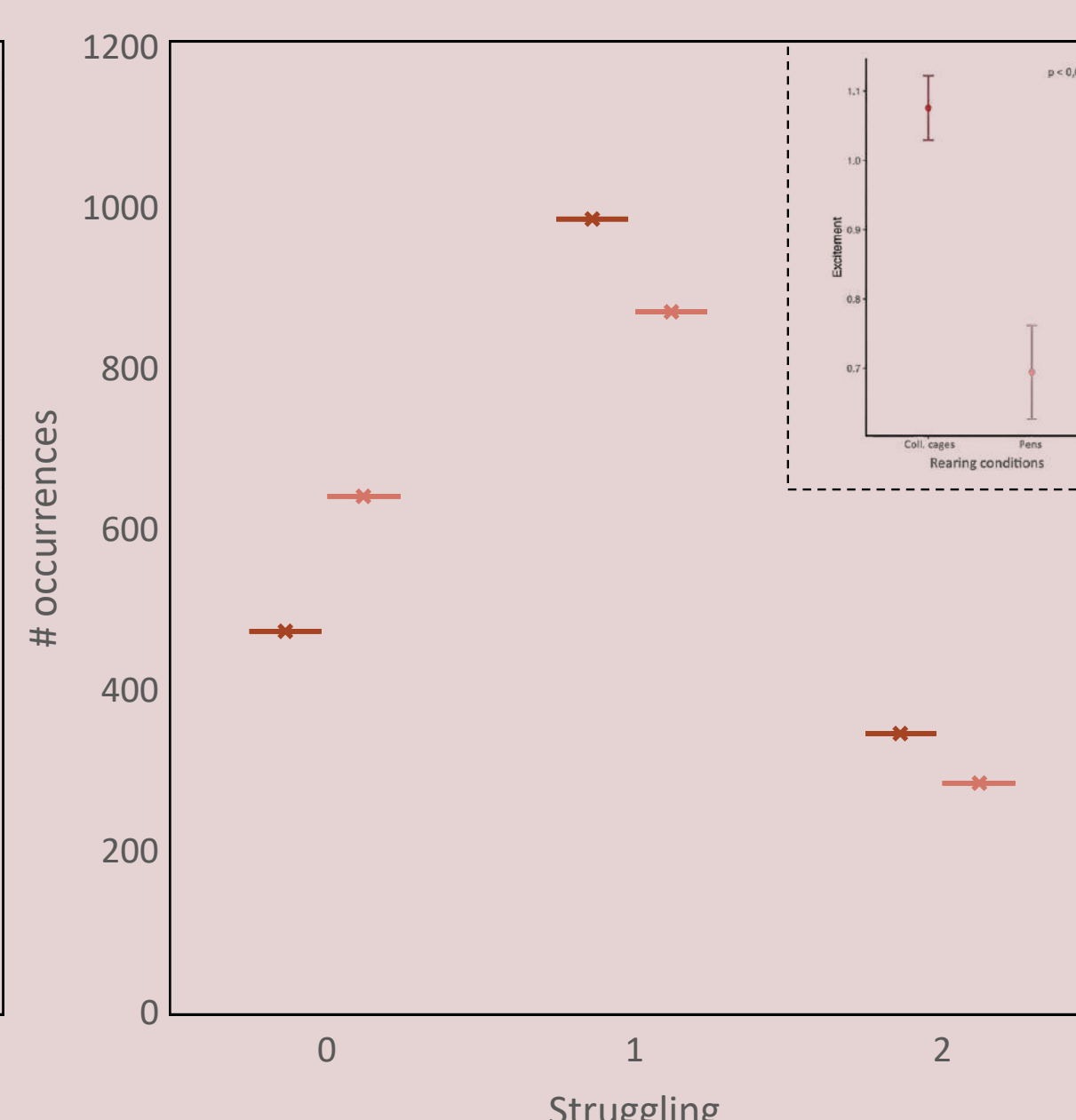
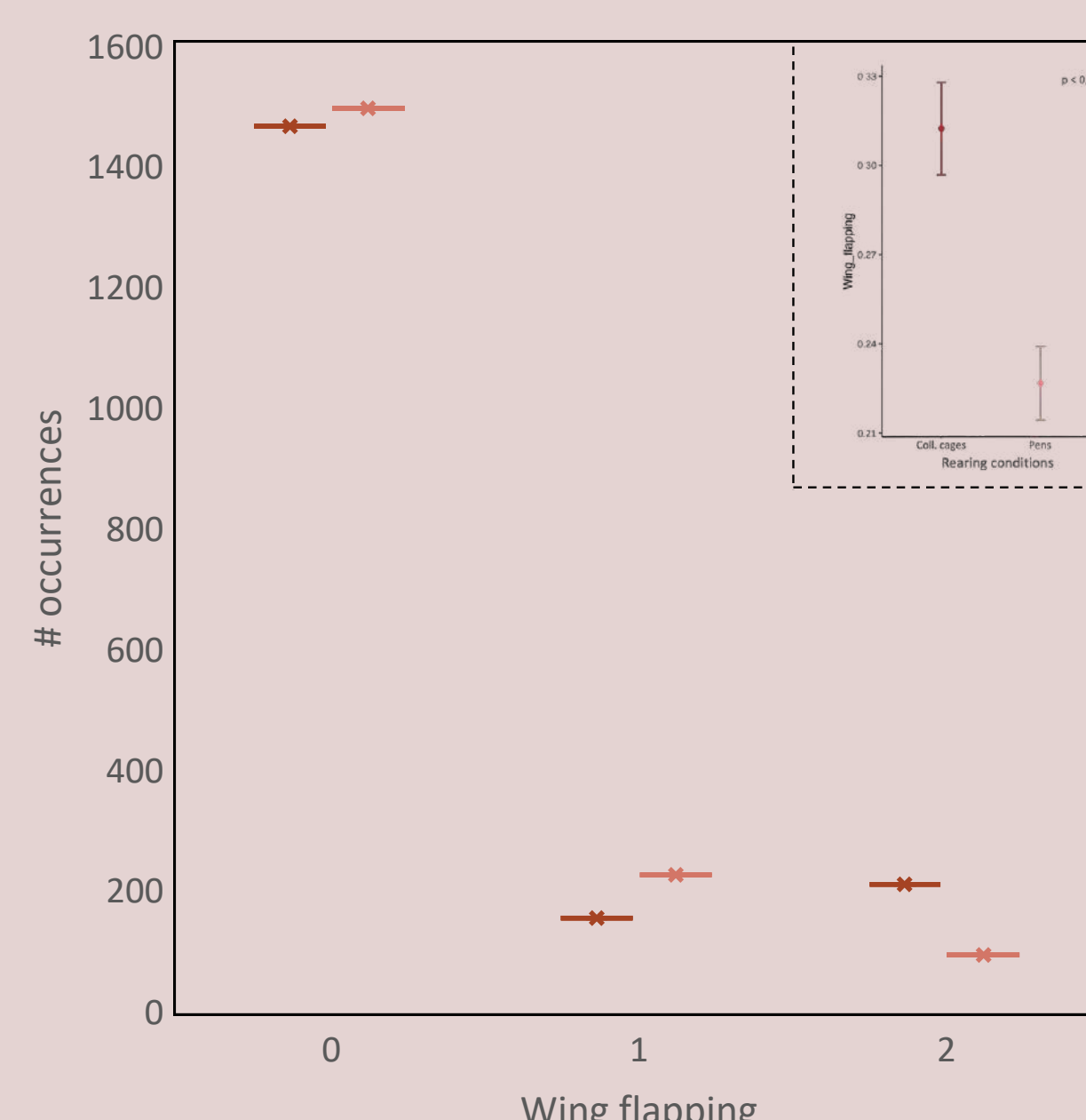
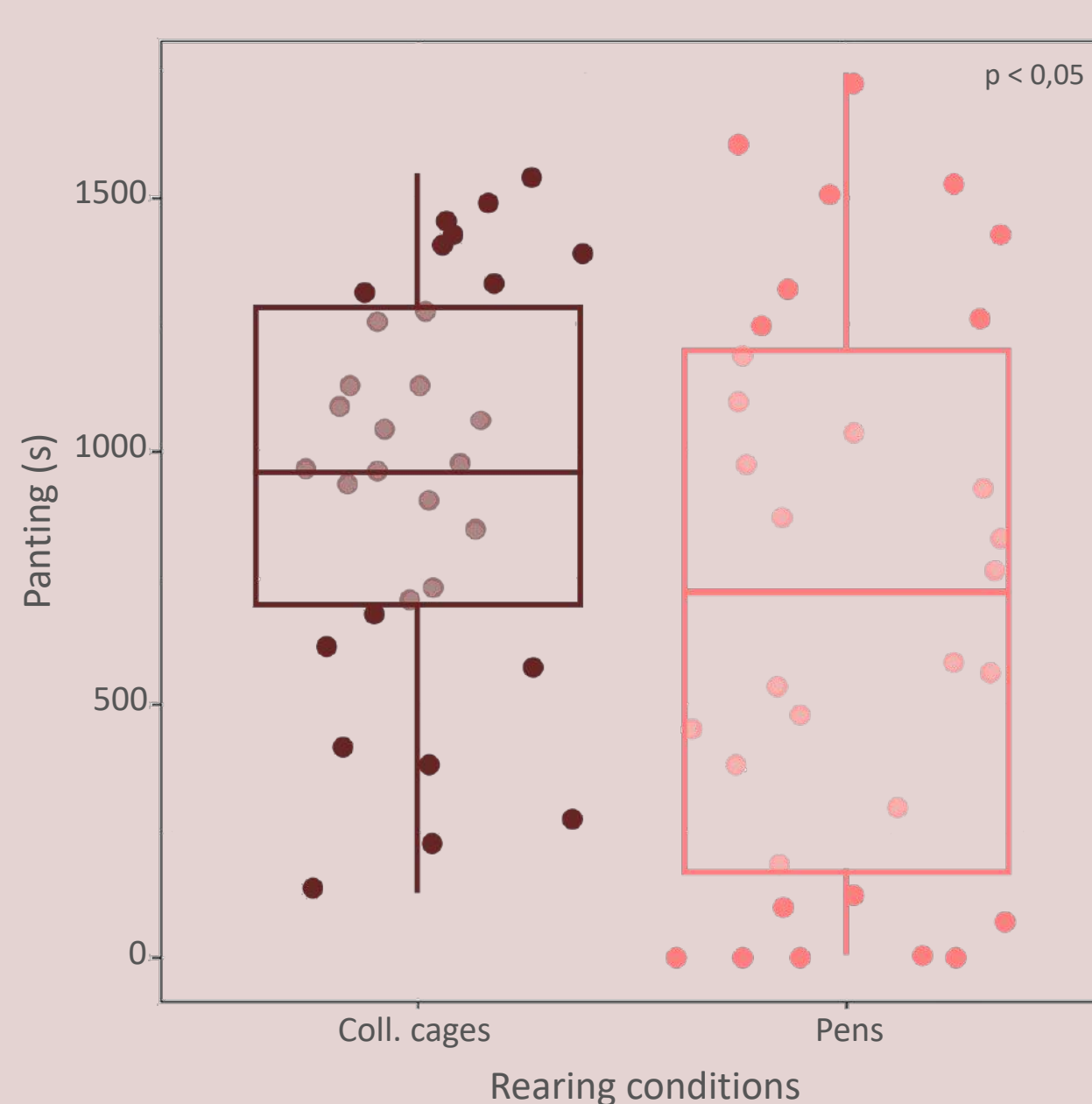
- Wing flapping
- Struggling
- Overall excitement

→ Behavioral score

→ 1206 ducks



## Results



→ Ducks housed in collective cages showed more discomfort behaviours while ducks housed in pens expressed more natural behaviors ( $p < 0.05$ ).

→ Ducks housed in collective cages struggled more and were more excited than ducks housed in pens ( $p < 0.05$ ).

→ Higher reaction to a stressful situation for ducks in collective cages than for ducks housed in pens.

## Discussion & Conclusion

The results obtained before and during overfeeding are complementary and consistent. In addition, the before overfeeding results reinforce even more those obtained with the creation of the new behavioral metric. Therefore, this innovative evaluation method conducted during overfeeding allows us to discriminate animal reactivity.

Moreover, as ducks express these behaviors while being handled, it is relevant to also take them into account when considering the day-to-day work conditions of farmers.

## Key message

The measured reactivity tackles the welfare of both the animals and farmers.

→ Consistent with the 'one welfare' approach.

