

Sectoral strategies for the prevention of caudophagy and to avoid routine tail docking in pigs

Summary

The implementation of the specific requirements of Directive 2008/120/EC for the protection of pigs has been the subject of various meetings since 2013 organised by the EU with Member States, organisations involved in pig production, scientists and experts in the field. Following those meetings, the Commission adopted a Recommendation (2016) for the implementation of Directive 2008/120/EC, laying down minimum standards for the protection of pigs as regards measures to reduce the need for tail docking. The EU's interest in the effective implementation of the regulations has increased since the publication of the 2016 Recommendation, and audits have been carried out in several EU countries, including Spain.

As a result, finding strategies to avoid caudophagy that are effective in the productive and climatic conditions in Catalonia is essential if the sector is to be able to provide a response to the EU as to whether it is possible to avoid routine tail docking in pigs.

Objectives

The main objective of this project was to study the effectiveness of different strategies to prevent caudophagy in intensive productive conditions in Catalonia, and to assess different risk factors involved in triggering possible outbreaks of caudophagy. With these objectives in mind, the project provided pig farmers in Catalonia with tools to meet a legal requirement, which is a challenge for the sector, but also provided information on whether it is possible to avoid routine docking, which would achieve another important long-term strategic goal: increasing animal welfare.

Description of the actions carried out in the project

ACTIVITY 1. Establish and agree on appropriate caudophagy prevention strategies for each participating company.

ACTIVITY 2. Evaluation of the effectiveness of the caudophagy prevention strategies.

ACTIVITY 3. Assessment of the various risk factors associated with caudophagy.

ACTIVITY 4. Assessment of the incidence of tail injuries at the slaughterhouse.

Final results and practical recommendations

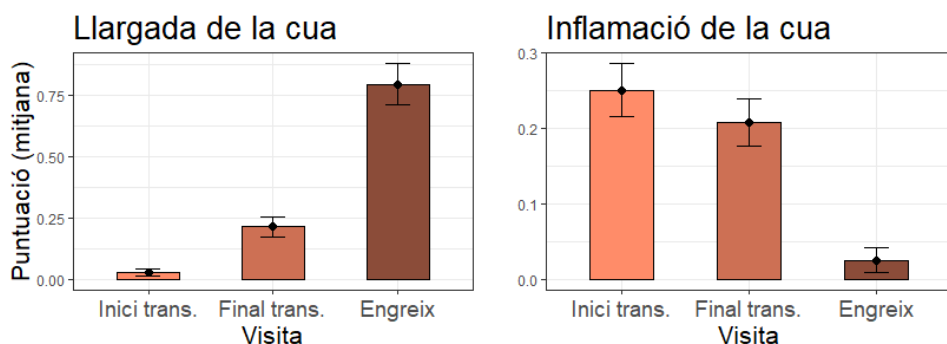
Although the objective of the study was not to compare the strategies with each other because there are too many random factors preventing this, the proven strategies for the prevention of caudophagy include:

- *Reducing density*: this had a positive effect on longer tail length both on the farm and in the slaughterhouse, but the severity of injuries during transition did not improve due to low density.
- *Improving environmental enrichment*: improving the environmental enrichment of "chains" used in isolation to more manipulable and fibrous materials had beneficial effects on tail injuries. The comparison between "rope" and hanging "straw" on a farm in the study showed that the results for rope were better in terms of the length and severity of injuries in the slaughterhouse.
- *Diet with tranquilisers and pheromones*: these two strategies presented no decisive effects on the condition of the tails.

- 1) One of the **most critical points in time** in terms of the percentage of animals with injuries, and the severity and freshness of those injuries, **is at the end of the transition (Figure 1)**. As detailed

in the next section, the fewest animals with no tail injuries were observed during this visit, and this percentage increased during fattening.

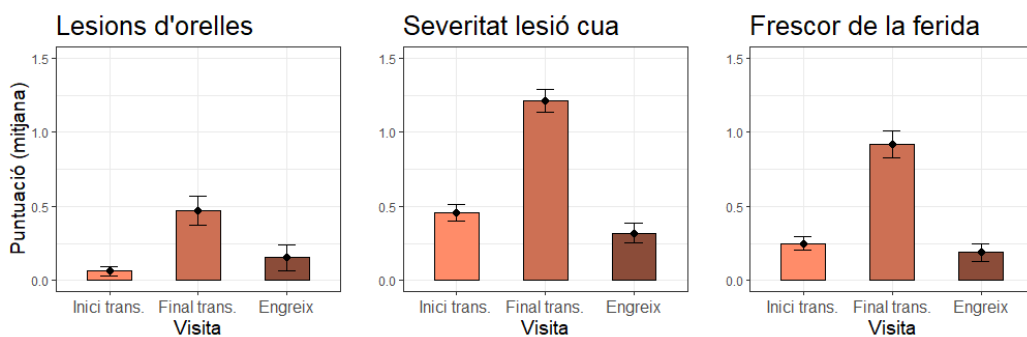
However, it should be noted that an overall assessment index was used for docked animals, while four attributes were assessed for animals with intact tails. An overall analysis of all the indicators shows us that non-docked pigs receive more bites during the transition, which leads them to eventually lose part of their tail. During fattening, the percentage of non-docked tails in animals assessed as "not injured" recovers, although the length declined over time, indicating that the transition injury and the injury caused by docking healed. This result is consistent with the "inflammation" attribute of the tail also being assessed as more limited in fattening compared to the transition.



Tail length
 Score (average)
 Start trans.
 End trans.
 Fattening
 Visit

Figure 1. Evolution of tail length and inflammation of the injury over time

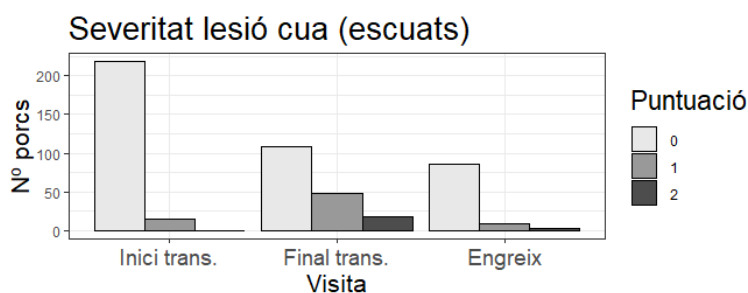
2) **Ear injuries**, which may be another area where exploratory behaviour is redirected, are also worse at the end of the transition (Figure 2). This is discussed in relation to docked and non-docked animals in the next section.



Ear injuries
 Severity of tail injury
 Freshness of wound
 Score (average)
 Start trans.
 End trans.
 Fattening
 Visit

Figure 2. Assessment over time of ear injuries, severity of injuries and freshness of tail injuries

3) The percentage of animals assessed as having "no injury" (docked) or "zero severity" (non-docked) was lower at the end of the transition than at the beginning of the transition or fattening. In specific terms, the percentage of **docked animals assessed as being uninjured was 93.6%, 77.3% and 87.75%**, respectively. In the **NON-docked animals**, these **severity 0 percentages were 65%, 30.6% and 78.24% respectively**. This leads to two conclusions which were also drawn in previous studies: (1) when docking does not take place, more tail bites occur; (2) injuries were also observed in docked animals, although they were less severe and often not visible to the farmers. This aspect should not be underestimated, because the outbreaks of caudophagy that affect the livestock farmer are probably due to these initial bites, which indicate more limited opportunities for engaging in appropriate exploratory behaviour.



Severity of tail injury (docked)

No. of pigs

Score

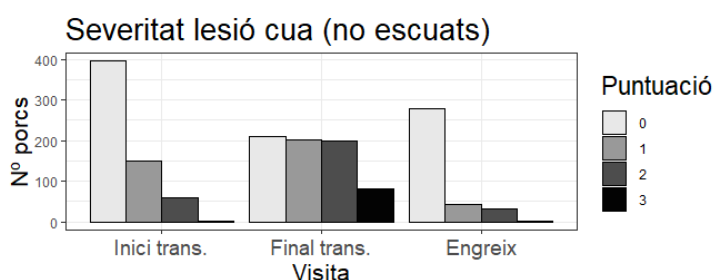
Start trans.

End trans.

Fattening

Visit

Figure 3. Evolution of tail injury over time in DOCKED pigs



Severity of tail injury (non-docked)

No. of pigs

Score

Start trans.

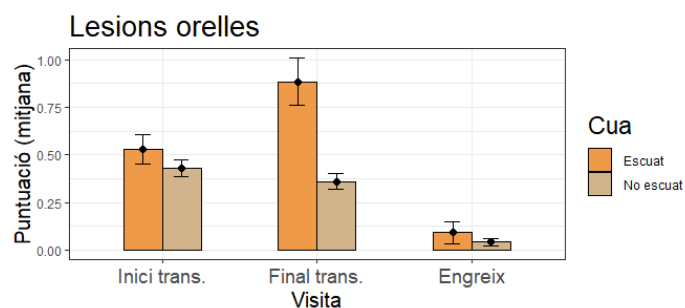
End trans.

Fattening

Visit

Figure 4. Evolution of severity of tail injury over time in NON-DOCKED pigs

- 4) The **percentage of ear and body injuries** was also significantly higher **at the end of the transition, and was significantly higher among docked animals than in non-docked ones**. This is an interesting aspect to consider, because although ear injuries are not generally considered an economic or welfare problem by livestock farmers, the fact that they occur to a significantly greater extent in docked pigs could be an indicator that the lack of a suitable environment for exploratory behaviour experienced by non-docked pigs applies to docked pigs, which redirect this need towards ears, which may be more attractive (especially if the length of the docked tails is very short, as is commonly the case in Catalonia).



Ear injuries

Score (average)

Mouth

Docked

Non-docked

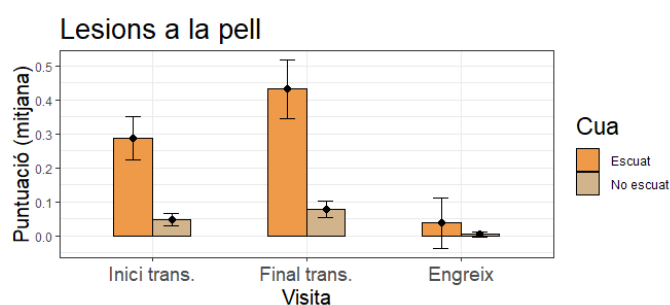
Start trans.

End trans.

Fattening

Visit

Figure 5. Evolution of EAR INJURIES OVER TIME in docked and non-docked pigs



Skin injuries

Score (average)

Mouth

Docked

Non-docked

Start trans.

End trans.

Fattening

Visit

Figure 6. Evolution of SKIN INJURIES OVER TIME in docked and non-docked pigs

- 5) The difficulty with the data collected at the slaughterhouse is having fine traceability, which would have to operate very well if a system for assessing the state of the tails were to be implemented at this level. Nevertheless, it was possible to obtain some interesting data, e.g. the average length of the tail of non-docked animals was 20.5 (\pm 6.33) cm, which is less than the 24-26 cm presented in recent articles in papers published with data from pigs in Finland, where docking has been banned for more than 10 years. Assessment of the length among those that were categorised as "tail intact, no injury" gave a value of 25.5 (\pm 6.13 cm), which is also shorter than the 30.6 cm described in the other article containing data on 15,000 pigs. Caution must be exercised when assessing these results. First, only around 1,000 pigs per slaughterhouse were evaluated in this study, and second, it suffered from the traceability difficulties mentioned above. Nevertheless, this data shows that a great deal of work remains to be done to achieve optimal results in the prevention of caudophagy.

Conclusions

The main conclusion of this study confirms the idea that the prevention of caudophagy is difficult due to its multifactorial nature. It is very important in the future:

-To work on improving the risk assessment systems at farm level, in order to be able to provide data adapted for each farm and production system concerning the measures to be taken on that farm. There are NO universal solutions. Instead, each farm must be evaluated and the risks on that farm identified, and preventive strategies prepared accordingly.

-The slaughterhouse may be a more objective data collection point that is easier to assess than the farm itself, but a very good traceability system needs to be established and the slaughterhouse data must be used by farmers for information and improvement.

Leader of the Operational Group

ORGANISATION: CATALAN ASSOCIATION OF PIG PRODUCERS

CONTACT E-MAIL: porcat@porcat.org

Coordinator of the Operational Group

ORGANISATION: INNOVACC

CONTACT E-MAIL: innovacc@olot.cat

Other members of the Operational Group (grant recipients)

ORGANISATION: GRANGES TERRAGRISA, SL

ORGANISATION: CORPORACIÓN ALIMENTARIA GUISSONA, SA

ORGANISATION: SELECCIÓN BATALLÉ, SA

Other members of the Operational Group (not recipients of the grant)

ORGANISATION: IRTA

CONTACT E-MAIL: emma.fabrega@irta.cat

Subject area(s) of application

- Livestock farming and animal welfare

Geographical area(s) of application

PROVINCE(S): BARCELONA, GIRONA, LLEIDA

REGION(S): EL BARCELONÈS, LA SELVA, LA SEGARRA, OSONA

Dissemination of the project: publications, seminars, multimedia, etc. (State links)

Presentation of the project at PATT seminars

- Biosafety, welfare and animal health on pig farms, in Banyoles, 29 March 2019.

- Biosafety, welfare and animal health on pig farms, in Lleida, 22 May 2019.
- Management of docking in pigs, 18 June 2019, Lleida.
- Management of docking in pigs, 21 June 2019, Monells.

Other presentations

- Congreso Sociedade Cientifica Suinocultura, Portugal, 14 November 2019
- 5th International Workshop on Tail biting on 17 and 18 February 2020.
- Presentation of the project to the Congress on Animal Welfare held in Cork
- 8th International Conference on the Assessment of Animal Welfare at Farm and Group level where IRTA presented the project on 18 August 2021

Interview with Michael Agerley on "How to reduce caudophagy, the Danish experience", published on 10 July 2020. See the report at the following link: https://www.porcat.org/ca/noticies/com-reduir-la-caudofagia-l-experiencia-danesa_2729/

Project website

<https://www.innovacc.cat/2021/08/09/estrategies-sectorials-per-a-la-prevencio-de-la-caudofagia-i-per-evitar-lescuat-rutinari-en-porci-3/>

More information on the project

PROJECT DATES	TOTAL BUDGET
Starting date: July 2019	Total budget: €212,000.00
End date: September 2021	DARP funding: €86,640.00
Current status: Executed	EU funding: €65,360.00
	Own funding: €60,000.00

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Order ARP/133/2017 of 21 June, approving the regulatory bases for grants for cooperation for innovation by promoting the creation of European Association for Innovation operational groups in the areas of agricultural productivity and sustainability and the execution of innovative pilot projects by those groups, and Resolution ARP/1282/2018, of 8 June, announcing the call for the grant.

