

Association between poultry's lesions in the slaughter line and the transect approach on farms*

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This is a preliminary study with the aim of validating the transect approach for the assessment of on farm poultry welfare assessment. The objective of the current study is to develop and validate the method to associate major lesions on poultry carcasses noticed in the slaughter line and the main features that observed during the transect approach on the farm. Finding a method for a practical on-farm poultry welfare evaluation could be helpful for industry to improve their returns, but also will help farmers to better manage the flock by improving their welfare, and would benefit consumers and animals. The transect methodology approach was performed in each farm previously. Independent samples of 30-35 day old birds from three different farms and two rooms within each farm were scored by two persons at the slaughter line after de-feathering. The slaughterhouse provided live and carcass weights, condemnation rate, downgrade, and dead on arrival for each flock. At the slaughter line the evaluation of breast, hock and footpad were performed by two observers. Observer one scored breast blisters and irritations, while the observer two was responsible for hock burns. Both of them graded together foot pad lesions. The first 60 bird samples from the evaluated flock at the line were not considered, due to the possibility of mixes of birds from the different flocks or farm. Breasts were evaluated with regard to absence (0) or presence of blisters and breast irritations on a scale 1 to 2, depending on the severity of the lesions. Hocks were scored from absence (0) to 4 (severe lesions), according to the Welfare Quality, 2009 protocol. Afterwards, the right feet of 500 birds were randomly separated from the totals coming from evaluated flock and were scored according to the Welfare Quality 2009 protocol with regard to the severity of the wounds on the scale from 0 (no lesions observed) to 4 (the most severe lesions). All these data will be analysed and associated with other findings that were observed during the novel approach of transects studies.

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Introduction

This is a preliminary study which aims to validate the transect approach for on farm animal welfare assessment.

The specific aim of this study is to develop and validate the method that could establish the association between major poultry carcasses lesions observed at the slaughter line with main features observed during the transect approach on farm.

Materials and Methods

- Samples of birds from three farms and two independent rooms within each were scored at the slaughter line after de-feathering. Birds were 30 to 35 day old, coming in independent trucks (about 8,000 birds/room). The transect methodology approach was performed in each farm previously.

- The slaughterhouse provided live and carcass weights, condemnation rate, downgrade, and dead on arrival.

- At the slaughter line the evaluation of breast, hock and footpad were performed. Observer 1 was in charge of breast blister and irritation scoring (Figure 1a), while observer 2 scored hock burns (Figure 2a). Footpads were collected in boxes and scored by both observers.

- **Scoring** (based on Welfare Quality 2009®):

Breast scoring (Figure 1b).

No damage	0
Blisters	1
Minor damage	1
Severe damage	2

Hock burns (Figure 2b)

Absence 0 to 4 (severe lesions)

Foot pad dermatitis (based on 500 birds; Figure 3a and 3b).

Absence 0 to 4 (severe lesions)

- Data will be analysed and associated with other findings that were observed during the novel approach of transects studies.

References

Welfare Quality®. 2009. Welfare Quality® assessment protocol for poultry (broilers, laying hens). Welfare Quality® Consortium, Lelystad, Netherlands.



Figure 1. Slaughter line. (A) Overview of the observer 1 for breast scoring after de-feathering. (B) Macroscopic lesions. Severe dark plaques of the breast skin surrounding the keel.



Figure 2. Slaughter line. (A) Overview of the observer 2 for hock burns scoring after de-feathering. (B) Macroscopic lesions. Severe dark plaques - score 4- (asterisk) hock burn and (arrow) foot pad dermatitis.



Figure 3. Slaughterhouse, scoring of foot pad dermatitis (FPD). (A) Minimal evidence of FPD. Score 1 (asterisk) and score 2 (arrow). (B) dark plaques of foot pad- score 3.

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