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## **Transect walks: method sensitivity for on-farm welfare evaluation in turkeys**

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There is increasing consumer demands for livestock and poultry products that meet minimum animal welfare standards during their production cycle. Additionally, a growing number of farmers are aware about full compliance with the animal welfare standards that could play an important economic role in commercial intensive productions. Indeed, animal welfare assessment protocols have meaningful effects to promote and guarantee the on-farm safeguard animal standards. Transect walks method appeared to provide a practical approach to welfare assessment in broilers farms. Because of the similarities of meat poultry production, this method could be considered a reasonable approach for turkey welfare evaluation in terms of time demands, within costs and feasibility. The aim of this study was to determine the sensitivity of this method at 3 commercial turkey farms with similar facilities (Animal Welfare Indicators project, FP7-KBBE-2010-4). In this study, 10 commercial female-turkey flocks (6 houses with identical management), ranging from 3,212 to 6,000 birds and belonging to the same company were evaluated one week before slaughter. On turkey farms, walking through the house is a routine daily procedure to check the health status of the birds. Two previously trained assessors in performing the transect methodology and properly assessing the selected indicators, evaluated each paired house sequentially and independently within the same day by walking through predefined transect bands (1 to 4) in random order. The animal-based indicators considered were: immobility, lameness, wounds and featherless. The statistical model used was GLM in the GENMOD procedure (SAS V9). The results showed that this welfare assessment method highlights even small variation among houses for the considered variables. In fact, there were significant difference across houses ( $P=0.0021$ ,  $P=0.0006$ ,  $P=0.0081$  and  $P=0.0003$ ) for all the evaluated indicators respectively. Differences across observers were detected for wounds and featherless ( $P<0.0001$ ). These results may be due to the difficulties in assessing equally these parameters while walking. On the contrary, lameness, probably the most important welfare problem in meat poultry, showed a good concordance between observers ( $P=0.361$ ). These preliminary findings suggest that this new approach has potential as a tool for on-farm welfare evaluation, which may be worthwhile to be further developed.



# Transect walks: method sensitivity for on-farm welfare evaluation in turkeys

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## Introduction

There is increasing consumer demands for livestock and poultry products that meet the minimum expectations in terms of **animal welfare** during their production cycle.

**Transect walks method** appeared to provide a practical approach to welfare assessment in broilers farms. This method could be considered a reasonable approach for turkey welfare evaluation in terms of time demands, within costs and feasibility.

## Aim

To determine the sensitivity of the transect walks method in commercial turkey flocks as a welfare assessment.

## Materials and Methods

### Birds:

- 10 female-turkeys flocks (B.U.T. - Big 6) into 6 houses produced in 3 farms in the Lombardia and Veneto regions, in Northeast Italy.
- The studied farms had paired houses, with flocks ranging from 3,212 to 6,000 beak-trimmed birds (92 to 104 days of age).

### Observations and data analysis:

- Each house was 14 m wide and variable length ranging from 64 to 120 m. The houses were divided into 4 longitudinal transects (3,5 m wide bands) for observations as shown in the Figure 1.
- Two observers evaluated each paired houses sequentially and independently within the same day.
- Data collection was performed by walking slowly through the predefined transects bands (1 to 4) in random order (Figure 2).
- The incidence of birds showing one of the welfare indicators was recorded in a spreadsheet (Polaris Office, South Korea) installed in a handheld tablet (Samsung Galaxy Tab 2 10.1, South Korea).
- The animal-based indicators considered were: immobility, lameness, wounds and featherless.
- The statistical model used was GLM in the GENMOD procedure (SAS V9).

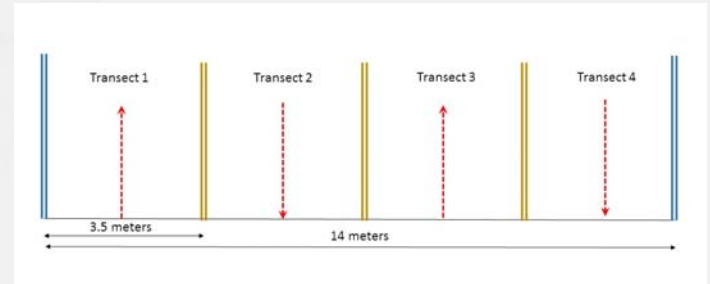


Figure 1. Design of the transect walks of 3,5 m within a 14-m-wide production room. The double lines shows: (blue) walls and (yellow) lines of feeders and drinkers. The red dashed lines show the walking pathways along which transect walks were conducted.



Figure 2. Data collection during transects. Observer walking slowly through the transect band during data collection.

## Results

- This welfare assessment method highlights even small variation among houses for all the considered animal-based indicators ( $P=0.0021$ ,  $P=0.0006$ ,  $P=0.0081$  and  $P=0.0003$ ), respectively.
- Lameness, probably the most important welfare problem in meat poultry, shows good concordance between observer as shown by the lack of significant differences across observers ( $P=0.361$ ).
- Differences across observers were detected for wounds and featherless ( $P<0.0001$ ). These results may be due to the difficulties in assessing equally these parameters while walking.

## Conclusion

These preliminary findings suggest that:

- 1- Transect walks methodology allows the detection of variations across the studied houses regarding the incidence of the studied welfare animal-based indicators
- 2- There is minimal impact on the birds once there is not direct bird manipulation
- 3- This new approach has potential as a tool for on-farm welfare evaluation, which may be worthwhile to be further developed.

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