



Preliminary Acoustic Analysis of Farm Management Noise and its Impact on Broiler Welfare

laSalle

UNIVERSITAT RAMON LLULL



Gerardo José Ginovart-Panisello

Rosa Ma. Alsina-Pagès

CONTEXT

High acoustic variations in terms of equivalent noise can affect the well-being of the broilers by means of reducing the food and water ingest.

OBJECTIVE

Study the acoustic impact due to the farm management done by machinery.

FIELD WORK



Mediterranean farm



25,000 poultry broilers



One low cost microphone connected to a Raspberry Pi (3B).



Sound recorded at one meter of the broilers heads.



Acoustic data collection of first 9 days of birds' life.

LAB WORK



Randomly selection of 4 audio files of 30 minutes per each recording day.



Sound identification with collaboration of a vet and farmer.



Manual labelling process to extract specific sounds.



Acoustic metric evaluation of labelled sound (duration, SNR and impact).



Data visualization.

DATA CLASSES DEFINED

Fan: Sound generated by the blower blades and motors.

Food Close: Sound generated by the food load of the feeder near to the microphone.

Food Far: Sound generated by the food load of the feeder far to the microphone.

Water: Sound generated by the water load of the drinker.

Bar Vibration: Structural vibration of the bar of feeder captured where the microphone is hold.

Hear the data classes

FAN

FOOD
CLOSE

FOOD
FAR

WATER

BAR
VIBRATION

*Click on each class to hear it

Hear the raw data



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gerardojose.ginovart@salle.url.edu

rosamaria.alsina@salle.url.edu

Tel.: +34932902455

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