

## XI European Symposium on Poultry Welfare

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### Vocalization of broiler chickens and laying hens as a measure of welfare

The aim of this systematic review was to summarize, analyse, and critically compare studies that assessed vocalizations of broilers and layers in relation to their welfare status. Automated sound analysis has been used to monitor the behaviour of animals and their biological responses to external stimuli. The strategy “PICO” was applied to build the research question. The final keywords chosen for the systematic review were: (*broiler OR chicken*) AND (*sound OR vocalization OR “voice recognition”*). The research was performed in four different databases: Pubmed, Scielo, Scopus, and Web of Science. A set of 44 papers was obtained. Selected papers were published from 2000 to 2022. Only 9 papers were published in the first studied decade, from which 8 were developed by European research groups. The first paper developed in a country outside Europe was published in 2005 by a Brazilian research group. China leads the number of trials about sound analysis (18%). In total, 28 papers were related to broilers and 18 to hens. Seventeen distinct vocalisations could be identified by sound analysis in the selected papers. Of different welfare dimensions papers mostly focused on good health and appropriate behaviour, with 29.5% (13 papers) of the papers, followed by good housing (10 papers), and good feeding (8 papers). Most studies focused on the production phase 84% (37 papers). There were no papers dealing with transport or pre-slaughter conditions. Most vocalization was recorded continuously 77.27% (34 papers), and most experiments were conducted in experimental environment 65.9% (29 papers). Evaluate broilers` and hens` vocalization by sound analysis has been used to assess animal`s welfare, mainly when related to good health and appropriate behaviour, presenting a potential tool that allows continuous monitoring to provide useful information to the farmer.