The analysis of pullet vocalization for determining gender and welfare

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Approximately thirty distinct sounds are already registered among the extensive repertoire of chicks, broilers and chickens (Collias & Joos, 1953; Guhl, 1968; Wood-Gush, 1971; Mills & Wood-Gush, 1983; Zimmerman & Koene, 1998). However, available data often depart from specific patterns as noise recording methodology is distinct, making comparisons between them rather difficult. This research aimed to identify the pullet gender and determine the eventual discomfort when exposed to a stressful environment. The trial was carried out at FEAGRI/UNICAMP, using an anechoic chamber. Fifty one day broilers were used (25 of them were male and 25 were female). First the broiler chicks were placed inside the chamber and the software Vocalização® was used for recording and analyzing the noises. Five specific vocalizations were recorded from each chick. Afterwards they were exposed to two distinct environments beyond the thermal comfort zone and their vocalization was recorded and analyzed. The statistical analysis was done using a validation test by comparing them to those of a sample from chicks of known gender. Broiler chick vocalization was recorded over a period of four weeks. The results showed that each sound emitted had an approximate duration of 150 to 200 ms and their frequency raised up to 20 kHz. It was not possible to identify the gender of the chicks, but it was possible to estimate their thermal distress when exposed in group to stressful environments.

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