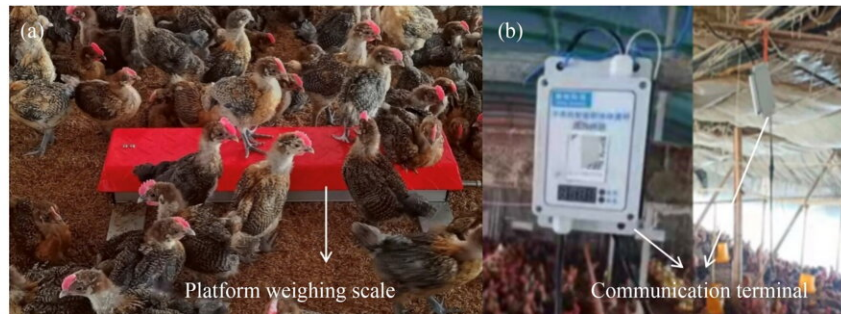


Automatic weighing method for broiler chickens is faster and less stressful to flock

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The installation of weighing platform (a) and communication terminal (b) in real applications. Credit: *Frontiers of Agricultural Science and Engineering* (2023). DOI: 10.15302/J-FASE-2023510

In the process of commercial broiler production, bodyweight is one of the important indicators to measure the production efficiency and the health of a flock. Currently, broilers are mainly raised in cage-free condition, and are primarily manually weighed, which is time-consuming, labor-intensive and causes a stress response.

The process is usually carried out in a sample size of about 2% of the total flock with an electronic scale with ± 20 g accuracy. Under normal conditions, chickens move freely, so it is to some extent difficult to catch them.

A research team from Zhejiang University and other affiliations developed a [real-time](#), accurate, stress-free [weight](#)-monitoring system based on the perching behavior of chickens. The technology is published in [Frontiers of Agricultural Science and Engineering](#).

The system integrates the functions of data acquisition, transmission, analysis, and display. It uses the self-developed PORWI data analysis scheme for intelligent perception of the average weight and evenness of the flock and has already been tested under actual production conditions.

The average error in 101 batches was only 10.3 g, with an average accuracy 99.5% with the [standard deviation](#) of 2.3%. Further regression analysis showed a strong agreement between estimated weight and the standard weight obtained by the established live-bird sales system. The variance (an indicator of [flock](#) uniformity) of broiler weight estimated using automatic weighing platforms was in accordance with the standard weight.

The weighing system demonstrated superior stability for different growth stages, rearing seasons, growth rate types (medium- and slow-growing chickens) and sexes. The system is applicable for daily weight monitoring in cage-free [broiler](#) houses to improve feeding management, growth monitoring and finishing day predictions. Its application on commercial farms would improve the sustainability of poultry industry.

More information: Development of an Automatic Weighing Platform for Monitoring Bodyweight of Broiler Chickens in Commercial Production, *Frontiers of Agricultural Science and Engineering* (2023).
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