

## **Skin necrosis of metatarsal pad as welfare indicator in reared broiler**

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In recent years animal welfare attention has been directed to assessing well-being by standardized indicators. In this regard, the present study aims to verify the role of skin necrosis of metatarsal pads as a welfare indicator in reared broiler chickens. From July 2007 to September 2008 (5 biological cycles complete), a survey in south eastern Sicily of intensive power ventilated houses on broiler farms was carried out. Each biological cycle lasted 70 d (53-54 d by farming and 16-17 d by biological vacuum). During the biological vacuum, repeated farm washing with foaming alkali and aldehyde Glutaric in 2% solution were performed. The wheat straw litter was changed before each biological cycle. Broiler chickens stocking density (lower than 30 to 32 kg live weight/m<sup>2</sup> and not exceeding 38 to 40 kg live weight/m<sup>2</sup>) and litter characteristics of farm were in accordance with the European Directive 43/2007. 110,000 "ROSS-708" broilers (50% males and 50% females) with 220,000 metatarsal pads were examined. According to the Italian poultry production system the following classes of birds were considered: light size (1.6 kg) and heavy size (3.2 kg), represented by females slaughtered at 35 d old and males slaughtered at 53-54 d old respectively. The data collected were analyzed by biological live cycle, sex and severity of pad injuries (7 degrees of seriousness). Skin necrosis of metatarsal pad was observed in 15% of broilers examined during slaughtering process (distribution within 5 biological live cycles: 24%, 19%, 13%, 11%, and 8%). Furthermore, analysing male broilers only, increased incidence of skin necrosis of metatarsal pad and chronic injuries was recorded. This work was performed with the goal of being useful for business operators and to suggest skin necrosis of metatarsal pad incidence in reared broiler chickens as a standardized indicator of animal welfare.

**Keywords:** broilers, animal welfare, metatarsal pad, skin necrosis