



## MINISTRY OF JIHAD-E-AGRICULTURE

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### **The survey of the current situation and refinement of ventilation and cooling systems of broiler farms of Bushehr province**

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#### **Abstract**

The present study was carried out to investigate the status of ventilation and cooling systems and identifying the problems and disadvantages of broiler farms and providing the appropriate solutions to improvement them. To do this, at first 14 broiler farms were selected and temperature and humidity of their housings were measured three times a day during the rearing period in summer. Also, from the 28th day of rearing period to the end, CO<sub>2</sub> and CO amounts and air flow velocity in the housings were measured twice. Then a questionnaire on poultry farmer individual information and specifications of farm buildings and facilities was completed for 129 broiler farms. According to the results, in most of the rearing period, the temperature of housings was higher than the optimal level, and there was a considerable difference between the temperature and humidity of the housings during different hours of the day. The amount of CO gas at different locations in the housings was equal to zero and the CO<sub>2</sub> gas density was within its permissible range. The air flow velocity in the first stage, except at the beginning part of the two broiler housings, was less than optimal level, and in the second stage it was optimal only in one broiler farm. According to the calculations, only 16 broiler houses had sufficient ventilator to provide the speed of 2 m/s, and only one farm had an adequate ventilator to provide the speed of 2.5 m/s. Also, the area of the pad coolings in 15 poultry farms was less than the required amount and in 102 farms more than that. Therefore, the area of these pad coolings of only 12 farms were between the required amount to provide the speed of 2 and 2.5 m/s, which can be considered partly acceptable. At the end, by studying 16 broiler farms that had sufficient ventilators to provide adequate air velocity in the housing, it was concluded that only one broiler farm had the appropriate area of pad cooling. The overall result is that the number of ventilators in broiler houses should be increased according to the need of the houses during the warm season, and the area of the pad coolings should be corrected according to the number of ventilators, so that the proper air flow velocity in the housing created and being the further welfare of the chickens is being caused.

**Key words:** ventilation - Cooling - broiler farm - Bushehr province