

COOLING POULTRY HOUSE BY USING PAD MADE OF PALM RACHIS .

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ABSTRACT

The experiment was conducted at Al- Rashidiya region belong to Baghdad governorate to study the possibility of using Article palm rachis in evaporative cooling unites as a wet pad. Three pad thickness were used with three different levels of exhaust fans including: one, two and three fans in the opposite direction during July and August of 2008 , to measure interior dry bulb temperature, cooling efficiency, interior relative humidity, air suction velocity, and air flow in order to determine which one of them is better in evaporative cooling when that pads are used in poultry house. a factorial experiment with a complete randomized design with three replication was used, the statistical analyses revealed that the pad which constructed from (8) cm pad thickness with two exhaust fans gave interior dry bulb temperature $28.2\text{ }^{\circ}\text{C}$, cooling efficiency 81.8 % , relative humidity 73.7%, air suction velocity 0.85 m/s ,and air flow $15300\text{ m}^3\text{/hr}$. The pad that constructed from (8) cm thickness with two exhaust fans was recommended because it showed the best performance during the experiment.

Keywords: Palm rachis, Evaporative cooling, Air flow, Cooling efficiency, Relative humidity .