

ABSTRACT

Lack of milk production results in local dairy farmers raises the needs of consumers not met. This is influenced by several factors, especially aspects of housing. The housing aspects known by local dairy farmers are more traditional as in Pasir Angling compared to the modern housing aspects that are applied by PT Greenfields Indonesia (PT. GFI), Malang. Therefore, this study aims to formulate the housing aspects in the form of temperature, humidity, and Temperature Humidity Index (THI) parameters. These parameters are obtained from the results of energy simulations using energyplus software. The results of the PT.GFI enclosure energy simulation are a reference for traditional cage repairs. Repairing traditional cages is done by adding a barrier in the form of wooden boards, adding insulation material to the roof and barrier, and adding volume of air inside the cage (infiltration). With the improvement of the cage, the average temperature parameters of one year is 21.75 °C, the average humidity for one year is 83.60%, and the average THI is one year 69.96. The results of these parameters are used as the formulation of high-performance dairy cows.

Keywords: *Dairy cows, Dairy cages, High Performances, Energyplus*