

INFLUENCE OF OAT BALES ON TEMPERATURE AND HUMIDITY IN DWELLINGS IN HIGH ANDEAN AREAS

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ABSTRACT

In the region Puno the housings lack of thermal insulator, being affected the population by the low temperatures, intensifying at times of *friaje*. The present article proposes a typical house, feasible and fast to construct in its totality with materials of easy access, which facilitates the thermal isolation to obtain an optimal thermal comfort. It is known that oats are used as fodder for feeding cattle and sheep, abundant in the department of Puno. A study was made of the construction of a house in the high Andean zone using compressed dry oats known as *paca* in the walls as the main construction material, seeking to obtain thermal comfort. Once the house was built, measurements of the parameters were carried out for a period of three weeks, which recorded the temperature and humidity inside the house using the hygrometer with cable for outside and inside for obtaining minimum and maximum temperatures, and percentage of humidity. As a result, the maximum and minimum temperature inside the house were 9.7 °C and 10.1 °C, and the maximum and minimum humidity were 44 % - 47 % at five in the morning, and the same values at seven at night were 17.5 °C and 18.3 °C for the temperature and 39 % - 43 % for the humidity. Differences with the outside were of 9 °C as minimum and 9.8 °C as maximum temperature at five o'clock in the morning, 7.7 °C as minimum and 8.9 °C as maximum at seven o'clock at night.

Keywords: Thermal Comfort, Bioclimatic, Housing, Oat Bales.

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