

CAN PLASTER COVERS PROVIDE BETTER CONDITIONS FOR HONEY BEE HIVES AT SEMIARID REGIONS?

Ribeiro, M. de F.; Moura, M. S. B. de; Silva, R. C. S.; Sousa, F. C.

Embrapa Semiárido, BR 428, Km 152, Zona rural, C.P. 23, 56302-970, Petrolina, PE

marcia.ribeiro@cpatsa.embrapa.br

Honey bee hives suffer with direct insulation and must be kept under the trees' shade and/or with individual covers. However, in semiarid regions of Northeast Brazil, the shadow provided by trees can disappear with loss of leaves in the dry season. Moreover, metal or wooden covers can be not adequate for decreasing heating. Coconut straw may be not available and not practical to manage during beekeeping. Therefore, the objective of this work was to test whether plaster covers can provide thermic comfort on honey bee hives kept at high temperatures. A common board (0.60x0.60x0.02 cm) made by gypsum and reinforced by sisal (*Agave sisalana*) fibers was used. In order to measure temperature, thermocouples of two data loggers were installed into two honey bee hives: one covered with a plaster board (PC) and another without it (WPC). Both hives were kept under the sun and presented similar conditions concerning amount of brood, food storage, number of individuals, and location at the apiary at Embrapa, in Petrolina. Two thermocouples of each data logger were placed into the hives, being one at brood area (BT) and the other at food storage combs (CT). Data was collected each 15min, during three consecutive days in February 2011. Simultaneously, data on air temperature (AT) was also obtained. The results showed that in both colony areas of the experimental hive (PC) there was a reduction of temperature, mainly at brood area. Average temperatures were respectively: AC= $28.0 \pm 4.8^{\circ}\text{C}$; BT= $33.5 \pm 1.1^{\circ}\text{C}$, for PC; BT= $34.3 \pm 0.9^{\circ}\text{C}$, for WPC; CT= $33.7 \pm 0.7^{\circ}\text{C}$, for PC; CT= $33.9 \pm 1.0^{\circ}\text{C}$, for WPC. Therefore, although these are preliminary observations, it is possible to say that plaster covers may be very important for colonies general well-being, maybe even avoiding absconding, which is so common in such hot regions.