A new cooling technique for stingless bees hive
Ahmad Syazwan Ramli, A. H. Luqman, Firdaus Basrawi, Ahmed N. Oumer, Azizuddin Abd Aziz and Zulkifli Mustafa
MATEC Web of Conferences
2017, 131, 3013

Stingless bees are a type of insect that are very sensitive to the changes of their surroundings, especially to severe heat wave. A report stated that at temperature as high as 38°C can cause death of bees especially to the pupae. Therefore, the objective of this research is to evaluate a new method in regulating the temperature in the hive. Greenroof, a type of roof which contains green vegetation and soil, was used as the cooling method in this study. Two units of MUSTAFA-hives were exposed under sunlight, one is without temperature control and another one was fitted greenroof. The temperatures inside each hive was measured at two points and was compared with the hive without temperature control. It was found that, for the hive integrated with greenroof, the average hive temperature was about 3°C and 6°C lower in the honey cassette and brood-cells compartment, respectively. Therefore, it can be concluded that the implementation of greenroof could solve the problem of stingless bee hive overheating, and the greenroof has an impressive cooling performance besides being an economic and simple solution.