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Making Beehives More 'Intelligent'- The Case of Capturing, Reducing, and Managing Bee Pest Infestation in Hives through Modification of Hive Entrance Holes and the Installation of Multiple In-Hive Bee Pest Traps

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Abstract : Bees are clever creatures, thus, capturing bees implies that the hives are intelligent in the sense that they have all of the required circumstances to attract and trap the bees. If the hive goes above and beyond to keep the bees in the hive and to keep the activities of in-hive pests to a minimal in order for the bees to develop to their maximum potential, the hive is becoming or is more 'intelligent'. Some bee pests, such as tiny beehive beetles, are endemic to Africa; however, the way we now extract honey by cutting off the combs and pressing for honey prevents the spread of these bees' insect enemies. However, when we explore entering the commercialization. When freshly collected combs are returned to the hives following the adoption of the frame and other systems, there is a need to consider putting in strategies to manage the accompanying pest concerns that arise with unprotected combs.The techniques for making hives more'intelligent' are thus more important presently, given that the African apicultural business does not wish to encourage the use of pesticides in the hives. This include changing the hive's entrance holes in order to improve the bees' own mechanism for defending the entry sites, as well as collecting pests by setting exterior and in-hive traps to prevent pest infiltration into hives by any means feasible. Material and Methods: The following five (5) mechanisms are proposed to make the hives more 'intelligent.' i. The usage of modified frames with five (5) beetle traps positioned horizontally on the vertical 'legs' to catch the beetle along the combs' surfaces-multiple bee ii. Baited bioelectric frame traps, which has both vertical sections of frame covered with a 3mm mesh that allows pest entry but not bees. The pest is attracted by strips of combs of honey, open brood, pollen on metal plates inserted horizontally on the vertical ‘legs’ of the frames. An electrical ‘mine’ system in place that electrocutes the pests as they step on the wires in the trap to enter the frame trap iii. The ten rounded hive entry holes are adapted as the bees are able to police the entrance to prevent entry of pest. The holes are arranged in two rows, with one on top of the other What Are the Main Contributions of Your Research?-Results Discussions and Conclusions The techniques implemented decrease pest ingress, while in-hive traps capture those that escape entry into the hives. Furthermore, the stand alteration traps larvae and stops their growth into adults. As beekeeping commercialization grows throughout Africa, these initiatives will minimize insect infestation in hives and necessarily enhance honey output.

Keywords : bee pests, modified frames, multiple beetle trap, Baited bioelectric frame traps
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