



Survey on the ability to collect honey bee venom (*Apis Mellifera ligustica*) and evaluate the economic potential for beekeeping

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ABSTRACT

Bee's venom (Apitoxin) is a natural toxin containing more than 18 pharmacologically active compounds, including small peptides and enzymes, which play a major role in protecting bee colonies. In traditional Oriental medicine, bee venom has been used to treat inflammatory diseases and pain due to its anti-inflammatory, anti-abscess, anti-fibrotic and anti-arthritis effects. Currently, in addition to traditional beekeeping for honey, many countries in the world such as Australia, Poland, the US, China, etc. have collected bee venom for use in cosmetics and pharmaceuticals to help treat arthritis, dementia, HIV and in anti-cancer research. This study aims to investigate the ability to collect bee venom and its effects on the health of bee colonies (*Apis Mellifera ligustica*) and honey productivity, conducted at a location in the suburbs of Thu Duc City. The average amount of venom per bee per collection fluctuates from 3.7 μ g to 6.7 μ g per collection. The economic value for beekeepers is estimated at 100-200 thousand VND for a beehive with one venom collection. However, the venom collection process shows that the average mass of beehives in the venom collection boxes decreased by more than 15% compared to the initial data. From there, it can be seen that the impact of venom collection has a negative impact on the health of honey bee colonies. Further research is needed to find a reasonable frequency of venom collection to ensure the health of bee colonies, increasing the economic value of beekeeping.

Key words: Bee venom, honey, *Apis Mellifera*, beekeeping by-products

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