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SWEDEN | DENMARK | NORWAY

PP-082 [Bee Health]

VET-ANIMAL®

SILVECO+ BEE® THE NEW TOOL FOR DISINFECTION AGAINST *PAENIBACILLUS LARVAE*

causative agent of American foulbrood (AFB)
preliminary studies

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INTRODUCTION

American foulbrood (AFB) affects the larval stage of honeybee *Apis mellifera* causing their death and occurs throughout the world. AFB is considered the most widespread and destructive infectious honeybee disease, and it can cause serious economic losses to beekeeping. AFB is classified on "Listed Diseases and Other Diseases of Importance" by World Organisation for Animal Health (WOAH). *Paenibacillus larvae*, the causative organism, is a Gram-positive bacterium that can produce over one billion spores in each infected larva. Five different genotypes (ERIC I, II, III, IV and V) of P. larvae are differentiated. The spores are extremely resistant to heat and chemical agents and can survive for many years in scales (from diseased dead brood), hive products and equipment without losing infectivity. Therefore, disinfection aimed at destroying *P. larvae* spores is crucial both in good beekeeping practices (GBPs) and biosecurity measures in beekeeping (BMBs). Effective disinfection is also crucial when eliminating AFB outbreaks by competent authorities.

The aim of the study was to assess the effectiveness of a new product - Silveco+ Bee® in destroying *P. larvae* spores. The above-mentioned product contains hydrogen peroxide, formic acid, glycolic acid and nano silver complex as active substances.

METHODOLOGY

The research was carried out based on PN-EN 13704:2018-09 and PN-EN 16437+A1:2020-03 standards using additional of *P. larvae* spores – ATCC 9545 (ERIC I).

RESULTS

The research conducted proved that Silveco+ Bee® is effective (99,99%), in destroying *P. larvae* spores at a concentration of 40% with an exposure time of 60 minutes.

CONCLUSIONS

Silveco+ Bee® can be an excellent alternative to disinfection based on the use of agents containing in its composition sodium hypochlorite or sodium hydroxide. Thanks to its disinfecting properties, apart from beekeeping, it can also be successfully used in the area of food production to ensure consumer health protection.

SUPPLEMENTARY INFORMATION

As of the date of this report, the required documentation has been submitted to the Polish authority responsible for the registration of biocidal products, and the documentation is currently being reviewed.

There are plans to extend the registration to include vegetative forms and spores of *Paenibacillus larvae* bacteria. We will inform interested parties of the positive outcome of the above actions.

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Bee Health Center®
VET-ANIMAL

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Silveco+Bee® the new tool for disinfection against Paenibacillus larvae - causative agent of american foulbrood (AFB) preliminary studies

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