

// PHOSPHOLIPIDS AGAINST AMERICAN FOULBROOD AND EUROPEAN FOULBROOD IN HONEYBEES

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HINTERGRUND

AFB as well as EFB are notifiable pests that can cause major harm to the beekeepers. In the United States antibiotics such as terramycin and tylosin tartrate are prophylactically used to prevent germination of spores and the proliferation of the causative bacterial agents. Since bacteria acquire resistance and antibiotics may be contaminating honey, their usage is not allowed in Europe. Besides, AFB and EFB will occur again after the finishing of the antibiotic treatment. The most common measure against AFB and EFB in Europe is to burn bees and beehives and to establish an exclusion zone. The usage of the naturally occurring LPC offers a significant improvement over the existing solutions. A survey addressing 150 Austrian beekeepers reported that 84% would consider buying such a product to prevent the outbreak of AFB/EFB.

CATEGORIES

//Chemie //Medizin und
Pharma
//Lebensmit
teltechnologie //Energietechnik

LÖSUNG

The gram-positive bacterium *Paenibacillus larvae* (P.l.) is the causative agent of AFB. Based on the observation that a midgut ingredient from adult honey bees (*Apis mellifera*) shows a strong antibacterial activity against P.l., a bioactivity guided isolation and characterization of the active principle in honey bee midgut was carried out. LPC was identified to be responsible for the antibacterial activity and can be applied to bee colonies either as a feed additive, spray solution or as part of the comb building materials (wax).

VORTEILE

- naturally occurring substance with potentially minimal side effects
- low toxicity to adult bees and larvae
- potential utilization against other pathogens
- not subject to known resistance mechanisms
- potential to substitute the use of antibiotics