

# ApiHerb: a new perspective for the integrated control of nosema disease

Antonio Nanetti ([antonio.nanetti@fastwebnet.it](mailto:antonio.nanetti@fastwebnet.it))



ApiHerb (Chemicals Laif srl, Italy), a herb based honey bee feeding, is reported to be beneficial against *Nosema sp.*

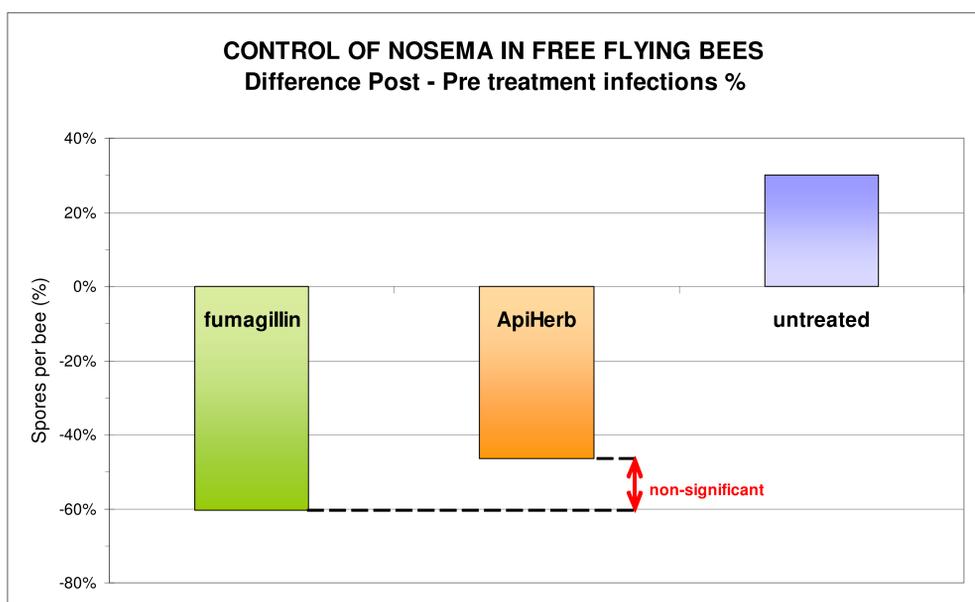
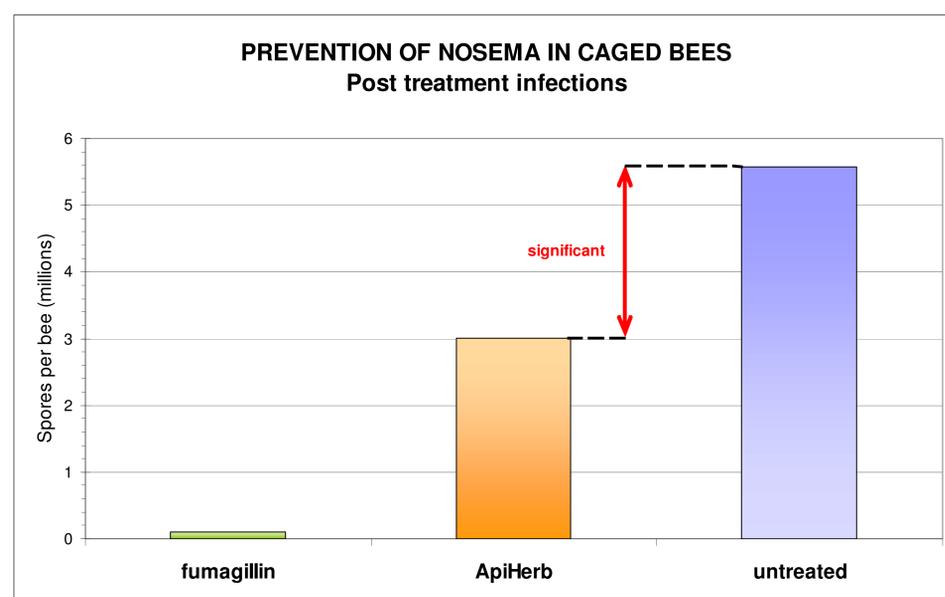
Indications say to syringe trickle 4g in 50 ml, after suspension in syrup, three times one week apart.

Efficacy was assessed herewith in lab and field against positive (fumagillin) and negative controls. Luminal infections in bee samples were measured with a cell counter under light microscope.

## Lab trial

Caged bees received ApiHerb, fumagillin and syrup through 1-day *ad libitum* feeding. Artificial infections followed. On day 10 spore counts were made.

ApiHerb and fumagillin resulted in significantly lower post-treatment infections.



## Field trial in spring

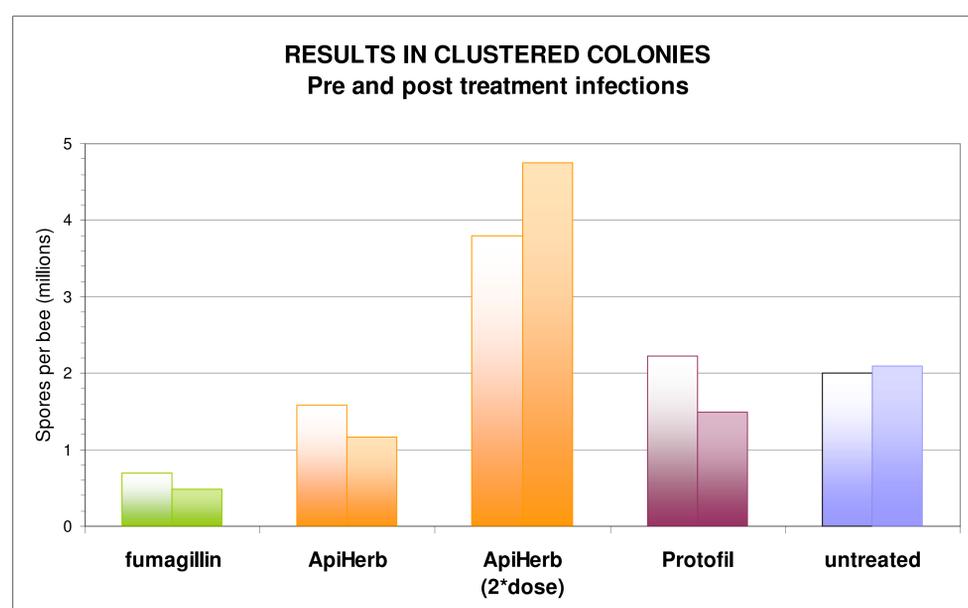
Pre and post-treatment samples were collected from naturally infected colonies free to fly and forage in open field.

ApiHerb (3 times) and fumagillin (twice) showed significant efficacy (-46% and -60%, resp.) and did not significantly differ.

## Field trial in late winter

Pre and post-treatment samples were collected from naturally infected colonies prevented to fly due to persistent low temperatures and rain. Groups receiving Protofil (herb based formulation) and six ApiHerb administrations were included also.

Significant variations in spore number or detrimental effects on bee population were not detected in the groups.



## Conclusions

ApiHerb exhibited a noticeable and significant effect against nosema infections under lab and field conditions.

Fair tolerability was observed in the case of an intensive administration programme also.

Adverse environmental conditions may prevent the elimination of luminal spores, keeping the infections active and hiding the efficacy of formulations intended for the disease control.