

ASSESSMENT OF VITA FEED GOLD APPLIED AGAINST NOSEMA CERANAE AND NOSEMA APIS DURING CAGE AND FIELD EXPERIMENTS*

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During summer field experiments examining the boosting effect of various products on honeybee colony development, we noticed that colonies which received Vita Feed Gold (VFG) presented no losses by Nosemosis during the following year. Screening the colonies for *Nosema* spores revealed that these surviving colonies had very low spore concentrations compared to control colonies. As a result, we decided to test experimentally the effect of VFG on the control of Nosemosis.

Emerging caged honeybees (n=60) were fed with 1% VFG syrup containing 200,000 *Nosema apis* spores/mL. For comparison, 60 emerging caged honeybees were fed with Fumidil syrup containing the same amount of spores. A third application (control) consisted of only syrup with the same amount of spores was fed to 60 more emerging honeybees. The same protocol was repeated with *Nosema ceranae* spores.

Honeybees which had received VFG presented an 82% lower concentration of *N. apis* spores compared to control while those that received Fumidil presented 91% less spores compared to control (Figure 1). Honeybees lived significantly longer when fed with VFG (mean 17 days) or Fumidil (15.8 days) compared to control (12.8 days) (Figure 2). Similarly, honeybees which received VFG presented a 68.18% lower *N. ceranae* spore concentration compared to control while those which received Fumidil presented 87% less spores compared to control (Figure 3). Experimental honeybees lived significantly longer when fed with VFG (mean 18.22 days) and Fumidil (17.94 days) than control honeybees (13.2 days) (Figure 4).

Fig 1

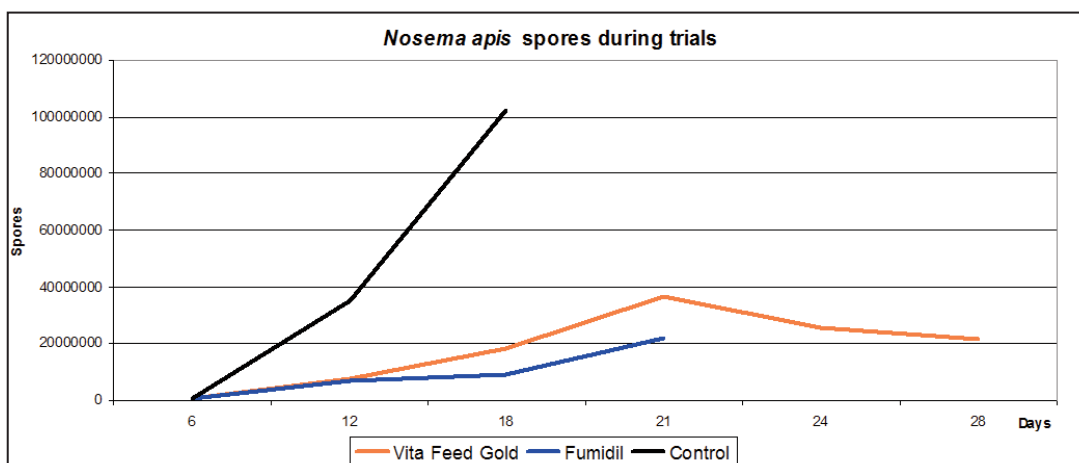


Fig 2

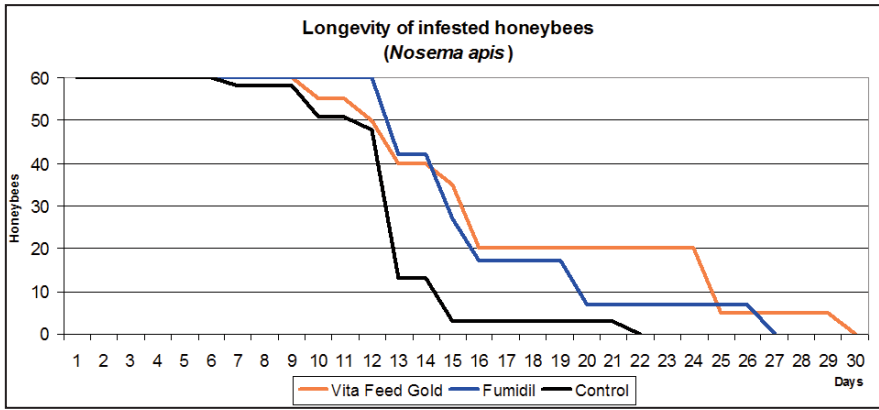


Fig 3

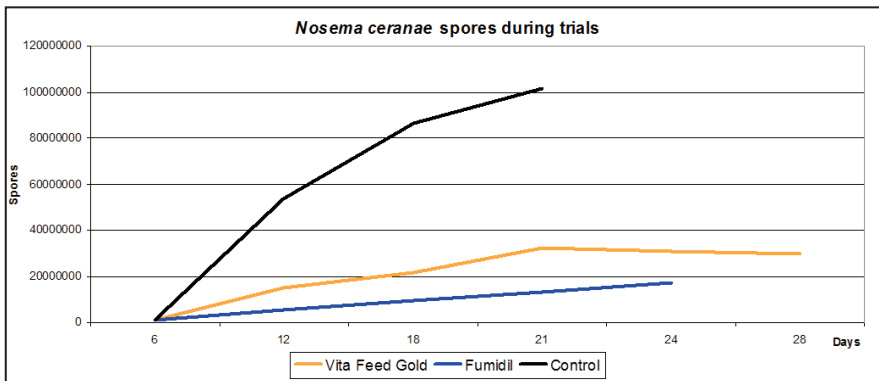
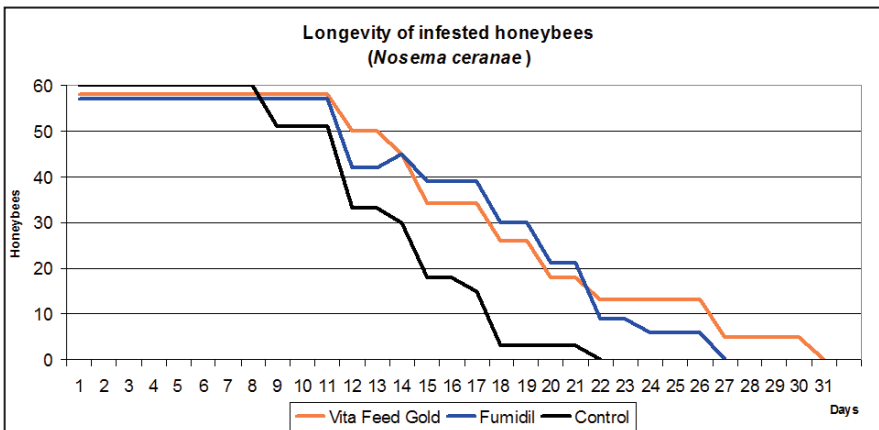


Fig 4



Field application by feeding colonies with 4 colonies fed VFG during October of 2010 resulted in 69.16% less spores after wintering (February 2011) compared to 7.28% resulted by feeding 4 control colonies only with sucrose syrup. A spring field application through trickling 10% VFG syrup on honeybees has applied on 15 colonies during March of 2011. Sucrose syrup application through trickling was applied as control on 10 other colonies. All colonies were naturally infected by Nosemosis. Five applications were applied with a one week intervals. Results showed a 82.13% decrease of spore loads in experimental colonies while the spore loads of control colonies presented an increase of 105.26%.

■ Experiments were funded by Vita (Europe) Ltd.

*42° INTERNATIONAL APICULTURAL CONGRESS APIMONDIA 2011 BUENOS AIRES – ARGENTINA