

Increase in honeybee populations with continued use of HiveAlive™

Results from long-term field trials in Greece 2012-2014

Hatjina, F.¹

¹Hellenic Institute of Apiculture, Greece

Introduction:

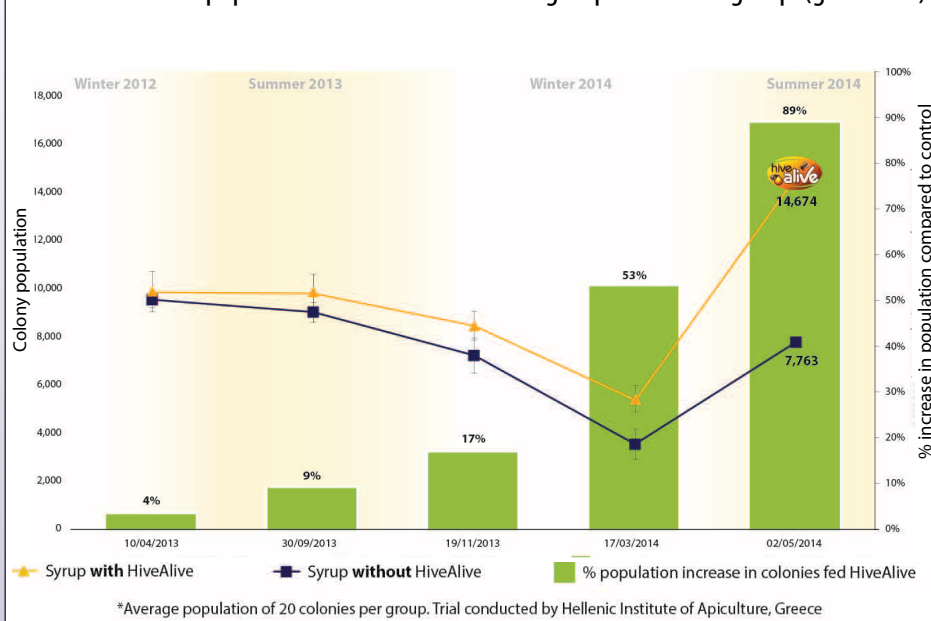
Long-term field trials were conducted to assess the efficacy of HiveAlive in increasing colony population when added to sugar syrup for bees. Increased colony populations leads to increased honey yields and decreases the risk of the colony being overcome by various disease challenges. As well as population changes, *Nosema ceranae* spore counts were also examined.

Materials & Methods:

Autumn the control group was fed 2:1 syrup. The HiveAlive group was fed 2:1 syrup with 2.5ml of HiveAlive added per litre of syrup. Each colony was fed one litre of syrup, twice a week for 2 weeks (total: 4L syrup). All groups were fed candy over the winter. In spring, the control group was fed 4L of 1:2 syrup, the HiveAlive group was not fed. In November 2013, feeding was repeated as per autumn/winter 2012. In spring 2014 both groups were fed 4L of 1:2 syrup with the HiveAlive group having HiveAlive added at 2.5ml/L. Population density and *Nosema ceranae* spore counts were taken at the times indicated in Graph 1, according to the standard methods (Population: Delaplane et al., 2013 *Nosema ceranae* counts: Fries et al., 2013). Spore counts were pooled from the samples.

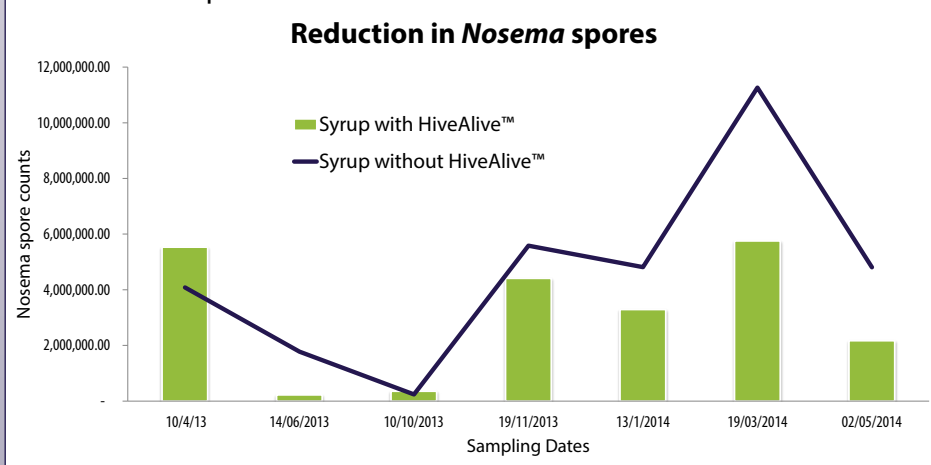
Graph 1:

Shows population trend from 2012 - 2014 for treated groups & control (lines) as well as % increase in population between HiveAlive group & control group (green bar)



Graph 2:

Nosema ceranae spore counts with and without HiveAlive over time



Results & Discussion:

Feeding of colonies with HiveAlive results in a large increase in colony population compared to control in particular with continued use. Graph 1 shows that colonies are significantly stronger after one year of feeding HiveAlive, as evidenced from the year two results, best results are gained with continued annual usage. HiveAlive colonies are much stronger after winter with an increase of over 80% achieved compared to control. As a result, colonies are quicker to build up after winter and are more productive. It was also noted that there were three colony failures in the control group whilst none of the colonies fed HiveAlive failed. Graph 2 shows a continuous reduction in spore counts when HiveAlive is fed. Spore numbers naturally decrease during summer months, the graph demonstrates that colonies fed with HiveAlive consistently maintain a low spore count, during and after winter, never reaching dangerous levels.

In conclusion, these results show improved colony survival, significantly increased population and a reduction in *Nosema* spores when colonies are fed with HiveAlive.

References:

Delaplane et al. (2013) Standard methods for estimating strength parameters of *Apis mellifera*. *Journal of Apicultural Research* 52(1).
Fries et al. (2013) Standard methods for *Nosema* research. *Journal of Apicultural Research* 52(1)