Evaluation of screen and sticky bottom boards for the control of Varroa destructor in Africanized and European honeybees

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INTRODUCTION

Varroa mite is the most important biotic threat to honey bees worldwide.

Honey bees exhibit several behavioral resistance mechanisms against Varroa parasitism, with grooming being one of them. Detached mites that fall onto bottom boards may re-infest bees, reducing the effectiveness of grooming behavior.

METHODOLOGY

90 standardized hives without Varroa divided in six groups

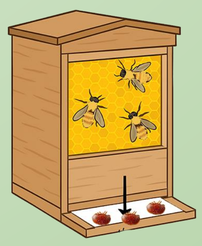
15 Africanized colonies with conventional bottom boards

15 European colonies with conventional bottom boards

15 Africanized colonies with Screened bottom boards

15 European colonies with Screened bottom boards

15 Africanized colonies with Sticky bottom boards



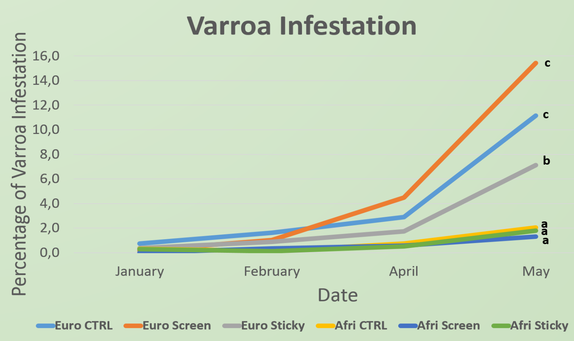
15 European colonies with Sticky bottom boards

Every 35 days – January to May – assessed:

- ✓ **Adult population**
- ✓ **Brood**
- ✓ **Varroa infestation levels**

RESULTS

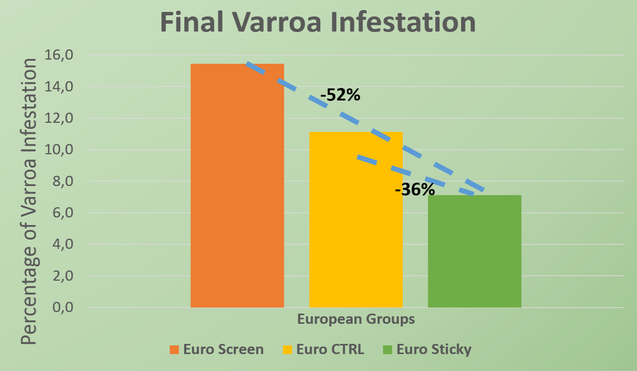
At the beginning of the experiment (January, summer in the Southern Hemisphere), all colonies had an infestation rate below 1%.



At the end of the trial, the Varroa Infestation was significantly higher in the European groups compared with Africanized Groups

By May, the infestation levels in Africanized bee colonies remained around 2% across all groups, where as European bee colonies exhibited between 4 (sticky bottom boards) and 8 times (conventional and screened bottom boards) higher than their Africanized counterparts.

In European bees, colonies with sticky bottom boards had 36% and 52% lower infestation rates than those with conventional and screened bottom boards



CONCLUSION

Our results confirmed that European honey bees are significantly more susceptible to Varroa than Africanized bees.

Sticky bottom boards proved to be a valuable tool in reducing Varroa population growth and could be effectively integrated into pest management strategies.

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