



Efficacy of *Varroa destructor* treatments in Algeria



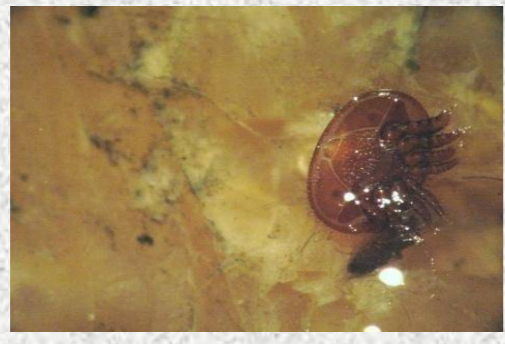
ADJLANE. N¹, DOUMANDJI.S², HADDAD. N³,

¹ Département de Biologie, Faculté des Sciences, université M'hamed Bougara, Boumerdès, EMail : adjlanenouredine@hotmail.com

² Département de Zoologie, ENSA El Harrach, 16200 Alger Algérie

³ National Center for Agriculture Research and Extension, Bee Research Unit. P.O. Box 639-Baq'a 19381, Jordan. Telephone: +962777327437, Fax: +96265372516, E-mail: drnizarh@yahoo.com, drnizarh@ncare.gov.io

Introduction



Varroa destructor was registered for the first time in Algeria in 1981 through the Algerian-Tunisian border to the east. Since then Algeria has approved the use of several products to control varroa, in order to minimize the impact of this parasite on the bee colonies and honey production.



Objective

This experiment was conducted in order to study current effectiveness of varroa treatments registered in Algeria, varroa resistant to these treatments : Fluvalinate (Apistan®), flumethrin (Bayvarol®), amitraz (Aпивar®), Thymol (Apigaurd® and Thymovar®)

Materials et methods

The trials were conducted in the region of Mitidja (central Algeria) on 75 hives spread over three apiaries. All colonies were equipped with a mesh tray with insert as a diaper greased roasting for counting dead mites.

The control treatment is performed with oxalic acid drip; effectiveness was measured by comparing the mites killed during the experimental treatments to mites killed during a control treatment.



Counting mites on sticky boards



Application of Thymovar



An Apistan strip being inside a hive

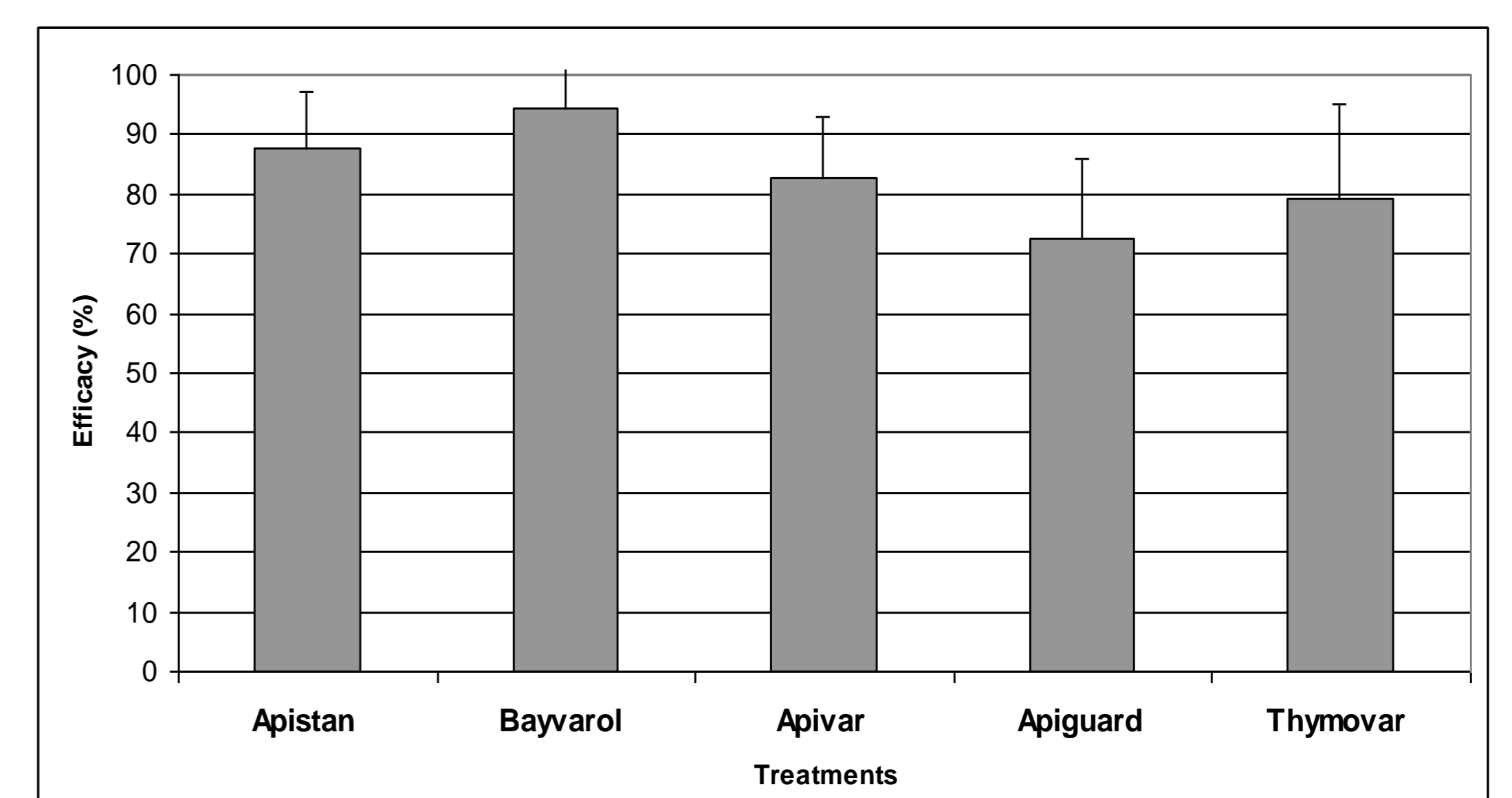


Application of Apiguard

Results and discussion

The results showed a variation in efficacy between the treatments used Bayvarol saves the efficiency ratio is the most important (94.33%), followed Apistan and Apivar with 87.54% and 82.67% respectively. We note a decrease in the efficiency of these products, tests for resistance in vitro are needed to confirm this decline and to detect possible problem of resistance.

Natural treatments based on thymol record the lowest with 79.34% for and 72.65% for Thymovar and Apigaurd. Thymol as Apigaurd and Thymovar can be regarded as complementary therapies to be integrated into a control program because the success rate is low and thus the beekeeper is required to use an alternative treatment.



Mean efficacy of treatments on *Varroa destructor*

Conclusion

The information obtained from this study concerning drug efficacy and resistance acaricides are essential for defining the control strategies adapted to the therapeutic treatment of Varroa disease in Algeria.