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PP-157 [Bee Health]

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Low *Varroa destructor* infestation and the potential of organic beekeping in Pernambuco Brazil

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INTRODUCTIO

Beekeeping has been consolidated as an important source of employment and income for small producers in the Brazilian Northeast, playing a fundamental role in the regional economy and in the fixation of man in the countryside. In addition, the region has ideal conditions for the production of organic honey, being one of the few in the world with this potential, due to the vast availability of native flora free of contamination by agrochemicals.

OBJECTIV

Evaluate the infestation rate by the *Varroa destructor* mite in the regions of Sertão, Agreste and Zona da Mata of Pernambuco – Brazil, in order to ensure the sustainability of organic beekeeping in the region

MATERIALS

Bee samples were collected from 85 colonies, which were transferred to a container containing 70% alcohol (Figure 1 and 2) to determine the infestation rate, using the methodology of De Jong and Mantilla (1986). The analyses were carried out at the Laboratory of Animal Genetics and Bee Breeding Prof. Dr. Warwick Estevam Kerr, in the Department of Animal Science at Federal Rural University of Pernambuco (Figure 3 and 4)

Figure 1. Collecting bee samples from the hive

Figure 2. Collected bee samples from the hive in a container with 70% alcohol

Figure 3. Collected bee samples

Figure 4. Students doing the analyses

RESULTS

Varroa destructor (figure 5 and 6), is one of the main parasites of bees of the genus Apis, and can compromise the health of the swarms and the productivity of the hives. Its control is a challenge for worldwide beekeeping, and its presence at low rates is a positive indicator for the sustainable production of organic honey.

Figure 5. *Varroa destructor*

Figure 5. *Varroa destructor* and *Apis mellifera*

The results indicated an average *Varroa destructor* infestation rate of 1.27 ± 0.025, which is considered low. (Figure 6)

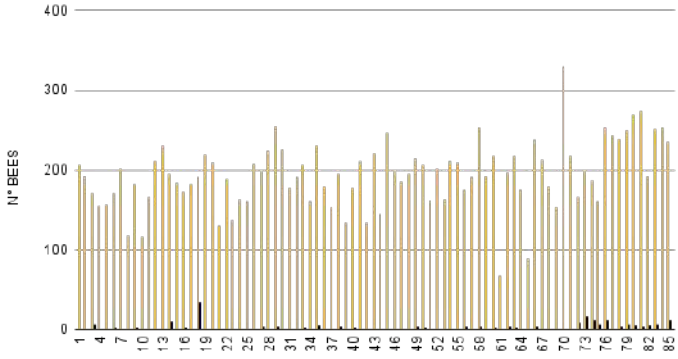

Figure 6. Comparative chart of bees and parasites (*Varroa destructor*) in the samples

CONCLUSION

It is concluded that the low mite infestation in Pernambuco favors the production of high-quality organic honey, reinforcing the viability of sustainable beekeeping in the region and its socioeconomic importance for local beekeepers.

ACKNOWLEDGMEN

UNIVERSIDADE FEDERAL RURAL DE PERNAMBUCC
PROExC
ADEPE Agência de Desenvolvimento Econômico de Pernambuco
FACEPE Fundação de Amparo à Ciência e Tecnologia do Estado de Pernambuco

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Beekeeping has been consolidated as an important source of employment and income for small producers in the Brazilian Northeast, playing a fundamental role in the regional economy and in the fixation of man in the countryside. In addition, the region has ideal conditions for the production of organic honey, being one of the few in the world with this potential, due to the vast availability of native flora free of contamination by agrochemicals. The objective of this study was to evaluate the infestation rate by the Varroa destructor mite in the regions of Sertão, Agreste and Zona da Mata of Pernambuco – Brazil, in order to ensure the sustainability of organic beekeeping in the region. Varroa destructor is one of the main parasites of bees of the genus Apis, and can compromise the health of the swarms and the productivity of the hives. Its control is a challenge for worldwide beekeeping, and its presence at low rates is a positive indicator for the sustainable production of organic honey. The average annual temperature in the Sertão of Pernambuco is 31,8°C, in the Agreste 29,2°C and in the Zona da Mata 30,6°C, with average relative humidity of 30%, 51% and 80%, respectively. Bee samples were collected from 85 colonies, which were transferred to a container containing 70% alcohol to determine the infestation rate, using the methodology of De Jong and Mantilla (1986). The analyses were carried out at the Laboratory of Animal Genetics and Bee Breeding Prof. Dr. Warwick Estevam Kerr, in the Department of Animal Science at Federal Rural University of Pernambuco. The results indicated an average Varroa destructor infestation rate of 1.27 ± 0.025, which is considered low. It is concluded that the low mite infestation in Pernambuco favors the production of high-quality organic honey, reinforcing the viability of sustainable beekeeping in the region and its socioeconomic importance for local beekeepers.