

Bee health and veterinarians

Editor: Wolfgang Ritter



2014

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ISBN: 978-92-9044-923-2

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Examples of quarantine requirements for the import of honey bees in some Middle Eastern and North African countries

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Summary

Honey bee import regulations in the countries of the Arab world region (the Middle East and North Africa) are described in this article. We have faced a series of obstacles during article preparation due to an information shortage, but we have been able to obtain information from personal contacts. All of the countries in the Middle East and North Africa do have the World Organisation for Animal Health (OIE) diseases on the checklist of the import regulations. None of these countries have an isolated quarantine apiary, and in most cases health status provided by the exporting countries is accepted as the main reference for the import approval decision, in addition to a previously obtained import permit that outlines the specific requirements.

Keywords

Honey bee diseases – Import – Middle East – North African quarantine – Regulations.

Beekeeping has been known in the Middle East and North Africa since ancient times; recent discovery of ancient clay hives suggests that it dates from the 10th to early ninth centuries BC (1). The Arab world region (Middle East and North Africa) is considered a very rich area with native honey bee species, where *Apis mellifera syriaca* is the native bee throughout Jordan, Palestinian territories, Israel, Syria, Iraq, Saudi Arabia and Lebanon. While North Africa's original bees are *Apis mellifera sahariensis*, in some oases of north-west Africa *Apis mellifera intermissa* is found, such as in Morocco, Libya and Tunisia; in the Nile valley of Egypt and Sudan *Apis mellifera lamarckii* is found; in Sudan *Apis mellifera nubica* is found; and in Somalia, Sudan and Yemen *Apis mellifera yemenitica* is found (2). Despite this, the area is very rich in local honey bee biodiversity, as commercial beekeepers have continuously imported commercial honey bee breeds over the last half century.

Globalisation has affected the trading of hive products, and the main effect was on the stock exchange between regions and even continents, which transferred not only the bees and the queens but also diseases. Therefore it became very crucial to have clear import regulations for honey bees. Quarantine and inspection processes of imported honey bees protect

the local honey bee populations from the introduction of diseases and pests (3). Evidently, allowing the legal introduction of bees may reduce the threat posed by illegal imports (5).

In the early 1940s, beekeepers started shifting to removable frame colonies from traditional clay hives (Fig. 1) and traditional wooden hives (Fig. 2) to modern



Fig. 1
Clay beehives
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Fig. 2
Traditional wooden beehives
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hives (Fig. 3), while the official colonies and queen imports began in the late 1960s, and mainly to Egypt and Lebanon. A clear increase in honey bee imports started after the big destruction caused by *Varroa* in the early 1980s in Jordan, Egypt, Syria and the Arab Peninsula. This increase in imports was also associated with a shift to modern bee colonies, since the clay hives were unmanageable and it was not possible to properly manage and treat them against *Varroa*. In the mid-1980s, after the import of carniolan bees, Egypt officially stopped the importation. Although Jordan

imported bee colonies from Australia, because the government and some non-governmental organisations used beekeeping for poverty alleviation (4) (Fig. 4), the import of colonies to the North African countries was very limited (personal communication). The Iraqi importation of honey bees stopped between the First and the Third Gulf War, except for in the Northern Region, where the Iraqi Kurdish beekeepers were importing colonies, mainly from Iran and Turkey.

As a result of this importation history, it became very hard to find pure local strains in any of the Middle Eastern and Arab Peninsula countries, except for in some remote apiaries in Yemen, Oman, Saudi Arabia and a conservation apiary of local honey bees in Jordan. A unique importation practice was applied by the Saudi beekeepers; they imported packaged bees from Australia during the blooming period of *Ziziphus spina-christi* (Christ's thorn jujube plant), because of its very expensive honey, then these bees were abandoned without management until the next season, and the very few living colonies were combined to create strong colonies in preparation for the following season.

Bees in Middle Eastern and North African countries, as well as worldwide, are facing groups of honey bee diseases, such as American foulbrood (AFB) and European foulbrood (EFB), *Nosema*, *Varroa* and tracheal mites, wax moth and honey bee viruses. Occurrences of small hive beetle infection have been registered in Sudan and Egypt. *Vespa orientalis* is one of the main



Fig. 3
Apiary in the Jordan Valley
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Fig. 4
Training of beekeepers: honey bees are considered one of the main tools for poverty alleviation
 © N. Haddad

predators of honey bees in the Middle East and in the North African region (2, 3).

As far as apiculture equipment importation is concerned, there are sets of restrictions that directly or indirectly tackle this issue. For example, in Egypt the importation of all animal equipment is subject to compliance with local and World Organisation for Animal Health (OIE) regulations, and exporters must ensure that they have an appropriate certificate of clearance from any diseases for the last two months in order to comply with Article No 22 of Egyptian Law No 47, 1967.

In Jordan imported comb foundation and beeswax must be free from pesticide residues and OIE-listed diseases, and must comply with the Jordanian standards for beeswax and comb, and have a certificate of origin. Oman's veterinary bylaw No 7/2008 states that all animal husbandry equipment, tools and feed must be imported from a country free from any epizootic disease listed by the OIE. This same statement is made by the veterinary authorities in Saudi Arabia, Qatar and other Gulf states (6).

We reviewed the available veterinary legislations regarding the import of honey bees to the region, and filled the information gaps by personal communication with scientists and beekeepers. The study gathered information from Veterinary Quarantine Services (VQS) or departments, and through telephone interviews with seven respondents from countries including Jordan,

Arab Peninsula, Lebanon, Syria, Iraq, Egypt, State of Palestine, Algeria, and Tunisia.

Results

Our assessment of the legal framework showed that in the Middle East and in North African countries, VQS have responsibility for the surveillance of animal diseases and pests at the ports of entry, and of preventing the introduction or the spread of disease where introduction occurs. The VQS in these countries also uses the rules and regulations set out by the OIE for the implementation and management of animal health measures, and international veterinary certification activities.

A review of the veterinary legislations in countries including Jordan, Lebanon, Iraq, Saudi Arabia and Yemen, has shown that the rules and regulations for controlling the importation of queens and package honey bees are not strong enough to prevent transferring bee diseases. Most of the beekeeping unions and communities in these countries are not satisfied with these regulations and are asking for extra requirements for this purpose. Middle Eastern and North African Arab country's regulations give the VQS the authority of rejecting, terminating or re-exporting shipments.

Jordan, Lebanon, Iraq, Syria, Yemen, Oman, Egypt and Libya do not have isolated quarantine apiaries, while in other countries of the region we have no data

about such apiaries. However, importers are asked to accompany their shipments with a health certificate, proving the clearance of the imported shipments from the OIE-listed bee diseases. The United Arab Emirates and Jordan have an extra requirement in the health certificate, which is that the bees are free from any association with Africanised honey bees, and free from the small hive beetle. Special attention is given to having the colonies imported from apiaries free from AFB, EFB and *Nosema*.

Owing to the Israeli control of the State of Palestine borders, even though its Ministry of Agriculture has regulations, no import of honey bees in any form is allowed to the State of Palestine. Jordan had issued a regulation that stopped the import of package bees and colonies after colony collapse disorder was recognised in the United States of America. This law had been in place for only two years (from 2008 to 2009), then it was replaced by a regulation which did not allow the import of colonies, but allowed the import of package bees without any foundations. Egypt had completely stopped issuing permission for the import of queens and bees in 1985, while in Syria the Syrian bees improving programme commission succeeded in issuing a regulation in 2009, which did not allow the import of any bees (7). However, according to our contacts in Syria and Egypt, these regulations did not prevent the illegal importation of queens. While in Iraq, the Kurdistan Regional Government (KRG) Ministry of Agriculture did issue a regulation that did not allow the importation of colonies, illegal importation from Iran was happening.

The Gulf Cooperation Countries (GCC), Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates, in addition to Yemen, require a certificate of origin, a declaration from the state apiary officer confirming the disease-free status of live beehives, especially for AFB, EFB and *Nosema apis* (*Nosema* disease, nosemosis), which has been an OIE-listed pest for the past three months (8).

The first Arab Countries Conference held in 2010 in Amman (Jordan), suggested extra regulations to be adapted by the ten countries represented at the conference, insisting on the value of local strains and calling for standardisation of import–export regulations in these countries. The conference called for a halt on

the issuing of permission for the import of colonies with wax foundations, and to limit the import to package bees and queens from countries free from Africanised breeds and restricting the import to *Apis mellifera ligustica* and *Apis mellifera carnica*, and for a complete prohibition of importing queens or package bees and colonies from apiaries infected with AFB and EFB, small hive beetle, *Nosema* diseases, in addition to all OIE requirements. The conference participants suggested to all VQS to have isolated apiaries in their countries, and qualified and trained staff for the inspection of the imported queens and package bees, insisting that the accompanying certificate is not enough to prove the health status of the imported bees. The conference participants emphasised the importance of following the regulation. The list of honey bee diseases, predators and pests in Middle Eastern countries is derived from the OIE *Terrestrial Animal Health Code* (8).

In conclusion, it is important to underline that some of the countries of North Africa, such as Tunisia and Algeria, do not import honey bees in any form, but they do have regulations that control the importation itself, while Egypt and Syria do not issue any permission for the import of honey bees; however, according to our contacts, a huge number of queens are illegally imported (7). In the case of Iraq, the regulations in the Kurdistan Regional Government (KRG) region do not allow the import of honey bees, but it is clear that some honey bees are illegally imported from Iran into the KRG region.

Acknowledgement

This survey of the complexity in the Middle East and North African Arab countries required the help of many people from the region. We especially want to thank Ahmed Bataineh and Banan Alshagoor, from Jordan, who were an integral part of this study. We thank the people who sent to us their country's regulations, and for their collaboration in phone interviews: Professor Hussian Mustafa from Egypt, Saidi Abbas from Tunisia, Dr Waheeda Loucif and Adjlan Nureden from Algeria, Dr Dany El-obeid from Lebanon, Obeid Mahbouba, Sheelan Barzinjy and Ibrahim Majeed from Iraq, and Mohamed Fouad from Morocco.

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