

CHAPTER 9.6.

**INFESTATION OF HONEY BEES
WITH VARROA SPP.
(VARROOSIS)**

Article 9.6.1.

General provisions

For the purposes of the *Terrestrial Code*, varroosis is a disease of honey bees (species of the genus *Apis*) caused by mites in the genus *Varroa*, primarily *Varroa destructor*. The mite is an ectoparasite of adults and brood of honey bees and spreads by direct contact from adult honey bee to adult honey bee, and by the movement of infested honey bees, bee brood, bee products and used apicultural equipment.

The number of mites steadily increases with increasing brood production and the growth of the honey bee population, especially late in the season when clinical signs of *infestation* can first be recognised. The lifespan of an individual mite depends on temperature and humidity but, in practice, it can be said to last from some days to a few months.

Honey bee colonies are often carriers of viruses. The mite acts as a *vector* for viruses (particularly deformed wing virus) facilitating their penetration and the *infection* of the honey bees. Most of the symptoms of varroosis are therefore the results of the combined action of *Varroa* spp. mites and viruses. The viral load within the colony increases with the mite *infestation*. Insufficient or late treatments lead to the killing of mites but the virus load remains high for several weeks with deleterious effects on the honey bee population. The control of the varroosis is mainly performed by the control of *Varroa* spp. and the diagnosis of varroosis is also performed by measuring the parasitic load.

When authorising import or transit of the *commodities* covered in the chapter, with the exception of those listed in Article 9.6.2., *Veterinary Authorities* should require the conditions prescribed in this chapter relevant to the varroosis status of the honey bee population of the *exporting country* or *zone*.

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 9.6.2.

Safe commodities

When authorising import or transit of the following *commodities*, *Veterinary Authorities* should not require any *Varroa* spp.-related conditions, regardless of the *Varroa* spp. status of the honey bee population of the *exporting country* or *zone*:

- 1) honey bee semen;
- 2) honey bee venom;
- 3) honey bee eggs;
- 4) royal jelly.

Article 9.6.3.

Determination of *Varroa* spp. status of a country or zone

The *Varroa* spp. status of a country or *zone* can only be determined after considering the following criteria:

- 1) a *risk assessment* has been conducted, identifying all potential factors for *Varroa* spp. occurrence and their historic perspective;
- 2) the presence of *Varroa* spp. is notifiable in the whole country or *zone*, and all clinical signs suggestive of varroosis are subjected to field and *laboratory* investigations;
- 3) an ongoing awareness programme is in place to encourage reporting of all cases suggestive of varroosis;

- 4) the *Veterinary Authority* or other *Competent Authority* with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated *apiaries* in the country.

Article 9.6.4.

Country or zone free from *Varroa* spp.

1) Historically free status

A country or *zone* may be considered free from *Varroa* spp. after conducting a *risk assessment* as referred to in Article 9.6.3. but without formally applying a specific *surveillance* programme (historical freedom) if the country or *zone* complies with Chapter 1.4.

2) Free status as a result of an eradication programme

A country or *zone* which does not meet the conditions of point 1 above may be considered free from *Varroa* spp. after conducting a *risk assessment* as referred to in Article 9.6.3. and when:

- a) the *Veterinary Authority* or other *Competent Authority* with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated *apiaries* existing in the country or *zone*;
- b) the presence of *Varroa* spp. is notifiable in the whole country or *zone*, and any clinical cases suggestive of varroosis are subjected to field and *laboratory* investigations;
- c) for the three years following the last report of the presence of *Varroa* spp., an annual survey supervised by the *Veterinary Authority* or other *Competent Authority*, with no positive results, have been carried out on a representative sample of *apiaries* in the country or *zone* to provide a confidence level of at least 95% of detecting *Varroa* spp. if at least 1% of the *apiaries* were infested at a within-*apiary* prevalence rate of at least 5% of the hives; such surveys may be targeted towards areas with a higher likelihood of *infestation*;
- d) to maintain free status, an annual survey supervised by the *Veterinary Authority* or other *Competent Authority*, with no positive results, is carried out on a representative sample of *apiaries* in the country or *zone* to indicate there has been no new cases; such surveys may be targeted towards areas with a higher likelihood of *infestation*;
- e) either there is no *wild* or self-sustaining *feral* population of species of the genus *Apis* in the country or *zone*, or there is an ongoing *surveillance* programme of the *wild* or self-sustaining *feral* population of species of the genus *Apis* which demonstrates no evidence of the presence of the mite in the country or *zone*;
- f) the importation of the *commodities* listed in this chapter into the country or *zone* is carried out in accordance with the recommendations of this chapter.

Article 9.6.5.

Recommendations for the importation of live queen honey bees, worker honey bees, drone honey bees, larvae of honey bees, pupae of honey bees and brood combs

Veterinary Authorities of *importing countries* should require the presentation of an *international veterinary certificate* attesting that:

- 1) the *commodities* come from *apiaries* situated in a country or *zone* free from *Varroa* spp.; or
- 2) the shipment comprises only queen honey bees with attendant worker honey bees without associated brood combs and:
 - a) the honey bees come from an artificial broodless swarm with the caged queen;
 - b) the caged queen and swarm have been treated with an effective *veterinary medicinal product*;
 - c) the honey bees were inspected by a representative of the *Veterinary Services* prior to the shipment and showed no evidence of the presence of the mites;
 - d) the queen honey bees were inspected by the *Veterinary Services* of the *importing country* based on a visual inspection described in the relevant chapter of the *Terrestrial Manual* and the attendant worker honey bees were killed.

Article 9.6.6.

Recommendations for the importation of used apicultural equipment

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that the equipment:

- 1) comes from *apiaries* situated in a country or *zone* free from *Varroa* spp.; or
- 2) contains no live honey bees or bee brood and has been held in a bee-proof environment for at least 21 days prior to shipment; or
- 3) has been treated to ensure the destruction of *Varroa* spp. in accordance with one of the following procedures:
 - a) heating to 50°C core temperature and holding at that temperature for 20 minutes; or
 - b) freezing at core temperature of minus 12°C or less for at least 24 hours; or
 - c) fumigation with methyl bromide at a rate of 48 g per cubic metre at atmospheric pressure and at a temperature of 10-15°C for a period of 2 hours; or
 - d) irradiation with 350 Gray; or
 - e) by any procedure of equivalent efficacy recognised by the *Veterinary Authorities* of the *importing* and *exporting countries*.

Article 9.6.7.

Recommendations for the importation of honey

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that the honey:

- 1) comes from *apiaries* situated in a country or *zone* free from *Varroa* spp.; or
- 2) has been strained through a filter of pore size no greater than 0.42 mm; or
- 3) has been treated to ensure the destruction of *Varroa* spp. in accordance with one of the following procedures:
 - a) heating to 50°C core temperature and holding at that temperature for 20 minutes; or
 - b) freezing at core temperature of minus 12°C or less for at least 24 hours; or
 - c) irradiation with 350 Gray; or
 - d) by any procedure of equivalent efficacy recognised by the *Veterinary Authorities* of the *importing* and *exporting countries*.

Article 9.6.8.

Recommendations for the importation of bee-collected pollen

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that the bee-collected pollen:

- 1) comes from *apiaries* situated in a country or *zone* free from *Varroa* spp.; or
- 2) has been treated to ensure the destruction of *Varroa* spp. in accordance with one of the following procedures:
 - a) freezing at core temperature of minus 12°C or less for at least 24 hours; or
 - b) irradiation with 350 Gray; or
 - c) desiccation by freeze drying or equivalent; or
 - d) by any procedure of equivalent efficacy recognised by the *Veterinary Authorities* of the *importing* and *exporting countries*.

Article 9.6.9.

Recommendations for the importation of beeswax and propolis

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that the *commodities*:

- 1) come from *apiaries* situated in a country or *zone* free from *Varroa* spp.; or
- 2) are processed beeswax or processed propolis; or
- 3) have been treated to ensure the destruction of *Varroa* spp. in accordance with one of the following procedures:
 - a) freezing at core temperature of minus 12°C or less for at least 24 hours; or
 - b) fumigation with methyl bromide at a rate of 48 g per cubic metre at atmospheric pressure and at a temperature of 10-15°C for a period of 2 hours; or
 - c) irradiation with 350 Gray; or
 - d) desiccation by freeze drying or equivalent; or
 - e) by any procedure of equivalent efficacy recognised by the *Veterinary Authorities* of the *importing* and *exporting countries*.

NB: FIRST ADOPTED IN 1982; MOST RECENT UPDATE ADOPTED IN 2013.