



Animal &
Plant Health
Agency

National Bee Unit

Using Integrated Pest Management for *Varroa* Control

Integrated Pest Management (IPM) uses a combination of methods at different times of the year to control a pest or disease. The aim is not to eradicate the target organism, but to keep it below a level where it can cause extensive damage. This Fact Sheet aims to offer a management programme which will help control *Varroa* mite levels within a honey bee colony.

Why should I consider using this procedure?

Since the discovery of *Varroa* in 1992, beekeepers have controlled *Varroa* by using pyrethroid treatments such as Bayvarol® and Apistan®. However, these products have now become ineffective, with pyrethroid resistant mites becoming a widespread problem across the UK.

How do I know what levels of mites cause harm?

This is a variable quantity depending on what other stressing factors are also placed on a colony. As a rule, mite populations should be kept below 1000 mites/ colony. In the case of small colonies and nuclei this figure must be set proportionately lower.

How do I check mite populations?

In any integrated control plan, knowing the level of mites in a colony is essential so that appropriate action can be taken. Monitoring three or four times a year is essential. If mite levels in your area are high you should at least four times each season; in **early spring** i.e. February-March to assess the mite population before the spring honey flow, **after the spring honey flow, at the time of honey harvest** and in **late autumn**.

Mite populations can be monitored by natural drop from a sticky insert/ open mesh floor or by uncapping drone brood. Details on how to do this can be found in the

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'Managing Varroa' leaflet, or Fact Sheet 'Estimating Varroa Populations' which are available on BeeBase at:

<https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=167>

How do I build a plan?

An important principle of any IPM is good husbandry and the ability to adjust the level of controls needed to suit the level of mite infestation. Low mite levels will require no action to be taken, Intermediate levels may require some action such as drone brood removal and high mite levels will require more urgent and effective actions such as a high efficacy varroacides. The type of plan you use will vary, depending on how you manage your colonies and therefore, one method that beekeeper A uses may not be appropriate for beekeeper B. Further guidelines on what to include in your IPM can be found in the 'Managing Varroa' leaflet on BeeBase.

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