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Bee Diseases

8.1 Contact

The SBA's Bee Diseases Convener, whose name is published every month in "*The Scottish Beekeeper*" inside the front cover, and whose name is also given in section 11.3 of this Manual.

8.2 SBA Policy on managing bee diseases

The Convener's duties are to advise the SBA Executive on all aspects of the biology, detection and control of bee diseases; to inform and advise Members, by means of articles, courses and personal contacts; and to represent the Executive at official meetings on this subject.

8.3 General Information on diseases

Bee Diseases fall into two categories: Notifiable and Non-Notifiable.

8.3.1 Notifiable Diseases

Notifiable Diseases are defined in law, and currently they are

- American Foul Brood (AFB)
- European Foul Brood (EFB)
- Small Hive Beetle infestation
- *Tropilaelaps* Mite infestation

The beekeeper is under a legal obligation to notify the competent authority of the suspected occurrence of these four diseases. On discovery, or suspicion of the occurrence of any of the above diseases, the beekeeper is required to report the fact to the nearest office of the Scottish Government Rural Payments and Inspections Directorate (SGRPID).

The address of your nearest one can be found in your local telephone directory under SCOT-TISH GOVERNMENT or from the list at the back of this section. The Lead Bee Inspector, Stephen Sunderland can also be contacted. His contact details are:-

Stephen Sunderland
Lead Bee Inspector, SGRPID
P Spur, Saughton House
Broomhouse Drive
Edinburgh
EH11 3XD
Tel: 0300-244-6672
email: steve.sunderland@scotland.gsi.gov.uk
or
beesmailbox@scotland.gsi.gov.uk

The beekeeper, or Local Secretary should also inform the SBA Bee Diseases Convener immediately a notifiable bee disease is confirmed and all possible help and advice will be given. The Bee Diseases Convener will then inform the Area Representative of that area so that all beekeepers in the area are made aware of the infection as soon as possible.

American Foul Brood (AFB)

Colonies diagnosed as being infected with AFB will be killed quickly then destroyed by fire under the supervision of a SGRPID Bees Officer. If the Bees Officer is confident of the diagnosis and the owner agrees, the bees may be destroyed immediately. An antibody strip test may be used in the field for confirmation. Alternatively the Bees Officer may seek confirmation by means of a laboratory test on sample combs or the owner may insist that such a confirmatory test is carried out.

European Foul Brood (EFB)

Diagnosis of EFB is not so readily carried out at the apiary and will normally require confirmation by laboratory test. If heavily infected, the colonies will be destroyed, but if lightly infected, they may, at the discretion of the Bees Officer, be treated, by him or her, with an appropriate measure. Under no circumstances should a beekeeper attempt treatment.

Tropilaelaps Mite

This mite has as yet not been found in the UK, but beekeepers are advised to be vigilant. The mite has a similar life cycle to *Varroa*, but it is smaller and moves on combs more quickly. It has been suggested that it may not survive in areas where there are longer broodless periods during the winter.

Small Hive Beetle

The Small Hive Beetle has not yet been found in the UK but beekeepers are advised to be vigilant. It is a serious threat.

There is no treatment authorised for this disease in the UK as yet. It is likely that treatment with pesticides in the hive and to the surrounding soil may be required, but good husbandry and good hygiene will help to combat the beetle.

Leaflets on notifiable diseases

Attention is drawn to the excellent Food, Environment and Rural Affairs (FERA) publications describing these diseases which could be invaluable in aiding the beekeeper to identify them.

Consequences of finding a notifiable disease

Colonies affected by any of the four notifiable diseases and nearby colonies which are considered to be contacts may be subject to Standstill Orders.

Compensation for Loss of Bees

Beekeepers who lose colonies, located in Scotland, due to compulsory destruction following diagnosis of AFB or EFB, will be issued with a Certificate of Destruction and, if they are members of the SBA, may be eligible for compensation under the terms of the SBA's Compensation Scheme — see under Compensation Scheme. No compensation is payable for losses due to infestation by *Varroa*.

8.4 Non-Notifiable Diseases

Non-Notifiable Diseases, i.e., those not on the “notifiable” list, do not require to be reported to SGRPID. Examples are varroasis, chalk brood, acarine, nosema, etc. Varroasis is now a perennial problem for beekeepers whose stocks are kept in infested areas. The other diseases crop up from time to time.

All these diseases can usually be treated if necessary at local level by the beekeeper or with the help of someone in the Local Association. Again if help is required please contact the Bee Diseases Convener.

The whole of Scotland has now been designated a “Statutory Infested Area” (SIA) with regard to *Varroa*, and varroasis has now been removed from the list of notifiable diseases. Beekeepers should nevertheless be responsible about not moving *Varroa*-infested hives to parts of the country where *Varroa* has not previously been found, for example, some of the islands. Please contact local beekeepers to try to obtain local bees rather than risk taking in *Varroa*-infested colonies.

It will be regarded as highly irresponsible to move bees from an area where *Varroa* is known to be present into one where it has not been found.

8.5 Science and Advice for Scottish Agriculture

Whether a suspected disease is notifiable or not, material for examination for disease can be submitted, by a beekeeper, direct to

Bee Diseases,
Science and Advice for Scottish Agriculture (SASA),
1 Roddinglaw Road,
Edinburgh
EH12 9JF.

Their email address is info@sasa.gsi.gov.uk and their telephone number 0131-244-8890.

These samples should be clearly marked, “Bee Diseases — material for examination” and addressed for the attention of Mrs Fiona Hight. If these samples are of bees, they should comprise about a cupful. Samples should be packed in paper or cardboard and not plastic, since plastic causes samples to deteriorate rapidly.

Remember that this is the place to send all floor scrapings for identification of possible *Varroa* infestation.

In all cases the hive or at least the apiary must be clearly identified on the label of the sample.

If a disease is confirmed by SASA as a notifiable one, then SASA itself will proceed to inform SGRPID, thus removing the need for the beekeeper to report it. Of course the beekeeper must allow the Bees Officer thereafter to take the legally required action of destruction or treatment, and should also inform the SBA's Bee Diseases Convener.

8.6 Treatment of Bee Diseases

The Veterinary Medicines Regulations require that only licensed products are offered for sale and use in the treatment of diseases of animals, including bees. Treatments licensed at present for use in Britain for the treatment of bees are Bayvarol, Apistan, Apiguard and Apilife Var for the detection and treatment of *Varroa* and Fumidil B (but not available after June 2012 at latest) for the control of nosema.

Records of the purchase, use and disposal of all these licensed medicines must be maintained and kept for five years from the date of purchase. A useful article by Professor Alan Teale detailing exactly what is required was published in "*The Scottish Beekeeper*" (2006), Vol. 83 (no. 6 June), pp 150–151.

There are additional treatments in use by beekeepers which rely on the miticidal effects of organic acids, including the use of prepared solutions of oxalic acid purchased from bee supply companies. The use of organic acids is not permitted under the Veterinary Medicines Regulations but is tolerated by the Veterinary Medicines Directorate, for now, when they are used as hive cleansers. This is likely to change in the near future. Beekeepers using such methods need to consider their own health as well as the integrity of their hive products, and should not use sublimation methods when safer liquid methods are available.

The thymol-based Apiguard and mixed essential oil-based Apilife Var treatments are effective when used as indicated. The pyrethroid-based treatments Apistan and Bayvarol can be useful in some situations but it should be realised that resistance to the pyrethroids may be widespread and so only a limited knock-down of mites obtained. Beekeepers are recommended to test for resistance, and to stop using these products if resistance is found. All beekeepers, whether they have resistant mites or not, are urged to use a program of Integrated Pest Management (IPM) to control *Varroa*. This will lessen the chance of resistance developing.

Treatment with these medications is best not carried out during the honey season, though it can be applied then in emergency, but honey supers for harvest must be removed during treatment.

Treatment by dusting frames of bees with powdered sugar is used by some beekeepers, but replicated trials have not found the methods to be sufficiently efficacious. There are also biotechnical methods which can reduce *Varroa* populations including the removal of drone comb built underneath shallow frames prior to emergence. See the Food and Environment Research Agency/National Bee Unit BeeBase website for instructions at <https://secure.fera.defra.gov.uk/beebase/index.cfm>.

An IPM program should contain different types of control measures, such as chemical and physical, and should alternate between chemicals with different modes of action, and between different physical methods that target different stages of the life cycle of the mite. Dusting with powdered sugar, for example, is only of limited efficacy partly because it only targets mites outside the brood cells, adherent to the adult bees (phoretic mites). Other methods involving the removal and destruction of selected brood comb prior to emergence of the bees target those mites which are inside the brood cells. See, for example, the short section in the paragraph above this one.

Advice on IPM is available from the Bee Diseases Convener or from Graeme Sharpe, Apiculture Specialist, Scottish Agricultural College, Auchincruive, Ayrshire KA6 5HW, Tel 01292–525375, email:–g.sharpe@au.sac.ac.uk.

All beekeepers in Scotland, and especially Local Association Secretaries, should monitor what appears in "*The Scottish Beekeeper*", where new developments will be reported by the Bee Diseases Convener as they occur. Remember that your Local Association copy of the magazine is sent to you with a purpose. Please make good use of it for the benefit of your members.

8.7 SGRPID Area Office Addresses

Note: Throughout this section and in the addresses this organisation is referred to as the Scottish Government Rural Payments and Inspections Directorate (SGRPID).

- **Argyll and Western Isles**

Cameron House	10 Keith Street
Albany Street	Stornoway
Oban	HS1 2QG
PA34 4AE	Tel. 01851 702392
Tel. 0300 244 9340	Fax: 01851 705793
Fax: 0300 244 9331	Email: SGRPID.Stornoway@scotland.gsi.gov.uk
Email: SGRPID.Oban@scotland.gsi.gov.uk	

Balivanich
 Isle of Benbecula
 HS7 5LA
 Tel. 0300 244 9600
 Fax: 0300 244 9601
 Email: SGRPID.Benbecula@scotland.gsi.gov.uk

- **Grampian**

Thainstone Court	32 Reidhaven Street
Inverurie	Elgin
Aberdeenshire	IV30 1QN
AB51 5YA	Tel. 01343 569500
Tel. 01467 626222	Fax: 01343 569501
Fax: 01467 626217	Email: SGRPID.Elgin@scotland.gsi.gov.uk
Email: SGRPID.Thainstone@scotland.gsi.gov.uk	

- **Highland**

Government Building	Estates Office
28 Longman Road	Portree
Longman East	Isle of Skye
Inverness	IV51 9DH
IV1 1SF	Tel. 01478 612516
Tel. 01463-234141	Fax: 01478 613128
Fax: 01463-714697	E-mail: SGRPID.Portree@scotland.gsi.gov.uk
Email: SGRPID.Inverness@scotland.gsi.gov.uk	

- **Northern**

Strathbeg House	The Links
Clarence Street	Golspie Business Park
Thurso	Golspie
KW14 7JS	Sutherland
Tel. 0300 020 1234	KW10 6UB
Fax: 0300 020 1258	Tel. 01408 634063
Email: SGRPID.Thurso@scotland.gsi.gov.uk	Fax: 01408 634014
	E-mail: SGRPID.Golspie@scotland.gsi.gov.uk

- **Northern Isles**

Government Buildings
 Tankerness Lane
 Kirkwall
 Orkney
 KW15 1AQ
 Tel. 0300 244 9626
 Fax: 0300 244 9625
 Email: SGRPID.Kirkwall@scotland.gsi.gov.uk

Charlotte House
 Commercial Road
 Lerwick
 ZE1 0HF
 Tel. 0300 244 9599
 Fax: 0300 244 9598
 Email: SGRPID.Lerwick@scotland.gsi.gov.uk

- **North Eastern, Perth and Kinross**

Broxden Business Park
 Lamberkine Drive
 Perth
 PH1 1RX
 Tel. 01738 602000
 Fax: 01738 602001
 Email: SGRPID.Perth@scotland.gsi.gov.uk

- **Southern**

Government Buildings
 161 Brooms Road
 Dumfries
 DG1 3ES
 Tel. 01387 274400
 Fax: 01387 274440
 Email: SGRPID.Dumfries@scotland.gsi.gov.uk

- **South Eastern**

Cotgreen Road
 Tweedbank
 Galashiels
 TD1 3SG
 Tel. 01896 892400
 Fax: 01896 892424
 Email: SGRPID.Galashiels@scotland.gsi.gov.uk

- **South Western**

Russell House
 King Street
 Ayr
 KA8 0BE
 Tel. 01292 291300
 Fax: 01292 291301
 Email: SGRPID.Ayr@scotland.gsi.gov.uk

Cadzow Court
 3 Wellhall Road
 Hamilton
 ML3 9BG
 Tel. 01698 462400
 Fax: 01698 462401
 Email: SGRPID.Hamilton@scotland.gsi.gov.uk

(Source: <http://www.scotland.gov.uk/Topics/farmingrural/Agriculture/A0contacts/contacts>)

