

Healthy Bees

Protecting and improving the health of honey bees in England and Wales

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Executive Summary

Honey bees contribute directly to local food production and make an important contribution, through pollination, to crop production. They are susceptible to a variety of threats, including pests and diseases, the likelihood and consequences of which have increased significantly over the last 5-10 years.

This plan aims to address the challenges facing beekeepers and is aimed at sustaining the health of honey bees and beekeeping in England and Wales over the next decade. To support the initiation of this work Defra has allocated additional funding of £4.3 million. The first stage of the plan will attempt to identify and make contact with those beekeepers not already known to the National Bee Unit (NBU). This will help ensure that any new or existing health problems are identified.

The plan describes the five main things we want to achieve working with, individual beekeepers, their associations¹ and other stakeholders. These are:

- 1) To keep pests, diseases and other hazards to the lowest levels achievable;
- 2) To promote good standards of husbandry to minimise pest and diseases risks and contribute to sustaining honey bee populations – prevention is better than cure;
- 3) To encourage effective biosecurity to minimise risks from pests, diseases and undesirable species;
- 4) To ensure that sound science underpins bee health policy and its implementation; and
- 5) To get everyone to work together on bee health.

The plan also identifies the distinct roles and responsibilities of Government, beekeepers, their associations and other stakeholders in achieving these aims. A strengthened partnership, involving all interested parties, is essential if current and evolving threats to bee health are to be successfully identified and addressed.

Publication of this plan marks the beginning of work on its implementation and the identification of further priorities and actions. Government, in consultation with other stakeholders, will now develop the necessary detailed programmes.

¹ “Beekeeping associations” refers to those at national level including the Bee Farmers’ Association of the United Kingdom, the British Beekeepers’ Association, the Welsh Beekeepers’ Association, Council of the National Beekeeping Associations, Bee Improvement and Bee Breeders’ Association and Bee Diseases Insurance Ltd.

Chapter 1: Introduction

Aim

The overall aim of the plan is:

To achieve a sustainable and healthy population of honey bees for pollination and honey production in England and Wales via strengthened partnership working between Government and other stakeholders.

This plan confirms the Government's ongoing commitment to help protect and improve the health of honey bees and to sustaining and supporting beekeeping in England and Wales. It sets out:

- Key actions for protecting and improving the health of honeybees; and
- the relative roles and responsibilities of government and other stakeholders

The intention is to provide direction and focus for the next decade. Following publication of this plan, detailed actions will be developed and implemented in consultation with stakeholders.

Strengthened partnership working is seen as crucial, and will help ensure that threats to bee health are effectively identified and acted upon.

It is not the intention of the plan to change policy on bee health and the associated inspection service. The Department for Environment, Food and Rural Affairs (Defra) and Welsh Assembly Government (WAG) will continue to work within domestic and international legislation and other agreements (such as the OIE's² International Terrestrial Animal Health Code).

The challenge

Honey bees, pests and diseases

Honey bees contribute directly to sustainable local food production and more broadly, through pollination, to crop production.

They are susceptible to pests and diseases, which have increased significantly in the UK over the last 5 to 10 years. Current widespread risks include American Foulbrood and European Foulbrood, varroa mites and associated viruses. Colony losses due to varroa infestation have increased since 2001. This is a result of the mites' developing resistance to available pyrethroid varroacides and the limited alternative treatments. Potential exotic risks include the small hive beetle, parasitic brood mites (*Tropilaelaps* species) and undesirable species such as the Asian hornet.

The management of pests and diseases in hives to the lowest levels achievable, in particular through integrated pest management, is needed in order to reduce the risk of further spread to nearby apiaries. It is also

² Office International des Epizooties (World Organisation for Animal Health)

necessary to sustain the role of honey bees in pollinating crops and to minimise lost honey production.

Beekeeping

Beekeeping is pursued by some 200-300 commercial bee farmers who depend on beekeeping for all or part of their income, but it is dominated by some 33,000³ amateur beekeepers who pursue the craft for interest. The economic value of honey bees as crop pollinators is much greater than their value as honey and wax producers.

The dominance of non-commercial beekeepers presents particular challenges. Without specialist support their investment in the required measures to promote or manage bee health or to collaborate to address common problems is likely to be limited. These difficulties are compounded because many beekeepers are not members of any beekeeping associations and are not recorded on BeeBase⁴, making them difficult to reach and include in the disease surveillance programme operated by the National Bee Unit's (NBU's) Bee Inspectors.

Consequently, concerted initiatives and actions to sustain honey bees are difficult to undertake and unlikely to be effective without government support.

Scope

This plan is concerned with protecting and improving the health of managed honey bees.

The health of bees is concerned with anything that potentially harms honey bees, including bacteria, viruses, arachnids (e.g. mites), insects, fungi and other pathogens, which cause disease or feed on bees, as well as adverse effects caused by other threats, such as undesirable species that prey on colonies, the misuse of pesticides and the impact of climate change.

Other relevant policy areas include food safety controls (regulations on residues in honey from pesticides and medications) and veterinary medicines' controls. While these areas are outside the Plan's scope, liaison with the relevant lead agencies (e.g. VMD, FSA & PSD⁵) is necessary to achieve the stated outcomes.

Subject to appropriate country variations, the plan is intended to cover England and Wales. Equivalent plans for Scotland⁶ and Northern Ireland⁷ are in preparation. Coordinated implementation of these plans is vital to achieving successful outcomes.

³ Derived from ADAS report July 2001- An economic evaluation of Defra's bee health programme. However, this could be an over-estimate as there are uncertainties about the numbers involved

⁴ The National Bee Unit's voluntary database of beekeepers

⁵ Veterinary Medicines Directorate, Food Standards Agency, Pesticides Safety Directorate

⁶ <http://www.scotland.gov.uk>

⁷ <http://www.dardni.gov.uk>

Contribution to Defra's Strategic Objectives and Public Service Agreements⁸ and WAG's Vision for Agriculture

The plan will contribute towards the delivery of the Government's cross-departmental Public Services Agreement for the natural environment:

- "to secure a healthy, natural environment for everyone's well-being, health and prosperity now and in the future."

It will also contribute to two of Defra's nine Departmental Strategic Objectives for 2008-2011:

- A thriving farming and food sector with an improving net environmental impact.
- A healthy, resilient, productive and diverse natural environment.

And support WAG in securing lasting improvements to the agriculture sector by

- Protecting and improving the quality of Welsh stock.
- Controlling and eradicating diseases and therefore providing a secure future for farmers in Wales.

Chapter 2: Roles and responsibilities of stakeholders

The plan's aim and outcomes are ambitious. They require all stakeholders to work together and recognise the common purpose of improving honey bee health and sustainability. It is accepted that the degree of engagement will be dependent on the resources available to individuals and organisations. The responsibilities outlined below have been developed, through consultation, to reflect this.

Beekeepers

Beekeepers are responsible for the health and welfare of their bees, and in the first instance, for the management of pests and diseases. This duty of care includes:

- Recognising pests and diseases and through knowing their legal obligations, reporting any suspicion of notifiable pests or disease to their local Bee Inspector or the NBU;
- Maintaining good husbandry and health practices to prevent and control the spread of pests and diseases;
- Ensuring that their skills and competence levels are appropriate and up to date;
- Signing up to BeeBase;
- Complying with legislation on controlling pests and diseases, including standstill notices and import requirements;

⁸ <http://www.defra.gov.uk>

- Using and storing medications and treatments appropriately;
- Maintaining records on the movement and location of their colonies within GB and making records available to their local Bee Inspector on request;
- Seeking specialist advice from their local beekeeping associations or from their local Bee Inspector.

Beekeeping associations

Beekeeping associations:

- Support beekeepers through education, information and advice;
- Promote good beekeeping husbandry and practice;
- Encourage beekeepers to achieve higher standards of beekeeping, including their disease recognition and management skills;
- Raise beekeepers' awareness of their legal obligations, including on bee imports and requirements on responsible storage, safe administration and recording of bee medications and other treatments;
- Emphasise the benefits of signing up to BeeBase;
- Work with government to achieve common objectives.

Associations also contribute by encouraging members of the public to become beekeepers, thus ensuring a widespread population of honey bees.

Government

Government, represented by Defra and WAG, works with beekeepers to achieve common objectives. It contributes to honey bee health by:

- Intervening in honey bee health and supporting beekeeping where the market cannot deliver some or all of the objectives (market failure) and ensuring that the reasons for intervention are clear and based on sound scientific evidence;
- Setting strategic objectives on managing and protecting the health of honey bees in consultation with other stakeholders;
- Developing and implementing a policy framework to deliver strategic objectives, in liaison with the Scottish, Northern Ireland and EU administrations, and ensuring that implementation of international and national obligations minimises the regulatory burden on beekeepers;
- In collaboration with the science and research community, maintaining science and research to underpin these activities;
- Using the most up to date evidence base for decision making and for informing policy and operations.

The Government sets the policy on honey bee health which is implemented by the NBU and its Bee Inspectors⁹ in England and Wales. The NBU contributes by:

- Providing inspection and enforcement through its field team of Bee Inspectors, to control notifiable pests and diseases and to implement regulations;
- Managing BeeBase and seeking to increase the numbers of beekeepers on it;
- Undertaking research and development on priority issues;
- Communicating objective advice to all stakeholders;
- Contributing to policy development, including horizon scanning and risk assessment, and advising on potential consequences of policies on controlling notifiable and serious endemic pests and diseases of bees;
- Providing diagnostic services on pests and diseases;
- Contingency planning for emerging threats;
- Supporting good practice through training and education programmes, including those coordinated with national and local associations;
- Applying the principles of good regulatory practice (Regulators' Compliance Code 2008¹⁰).

Other contributors

The science and research community based at UK universities and institutes helps improve the science and evidence base through research and analysis.

Given the potential risk of spread of infection from their packing plants to local apiaries, honey importers and packers take steps to prevent local honey bees from accessing items such as unwashed honey containers at packing plants.

Representative bodies of medicine manufacturers and hive and appliance manufacturers and other suppliers ensure that beekeepers are given sufficient advice to use their products safely and effectively.

Chapter 3: Outcomes

This section describes the five outcomes being sought in order to secure a healthy and sustainable population of honey bees.

The main purpose of these outcomes is to provide a focus for work over the next 10 years. They are intended to be achieved through a series of work plans, developed and implemented by Government, the NBU, beekeeping associations and other stakeholders working together.

⁹ The NBU and the Bee Inspectorate will be incorporated into the new Food and Environment Research Agency (Fera) from 1st April 2009.

¹⁰ www.defra.gov.uk

The work plans will build on what is already working well in each of these five areas, and will focus on particular aspects that need to be reviewed, strengthened or improved.

The outcomes are as follows:

Outcome 1: Impacts from pests, diseases and other hazards are kept to the lowest levels achievable

- Government's risk assessment process effectively identifies and reviews national and, as necessary, regional priorities for action on pests and diseases, as well as new or emerging risks.
- BeeBase provides essential information about the location and numbers of colonies for the purposes of risk assessment, and for prevention and control of serious endemic and exotic pests and diseases. As a result, beekeepers, including those who are hard-to-reach and/or had not hitherto signed up, recognise the importance of this resource for communications and pest and disease control and sign up voluntarily.
- The reasons for the Government's control measures are clear, justified, based on sound scientific evidence and an understanding of food safety and environmental impacts. The response is also informed by beekeepers' concerns.
- In the event of unforeseen or emerging health risks, control measures may need to be based on best endeavours in the light of available information and understanding.
- Levers/sanctions available in current legislation on bees are effectively applied to reduce and manage risks from pests and diseases.
- Environmental and other hazards with potential impacts on honey bees, such as pesticides, deliberate removal of pollen-rich habitats and/or changes of land use, are kept under review and appropriate actions taken as necessary to alert and inform relevant authorities, based on up to date science and methods.
- Appropriate and effective veterinary medicines and other treatments are available as a result of engagement with treatment manufacturers and regulatory agencies, and are used sustainably.

Outcome 2: Good standards of beekeeping and husbandry minimise pests and disease risks and contribute to sustaining honey bee populations – prevention is better than cure.

- Beekeepers are competent in honey bee husbandry, health and management. As a result, they see the direct benefit of applying good husbandry in the management and care of their colonies, including biosecurity and early detection and control of pests and diseases in cooperation, as necessary, with the NBU's Bee Inspectors.
- Beekeepers continue to have access to education and training programmes, through bee keeping associations and the NBU, and to

practical, evidence-based advice to help establish their competence in honey bee husbandry and health management and to develop further these skills.

- As members of national or local beekeeping associations, other informal networks or through access to BeeBase, beekeepers recognise the benefits gained from access to further support, training and practical advice from other beekeepers to help them maintain good standards of honey bee husbandry and health.
- Honey and other hive products are produced safely. Veterinary medicines and other treatments are recorded and used correctly to ensure that any residues in honey are kept to a minimum and do not compromise either consumer safety or consumer expectations that honey is a pure product.

Outcome 3: Effective biosecurity at all levels minimises risks from pests, diseases and undesirable species

- Government and its agencies continue to control imports, monitor high risk access points, provide early warning of arrival of exotic pests and diseases and maintain appropriate levels of biosecurity at their facilities.
- Additional (voluntary) arrangements ensure that the domestic sale and trade of honey bees and/or honey and other bee products present a minimal risk of spreading pests and diseases to other honey bee colonies in GB.
- Honey importers and packers ensure that their packing plants present a minimal risk of spreading of pests and diseases to local honey bee apiaries.
- Bumble bees used for commercial pollination present a minimal risk of spreading pests and diseases to honey bee colonies.

Outcome 4: Sound science and evidence base underpins bee health policy and its implementation

- A well-developed science and evidence base, drawing on all potential sources of funding and/or in-kind contributions, improves our understanding of pest and disease risks and produces effective response and management methods for serious honey bee health threats.
- Research results relevant to proactive honey bee health management and husbandry as well as pest and disease risks and control methods are shared effectively with beekeepers.

Outcome 5: Effective communications and relationships operate at all levels

- Government, the NBU and its Bee Inspectors, beekeepers and their associations share information, risk assessments and ideas. They agree and review responsibilities and priorities in partnership. They

Chapter 4: Implementation of the plan

Defra and WAG in consultation with other stakeholders will agree actions and develop specific work plans and will put in place arrangements to manage implementation of the plan.

Managing the plan

Arrangements to manage implementation of the plan will be established as part of the review of stakeholder liaison. These arrangements are likely to comprise of an overall implementation programme that will be overseen by a stakeholder implementation group.

A key early activity for this group will be to identify the required work plans for the agreed initiatives and activities, agree the relative priorities, who is best placed to lead them, specific goals and milestones for delivery and establish indicators¹¹ upon which the plan's success will be measured.

This group will also review progress with implementation and agree any necessary further actions. It will also review the work plans and priorities in response to new information, changing circumstances or unexpected events.

Towards Implementation

Initiatives and activities were identified and prioritised during the plan's consultation phase, including the need to identify the currently 'unknown' beekeepers and assess the health of their apiaries. These will be finalised with other Stakeholders and developed into work plans in order to realise the plan's aim and outcomes.

The key activities and contributors identified for implementation in the short-term are as follows:

Outcome 1: Impacts of pests, diseases and other hazards are kept to the lowest levels achievable

- Defra, WAG, and the NBU will work with beekeeping associations and other stakeholders to expand options for the management of *Varroa destructor* and its viruses, including authorisation of additional treatments and their use through integrated pest management.
- The NBU will monitor colony losses and investigate, as a high priority, the causes of significant losses.
- Defra, WAG and the NBU will work with beekeeping associations to develop strategies for controlling foulbrood diseases with the aim of reducing incidence to the lowest levels achievable.

¹¹ For example a measure of success for achieving good standards of beekeeping and husbandry might be the number of beekeepers attaining a qualification within a given period.

- The NBU, beekeeping associations and suppliers will work together to increase the numbers of beekeepers on BeeBase given its key role in communication and disease control.
- Defra, WAG and the NBU will finalise contingency plans for exotic pests and diseases.

Outcome 2: Good standards of beekeeping and husbandry minimise pest and disease risks and contribute to sustaining healthy bee populations

- The NBU and national associations will develop a common set of good husbandry principles, to include monitoring of colonies and apiary health planning.
- National associations, those responsible for the National Diploma in Beekeeping and the NBU will work together to improve the education of beekeepers; focussing on improving standards of bee husbandry through education and training programmes, outreach initiatives and examinations.

Outcome 3: Effective biosecurity minimises the risks from pests, diseases and undesirable species

- The NBU will ensure that its Bee Inspectors are trained in evidence gathering and effective enforcement of current statutory requirements in relation to disease control, including on the import of honey bees.

Outcome 4: Sound science and evidence base underpins bee health policy and its implementation

- Defra and WAG, in consultation with beekeeping associations, will prioritise and commission further research to address gaps in the science and evidence base, based on a robust assessment of needs, in order to support policy development and operations.
- Defra, WAG, other funding bodies and beekeeping associations will work together to improve research coordination and collaboration.

Outcome 5: Effective communications and relationships operating at all levels

- Defra, WAG, beekeeping associations and other stakeholders will work to review and strengthen existing liaison arrangements, and will establish arrangements to manage implementation of the Plan.

Preparation

Defra and WAG acknowledge, with gratitude, that the plan was developed in cooperation with beekeepers' representatives, including the Bee Farmers' Association of the United Kingdom, the British Beekeepers' Association, the Welsh Beekeepers' Association, Council of the National Beekeeping Associations in the United Kingdom, Bee Diseases Insurance Ltd, Bee Improvement and Bee Breeders' Association, the CB Dennis British Beekeepers' Research Trust, the National Diploma in Beekeeping, the Commercial Queen Rearers' Association, as well as the NBU.