



EIP Focus Group “Bee health and sustainable beekeeping”

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CDG Animal products - 4 Nov 2020

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EIP Focus Groups

- Temporary groups of selected experts
- Focusing on a specific subject
- Sharing knowledge and experience
- Open calls for interest of participation
- 20 participants, different types of actors
- Short duration, focused
- Knowledge gaps and inspiration to set up innovation projects (Operational Groups)
- 43 Focus Groups to date

Focus Group – working process



FG “Bee health and sustainable beekeeping”

- Bee health: a multi-factor and multi-actor issue
- Diseases, pests and predators, farming and forestry practices, climate change, other stressors (e.g. inadequate beekeeping practices)
- Colony, apiary, landscape
- Beekeepers, farmers, foresters, advisers, local authorities...citizens

How to ensure the sustainability of beekeeping in the face of challenges linked to pests and diseases, intensification of agriculture, and climate change?

Framing key issues and ways forward

Bee colony

Determination and evaluation of honeybees health status

Management methods applied to local conditions

Honeybee genetic diversity



- Develop and implement a practical index synthesising the health status of bees
- Develop and evaluate technical methods for controlling Varroa for sustainable beekeeping
- Communicate the importance of genetic diversity for sustainable beekeeping

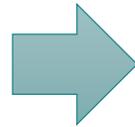


Framing key issues and ways forward

Apiary

Collaboration for collecting, sharing and interpreting monitoring data (precision beekeeping)

Sustainable environment around the colonies



- Measure and evaluate the exposure to stressors from agriculture in combination with food resource quality and availability at the apiary level
- Interpretation and sharing collected data from monitoring, both biotic- and abiotic factors
- Mapping the landscape around the apiary for its sustainability

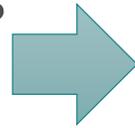


Framing key issues and ways forward

Landscape

Sub-lethal effects of chemicals in an environment with multiple stressors

Collaboration among all actors involved



- Identify, implement and communicate mitigation practices among beekeepers and farmers
- Manage complexity through collaboration

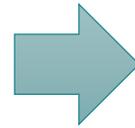


Framing key issues and ways forward

The beekeeper

Make knowledge available (from research and practice)

Skills development



- Create a European platform for beekeeping knowledge connecting research and practice
- Licence for beekeepers, a pan-European standard



Photo: Xavier Lejeune

Ideas for further research

- ▶ Create a **European platform** connecting research and practice and linked to local centres
- ▶ Develop an index synthesising the **health status** of bees, to help assess risks
- ▶ Develop and evaluate technical methods for sustainable beekeeping and to fight **Varroa**
- ▶ Assess the **exposure to stressors** from agriculture in combination with other factors, especially flowering quality and quantity
- ▶ Identify, implement and communicate practices among beekeepers and farmers, fostering their **cooperation** for their mutual benefit
- ▶ Increase the **genetic diversity** through local breeding to improve honeybee resilience and to increase the resistance to Varroa

*Note: find the complete list of research needs in **Annex 4** to the final report and in each minipaper*

Some ideas of Operational Groups or other innovative projects

Varroa control

- ▶ Testing effects of cutting drone brood and reducing cell size for Varroa control

Hive construction and management

- ▶ Design and manage apiaries to better cope with adverse conditions (e.g. drought)

Collaboration for a bee-friendly landscape

- ▶ A platform to support bee-friendly farming, to exchange information between beekeepers and farmers, including information about land use, real time pesticide application, or crops

Note: find the complete list in the final report and in each minipaper



Focus Group results

- Final report
- 7 minipapers
- Factsheet (soon)

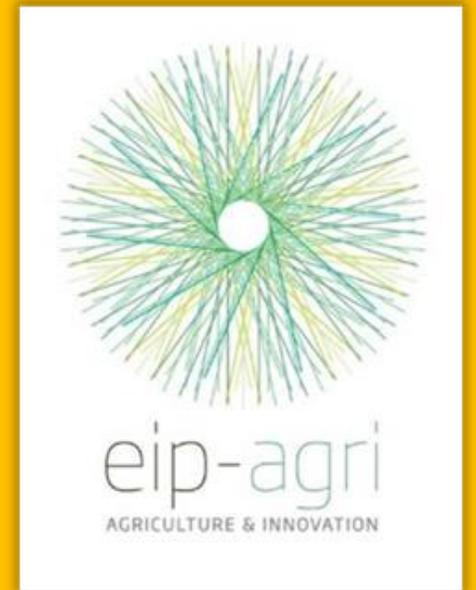
<https://ec.europa.eu/eip/agriculture/en/focus-groups/bee-health-and-sustainable-beekeeping>

The report includes a wealth of practical examples and an inventory of research and innovation projects and other relevant initiatives!

Other EIP resources

- [Operational Groups on beekeeping in the EIP-AGRI database](#)
- EIP-AGRI videos
 - [AGRI challenge: increasing biodiversity in agricultural landscapes](#)
 - [AGRI challenge: Monitoring bee health through beehive sensors](#)
- EIP-AGRI Inspirational ideas
 - [Monitoring bee health through beehive sensors](#) (Italy)
 - [French farmers, beekeepers and agricultural students join forces to increase biodiversity in agricultural landscapes](#) (France)

Thank you



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On-going Horizon 2020 projects (SC2)

PoshBee - Pan-european assessment, monitoring, and mitigation of stressors on the health of bees (Jun2018-May2023) - €9 million

<https://cordis.europa.eu/project/rcn/215953/factsheet/en>

B-GOOD – Giving Beekeeping Guidance by cOMputatOnal-assisted Decision making (June2019-May2023) - €8 million

<https://cordis.europa.eu/project/id/817622>

BPRACTICES (ERA-NET SUSAN):

- New indicators and on-farm practices to improve honeybee health in the Aethina Tumida ERA in Europe – *€0,7 million*

Develop new management practices (Good Beekeeping Practices – GBPs) adopting new clinical methods, biomechanical and innovative biomolecular techniques respecting the natural behaviour of bees

Other on-going Horizon 2020 projects

- **BeeSymOverSpace** - How to help the hive? Incidence and impact of heritable microbes on bee health (2016-2019) http://cordis.europa.eu/project/rcn/206460_en.html - MSCA/IF - €0,24mio
- **NO PROBLEMS** - Nourishing PRObiotics to Bees to mitigate stressors - (2018-2021) - https://cordis.europa.eu/project/rcn/212973_en.html - MSCA/RISE - €0,34mio
- **IoBee** - Beehive health IoT application to fight Honey Bee Colony Mortality (2017-2020) - http://cordis.europa.eu/project/rcn/210011_en.html - FTIPilot - €1,43mio
- **WarmHive** - SMART thermotherapy solution for varroa mite treatment (Jan-Jun2019) <https://cordis.europa.eu/project/rcn/220042/factsheet/en> - LEIT/SME - €0,05mio
- **BeeHome** - Automated beekeeping platform powered by AI that increases honey production by 50%, reduces labour use by 90%, and reduces colony loss by 80% (Jan-Apr2019) <https://cordis.europa.eu/project/rcn/220635/factsheet/en> - LEIT/SME - €0,05mio
- **FOG** - Frequency protector generator for honeybees (Jan-Jun 2019) <https://cordis.europa.eu/project/rcn/220056/factsheet/en> - LEIT/SME - €0,05mio
- **SAMS** - International Partnership on Innovation in Smart Apiculture Management Services - (Jan2018-Dec2020) - https://cordis.europa.eu/project/rcn/216627_en.html - Ind Leadership/ICT - €2mio

OG projects on Beekeeping



Non-exhaustive list (September 2019)

- **Beekeeping / pollinators and farming practices**

Association of fruit production and beekeeping (FR-Martinique); Bee-friendly farming (NL); Forage management and pollinators (UK)

- **Nomadic beekeeping and monitoring**

Transhumance practices (FR); Remote beehive monitoring (IT)

- **Bee health**

Vespa velutina threats (ES); Varroa-resistant breeding (DE); Varroa detection (SE)

- **Bee products**

Honey-based alternatives to sweeteners (ES); Diversification of beekeeping activities (PT)

Look for more:

EIP-AGRI project database: <https://ec.europa.eu/eip/agriculture/en/my-eip-agri/operational-groups/projects>

National OG databases: <https://ec.europa.eu/eip/agriculture/en/links-existing-operational-groups>

