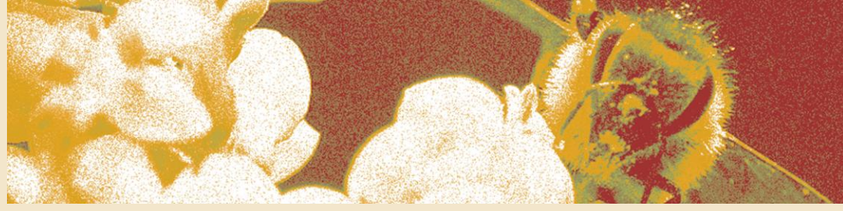

Better-B
FOR RESILIENT BEEKEEPING

Europe's Vulnerability and Preparedness for New Invasive Species

Following the devastation caused by the Varroa mite, several invasive species have emerged as serious threats to honeybees. These include the yellow-legged Asian hornet, the small hive beetle, and the Tropilaelaps mite. These species disrupt colonies (e.g., predation, disease) - posing ecological risks and economic challenges for beekeeping. Twelve international experts with specialized expertise in honey bee health, management and invasive species were interviewed. They identified key gaps in administrative and beekeeper responses - particularly in prevention, detection and mitigation - and offered recommendations for action.

Key findings from expert interviews

Preparedness & Awareness

"There is always a gap between detection by researchers and confirmation by authorities. During this gap, the pest is really moving on."

🐝 Authorities across Europe are generally underprepared for invasive alien species (IAS), impacting the beekeeper sector.

🐝 Veterinary services are often responsible for bee health but lack specific training in beekeeping and invasive species.

🐝 Beekeepers' awareness increases only when directly affected. Early-stage vigilance is often lacking.

Regulatory & Funding Challenges

📓 Fragmentation across countries and lack of unified EU protocols hinder a coordinated response.

💵 Funding is reactive and project-based, often ending before long-term solutions are in place.

💵 Some compensation schemes are ineffective or absent, discouraging reporting and cooperation.

Tropilaelaps mite
(*Tropilealaps spp.)*

Small hive beetle
(*Aethina tumida)*

Yellow legged Asian hornet
(*Vespa velutina nigrithorax)*

Surveillance & Monitoring

"The best strategy is prevention. And prevention goes hand in hand with monitoring."

"Be aware. Start monitoring. Prevent. Keep your own bees. Don't bring anything from outside."

Monitoring systems vary widely:

🚶 Citizen science platforms can support reporting and expert validation

📑 Periodic bee health surveys help track trends in bee populations (e.g. swab samling (Aethina Tumida)).

⛔ Bottle traps are widely used but non-selective, harming native species (Vespa Velutina Nigrithorax).

🔎 Active monitoring (e.g., observing hive entrances) is more accurate but time demanding (*Vespa Velutina Nigrithorax*).

👓 Visual training for beekeepers and inspectors (*tropilaelaps*).

Expert Policy Recommendations

👉 Promote local bee stocks and restrict imports from high-risk regions.

👉 Invest in early detection, advisor training, outreach and visual tools (e.g., videos, guidelines, leaflets, apps).

👉 Incentivize reporting and cooperation (e.g. fair compensation or mutually beneficial collaborations)

👉 A European-wide network is needed to coordinate surveillance, develop flexible and adaptive protocols, and support research.

"We need proactive plans with lots of stakeholders involved because it needs to be a holistic plan, considering parts that go beyond what each individual brings to the table."

Control Measures

🪚 **Nest destruction** is the main method of control for *Vespa Velutina Nigrithorax*, but costly and unsustainable without funding.

🐎 **The Trojan Horse method** (toxic bait on foraging hornets) shows promise but lacks regulatory approval and environmental safety validation.

🧪 **Formic acid** and possibly **oxalic acid** may be effective, but more testing is needed (*Tropilaelaps).*

⛔ **Eradication of bee colonies** is discouraged—experts recommend isolation and study instead.

What are your thoughts? Scan the QR code and let us know!

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This work was supported by the Better-B project, which has received funding from the European Union, the Swiss State Secretariat for Education, Research and Innovation (SERI) and UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee (grant number 10068544).

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