Needs for apiculture research collaboration and joint policy development on honey markets

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Henning Lyngsø FOGED

Organe Institute (ORGANE), Denmark, https://www.organe.dk, henning@organe.dk

Setting the scene

- My speech comes out of WG5 of the BeSafeBeeHoney project.
- The intention of WG5 is to ensure the integration of Social Science & Humanity (SSH) disciplines into the Action, as well the multidisciplinarity, in specific for the purpose of
  - Analysing the policies governing the honey market: this is always relevant in projects (unless some cases of basic research), for HorizonEurope projects mostly a strict demand, and of indisputable relevance for a honey project.
- Working methods includes analyses of markets, production economy, regulations, and of high priority is the clarification of perceptions, the results optimally having elements of co-generation, building on stakeholder perceptions and insights.
- Main results of such activities would comprise joint recommendations for better policies and for closing research gaps via scientific collaboration.

Status

Some activities:

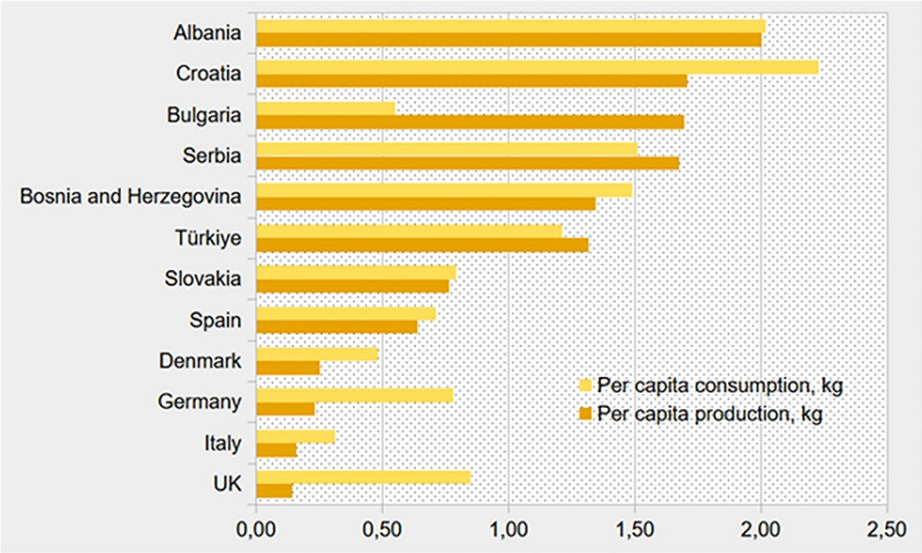
- Analysing maket indicators and market reports.
- Developing a *policy survey questionnaire* and launching it via newsletters, SoMe notifications, webpages, poster, etc.
- Keynote speech by Riccardo Pelani, Policy Advisor, COPA and COGECA on the issue of *"European Honey Sector: market situation, policy development, and main challenges"* at the 1st BeSafeBeeHoney international conference in Larissa, May 2024.
- Drafting a "*Concluding statement and policy brief*" compiled on basis of keynote speeches at the Larissa conference.
- *Analysed, categorised and published policy survey answers*:
  - 74 policy examples were provided by 17 respondents from 13 countries, representing an annual honey production of 230,000 tonnes;
  - 48 policy examples were considered promotional for a thriving honey market, 26 deteriorating.
- Keynopte speech by myself at the 2nd BeSafeBeeHoney conference in Sarajevo, May 2025, on the issue of "*Indicators for a healthy honey market and policies to support them*".
- Developed a manuscript on *"Apiculture sector policies – positive and negative elements to support healthy market conditions"* that is published by Open Research Europe.

Some concrete results:

- *Foged, H. L. 2024. Concluding statement and policy brief. 1st BeSafeBeeHoney Conference, Larissa, Greece, 28-29 May 2024. https://shorturl.at/tuxTl*
- *Foged HL: Indicators for a healthy honey market and policies to support them. Keynote speech at the 2nd BeSafeBeeHoney Conference. 2025. Abstract: BeSafeBeeHoney - BeeForward: Exploring Beekeeping Innovations and Science. BMC Proc 19 (Suppl 28):S5, 31 (2025). https://doi.org/10.1186/s12919-025-00347-z.*
- *Foged, H. L., Hoxha, F., & Majtan, J. (2025). Template and responses of policy survey. In Apiculture sector policies - positive and negative elements to support healthy market conditions. Zenodo. https://doi.org/10.5281/zenodo.17826786*
- *FOGED HL, HOXHA F and MAJTAN J. Apiculture sector policies - positive and negative elements to support healthy market conditions [version 2; peer review: 2 approved, 1 approved with reservations]. Open Res Europe 2026, 5:305. https://doi.org/10.12688/openreseurope.21244.2*

Next step

- So, here we are!
- You/we are all stakeholders, and we in WG5 need to take the final steps of turing our research into concrete policy recommendations, and explain what we see as required research tasks.
- Therefore, I am now going to present some outlines to be elaborated further at WG5 meetings etc.



From Foged et al., 2026. Based on Faostat 2023 data.

Recommendation #1

Public, financial support was pointed out as the most important policy – 13 of 17 respondents mentioned positive policy subsidisation examples and 1 negative (regretting lack of subsidies, which in fact is also positive).

Outlined policy recommendation

- It is recommended to **use subsidisation more widely** as a policy tool
  - for **strenthening the apiculture sector and its socio-economic value** through measures to increase the honey production volume and quality, document its quality, combat biotic and abiotic stressors, modernise the production and promote consumption of apiculture products;
- Measures could **target the sector broadly** via training and information campaigns, innovation, research and development projects, **as well as for direct and individual payments** to beekeepers for complying with certain regulations to benefit the sector.
- It is likewise recommended to **remove any financial support given unconditional**, but alone for keeping bees.

Conception of required research and innovation

- There is a profound need to investigate, how financial support via **effective conditionalities** in general would maximise its impact in relation to a thriving apiculture sector.
- The **use of smart farming solutions** for identification and tracking of beehive locations should in specific be investigated as a means of strengthening the honey production volume and quality, document its genuine quality and traceability, and combat biotic and abiotic stressors.

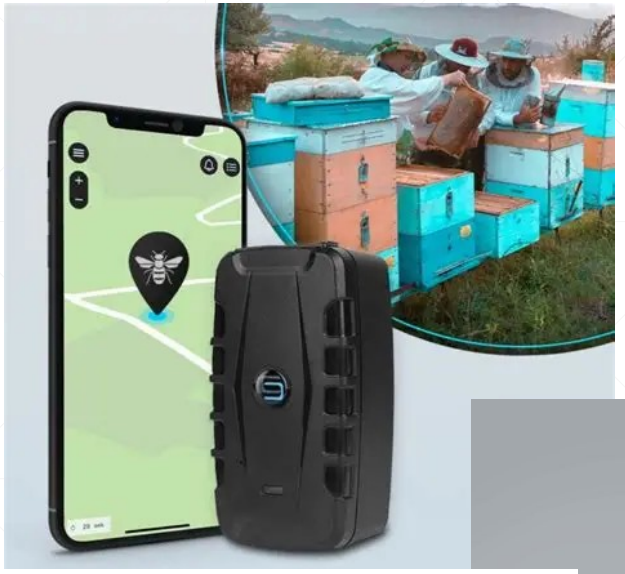
Recommendation #1 - Comments

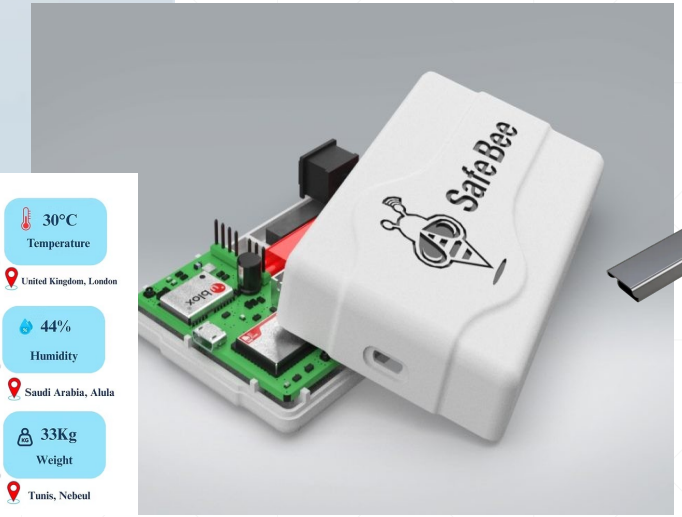
- EUs subsidisation policies are generally perceived as good examples.
- Most, if not all countries provide subsidies for beekeeping. However, we can from our BeSafeBeeHoney project share the good examples.

Some concrete subsidisation examples:

- *EU: Support for associations and beekeepers at EU level*
- *Bosnia and Herzegovina: Support for education of beekeepers in relation to abiotic stressors*
- *Serbia: Support for investments in equipment to modernise the production*
- *Denmark: Support for flower strips*
- *Serbia: Support for young farmers' purchase of bee queens*

Recommendation #1 – Smart farming solutions





Systems for identification, monitoring and tracking beehives

- Documentation towards authorities
- More reliable statistics
- More effective foraging if beehive locations are shared on open maps
- Theft prevention
- Possibility to add sensors for real-time monitoring of production parameters and beehive conditions - for increasing production efficiency

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Recommendation #2

There is a strong belief, evidenced through by 11 provided policy examples, to the importance of enhanced product classification systems and accurate labelling, utilising reliable methods to verify label information with honey quality standards for the purpose of combating fraud, promote fair competition, distinguish high-quality honey products rich in nutraceutical components, and reassure consumers about the absence of chemical residues.

Outlined policy recommendation

- Labelling that includes **traceability should be supported** as an effective means to combat fraud, increase consumer confidence and sustain fair market prices and profitability of the sector. For this, the role of beekeepers associations is imperial, and the use of private quality programmes important measures.
- **Stronger demands to traceability should as well be required from imported honey.**
- The **wider use of existing, official certification system** should be supported as having great consumer confidence and potential for wider use. These include EU's Protected Geographical Indications (PGI), and EU's Organic farming certification schemes.
- Whereas lab methods cannot stand alone in relation to fraud, **continued development to verify specific chemical, botanical and other honey composition should continue**.

Conception of required research and innovation

- **Research and innovation for better labelling** and classification of honey to increase consumer confidence, document its genuine quality and traceability, prevent adulterated honey from being marketed as native honey, and ensure fair market conditions for beekeepers.

Recommendation #2 – Enhanced traceability

Official certification schemes and private quality labelling:

- Effective solutions for enhancing traceability and consumer confidence already exists, and can be used more!
- Official certification schemes are under public control and can be associated with public subsidisation.
- Private quality labelling is (for trust to its value) subject to privately organised control and can be associated with market access.
- Benefits come with a price for the beekeepers, for instance €0.18 per kg honey for the PGI in Spain, but the value substantial higher (typically lifting sales prices with 30%).

Recommendation #2 – Example of private label

Using the private label (several versions) of the Danish Beekeepers Association (DBA) entails:

- A membership of a regional affiliation is required – membership fee prices varies, but could be in the level of €50-120 per year.
- The beekeeper has to sign a declaration, that, in short, commits to the use of best and legal practices.
- The labels cost ~€0.04 per piece.
- The DBA assist in the marketing, such as entering into agreements with supermarket chains about sale of the labelled products.
- DBA exercise control of the agreements with beekeepers, analysing their honey.

Recommendation #3

- Concerns persist regarding overly permissive regulations governing the approval, registration, and use of veterinary medicines and pesticides, which may negatively impact the sector. Nine policy examples were characterised by frustration over regulations, that do not prioritise the business interests of the apiculture sector. The quality of EU regulations are generally regarded as superior to those outside the EU.

Outlined policy recommendation

- It is recommended to **strengthen and further harmonise regulatory frameworks governing the approval, authorisation, and post-market surveillance of plant protection products, veterinary acaricides, and relevant co-formulants affecting apiculture**:
  - **Greater centralisation and uniformity** of implementation across EU Member States should be pursued to reduce disparities in legally available products, ensure fair market conditions, and improve pollinator protection.
  - **Regulatory frameworks should increasingly account for realistic co-exposure scenarios**, including pesticide mixtures, legacy contamination, and synergistic effects of so-called inert ingredients.
- Similar to honey, there should also be **introduced limit values for pesticide and veterinary acaricide residues in pollen, beebread, beeswax, royal jelly, and propolis**.

Conception of required research and innovation

- Develop **improved bee-risk assessment methodologies** incorporating chronic and mixture toxicity.
- **Investigate synergistic effects** between insecticides, fungicides, acaricides, and co-formulants.
- Establish **harmonised residue limits** and monitoring frameworks **for all apicultural matrices beyond honey**.
- **Develop strategies for management/replacement of contaminated beeswax and hive materials**.
- **Evaluate long-term impacts** of regulatory divergence across EU Member States on pollinator health and market fairness.

Recommendation #3 – Comments

- Non-EU countries should progressively **align pesticide and veterinary product regulatory frameworks with EU pollinator-protection principles**, while strengthening residue monitoring capacities, enforcement mechanisms, and beekeeper/farmer training on pollinator-safe use practices.
- Particular emphasis should be placed on **preventing the use of banned or obsolete substances** and improving oversight of informal pesticide markets.

More insights and details to recommendation #3 are provided by the BeSafeBeeHoney-based review:

- *Adrián Fuente-Ballesteros, Maj Smerkol, Anton Gradišek, Artur Sarmento, Julie Fourrier, Mila Arapcheska, Zehra Hajrulai-Musliu, Filip Franeta, Željko Milovac, Sonja Gvozdenac, Nesrin İçli, Harun Kurtagić, Ina Pasho, Elena Zioga, Beatriz I. Vazquez, Damir Pavliček, Rosa Busquets, Jelena Ciric, Nurinisa Esenbuga, Miriam Cavaco, Helena Rodrigues, Rosa Ferreira, Marta Leite, Zane Lace, Ana M. Ares, José Bernal, Iveta Pugajeva. Pesticide contamination in apicultural products: An updated and comprehensive review of analytical methods, occurrence, and safety concerns. Trends in Environmental Analytical Chemistry, Volume 49, 2026, e00300, ISSN 2214-1588, https://doi.org/10.1016/j.teac.2026.e00300.*

Recommendation #3 – Self-righteousness

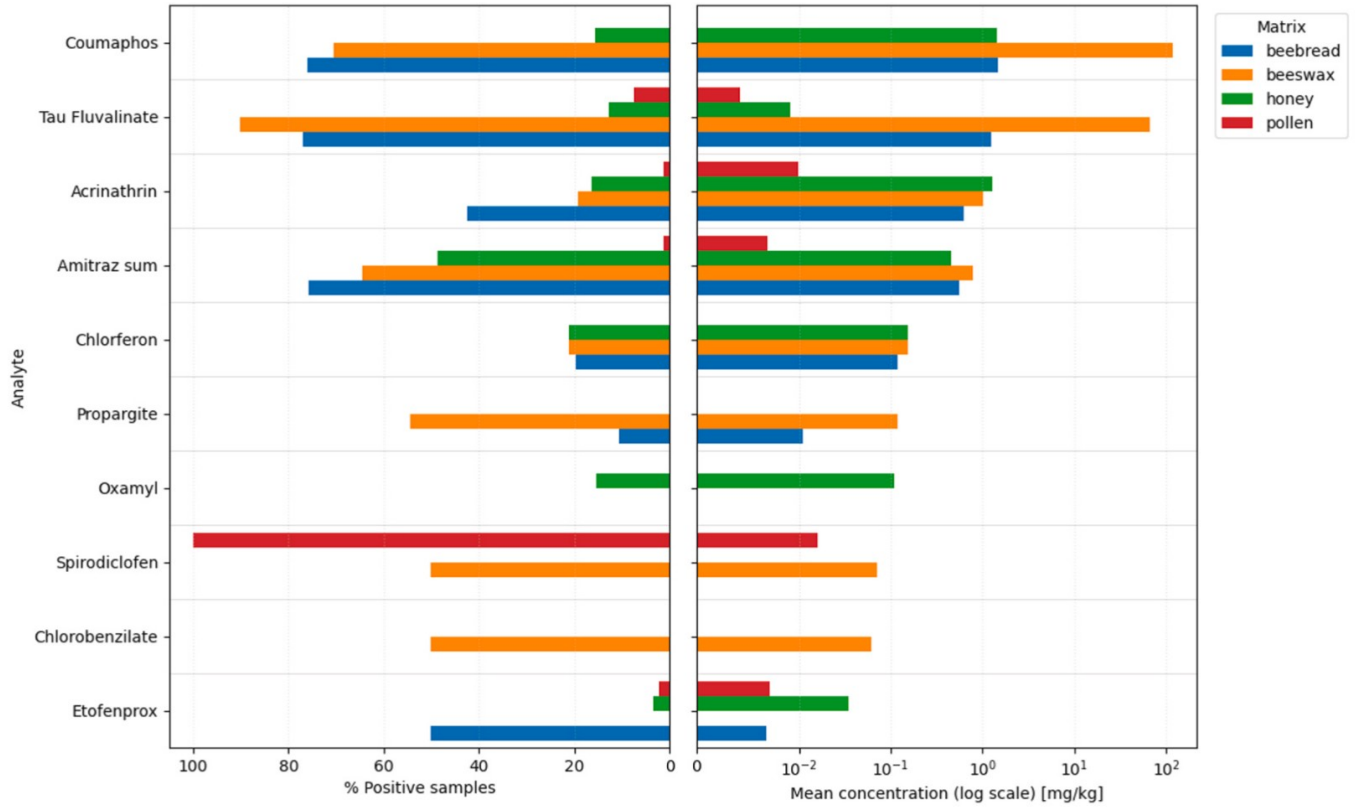

Fig. 3. Frequency of acaricide detection (top 10) and average concentration detected for pesticides in apicultural products. Bars on the left indicate the percentage of positive samples for each analyte, while bars on the right represent the mean concentrations (log scale, mg/kg) measured in bee matrices (beebread, beeswax, honey, and pollen).

- Can methods to replace acaricide use be developed?
- Would the call for preventing pesticide residues be more acknowledged if the apiculture sector could find solutions for preventing acaricide use?

Organe Institute (ORGANE)

- Is a small, private not-for-profit research institute in Denmark, primarily working for public funding.
- Undertake agri-food sector related research & innovation activities of general and public interest.
- Webpage- https://www.organe.dk.
- Activities focus on market analyses and policies.


Questions
Comments
Concerns