APIMONDIA SCANDINAVIA 2025
SWEDEN | DENMARK | NORWAY

PP-309 [Beekeeping Technology and Quality]

APIMONDIA SCANDINAVIA 2025 23-27 SEPTEMBER COPENHAGEN

Preliminary results of the VASBEEP project: insights into Spanish honey production

Seijo-Coello M. Carmen[1,2], Diéguez-Antón Ana[1,2], Míguez-Bernárdez Montserrat[1,2], Rodríguez-Flores M. Shantal[1,2], Pascual-Maté Ana[3], González- Porto Amelia[4], Escuredo Olga[1,2]

1. Grupo de Investigación en Sistemas Agroambientais. Facultade de Ciencias, Universidade de Vigo, Campus As Lagoas, 32004 Ourense, Spain. e-mail: mcoello@uvigo.gal , 2. Instituto de Agroecoloxía e Alimentación. Campus Auga, 32004 Ourense, Spain.
3. Universidad Isabel I. Calle Fernán González, 76, 09003 Burgos, Spain.
4. IRIAF. Centro de Investigación Apícola y Agroambiental – CIAPA. C/ Camino San Martín s/n, 19180 Marchamalo (Guadalajara), Spain.

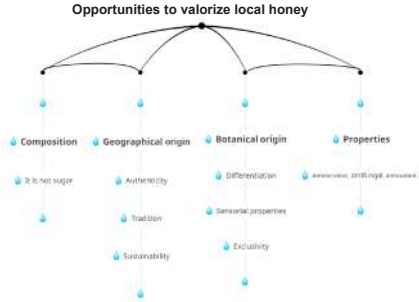
Background and problem description

Spain has a highly biodiverse natural environment offering optimal conditions for apiculture, being one of the main producers in the European Union. The marked contrasts between Atlantic and Mediterranean beekeeping practices enable the production of a wide variety of honey types, many of them remaining undervalued. The VASBEEP project aims to enhance the value of Spanish apicultural products through differentiation strategies and promoting the knowledge into nutritional and functional properties of honey and pollen.

PROJECT PID2022-141679OR

Spanish beekeeping overview
Statistical data (European Commission, 2023)

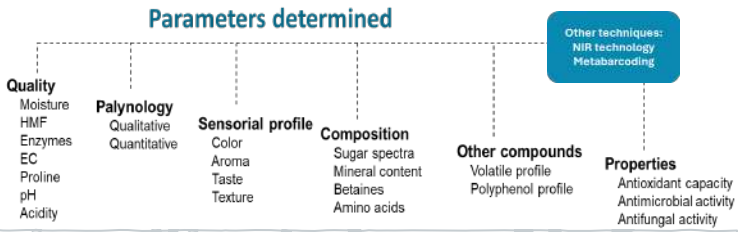
Opportunities to valorize local honey



Quality, identity, safety, consumer trust, heritage, reputation

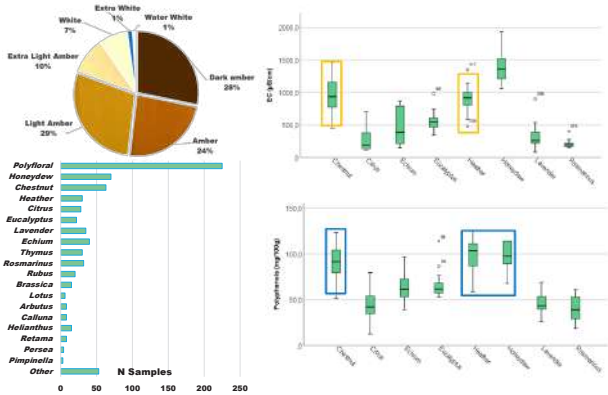
Methodology

Beekeepers, technicians, vet services and researches are collaborating to perform a representative sampling around the country. Essential quality parameters, palynological studies and sensorial analysis are the first steps in samples characterization. Composition including sugar spectra, mineral content, amino acids and betaines together other relevant compounds such as polyphenols are being analyzed. Some honey properties are also the objective of this project.



Results and conclusions

More than 700 honey samples from 2023 and 2024 harvests have been analyzed for now, and more samples from 2025 and 2026 harvest will be included. The results are being informatized and statistically treated, but a wide variety of multifloral, monofloral honey and honeydew honey samples were studied.



Main honey types were honeydew, chestnut, heather, lavender, rosemary, eucalyptus, vipers' bugloss, thyme, *Calluna*, *Citrus*, among others. Color was from extra white to dark amber, varying electrical conductivity accordingly. Antioxidant activity showed significant variation being the highest in darker honey samples.

Some honey resources

First papers will be published at the end of 2025 and the database about Spanish honey production will be accessible in Zenodo.

- ***Linking honey properties and geographical origin is vital for protecting local markets and ensuring food security.***
- ***Legislative changes are needed to define the specific qualities of honey types, preserving authenticity and preventing frauds.***
- ***Further research on honey functional properties is essential to promote consumption and enhance the value.***

Acknowledgements

Activities funded under VASBEEP project: *Valorization and authentication of Spanish apicultural products based on their composition*. Project PID2022-141679OR

The authors express their gratitude for the strong cooperation of the beekeepers, technicians and vet services. For further details, please email: apicultura@uvigo.gal or contact to the authors directly.

PP-309 [Beekeeping Technology and Quality]
Preliminary results of the VASBEEP Project: Insights into Spanish Honey Production

Maria Carmen Seijo Coello[1], Ana Diéguez-Antón[1], Montserrat Míguez[1], María Shantal Rodríguez-Flores[1], Ana Pascual-Maté[2], Amelia V. González-Porto[3], Olga Escuredo Pérez[1]
[1]Grupo de Investigación en Sistemas Agroambientais. Facultade de Ciencias, Universidade de Vigo, Campus As Lagoas, 32004 Ourense, Spain
[2]Facultad de Ciencias de la Salud. Universidad Isabel I. Spain.
[3]IRIAF. Instituto Regional de Investigación y Desarrollo Agroalimentario y Forestal de Castilla-La Mancha. Spain

BACKGROUND: Spain is the EU country with the largest number of beehives, currently around 3 million. In northern areas apiculture follows the pattern of the Atlantic apiculture with small and stationary apiaries with Langstroth or Dadant type beehives in front of the mediterranean and southern areas where transhumance and an intensive production using mostly Layens type beehives is the common. In addition to its honey production capacity, the wide variety of honeys produced in the region is also noteworthy, mainly because it is one of the most biodiverse areas in the European Union.

PROBLEM DESCRIPTION: Currently there is no EU legislation on the requirements that the different honey types should meet, leading to gaps in labelling and food safety. On the other hand, although there is scientific knowledge of main honey types, much of the honey produced in Europe is little known regarding its botanical origin.

METHODOLOGY: This study presents the first results of a national research project (VASBEEP Project) aimed at enhancing the value of Spanish honey based on its properties and geographical origin. More than 600 honey samples from the 2023 and 2024 harvests have been analyzed using various analytical procedures.

RESULTS AND CONCLUSION: The initial results classify the samples according to their palynological, physicochemical, and sensory characteristics, as well as other relevant parameters such as antioxidant capacity and volatile compound profiles, among others. The sampling has revealed a wide variety of multifloral and monofloral honey as well as honeydew honey. Samples range in color from extra white and white to dark amber/black, with electrical conductivities varying accordingly. Antioxidant activities are also highly varied from high values normally in dark honey to almost 10% in the clearest. Some specific volatile compounds were identified in monofloral honey samples. Main honey types were honeydew, chestnut, heather, lavender, rosemary, eucalyptus, vipers' bugloss, carob, Calluna, Lotus, among others.

PRACTICAL IMPLICATIONS FOR BEEKEEPERS: This project aims to give value the wide variety of honey types produced in Spain, indicating their main characteristics.