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Consumer's Trends of Honey Consumption and Honey Adulteration

JRC-Directorate F:
Health, Consumers and Reference Materials
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European Week of Bees and Pollinators 2018, 7th Edition, European Parliament, Bruxelles, BE, 26-28 June 2018

Interpol & Europol – Operation OPSON VI (Dec. 2016 – March 2017)

- *"Honey is still a high-risk product in terms of fraud. The most significant seizures were reported by the UK, where authorities seized 70 iron drums of honey (almost 29 tonnes) originating from China and another 15 tonnes in New Zealand. The reason for these seizures was deceiving consumers and "other" infringements. In the UK, the seized products contained added sugar."*

Protect the reputation of beekeepers

Protect consumers

Coordinated control plan on authenticity of honey to detect fraudulent practices

- Honey mislabelled with regard to its geographical and/or botanical origin;
- Products declared or presented as honey although containing **exogenous sugars or sugar products**



Coordinated control plan on authenticity of honey: Results

Origin	Samples (n)	Suspicion of non-compliance	
		(n)	(%)
Blend of EU honeys	96	19	19.8
Blend of EU and non-EU honeys	426	40	9.4
Blend of non-EU honeys	30	3	10.0
Single EU Member State	275	53	19.3
Single non-EU country	55	11	20.0
Unknown	11	1	9.1
TOTAL	893	127	14.2

Technical Round Table on Honey Authentication

JRC-Geel, Belgium on 25th January 2018

- To collect the opinion of a broad representation of stakeholders of the honey supply chain on the current **challenges** to authenticate honey;
- To identify the **gaps** in available tools and knowledge;
- To identify **ways** of filling those gaps.



Technical Round Table on Honey Authentication

Limitations of analytical tools

- Poor cost **effectiveness** of the available set of analytical methods; Screening methods are also necessary;
- Loss of **credibility** of non-harmonised tests due to different data interpretation and contradicting testing results prevent such tests from being widely accepted;
- Analytical methods to detect emerging fraud cases should be developed and already existing methods should be **validated**;
- **Guidance** on using complementary analytical methods and contextual awareness in data interpretation;

Technical Round Table on Honey Authentication

Needed infrastructures - Regulation

- International agreements are necessary for a better **definition** of honey, bee feeding, bee feeding products, harvesting, Good Manufacturing Practice;
- Acceptance / rejection **criteria** for authenticating honey should be put in place as well as a foreign supplier certification system to prevent fraud and control better the quality of products.
- Improved **traceability** programmes are needed;
- Improve and multiply borders **control** in particular at the main ports;
- Need for **monitoring** plans along the whole supply chain.

Technical Round Table on Honey Authentication

Needed infrastructures - Databases

- Databases storing information of compositional characteristics of honey need to be **representative, trustworthy, and accessible**;
- A clear definition is required on what exactly is '**authentic**' honey;
- Difficulty for getting authentic honey;
- Access to authentic samples and sampling ensured by qualified people are critical points for populating databases;
- **Metadata** is important;

Technical Round Table on Honey Authentication

Needed infrastructures - Quality Assurance tools

- **Reference materials** are needed for sugar syrups, adulterated / non adulterated honey, and treated honey ((ultra)filtration, resin treatment) but shelf life of honey is an issue.
- **Standardised methods** are needed. Some methods are mature enough for already organising proficiency tests, in particular for EA/LC-IRMS.
- **Harmonised approaches** by authorities within EU-28: definition of monofloral honey; melissopalynology including interpretation of results; limits / threshold levels for bee feeding; statistics and compliance criteria (agreement on confidence levels); guidance on recovery correction and application of measurement uncertainty.

Technical Round Table on Honey Authentication

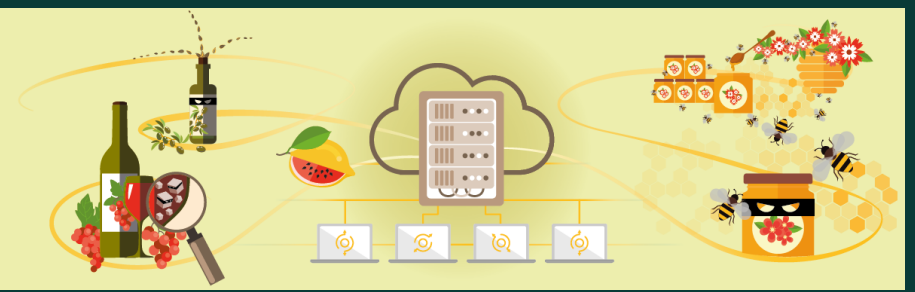
Needed infrastructures - Networking

- A **concerted action** including all stakeholders of the honey supply chain.
- An **effective coordination** by a body independent of national and commercial interest.
- Network of **competent laboratories** equipped with state-of-the-art analytical methods.
- Network needs also to be extended at the **international** level.
- **Standard Developing Organisations** such as ISO and IHC need to setup specifications and standardised test methods.
- Need of a **referee** (independent authority) in case of dispute.
- **Funding** is very important and national initiatives could contribute.



Actions on-going

Knowledge Centre
for Food Fraud
and Quality



- Published monthly the JRC Food Fraud Reporter.
- Knowledge base with analytical methods to be launched in November.
- Design of a database storing compositional characteristics of honey.
- Finalisation of an inter-laboratory comparison exercise on LC-IRMS.
- In December, technical meeting with competent authorities of the Member States to identify knowledge gaps related to food fraud, harmonisation of selected methods, and sharing of data.



Any questions?

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