

Coordinated control plan to establish the prevalence of fraudulent practices in the marketing of honey

Preliminary results

December 2015

- The 28 Member States, Switzerland and Norway collected 2237 samples of honey intended for human consumption.
- The samples were submitted to documentary, identity and physical checks, including laboratory tests, intended to verify the compliance as regards sugar composition and labelling of botanical source, geographical origin and other particulars (see "Outline of the control plan"). Some samples showed non-compliance in several checks¹ but a single main non-compliance was characterized at the end of the testing protocol.
- Botanical source: when specified, the botanical source of the samples of nectar honey was monofloral (23 different sources were sampled²) or polyfloral. Samples were also taken from honeydew honey (honey produced from secretions of living parts of plants or excretions of plant-sucking insects).
- Geographical origin: 61% of the samples were honey harvested in a single country (EU Member State or third country) and 39% of the samples were blended honey. The following third country origins were represented among the samples: Argentina, Brazil, Cameroon, Chile, China, Cuba, Guatemala, Macedonia, Mexico, New Zealand, Serbia, Thailand, Turkey, Ukraine, Uruguay, Zambia.

| Declared geographical origin | Single country (EU or third country) | Blended honeys |
|------------------------------|--------------------------------------|----------------|
| n samples tested | 1374 | 863 |
| % samples tested | 61% | 39% |

¹ 11% of the non-compliant samples gave off-limit values for 2 different tests and 4% for 3 tests.

² acacia, black locust, broom, buckwheat, chestnut, citrus, clover, coriander, eucalyptus, guarana, heather, honeysuckle, lavender, lime, linden, manuka, orange blossom, rapeseed, red bilberry, rosemary, sage, sunflower, thyme.

➤ Non-compliances: 19% of the samples showed non-compliance in at least one of the checks to which they were submitted. The distribution of the main non-compliances is the following:

- basic physico-chemical parameters (2%), mostly referring to the use of processing methods inconsistent with the product name or to poor storage conditions;
- pollen analysis, either botanical source (7%) or geographical origin (2%);
- sugar content and presence of exogenous sugars (6%), indicating sugar adulteration;
- other labelling aspects (2%), referring mostly to the use of wrong product names or unpermitted claims.

| Non-compliance | Physico-chemical parameters | Botanical source | Geographical origin | Sugar | Other labelling | Total |
|-------------------------|-----------------------------|------------------|---------------------|-------|-----------------|------------|
| % non-compliant samples | 2% | 7% | 2% | 6% | 2% | 19% |

➤ Suspicious of non-compliances: 13% of the samples that were not characterized as non-compliant were classified as "suspicion of non-compliance" (samples which did not give off-limit values but whose results for the different analysis, taken individually or in combination, were considered to be unusual or questionable):

- 2% as regards the pollen content and the declaration of the geographical origin;
- 11% as regards a possible adulteration with sugar.

| Nature of the suspicion | Pollen content and declared geographical origin | Adulteration with sugar | Total |
|---|---|-------------------------|------------|
| % suspect samples among the remaining samples | 2% | 11% | 13% |

➤ Sampling points: the samples were taken from various points of the production and supply chain and showed the following results:

- the overall non-compliances at the different points ranged from 2% (border inspection posts and retail) to 19% (importer or wholesaler level);
- the overall suspicions at the different points ranged from 8% (packaging or processing establishments, distribution or retail) to 29% (border inspection posts).

| | Border inspection post | Producer | Importer or wholesaler | Packaging or processing establishments | Distribution or retail |
|---|------------------------|----------|------------------------|--|------------------------|
| n samples taken | 52 | 336 | 236 | 306 | 1307 |
| % of samples taken | 2% | 15% | 11% | 14% | 58% |
| % non-compliant samples | 2% | 15% | 19% | 17% | 10% |
| % suspect samples among the remaining samples | 29% | 10% | 9% | 8% | 8% |

- Next step: Joint Research Centre – Institute for Reference Materials and Measurements of the European Commission (JRC-IRMM) will further analyse 1200 samples with advanced methods, allowing the detection of sugar adulterations that are usually not detected by the current validated methods.

In its report expected by mid-2016 JRC-IRMM will provide a detailed cross-analysis of the data provided by these additional investigations and will make recommendations concerning the development of methods for official controls on honey authenticity.