THE INTERNATIONAL HONEY COMMISSION*

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The IXth Meeting of the International Honey Commission, which was set up a few years ago, having as a purpose the harmonization of the honey analysis methods, took place at the "Minoprio Foundation" thanks to the hospitality of the organizing committee of the Apilombardia Convention, (which took place at Minoprio on October 8—9, 1994) and to the collaboration with the National Beekeeping Institute. Representatives of Germany (LULLMANN and RUSSMANN), of France (BORNECK, FLAMINI, MORLOT and LHERITIER), of Greece (MARIOLEAS, TSIGOURI), of the Netherlands (KERKVLIET), of Switzerland (BOGDANOV), of Spain (ORTIZ-VALBUENA), of Portugal (ALMEIDA), of Bulgaria (IVANOV), and of Venezuela (VIT OLIVIER) were present. Italy was represented by the author of the present report, as well as by dr. PIRO, dr. COLOMBO and dr. MARCAZZAN, replacing Mrs. SABATINI. After the welcome speech of dr. VALTER PIRONI, manager of the "Minoprio Foundation" the plenary sessions were opened.

Mr. BORNECK, President of APIMONDIA, spoke about the novelties in the European Community, especially as regards the new honey standards which replace the ones in force at present, and about the recognition of the International Commission as a technical commission of the Community. The Community will, probably, support financially the future meetings of the Commission and, possibly, the publication of a handbook which would contain all the honey analysis methods, the relative values, the limits for the various sorts of honey, a glossary, etc.

A small subcommission, including Mr. BOGDANOV, Mr. BORNECK and Mr. LULLMANN, was constituted to complete the work, already started in English and to bring to the same level all the honey analysis methods.

The following analytical methods were discussed in order to be proposed as official methods, which are supplementary or alternative to the ones already existing:

— the *electric conductibility,* proposed instead of the determination of the ash content, in order to establish the mineral content;

— the *gaseous chromotography,* HPLC, HPLC with ionic change,

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an enzymatic kit for the determination of fructose, of glucose and of saccharose (the enzymatic method only for fructose and glucose);

— the *Phadebas method* as a supplement to the SCHADE method for the determination of the diastatic index;

— the *White method* and the *HPLC* as a supplement to the WINKLER method for the determination of HMF.

Certain analyses which are not interesting as standards, may be interesting for the thoroughgoing study of honey. At the next meetings, the following are proposed for discussion:

— the *pH in the equivalence point* (the POURTALLIER method), used mainly for the identification of honeydew honey;

— the *specific rotative power:* also used for the identification of honeydew honey;

— the *invertase:* for a better estimation of the freshness of honey; this suggestion regarded a research in development in Italy on the invertase content of the monofloral honey. This research points out that, as in the case of diastasis, there is a great variability of this parameter, caused by the floral origin, but this does not limit the possibility of its utilization for the determination of freshness;

— the *proline:* is an amino acid which determination is useful for pointing out forged honey;

— the *protein content:* this determination could be important for the characterisation of the *Calluna* (not *Erica)* and the *Manuka* honey (a typical product of New Zealand);

— the *methylantranilate, the espertine and the esperdine:* typical for the *Citrus* honey.

The results of certain investigations effected in various European laboratories in order to verify the repeatability and the reproductibility of certain determinations: HMF with its three methods (WINKLER, WHITE and HLPC); the diastasis with its two methods (SCHADE and PHADEBAS); the invertase and its water content were also discussed. In some cases, the differences between the results of the various laboratories are relevant and, therefore, need more thorough, subsequent investigations.

The Agricultural Zoology Institute in Rome collects data regarding the sorts of monofloral European honey. In the end, a table of characteristic features is intended.

Communitary Regulations

As regards the revision in development of the honey regulations, the International Honey Commission considers proper to insert certain modifications which Mr. BORNECK will propose in Brussels, on behalf of this Commission. These modifications regard:

1. *The seeming content of reducing sugars:* a limit of 50% instead of 60% is proposed for honeydew honeys. As regards the methods of analysis, it was revealed that the Fehling method is outdated and

that it does not produce precise results. The great majority of the laboratories use more modern methods of analysis (the gaseous chromatography, the HPLC). If these methods are accepted as official, then the limits will regard the fructose + glucose content (not more than 60% for the nectariferous honeys, not more than 45% for honeydew honeys).

2. The seeming saccharose. For *Sulla* honey, as well as for *Robinia* honey, a limit of 10% is accepted. For honeydew honey, the limit is of 15%, as by means of the official methods of analysis, many di- and trisaccharides (such as melesitosis), which content is high in honeydew, appear as "seeming saccharose" as well. If more modern methods of analysis (CG, HPLC) will be used instead of the Fehling method, the limit must be reduced to 5% (generally, mot more than 3%; and not more than 10% for *Robinia, Hedysarum, Lavandula, Citrus* and *Banksia menziesii).*

3. The acidity. Many sorts of monofloral honey have an acidity which is higher than 40 meq/kg, without this being a real flaw. A general limit of 50 meq/kg is proposed.

4. Diastase. It was noticed that there is no reason to demand that honeys with a small natural enzyme content have a limit which is different from HMF (15 mg/kg, at most 40 mg/kg). The elimination of that sentence is proposed, as well as publishing a list containing the sorts of honey with a small natural enzyme content *(Citrus, Robinia, Taraxacum, Arbustus, Erica).* On request of the interested countries, other honeys may also be included.

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