



# APPLICATION OF SENSORY EVALUATION OF HONEY



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## WHAT DOES HONEY TASTE OF?

Honey is an extraordinary food which has been produced through thousands of years. But even so bee-keepers still have difficulties describing the taste of honey. It is not easy to describe the taste in words.

The Danish Bee-keepers Association has in

co-operation with the Royal Veterinary and Agriculture University made a project to describe the taste of honey. A so called vocabulary (dictionary) has been made by a panel of experts in which it is possible to describe the 6 most typical danish honey

types.

A description of flavour references has been made accessible for every bee-keeper interested. Ten Danish bee-keepers were chosen as flavour judges to make a test of the experts opinions of flavour.

After being trained at the agricultural university, the flavour judges tested the 6 honey types. The experiment shows that it is possible to make joint designations for the taste of honey. But it is difficult.

## VOCABULARIUM (DICTIONARY)

In sensory (sense impressions) a persons senses are used as an analysis instrument.

By the means of taste-, smell-, sight- and feel senses a food is judged by its appearance, consistency, smell and taste. A jury of 8-10 trained judges grade food under controlled conditions. Words are used to describe the flavours of food. This is what has

been done with honey.

The judges have found quite normal flavour descriptions which can be used by bee-keepers and consumers.

The flavour descriptions of 6 Danish honey types are shown in the grafik.

A panel of 10 randomly chosen bee-keepers tested the vocabulary to judge the



practical use of it.

Next to taste, the consistency was measured as follows : A. How runny is the honey. B. Spreadability C. Solubility and D. Granulation. For what concerns smell, the same characteristics are used. Smell was not involved in this experiment.

Consistency is described as follows :

**Runniness.** A spoon is drawn through a cup of honey. After 20 seconds it is determined whether the honey is joined.

**Spreadability.** The honey is spread onto a piece of cardboard. Depending on how difficult it is to spread, the spreadability is determined.

**Solubility.** Half a teaspoon of honey is kept in the mouth for 10 seconds, after this the judge estimates how quickly the honey disappears.

**Grittyness.** An estimate of the grittyness on the tongue and in the oral cavity

## METHOD



The jury of flavour must be able to distinguish **sweet** from **sour** and **salt** from **bitter**. They also have to distinguish the differences within the flavours. Eg. which is the sweetest. Not everybody has this ability. The sense of taste is also reduced by smoking and ageing.

Under scientific conditions the test is conducted in special test rooms. A computer is used to key in the gradings. The flavour is graded from 1 (no flavour) - 15 (strong flavour).

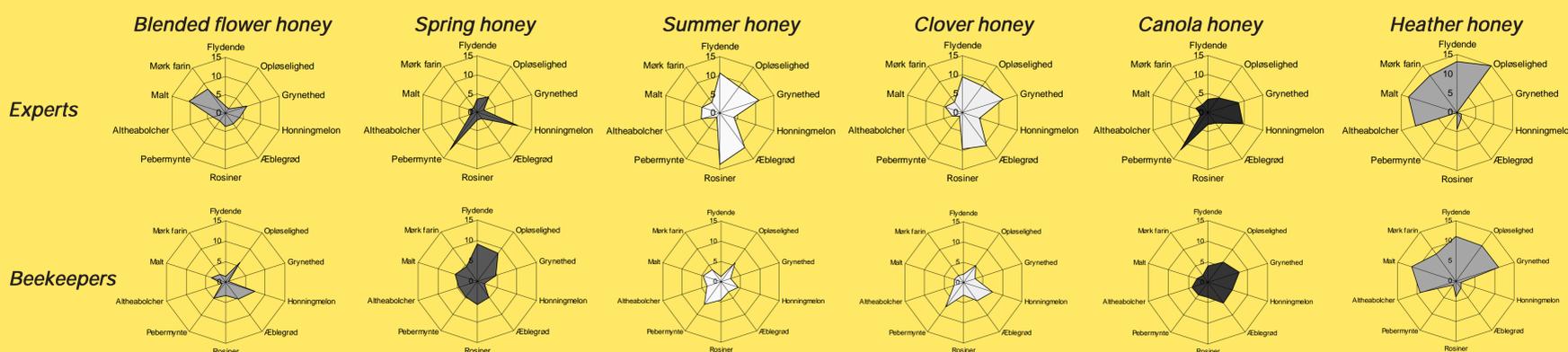


6 typical Danish honey types were selected for grading. **Blended flower honey, Spring honey, Summer honey, Clover honey, Heather honey, Canola honey.**

Being a judge of flavour requires great concentration and can only be carried out a few hours at a time. For the ten bee-keepers it was a difficult and unknown task to work with the flavour descriptions. But it was possible for the lay judges to recognise the different flavours, an ability which must be kept up with.



## RESULTS



The diagram's show that it is possible to describe Danish honey types from the chosen vocabulary. It is clear that most honey differs in taste. Summer honey and clover honey are an exception, they are very close to

each other. Several honey types are characterized by having specific profiles of flavour and are therefore easy for experts to determine.

The ten bee-keepers were able to find

profiles that were similar to that of the experts. But there were differences .

The bee-keepers had difficulties quantifying a taste experience. Especially the taste of peppermint showed a difference between the

experts and the bee-keepers. It is also obvious that the bee-keepers had another opinion of the consistency of honey.

## THE CHALLENGES OF DESCRIBING THE TASTE

This is the first attempt made in Denmark to make a description of the taste of honey. Describing taste and smell the way winemakers do is possible. But it is difficult for the bee-keeper to describe the taste of honey.

The difficult part is to describe the different flavours and to describe which flavour is the most dominating. Describing the taste of honey is new and in the beginning it will give the bee-keepers some troubles. In the long term it

should be able to strengthen the profiles of honey and make it easier to recognise different honey types.

A group of flavour judges working with the Danish Bee-keepers Association are continuing

work with the description of taste. Their hopes are that in the future it becomes a useable tool.