

# Rapid Determination of Hydroxymethylfurfural (HMF) in Honey via Reflectoquant (Merck)

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## Principle of the method

HMF reacts with a barbituric acid derivative and an aminophenazone derivative on test strip to form a red-violet compound that is determined reflectometrically

The method is applicable to honey and artificial honey, juices, fruit juice concentrates, jams and tomato products

## Equipment



Reader



Test Strips

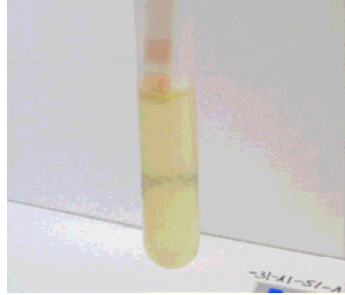


Vessel  
Spoon  
Water

## Procedure

Honey samples must be diluted with distilled water (1:4)

Press the START button of the reflectometer and immerse both reaction zones of the test strip in the measurement sample



The stored reaction time is 120 sec. Approximately 10 sec before the end of the reaction time the strip should be insert into the adapter. The result can be read off from the display.



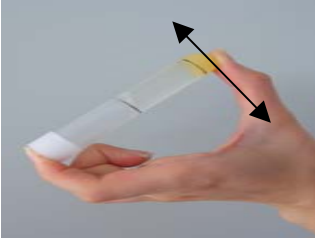
## Procedure

Dilute with distilled water 1:4

Weighted Sample



Shake app. 1 – 2 min



Dip into sample 1 sec



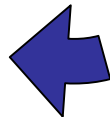
Measurment



Result



Put in strip after 120 sec



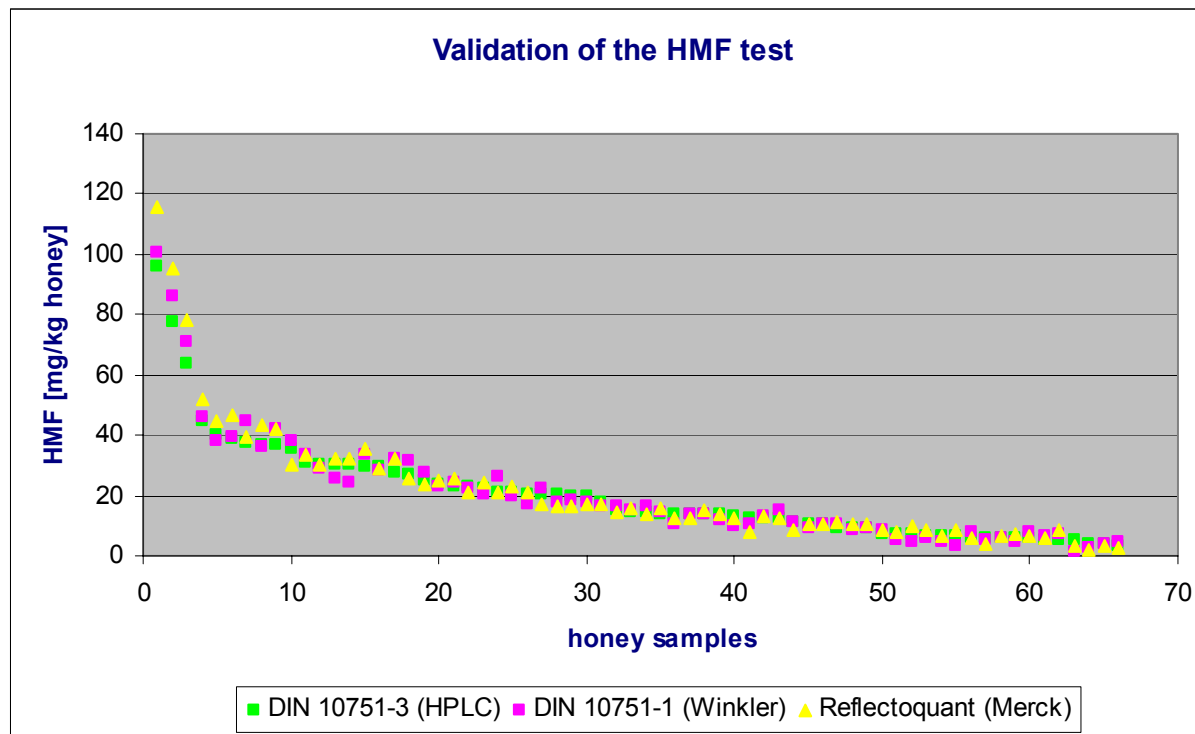
Press start



## Validation of the Reflectoquant® Hydroxymethylfurfural(HMF) Test

150 different honey samples were tested with the Reflectoquant(HMF) test and the results were compared with the official DIN 10751-3 (HPLC) and DIN 10751-1 (Winkler) methods

	DIN 10751-3 (HPLC)	DIN 10751-1 (Winkler)	Reflectoquant (Merck)
mean value	20,4 ± 17,0	20,7 ± 18,6	21,7 ± 20,6
median	14,6	15,9	15,4
min	3,6	1,3	2
max	95,9	100,3	115,6



## Advantages

- **easy to use**
- **fast**
- **reliable**
- **low investments**
- **low price / sample ratio**

**Hydroxymethylfurfural (HMF) Test – 50 Measurements**

**Order-Nr. 1.17952.0001**

**Listenprice 59,00 EUR**

**Reflektometer RQflex10**

**Order-No. 1.16970.0001**

**Listenprice 485,00 EUR**