

Smoking

Definition

Smoking is the process of flavouring, browning, cooking, or preserving food by exposing it to smoke from burning or smoldering material, most often wood.



Methods

- Cold smoking: ca. 15°-25° C
typically used for ham, bacon, salmon, meat remains raw
- Warm smoking: 25°-50° C
typically for smoked pork chop, halibut, cheese
- Hot smoking: 52°-80° C
exception: Smoking using liquid smoke
Real smoke caught in water
With help of a fog machine over foods vaporized
Only aromas used, no real smoking

Chemical process

Wood

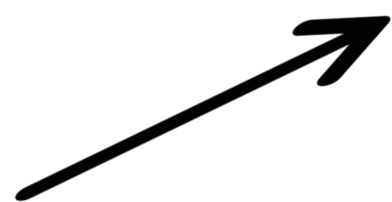
cuttings and powder from beech tree, in some cases alder tree
For taste juniper berries, pine and fir cones



Pyrolysis phase

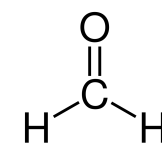
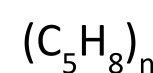
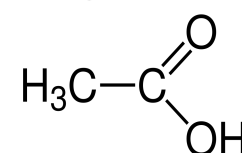
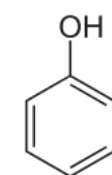


oxydation of volatile compounds with oxygen



Volatile connections in the smoke

- Phenols
- organic acids
- polycyclic aromatic hydrocarbons (PAH)
- carbonyl (p.e. Formaldehyd)



Food

antibacteriell

Aromatic essence

Aromatic essence, colour
(suspicion of a partial carcinogenic effect)

Protein coagulation, conservation

Experiment

Smoking of cheese

Materials: smoking ton with a grate, a heat source (fire), powder used for smoking, cheese

Execution: First you place the cheese on the grate in the smoking ton. During the whole process it is important to leave the lid on the ton. On the bottom of the tin you scatter the powder that is used for smoking. Now you start your heat source and put the tin on top. The cheese is smoked for 30 minutes. If the time is up put out the heat source and wait for the tin to cool down. If the tin has a temperature of approximately 50° Celsius you can take the cheese out.



Observation: The cheese has a yellowish-brown colour and smells and tastes smokey.



Quellen

Jira, W. (2004) *Mitteilungsblatt BAFF 43, Nr. 163, 27-38*
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Editorial

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