

# HOPSESSED – BARTH-HAAS GROUP UNIFORM TASTING SCHEME

## WHY DO WE NEED A UNIFORM TASTING SCHEME?

Hops are the soul of beer. In the last 10 years, hop usage in the brewing industry has changed tremendously. Until then, a subtle to moderate hop aroma achieved with kettle additions was standard. Now with the importance of dry hopping and very high amounts of addition for hop aroma in the brewing process in general, the need for a sensory hop language is obvious. With the help of flavourists and sommeliers, we have developed a uniform tasting scheme specifically for hops and hoppy beers that works with 12 aroma categories and identifying specific aroma attributes. This tasting scheme's result is a defined and comparable aroma profile for the relevant hop variety or beer. This tasting scheme is meant to be a standard language in the brewing industry for hops so that an easier comparison of hop varieties and hoppy beers in a sensory context is possible.

## WHAT DOES AROMA MEAN?

Aroma refers to all volatile components of a food or beverage, which are in interaction with our olfactory system (especially *Bulbus olfactorius*). The aroma and flavour perception is complemented by retronasal aroma release in the oral cavity. The processing of sensory data is highly complex. The stimuli forwarded to our brain influence various regions in the brain. \*

## AROMA CLASSIFICATION

Aroma components produce sensory impressions which are referred to as aroma. Not only the relevant stimuli but also these sensations can be classified. Both of these factors make it difficult because of the pure abundance of aromas, which is why attempts have so far been unsatisfactory. One of the early formulations was completed by Linnaeus (1756) following a classification according to the names of plants. All formulations have been working with 4 to 44 categories. In 1968, Harper established a characterising system for the food industry based on 44 different categories. Later on industry and institutes have selected about 160 descriptors that were used more frequently out of a pool of 800. The Harper's Scale was published in 1985 in the Atlas of Odor Character Profiles and is today seen as the standard. \*\*

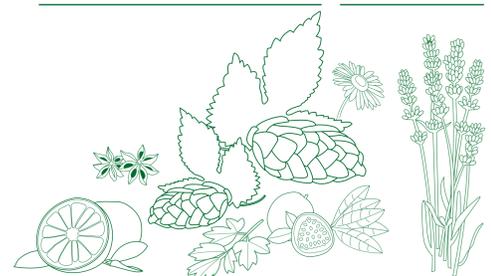
## SO WHAT IS REALLY THE CORRECT NUMBER OF CATEGORIES?

## AROMA CATEGORIES AND EXAMPLES OF THE RELEVANT HOP VARIETIES

<b>FLORAL</b>  ELLA™	<b>CITRUS</b>  MANDARINA BAVARIA	<b>SWEET FRUITS</b>  MOSAIC®	<b>GREEN FRUITS</b>  HALLERTAU BLANC
<b>RED BERRIES</b>  MONROE	<b>CREAM CARAMEL</b>  TRISKEL	<b>WOODY AROMATIC</b>  RELAX	<b>MENTHOL</b>  POLARIS
<b>HERBAL</b>  SAAZ	<b>SPICY</b>  TAURUS	<b>GREEN GRASSY</b>  HERKULES	<b>VEGETAL</b>  SUMMIT®

## BARTH-HAAS GROUP UNIFORM TASTING SCHEME

CATEGORY	SPECIFIC ATTRIBUTES	INTENSITY (1 – 10)	FOR BEER	RATING
<b>FLORAL</b>	Elderflower, camomile blossom, lily of the valley, jasmine, apple blossom, rose, geranium, carnation, lily, lilac, lavender	_____	<b>AROMA INTENSITY (1-10)</b>	_____
<b>CITRUS</b>	Grapefruit, orange, lemon, lime, bergamot, lemon grass, ginger, tangerine	_____	<b>AROMA QUALITY (1-10)</b>	_____
<b>SWEET FRUITS</b>	Banana, watermelon, honeydew melon, peach, apricot, passion fruit, lychee, dried fruit, plum, pineapple, cherry, kiwi, mango, guava	_____	<b>BITTER INTENSITY (1-10)</b>	_____
<b>GREEN FRUITS</b>	Pear, apple, quince, gooseberry, white wine grape	_____	<b>BITTER QUALITY (1-10)</b>	_____
<b>RED BERRIES</b>	Cassis, blueberry, raspberry, blackberry, strawberry, red currant, black currant, wild strawberry, cranberry	_____	<b>HARMONY (1-10)</b>	_____
<b>CREAM CARAMEL</b>	Butter, chocolate, yoghurt, honey, cream, caramel, toffee, coffee, tonka bean, vanilla	_____	<b>BODY AND MOUTHFEEL (1-10)</b>	_____
<b>WOODY AROMATIC</b>	Tobacco, cognac, barrique, leather, woodruff, incense, myrrh, resin, cedar, pine, earth	_____	<b>PREFERENCE</b>	_____
<b>MENTHOL</b>	Mint, balm, camphor, menthol, wine yeast	_____	<b>ESTIMATED BITTERNESS (IBU)</b>	_____
<b>HERBAL</b>	Lovage, marjoram, tarragon, dill, parsley, basil, fennel, coriander, rosemary, thyme, green tea, black tea, mate tea, sage	_____		
<b>SPICY</b>	Pepper, chilli, curry, juniper, aniseed, liquorice, fennel seeds, clove, cinnamon, gingerbread, coriander seeds, nutmeg	_____		
<b>GREEN GRASSY</b>	Green grassy, tomato leaves, green pepper, fresh cut grass, hay, nettle, cucumber	_____		
<b>VEGETAL</b>	Celery root, celery stock, leek, onion, artichoke, garlic, wild garlic	_____		



\* Jelen, H. (2011), Food flavors: Chemical, sensory and technological properties, CRC Press.

\*\* Thiemer, E. T. (2012), Fragrance Chemistry, Academic Press.