



 **HEINEKEN**

BREWING GUILD

**Craft or Craftsmanship:
Does size matter?**

Willem van Waesberghe

*Mastering
the Craft of
Brewing*

The craft of brewing is synonymous with a Master Brewer's craftsmanship: the capability and passion to brew and improve a good beer, based on experience, sharing, and learning. Heritage covers the concepts of the past worth keeping in the present.



BREWING GUILD



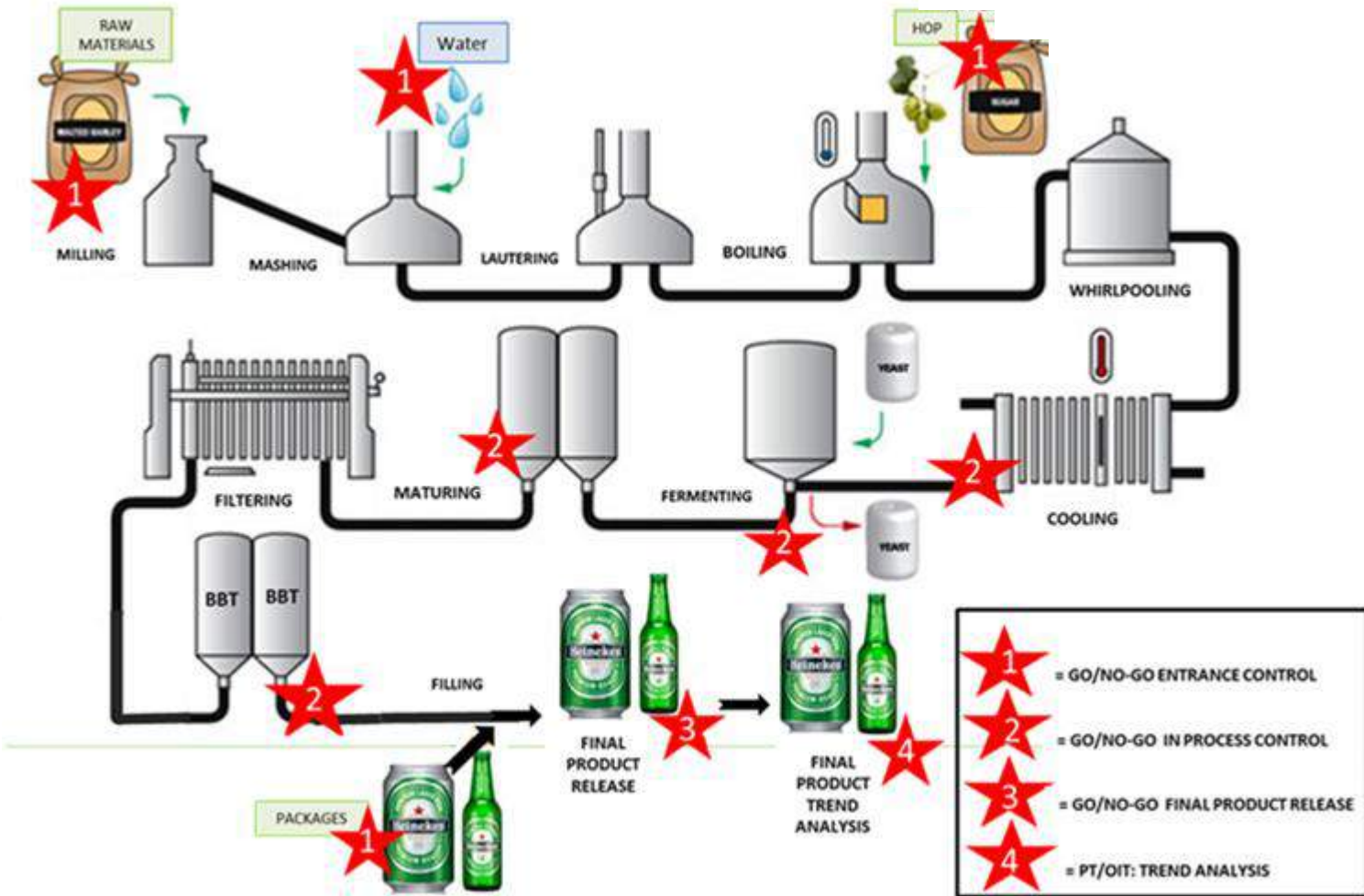
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Go/No-Go tests

Objective

Rapid and simple test to determine whether the Sensory Quality of a sample is fit for purpose, e.g. Water, auxiliary materials, hops etc.

Minimum # of competent tasters

2 tasters

Training: Component Identification training, or
Proved competence test with type of samples to be tasted

Test set up

Tasters must be familiar with the 'normal' sensory character as well as with the 'off notes' that can occur, depending on the type of sample

Sensory description and/or reference sample provided

Tasters judge Go/no-Go

When 1 tasters says no Go > min 2 new tasters of OIT/PT panel



Off-flavour description test

Objective:

Determine the sensory quality of brands by indicating a Taste Test Score and giving possible flavour Wheel remarks

Minimum # of competent tasters

Brewery < 1million hectolitres min **6** tasters

Brewery > 1million hectolitres min **9** tasters

Training: Component Identification and Sensory Quality training

Test set up:

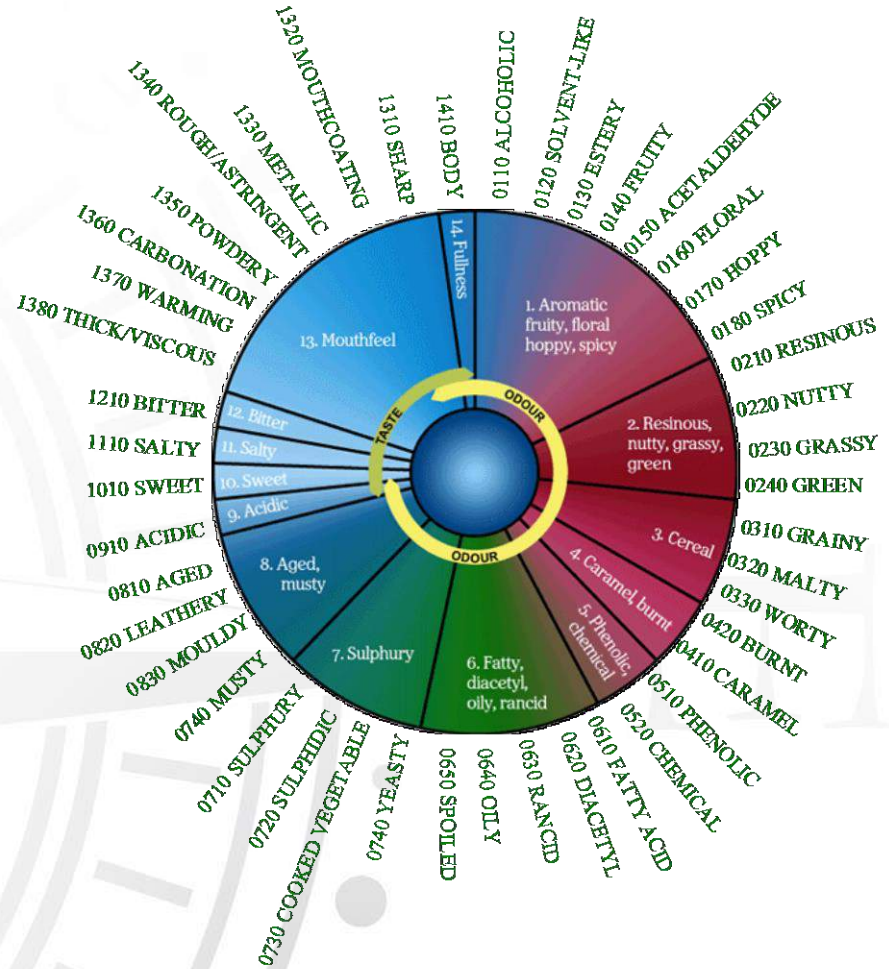
Sensory description for each brand is needed;

Reference sample is needed (1st line control). When not available: a good sample from previous session should be included in the test;

Complete randomised design = over samples and over panellists;

Kitchen list: 3 digit coded samples and design;

Flavour Wheel





Flavour Profile

Objective:

Determine the sensory quality and sensory profile of beers by indicating a Taste Test Score, giving possible flavour wheel remarks and quantify beer attribute intensities

Minimum # of competent tasters

9 tasters

Training: Component Identification, Intensity scaling, and Sensory Quality training

Test set up:

Sensory description for each brand is needed;

Reference sample is needed (1st line control);

Complete randomised design = over samples and over panellists;

Kitchen list: 3 digit coded samples and design;



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Sample flow reference selection

- ① Variable number of breweries, based on Top10 of the previous 6 months send each month RB samples + extra quantity to GSC, SAS&R



Sensory TTS of 6.7 or higher, $sd < 0.3$ and analytical within specifications?



Retest Sensory : again 6.7 ($sd < 0.3$) or higher?



⑤ When a new reference is required, the best from the reference candidates in stock is chosen by coordinator Sensory to be the next reference



NEW REFERENCE, ready for use



Quick confirmation by small committee



Heineken® beer

64 Breweries brewing Heineken® (50000 hl – 10 million hl / yr)

Sources of Variance

Raw Materials: Provenance, harvest and supplier

Brewhouse: Lautertun/Mashfilter; Internal/External Boiler; Altitude

Cellar: Tank size and location from brewhouse

Brewing Craftsmanship:

Basic Recipe & Raw Material specification

Monobrews

Wort specification

Aeration regime

Fermentation profile

Yeast management





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**No, though Growth needs a
different focus of Craftsmanship**

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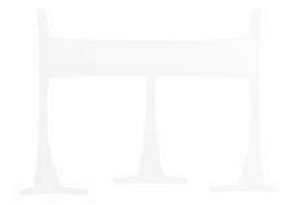
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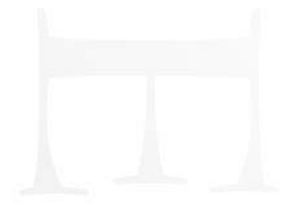
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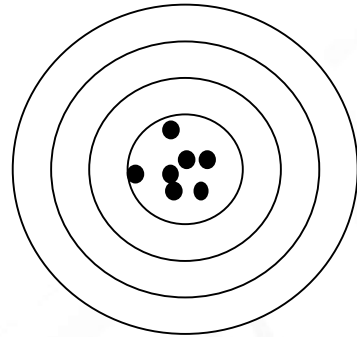
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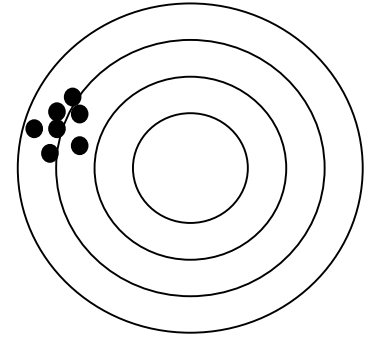
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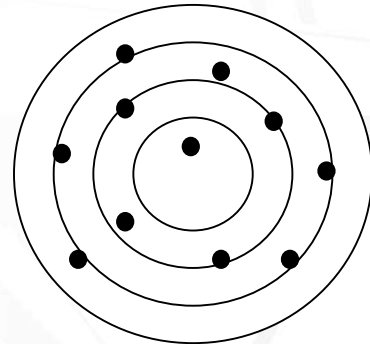
Reliability (Precision & Accuracy)



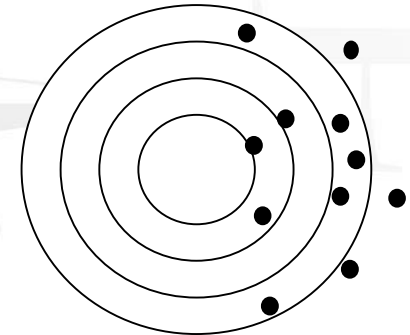
Precise, Accurate



Precise, Inaccurate



Imprecise, Accurate



Imprecise, Inaccurate