

BARTH-HAAS GROUP



Barth-Haas Group Tasting

BRAU Beviale 2010:

**"BEER diversity
through
HOP diversity"**

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BARTH-HAAS GROUP

We want to show you...

...how to brew
different beers
using only
different hop varieties!

Beer samples

- 5 German lager beers
- 100% Pilsner malt
- Bottom fermenting yeast
- Brewed according to German Purity Law (Reinheitsgebot)
- All beers are identical, only difference: each beer was brewed with one single hop variety (**only pellets or raw hops**)
- Moderate bitterness
- Noticeable hop aroma through late hopping (Whirlpool)
- Some of these international hop varieties are trial cultivars

Information about the beers

Brewing	Normal gravity
Mashing	Infusion
Pitching wort	12.1°P
pH	5.0
Yeast	Bottom fermenting (W34/70)
Hop addition	7,7 g alpha-acid / hl (begin of boiling)
	equivalent of 1 ml hop oils / hl (whirlpool) using pellets or raw hops
Wort boiling	Internal calandria
Main fermentation	1 week, 9°C, high attenuation, 5.3 % ABV
Maturation	12 days, 14°C
Storage	3 weeks, 1°C
Filtration	DE filter + PP membranes 1.2 + 0.45µm

Taste Form

	German Style Helles				
	I	II	III	IV	V
Aroma Quality (1-10, 10 = best Quality)					
Aroma Intensity (1-10, 10 = very Intensive)					
Bitterness Quality (1-10, 10 = best Quality)					
Bitterness Intensity (1-10, 10 = very Intensive)					
Overall Beer Quality (1-10, 10 = best Quality)					
Herbal					
Resinous					
Fresh hop					
Estery					
Citrusy					
Tropical fruits (pineapple, mango etc)					
Rose					
Lavender					
Orange Blossom					
Black Current					
Others (please specify)					
Preference (1=best)					

The tasting begins...

Please enjoy!

Beer I:



- Hop Variety: „**Czech Saaz**“
- Traditional, worldwide known, first class variety
- Hop alpha content: 3.8 % (EBC 7.5)
- Hop oil content: 0.55 ml/100g
- Hop Aroma and Taste:
 - **Floral**
 - **Sweet**
 - **Geranium**
- IBU: 24



Beer II:

AVONS
HOP

- Hop Variety: „**Stella**“
- New breed from Australia
- Hop alpha content: 15.3 % (EBC 7.5)
- Hop oil content: 2.4 ml/100g
- Hop Aroma and Taste:
 - ***Decent Hop characters***
 - ***Fruity***
 - ***Floral***
 - ***Passion Fruit***
- Beer IBU: 26

AVONS
HOP

Beer III: Tutti Fruity

- Hop Variety: „**US 369**“
- New breed from the US „Hop Breeding Company“
- Hop alpha content: 8.5 % (EBC 7.5)
- Hop oil content: 0.85 ml/100g
- Hop Aroma and Taste:
 - ***Grapefruit***
 - ***Citrus***
 - ***Mandarin/tangerine***
- Beer IBU: 32

Tutti
Fruity

Beer IV: Topless

- Hop Variety: „ **89/002/025**“
- New breed from the German „Hop research center Hüll“
- Hop alpha content: 8.6 % (EBC 7.5)
- Hop oil content: 1.70 ml/100g
- Hop Aroma and Taste:
 - ***Tastes like Hallertau***
 - ***Noble Hop aroma characters***
 - ***Well balanced***
- Beer IBU: 24

Topless

Beer V:

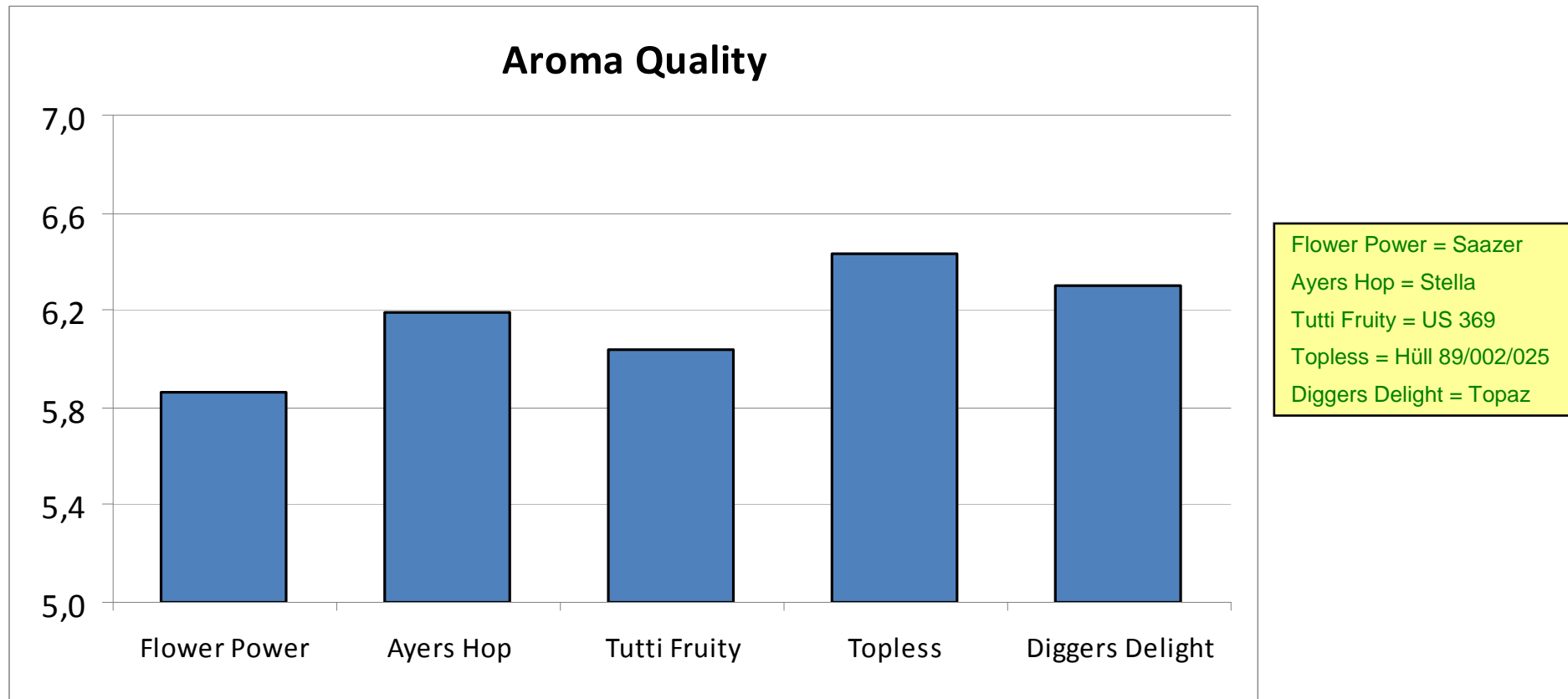
**DIGGERS
DELIGHT**

- Hop Variety: „**Topaz**“
- Well known variety bred by „Hop Products Australia“
- Hop alpha content: 14.7 % (EBC 7.5)
- Hop oil content: 0.85 ml/100g
- Hop Aroma and Taste:
 - *Peach*
 - *Black Currant*
 - *Vanilla*
- Beer IBU: 35

**DIGGERS
DELIGHT**

Results – Aroma Quality of the Beers

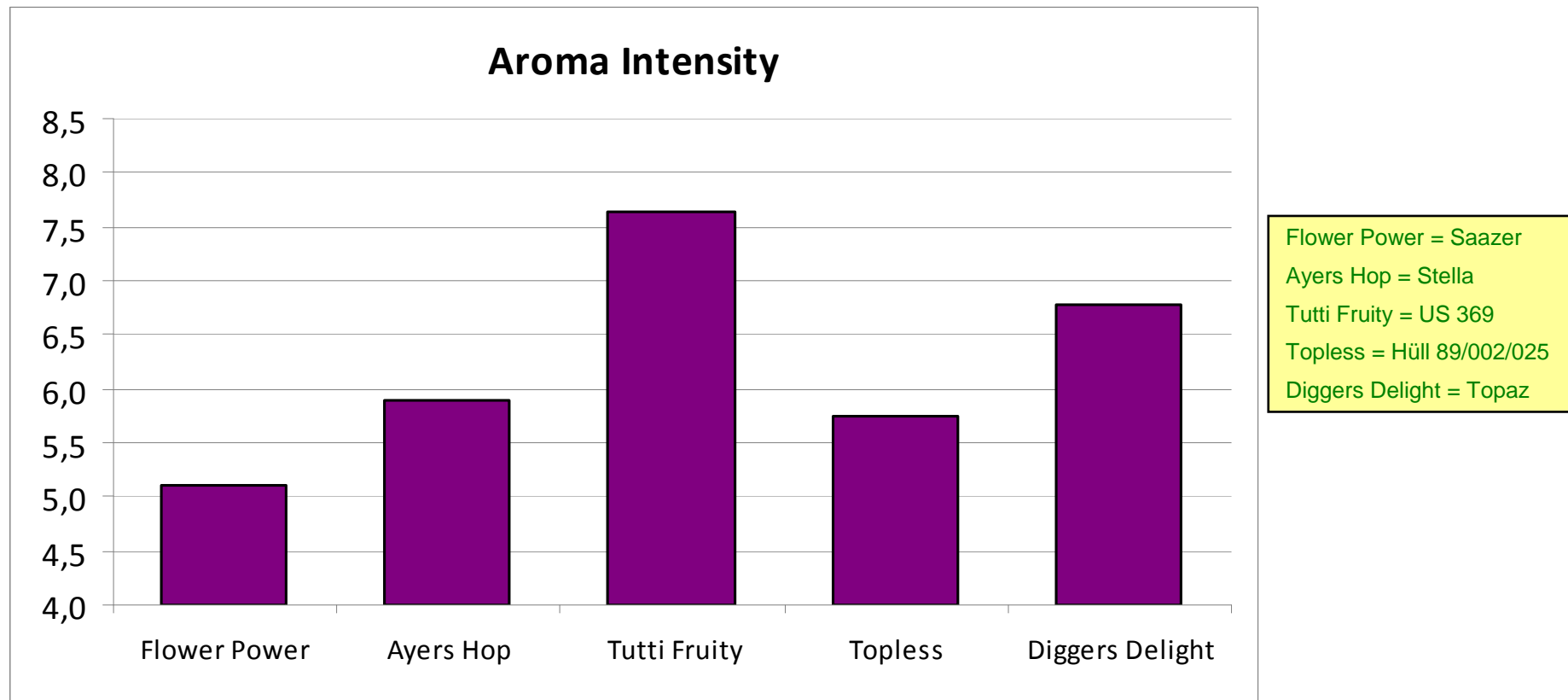
This graph shows the average rating of 153 tasting participants:



Aroma Quality: scale 1 – 10, 10 = best Quality

Results – Aroma Intensity of the Beers

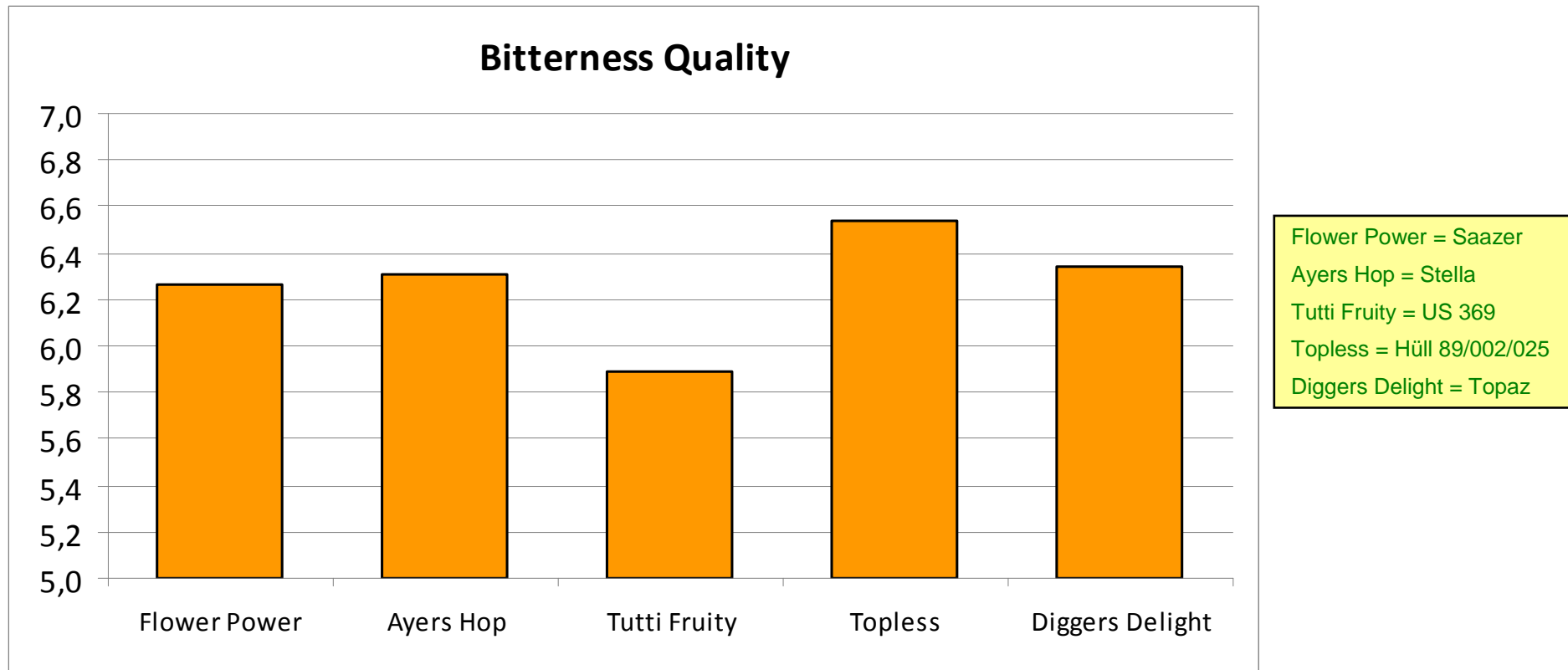
This graph shows the average rating of 153 tasting participants:



Aroma Intensity: scale 1 – 10, 10 = very intensive

Results – Bitterness Quality of the Beers

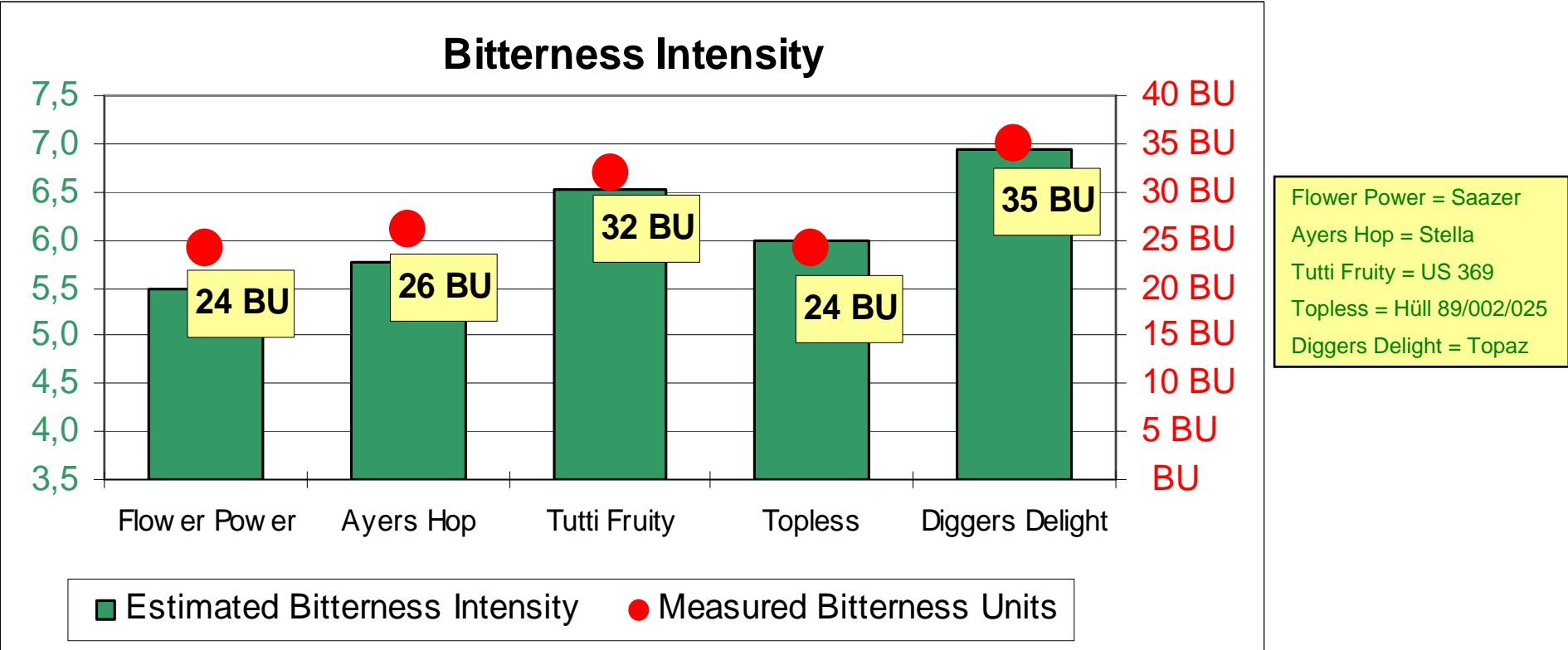
This graph shows the average rating of 153 tasting participants:



Bitterness Quality: scale 1 – 10, 10 = best Quality

Results – Bitterness Intensity of the Beers

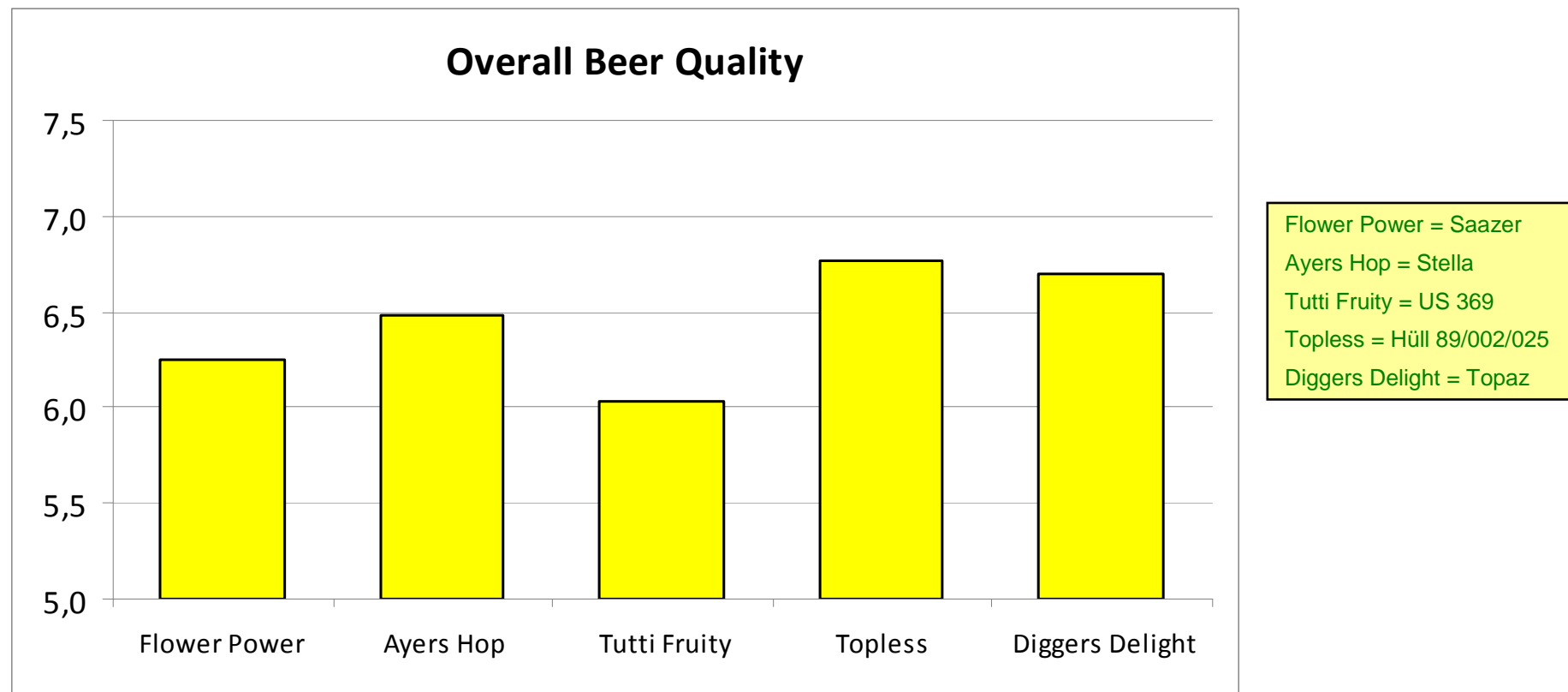
There is a good correlation between bitterness estimated by the tasting participants and measured bitterness units:



Bitterness Intensity: scale 1 – 10, 10 = very intensive

Results – Overall Quality of the Beers

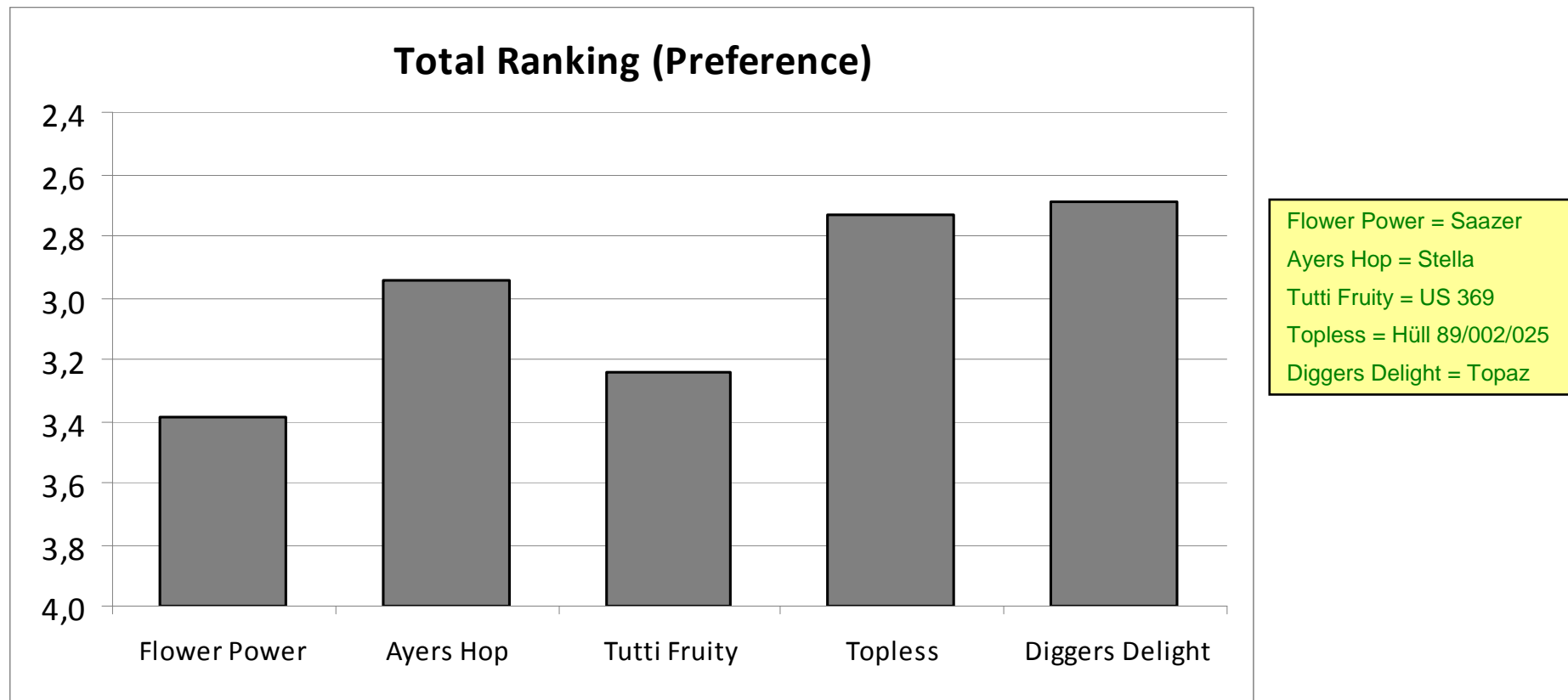
This graph shows the average rating of 153 tasting participants:



Overall Quality: scale 1 – 10, 10 = best Quality

Results – Total Ranking (Preference) of the Beers

There are some tendencies in the preference of the beers
but no significant differences:



Total Ranking (Preference): scale 1 – 5, **1 = best, most preferred beer**

Barth-Haas Tasting Objectives 2010

Diversify your BEERS!

Play with the HOPS!

Delight your customers!

Thank you for your participation!

www.HopsAcademy.com

www.BarthHaasGroup.com

www.BarthInnovations.com

Thanks to the Research Brewery St. Johann for brewing and preparing the beers

www.forschungsbrauerei.com.

