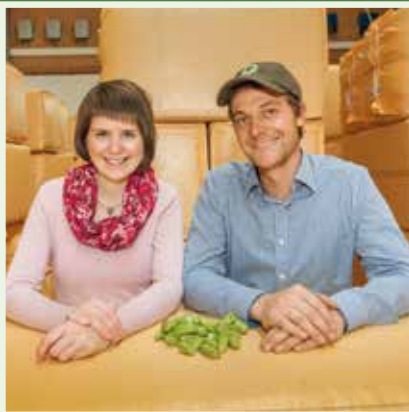


German hops  
hand-picked  
directly from the grower





# high quality Hops made in bavaria



**Martina & Thomas Kiermeier**  
green products

Hops as far as the eye can see. Nestled in the enchanting hops landscape of the Hallertau is Oberumelsdorf (in the certified growing district of Siegenburg), home of our hops-growing business. Surrounded by the most modern and biggest hops-processing plant in the world, and the newly built pilot brewery in St. Johann, the necessary expertise is practically on the doorstep. The landscape shows itself from its best side and convinces with its excellent soil quality. The hops plants are optimally supplied with water and nutrients and convince with their exquisite quality and excellent aromas.

The love of nature and of hops in particular has run in the family for four generations now. With respect to progress and technology, we are now one of the most modern and innovative hops-growing businesses. We currently lavish care on our hops on approx. 60ha. From the aroma hops Opal, Perle, bitter hops Herkules, flavour hops Mandarina Bavaria, Huell Melon, Hallertau Blanc, to the two new flavour varieties Ariana and Callista, there is something for every hops-lover. We direct our attention to good and close cooperation with hop growers and master brewers, in order to remain true to our high quality standards.

Thomas Kiermeier  
Farmer & Entrepreneur

*Hops from  
the Hallertau*





# Hops of first-class quality



Neutral quality control of every batch of hops

Hops are a natural product. With all of our finesse and the necessary expertise, we treat our plants gently and protectively to guarantee first-class quality. In addition to our own constant monitoring, the TÜV Saarland also pays close attention to our hops and the entire production process. The quality management system, in accordance with DIN ISO 9001 for hop growers, also enables us to subject the individual production processes to uniform and company-wide observation, so as to generate the highest internal and external quality. Our claim to quality has top priority for us, in interaction with the excellent local conditions, the high degree of expertise and careful treatment of nature.



The boss goes in close to make sure of the special aroma of his hops



Deutscher Siegelhopfen  
Bayern  
Hallertau  
1972

## Hops quality with the seal of quality

Our exemplary quality policy is confirmed by official certifications, as well as by our own high quality standards. Consistently and without any compromises whatsoever, public authorities ensure the thorough traceability of every hop batch, as to its place of cultivation, variety, year of cultivation, company, hop garden and form of processing.

The distinction of "Deutscher Siegelhopfen" is even granted twice. For the first seal, a neutral quality management system of the Hops Association is applied, usually at the farm of the hop grower. The second seal, on the other hand, takes place during the processing of the hop products in the processing workshop. This way, the purity of the variety can be certified in detail and in the interests of the processors and brewers – an outstanding sign of quality. In addition to this, an independent, renowned agricultural laboratory checks specific quality characteristics for "neutral ascertainment of the quality" of the untreated hops batches.



A seal of quality certifies the first-class quality of the hops



# Green Products Co. Hops YOUR advantage

Quality - without if and but.  
Martina and Thomas Kiermeier are  
responsible for this.

Green Products pursues an uncompromising quality philosophy: only high-quality hops are further processed and marketed.

A particularly impressive feature of our hops is their splendid aroma, which is due not least of all to the optimal growth conditions.

“Healthy soil, healthy hops, healthy beer”

The trio of the biology, chemistry and physics of the soil is decisive for being able to produce healthy

plants of the best quality. Thanks to his training as a soil practitioner, manager Thomas Kiermeier has a comprehensive knowledge of dealing with plants and soil. In a constant exchange of information with the partner companies, the prevalent conditions are discussed, depending on the season, and expertise is shared. In addition to this, there is the possibility of receiving hops continually from the same

site, via pre-contracts. This way, the brewers' quality preferences can be optimally catered to, after all, the hops make a substantial contribution towards an excellent beer aroma.

## Sustainable thinking and action in production and marketing

- Quality philosophy with no ifs or buts – only high-quality hops are marketed
- High-quality hops – directly from the grower
- Transparent production processes for continual assessment
- Purchasing of the hops by location in accordance with the respective preferences



Our own compost facility lays the foundation for high-quality hops

## Own Compost Facility

Since 2011, we have been able to live up to our extremely high standards of soil quality by means of our own compost facility. Only in this way is it possible to ensure the first-class quality of our hops.

- Processing of agricultural organic waste materials
- Coal compost
- Development of organic long-term fertilizer
- Potting composts

As a result, we have since been able to reduce fertiliser use by 40% and chemical crop protection by 30%, while the quality of the hops has benefited substantially. The start has been made for the long-term process of soil cultivation and the advantages for all those involved will continue to develop steadily.

## Future

In our treatment of nature, we also always pay heed to the environment. Our own photovoltaic plant covers the energy requirements of our business. The reduction of CO2 emissions goes hand in hand with our excellent soil structure. Thanks to the soil's first-class humus-content, large quantities of CO2 are stored in the soil.

## Research and Innovation

The philosophy of our business is sustainable treatment of people and nature. Efficient and well thought-through approaches characterise the entirety of our operations, day in, day out. Just as John F. Kennedy said "He who acts where others talk gets ahead in life."

- Trials with organic crop protection
- Heat recovery (drying)
- Agroforestry
- Reduced soil tillage
- Irrigation
- Photovoltaics (over 1,000 kW on our roofs)
- And much more besides



# Hops Trade Hops from Germany

## Hops fr



Thomas Kiermeier likes to personally make sure of the exquisite hops quality



Sealed and examined, the hops leave our farm



The latest drying technology maintains the first-class quality



Optimally refrigerated, the hops stay fresh and the aromas are retained as well as is possible

Our partner companies are also selected according to strict criteria. Only high-quality hops are processed and marketed.

An all-embracing quality management system is possible, thanks to the world's biggest and most modern hop processing plant in St Johann. An uninterrupted cold chain from the raw hops to the finished product is also guaranteed and certified in accordance with DIN EN ISO. Each batch of raw hops is only processed if it has an appropriate seal certificate. After completion of processing, each batch receives a corresponding accompanying certificate (German Hop Product). A neutral master sealer takes over the monitoring of the processing and sealing of the batches.





The hop garden under the harvest

# om the Hallertau



## The green hops as raw hops

The hop cone in its raw form is available on enquiry as a vacuum pack.



## The hops as hop pellets

Hop pellets are pressed raw hops. As Type 90 or as Type 45, they impress with their slight storage capacity requirement and long storability.



## CO<sup>2</sup> extract and ethanol extract

This hop extract is highly concentrated, can be finely dosed and is simple to handle.

green products – That means hand-picked German hops directly from the grower.

Our hop varieties can be categorised as follows:

- Special Flavour hops 6 varieties
- Noble Aroma hops 3 varieties
- Aroma Hops 6 varieties
- Bitter Hops 6 varieties
- Dual Hops 1 variety





## German flavour hops with unique aromas

What would you like,  
grapefruit, honeydew melon, strawberries or pineapple?

The first special aroma varieties bred by the hop research centre in Hüll came onto the market in 2012. A genuine explosion of flavours came onto the market with the varieties Mandarina Bavaria, Huell Melon and Hallertau Blanc. Uniquely, fine aromas of mandarin, grapefruit, honeydew melon, strawberries and gooseberries could be recognised in the beers.

The two new flavour varieties Callista and Ariana have been approved since 2016. The large-area cultivation tests were passed and the flavouring agent analyses in the laboratory are cause for heightened anticipation. An expert committee, consisting of renowned brewers, brewing scientists, hop marketers, hop growers and the breeder were involved. The result was an innovative combination of the hoppy basic notes with

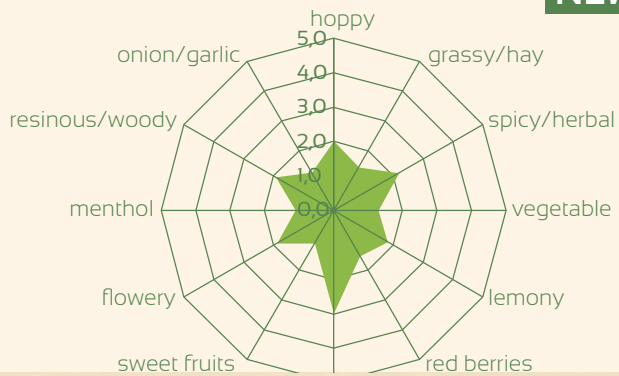
exclusively fruity characteristics. While impressions of passion fruit, apricot and grapefruit are dominant in Callista, Ariana impresses with notes of blackcurrant and lemon.

The excellent brewing quality of the two varieties was convincing in the framework of numerous brewing trials. The sure instincts of the brewer are needed for conjuring unique flavour creations into the beer, as regards the selection of beer variety, dosage and right point to add hops (start of brewing, whirlpool, hopping and/or absolutely any possible combination).

## Ariana (2010/72/20)

### Aromatic impressions of the raw hops:

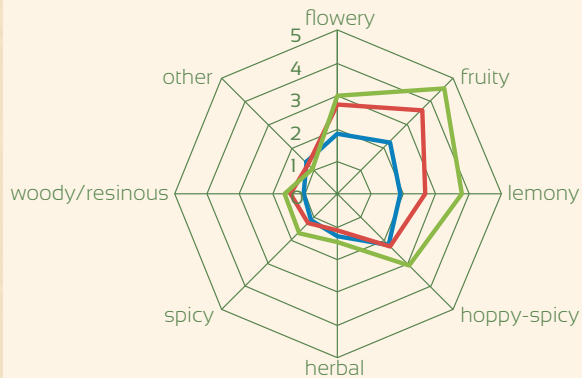
Ariana is harmonious and mild with fruity aromas of blackcurrant (cassis) and sweet fruits such as peach and pear. The slight resinous note complements the tropical and lemony scents perfectly.



Aromatic impressions of the raw hops (average values)

### Assessment from brew trials:

Depending on beer type and quantity of hops, aromas of grapefruit, cassis, geranium, gooseberry, lemon and vanilla round off wonderfully. Ariana is very well suited to hopping.



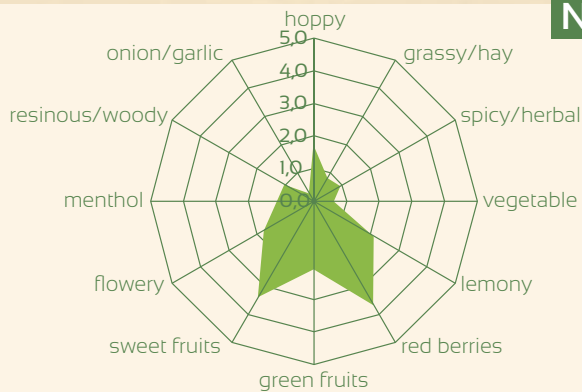
Aromatic impressions of the beers from the systematic brewing trials (average values independent of beer type)

■ Starting of brewing ■ Whirlpool ■ After hopping

## Callista (2010/08/33)

### Aromatic impressions of the raw hops:

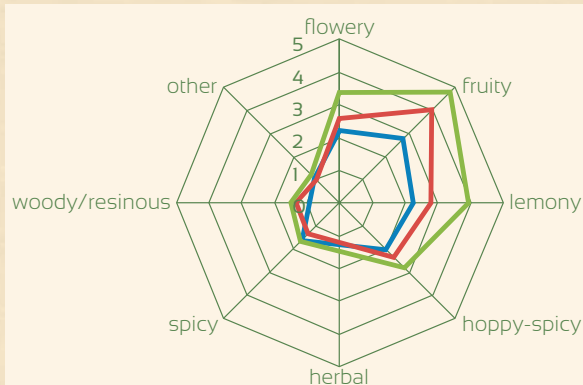
Callista is characterised by a balanced hop note with impressive fruity aromas of apricot, passion fruit and red berries (forest fruits, blackberry, raspberry). A touch of grapefruit rounds off the flavour profile uniquely.



Aromatic impressions of the raw hops (average values)

### Assessment from brew trials:

Callista is becoming more and more popular among brewers. Passion fruit, grapefruit, gooseberry and pine make it a genuine rarity in beer brewing.



Aromatic impressions of the beers from the systematic brewing trials (average values independent of beer type)

■ Starting of brewing ■ Whirlpool ■ After hopping

# Mandarina Bavaria

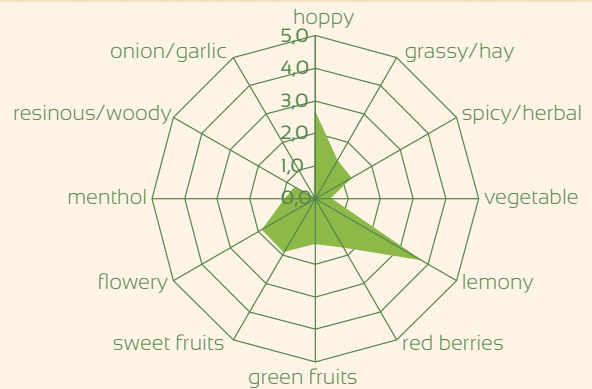
## Aromatic impressions of the raw hops:

As the name already says, the hop notes of Mandarina Bavaria are harmoniously enhanced with the fruity-fresh flavour impressions of mandarin and lemon.



## Aroma in the beer:

A beer with Mandarina Bavaria tastes good from the first swallow. This hop is suitable for almost all types of beer and can be used during brewing as well as hopping. The fine notes of mandarin and oranges are a real pleasure.



Aromatic impressions of the raw hops (average values)

# Huell Melon

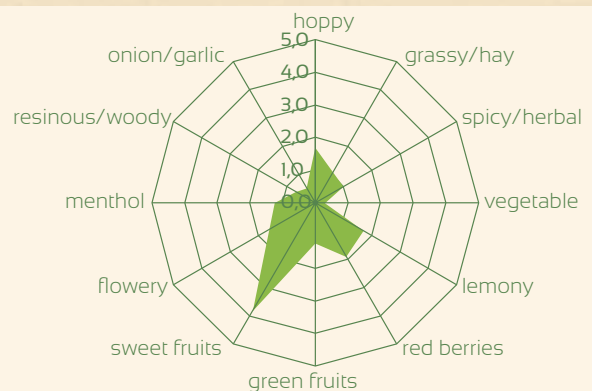
## Aromatic impressions of the raw hops:

Fruity sweet aromas of honeydew melon, apricot and strawberries characterise the flavour impression of Huell Melon.



## Aroma in the beer:

Huell achieves a balance between typical hop notes and sweet impressions of honeydew melon, apricot, strawberries and a hint of flowery characteristics. This hop invites one to experiment.



Aromatic impressions of the raw hops (average values)

# Hallertau Blanc

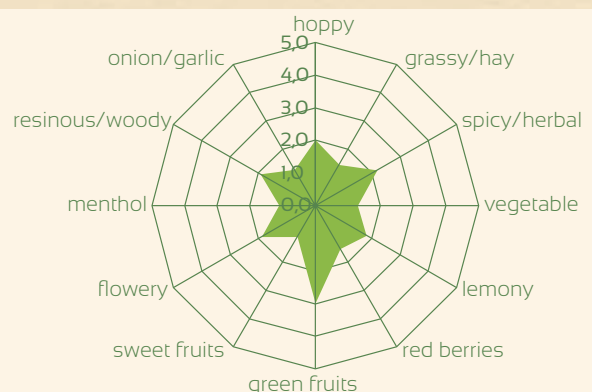
## Aromatic impressions of the raw hops:

Incredible, but true. In the flowery and fruity Hallertau Blanc, one can recognise elements of mango, passion fruit, grapefruit, gooseberry and pineapple.



## Aroma in the beer:

Beer can be so fine. With Hallertau Blanc, the brewers have created an extraordinary speciality. Green fruits, mango and gooseberry, in harmony with the bouquet of a fresh white wine, turn every time you enjoy beer into a magical, special moment.



Aromatic impressions of the raw hops (average values)



	Spezial Flavour Hops				
Variety	Ariana	Callista	Mandarina Bavaria	Huell Melon	Hallertau Blanc
<b>Bitter Substances</b>					
$\alpha$ -acids (EBC 7.4)	12	3,3	7,9	5,8	8,5
$\beta$ : $\alpha$ (EBC 7.7)	0,5	2,1	0,8	1,4	0,6
cohumulone (EBC 7.7)	42	18	30	29	24
<b>Polyphenols</b>					
polyphenols (EBC 7.14)	3,2	3,6	4,0	3,9	5,4
polyphenols: $\alpha$	0,27	1,09	0,5	0,7	0,6
xanthohumol (EBC 7.7)	0,5	0,5	0,59	0,56	0,38
xanthohumol : $\alpha$	0,042	0,152	0,0075	0,097	0,045
<b>Aroma Substances</b>					
total oil (EBC 7.10)	2,00	1,70	1,20	1,10	1,10
$\beta$ -caryophyllene:humulene	0,30	0,33	0,30	1,20	1,00
farnesene (EBC 7.12)	< 2	< 2	< 3	> 10	< 0,5
linalool (EBC 7.12; mg/100g)	3	5	5	3	5
linalool: $\alpha$	0,25	1,52	0,6	0,5	0,6
<b>Yield (kg/ha)</b>			2100	1900	2300
<b>Tolerance to Diseases and Pests</b>					
wilt (mild strains)	good	middle	middle	middle	middle
downy mildew	good	good	middle	middle	middle
powdery mildew	good	good	good	good	good
hop aphids	low	middle	middle	middle	middle
spider mites	middle	middle	middle	middle	middle

	Bitter Hops				
Variety	Herkules	Hallertauer Magnum	Hallertauer Taurus	Hallertauer Merkur	Northern Brewer
<b>Bitter Substances</b>					
$\alpha$ -acids (EBC 7.4)	16,7	13,9	15,9	13,3	9,2
$\beta$ : $\alpha$ (EBC 7.7)	0,3	0,5	0,3	0,5	0,6
cohumulone (EBC 7.7)	36	27	23	20	27
<b>Polyphenols</b>					
polyphenols (EBC 7.14)	3,8	2,6	3,1	4,2	3,9
polyphenols: $\alpha$	0,2	0,2	0,2	0,3	0,4
xanthohumol (EBC 7.7)	0,80	0,47	0,89	0,37	0,61
xanthohumol : $\alpha$	0,048	0,034	0,056	0,028	0,066
<b>Aroma Substances</b>					
total oil (EBC 7.10)	1,7	2,4	2,00	2,20	1,50
$\beta$ -caryophyllene:humulene	0,28	0,28	0,29	0,29	0,34
farnesene (EBC 7.12)	< 0,5	< 0,5	< 0,5	< 0,5	< 0,5
linalool (EBC 7.12; mg/100g)	8	8	19	13	4
linalool: $\alpha$	0,5	0,6	1,2	1,0	0,4
<b>Yield (kg/ha)</b>	2700	2000	2000	2000	1600
<b>Tolerance to Diseases and Pests</b>					
wilt (mild strains)	good	good	middle	middle	good
downy mildew	low	good	low	middle	low
powdery mildew	low	low	low	good	low
hop aphids	low	low	low	low	low
spider mites	low	low	low	low	low

These are average values over several years and an extremely wide variety of cultivation areas in the Hallertau.

	Aroma Hops					
Cascade	Perle	Hallertauer Tradition	Spalter Select	Saphir	Opal	Smaragd
6,0	7,4	6,2	5,1	4,1	7,9	5,9
1,0	0,7	0,8	1,0	1,9	0,8	0,9
31	30	26	23	15	15	15
4,3	4,1	4,3	4,9	4,5	3,7	4,5
0,7	0,6	0,7	1,0	1,1	0,5	0,8
0,39	0,55	0,41	0,42	0,37	0,41	0,32
0,065	0,0074	0,066	0,082	0,090	0,051	0,054
1,00	1,30	0,7	0,7	1,10	0,95	0,90
0,50	0,31	0,28	0,4	0,43	0,34	0,30
< 10	< 0,5	< 0,5	> 10	< 0,5	< 3	< 3
4	4	7	8	10	11	10
0,7	0,5	1,1	1,6	2,4	1,4	1,7
2100	1850	1950	2000	2000	1900	1900
low	good	middle	good	middle	middle	middle
middle	good	good	good	low	good	middle
middle	low	middle	low	middle	middle	low
middle	low	middle	good	middle	middle	middle
middle	middle	middle	good	middle	middle	middle

	Dual Hops	Nobel Aroma Hops				
Nugget	Polaris	Hersbrucker Spät	Hallertauer Mittelfrüher	Spalter	Tettnanger	Saazer
11,3	18,6	3,1	4,1	4,1	4,0	3,2
0,4	0,3	2,4	1,3	1,3	1,4	1,1
29	26	20	21	24	25	25
3,4	4,0	4,4	4,6	5,3	5,2	5,3
0,3	0,2	1,4	1,1	1,3	1,3	1,7
0,68	0,79	0,21	0,27	0,34	0,29	0,30
0,060	0,042	0,069	0,066	0,083	0,073	0,094
1,70	3,20	0,75	0,85	0,6	0,60	0,55
0,47	0,40	0,48	0,29	0,28	0,29	0,28
< 0,5	< 0,5	< 0,5	< 3	> 10	> 10	> 10
10	8	5	6	4	4	3
0,9	0,4	1,6	1,5	1,0	1,0	0,9
2200	2200	1750	1250	1200	1300	1200
low	good	middle	low	good	good	good
low	low	low	low	low	low	low
low	low	low	middle	middle	middle	middle
low	low	middle	low	low	low	low
low	low	middle	low	low	low	low

Source: Verband Deutscher Hopfenpflanzer e.V.



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