

# BEGLEITURKUNDE

Allgemein auf Grund der Verordnung (EWG) Nr. 1038/71 vom 26. 7. 1971,  
geändert durch Verordnung (EWG) Nr. 1170/77 vom 17. 5. 1977.

## DEUTSCHER SIEGELHOPFEN

(ohne Samen)



SORTE

**Northern Brewer**

GRUPPE:

NR. BALLEN/BALLOT

GEWICHT IN KG (BRUTTO)

Aufbereiter:

ORT:

DEN:

19

Gleichmischer/Aufsicht:

DEUTSCHER  
SIEGEL

DEUTSCHER  
SIEGEL



# Northern Brewer

## Characteristics

### Bitter substances

alpha-acids	6.0 – 10.0 % *
beta-acids	3.0 – 5.0 % *
cohumulone	27 – 32 % <sup>x</sup>
colupulone	48 – 53 % <sup>x</sup>

### Polyphenols

total content	3.0 – 4.0 % *
xanthohumol	ca. 0.6 % *

### Aroma substances

total oil	1.0 – 1.6 % •
myrcene	25 – 45 % <sup>x</sup>
linalool	0.3 – 0.8 % <sup>x</sup>
beta-caryophyllene	10 – 20 % <sup>x</sup>
aromadendrene	< 0.2 % <sup>x</sup>
humulene	35 – 50 % <sup>x</sup>
farnesene	< 1 % <sup>x</sup>
beta-selinene	0.3 – 0.8 % <sup>x</sup>
alpha-selinene	0.3 – 0.8 % <sup>x</sup>

### Bitter variety

- high bitter value
- low aroma
- good storage stability

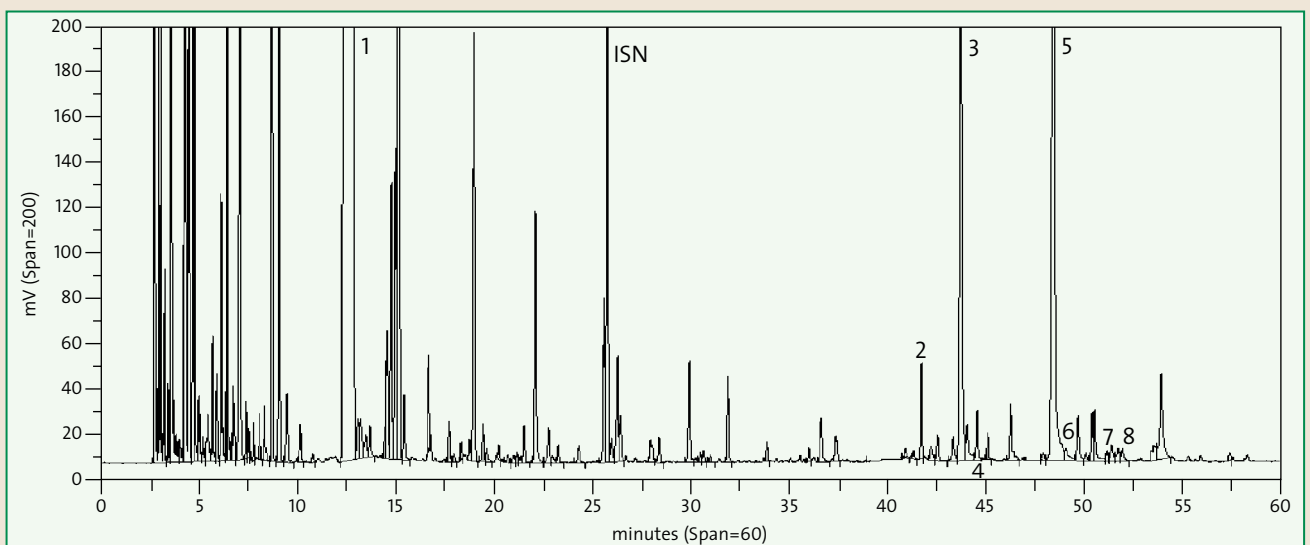
### Resistance to disease:

• wilt	very good
• downy mildew	average to low
• powdery mildew	low

<b>Ripening time</b>	early
<b>Storage stability</b>	good
<b>Average yield</b>	1,600 kg/ha

(\*) weight-% – (x) % relative – (•) ml/100g hops

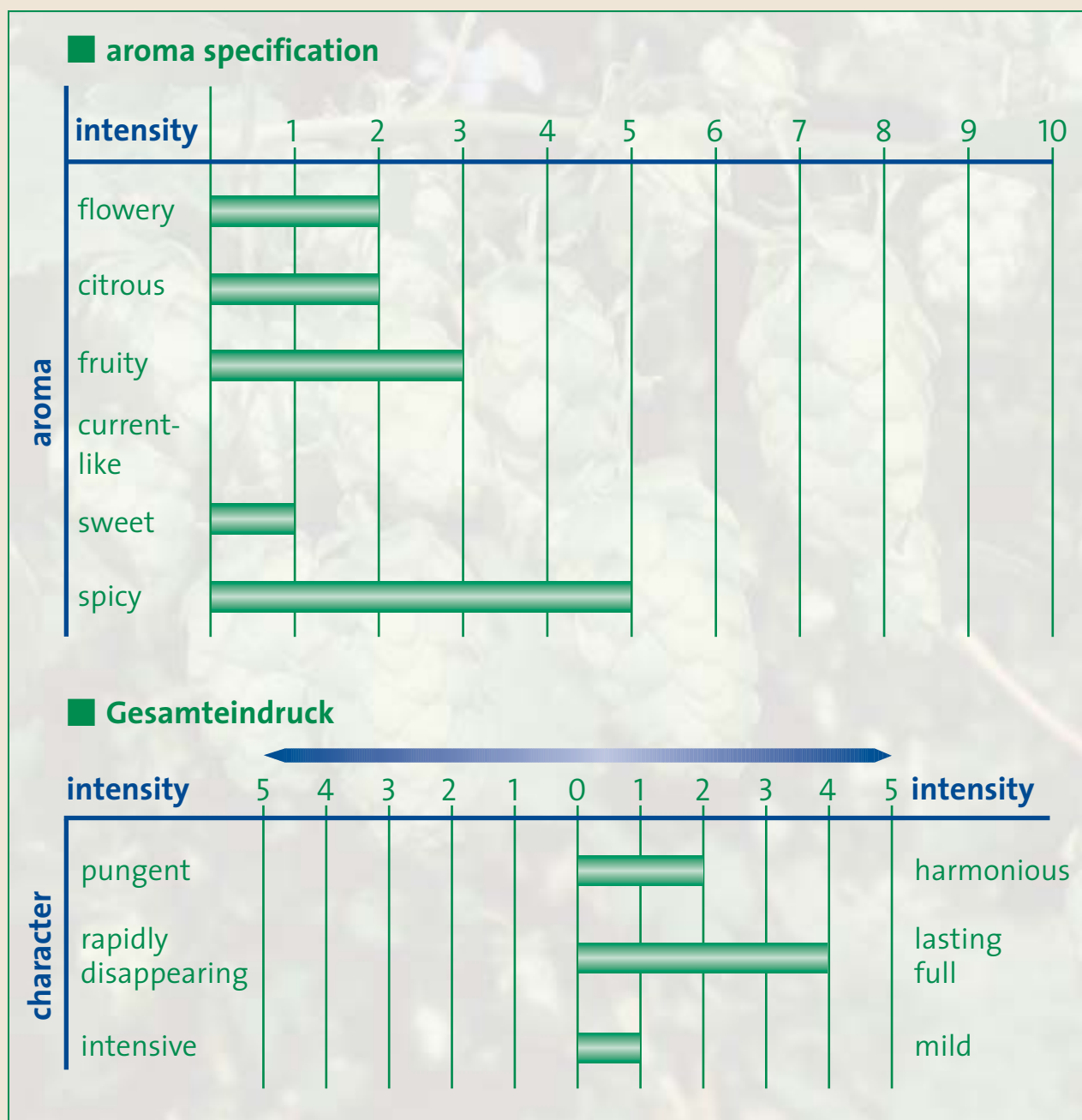
### Headspace Gaschromatogramme



1 = myrcene · ISN = internal standard · 2 = linalool · 3 = beta-caryophyllene · 4 = aromadendrene · 5 = humulene · 6 = farnesene  
7 = beta-selinene · 8 = alpha-selinene

# Northern Brewer

## Evaluation



The bitter variety Northern Brewer is resistant to wilt and ripens early. It has clearly diminished in its importance for production in recent years. Northern Brewer was bred in England in 1934.



# Brewing trial: Northern Brewer

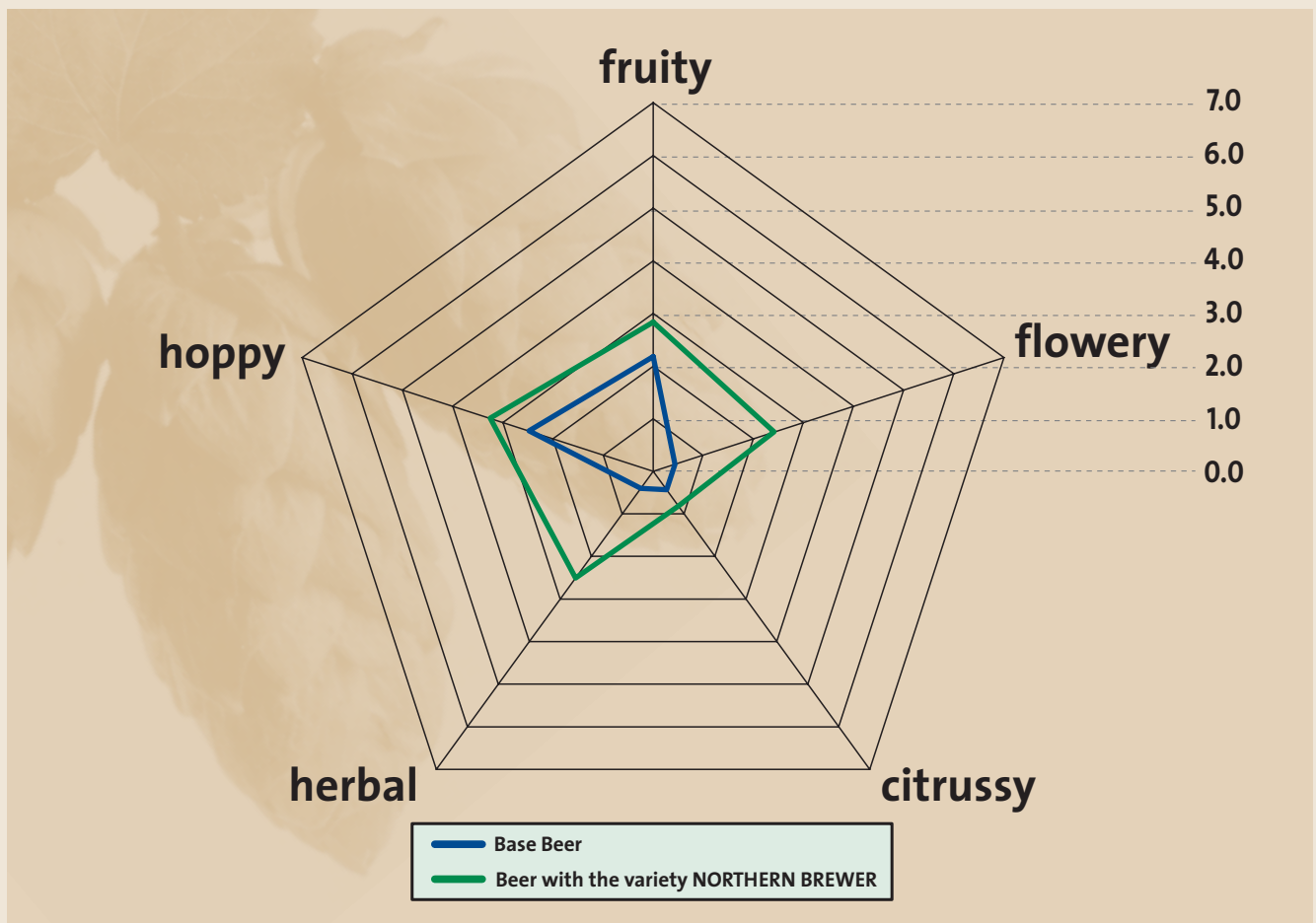


## 1. Beer Analysis

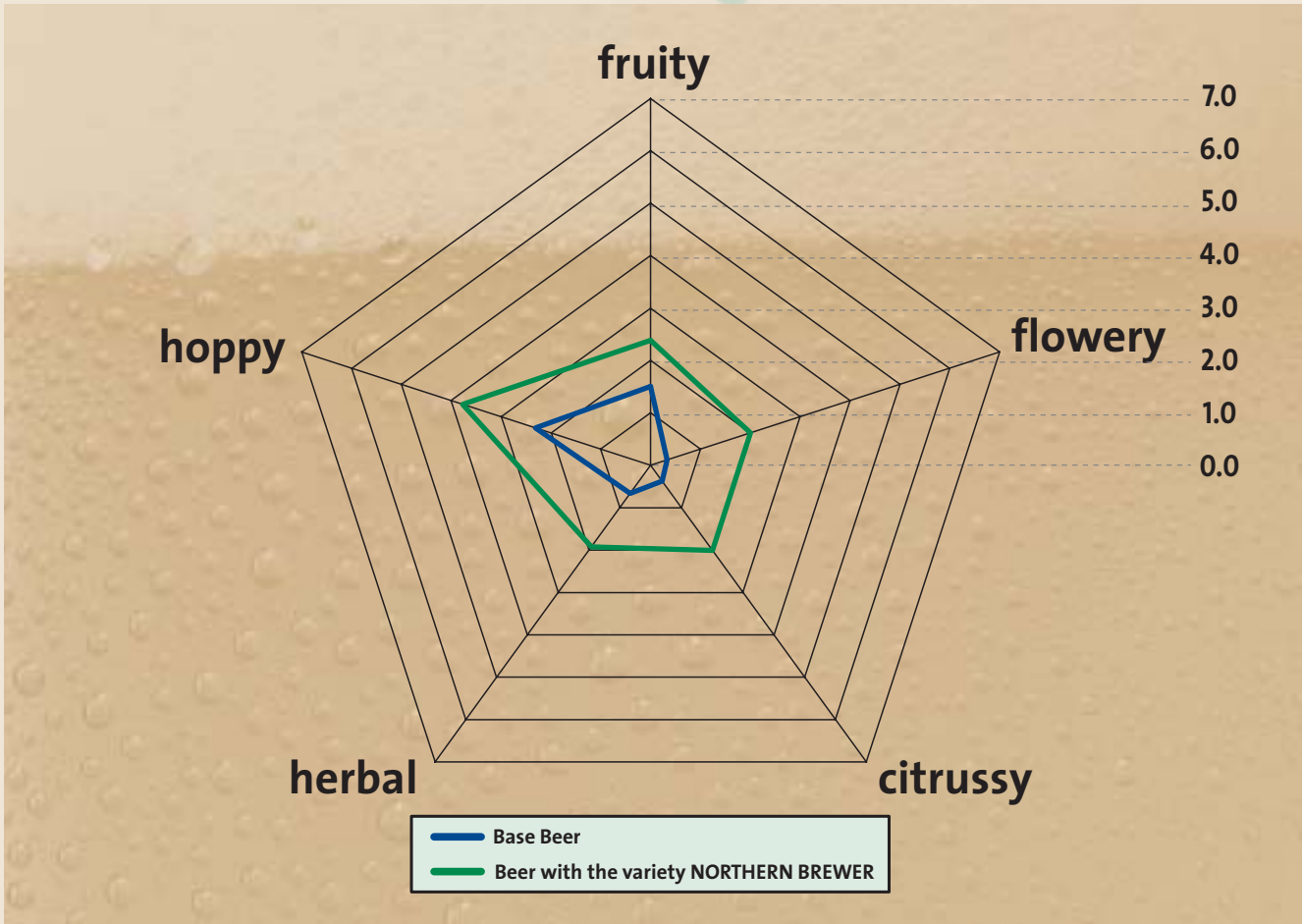
co-isohumulone	6.8 mg/l	iso-xanthohumol	0.72 mg/l
n-isohumulone	9.7 mg/l	xanthohumol	nd*
ad-isohumulone	2.9 mg/l	linalool	34 µg/l
Σ isohumulones	19.4 mg/l	total polyphenols	201 mg/l
bitterness	21 EBC-BU		

\*nd: not detectable

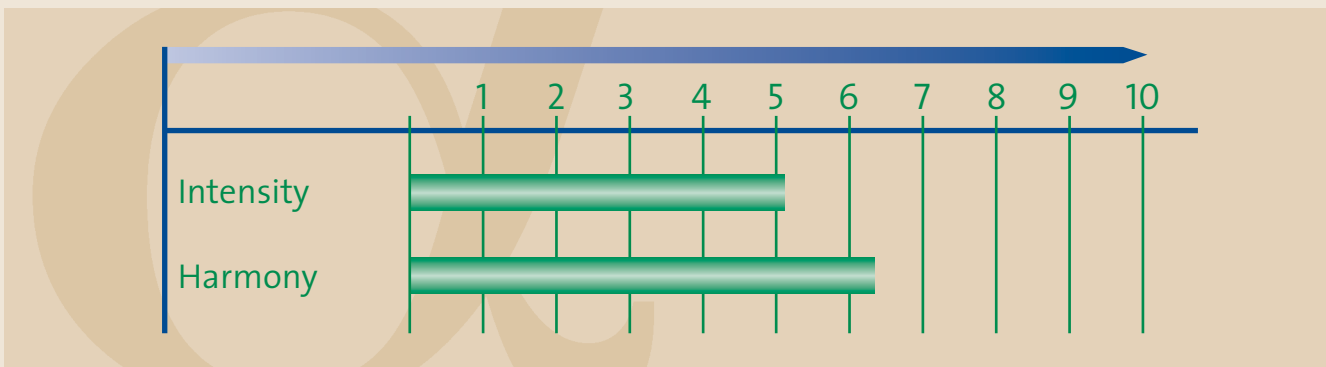
## 2. Sensory Evaluation “Hop Aroma” (Smell)



### 3. Sensory Evaluation “Hop Flavour” (Taste)



### 4. Sensory Evaluation of the Bitterness



The bitterness of the beer brewed with Northern Brewer is harmonic with medium intensity. Both in smell and taste the delicate aroma inclines predominantly towards a hoppy tang.