



Chmelařský institut s. r. o.

# KAZBEK - FLAVOR HOPS

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## AROMA:

Spicy – citrusy aroma.

## CHARACTER OF HOP AROMA:

The variety is famous for its intensive citrusy aroma.

## CONE:

Bunchy hop cones are oblong. Tops of covering bracts are deflected from cones. Average weight of 100 cones amounts to 13.0-16.5 g. Rachis is regular, 13-16 mm long.

## STORAGEABILITY: fair.

## BREWING UTILIZATION:

Kazbek is a flavor cultivar recommended for the second as well as for cold hopping.

DISEASE TOLERANCE		
	Downy mildew ( <i>Pseudoperonospora humuli</i> )	Powdery mildew ( <i>Sphaerotheca humuli</i> )
Primary infection	4	4
Secondary infection	4	6

MECHANICAL ANALYSES OF DRY HOPS	
Length of rachis (mm)	13 – 16
Number of rachis joints	8.0 – 11.0
Weight of 100 cones (g)	13.0 – 16.5
Weight of 100 rachides (g)	1.3 – 1.6
Percentage of rachides	8.0 – 10.5
Density	5.5 – 6.5
Heaviness	0.9 – 1.2

HOP RESINS	
Total resins (% w/w)	17 – 22
Alpha acids (% w/w)	5.0 – 8.0
Alpha/Beta ratio	4.0 – 6.0
Ratio $\alpha/\beta$	0.9 – 1.5
Cohumulone (% of alpha acids)	35 – 40
Colupulone (% of beta acids)	57 – 62

HOP POLYPHENOLS	
Total polyphenols (% w/w)	3.5 – 4.5
Xanthohumol (% w/w)	0.30 – 0.45
DMX (% w/w)	0.10 – 0.20

## ORIGIN/HISTORY:

Selection from hybrid progenies of breeding material with origin in Russian wild hops. Vigorousness and stability are obvious from its name as Kazbek is the highest peak within middle Caucasus mountain range.

## YEAR OF RELEASE: 2008

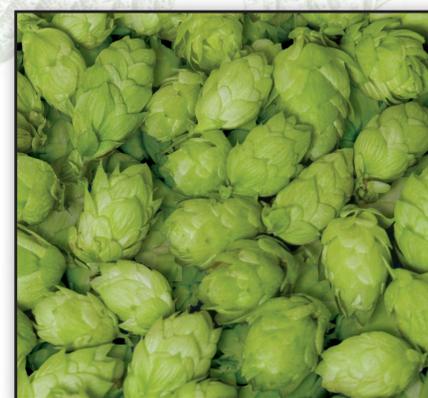
## PLANT HABITUS:

Vigorous growth, cylindrical to clubbed shape. Bine of red-green color, 12-15 mm thick. Very long laterals up to 2 m. The distance of the first fertile shoots from the ground is short to medium.

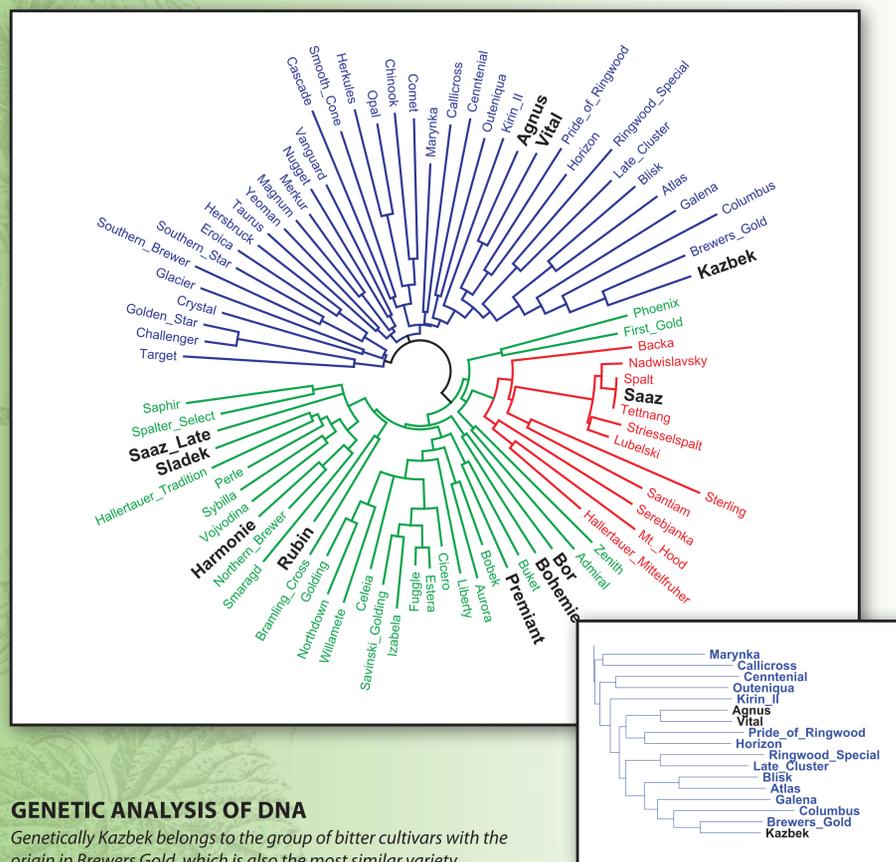
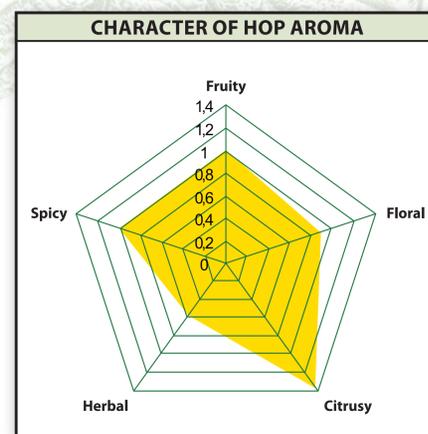
## AGRONOMICS:

Kazbek is late. Vegetation period is 134-141 days. Hop cutting is recommended in the third decade of March. Shoots growing from rootstock are numerous (30-40 ex.). Phase of bine elongation is quite intensive at the beginning of the vegetation period. Harvest is possible to do in a longer time range. Pickability is good.

## YIELD: 2.1-3.0 t/ha<sup>1</sup>

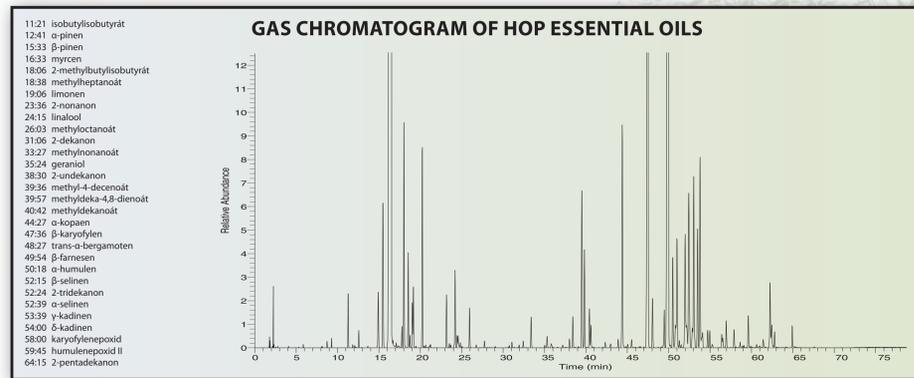


ESSENTIAL OILS	
Total oil (mls. of oil per 100 grams)	0.9 – 1.8
Isobutyliobutyrate (% rel.)	0.15 – 0.25
$\alpha + \beta$ pinene (% rel.)	0.5 – 0.9
Myrcene (% rel.)	40 – 55
2-methylbutylisobutyrate (% rel.)	0.60 – 1.25
Limonene (% rel.)	0.15 – 0.20
Linalool (% rel.)	0.3 – 0.5
Geraniol (% rel.)	0.05 – 0.20
2-undecanone (% rel.)	0.10 – 0.25
Methyl-4-decenoate (% rel.)	0.5 – 1.0
$\beta$ -caryophyllene (% rel.)	10 – 15
$\beta$ -farnesene (% rel.)	< 1.0
$\alpha$ -humulene (% rel.)	20 – 35
$\alpha + \beta$ selinene (% rel.)	1 – 3



## GENETIC ANALYSIS OF DNA

Genetically Kazbek belongs to the group of bitter cultivars with the origin in Brewers Gold, which is also the most similar variety.



## ACKNOWLEDGEMENTS:

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