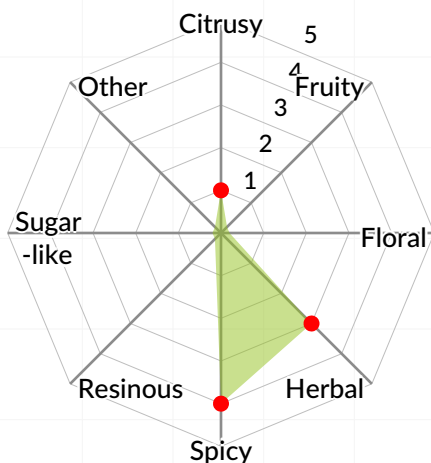


AROMA EVALUATION



VISUAL EVALUATION



AROMA SPECIFICATION

black pepper, onion, light citrus

GENETIC ORIGIN

Tomahawk is a bittering hop of recent origin.

AGRONOMIC ASPECTS

GROWING

Yield (kg/ha)	2,900 - 3,000
Yield (lbs/acre)	2,600 - 2,700
Maturity	Late
Main Growing Country	USA
Acreage (ha)	572

RESISTANCE AGAINST DISEASES

Powdery mildew	Susceptible
Aphid	Susceptible

CHEMICAL INGREDIENTS

BITTER COMPONENTS

Alpha-Acid %	15.0 - 17.0
Beta-Acid %	4.5 - 5.0
Co-Humulone % rel.	30 - 35
Hard Resins : Alpha-Acid	0.21 - 0.46

POLYPHENOLES

Xanthohumol (EBC 7.7)	0.7 - 0.8
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AROMA COMPONENTS

Total Oils (ml/100g)	2.5 - 3.5
Beta-Caryophyllene: Humulene	0.60 - 0.61
Linalool % of total Oil	0.4 - 0.6

HOP ALTERNATIVES

BREWHOUSE

Galena, Chinook, Nugget

DRY HOPPING

Galena, Chinook, Nugget

HOPS HOTLINE
800.339.8710