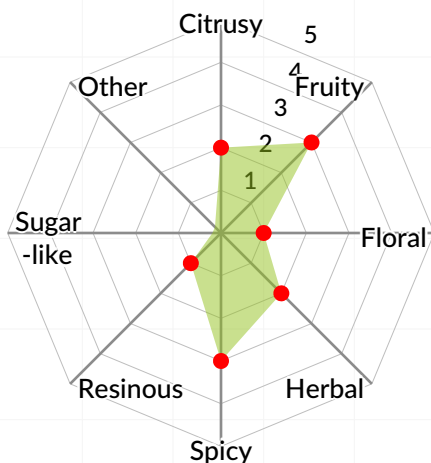


AROMA EVALUATION



VISUAL EVALUATION



AROMA SPECIFICATION

pepper, lime, currant, spicy

GENETIC ORIGIN

A German high alpha cross between 82/39/37 and 85/54/15M, bred in Huell; released in 1995.

AGRONOMIC ASPECTS

GROWING

| | |
|----------------------|---------------|
| Yield (kg/ha) | 1,600 - 2,000 |
| Maturity | Late |
| Main Growing Country | Germany |
| Acreage (ha) | 465 |

RESISTANCE AGAINST DISEASES

| | |
|----------------|-------------|
| Wilt diseases | Resistant |
| Downy mildew | Tolerant |
| Powdery mildew | Susceptible |
| Aphid | Susceptible |

CHEMICAL INGREDIENTS

BITTER COMPONENTS

| | |
|--------------------------|-------------|
| Alpha-Acid % | 12.0 - 17.0 |
| Beta-Acid % | 4.0 - 6.0 |
| Co-Humulone % rel. | 20 - 25 |
| Hard Resins : Alpha-Acid | 0.12 - 0.28 |

POLYPHENOLS

| | |
|-----------------------|-----------|
| Total Polyphenoles | 3.1 |
| Xanthohumol (EBC 7.7) | 0.9 - 1.0 |

AROMA COMPONENTS

| | |
|------------------------------|-------------|
| Total Oils (ml/100g) | 0.9 - 1.5 |
| Beta-Caryophyllene: Humulene | 0.30 - 0.31 |
| Farnesene % of total Oil | 0.00 - 1.00 |
| Linalool % of total Oil | 1.0 - 1.5 |
| Linalool: Alpha-Acid | 0.08 - 0.09 |

HOP ALTERNATIVES

BREWHOUSE

Hallertauer Magnum, Hallertauer Merkur, Herkules

HOPS HOTLINE

800.339.8710