



# Tomahawk®

U.S.

## High Alpha Hop

The current CTZ super high alpha hops, (which include the brand Tomahawk® and varieties Columbus and Zeus) have the same female parent as Nugget, making them at least half sisters to Nugget. CTZs are currently used extensively for beer bittering. CTZs have very poor storage characteristics and are susceptible to mildews

<b>Pedigree</b>	<b>Same female parent as Nugget</b>
<b>Aroma</b>	<b>Aromatic, pungent</b>
<b>Alpha Acids*</b>	<b>15.0 - 17.0 %</b>
<b>Beta Acids</b>	<b>4.5 - 5.0 %</b>
<b>Cohumulone</b>	<b>28 - 32 % of alpha acids</b>
<b>Total Oil</b>	<b>2.5 - 3.5 ml/100g</b>
<b>Myrcene</b>	<b>50 - 60 % of total oil</b>
<b>Humulene</b>	<b>12 - 18 % of total oil</b>
<b>Caryophyllene</b>	<b>9 - 11 % of total oil</b>
<b>Farnesene</b>	<b>&lt; 1 % of total oil</b>
<b>Storage Stability</b>	<b>Very poor</b>

\* Alpha acids are determined by conductometric titration (EBC 7.4) in Europe; by spectrophotometric (ASBC Hops-6) in USA