

# Millennium®

U.S.

## High Alpha Hop



Millennium is a high alpha hop brand developed through the John I. Haas, Inc., breeding program and released in 2000, the turn of the millennium. With Nugget as the mother, this triploid brand exhibits the same powdery mildew resistance as Nugget and its brewing profile is comparable to that of Nugget and Columbus-type varieties.

<b>Pedigree</b>	<b>Triploid high-alpha; Nugget mother</b>
<b>Aroma</b>	<b>Mild, somewhat pungent</b>
<b>Alpha Acids*</b>	<b>14.5 - 16.5 %</b>
<b>Beta Acids</b>	<b>4.3 - 5.3 %</b>
<b>Cohumulone</b>	<b>28 - 32 % of alpha acids</b>
<b>Total Oil</b>	<b>1.8 - 2.2 ml/100g</b>
<b>Myrcene</b>	<b>30 - 40 % of total oil</b>
<b>Humulene</b>	<b>23 - 27 % of total oil</b>
<b>Caryophyllene</b>	<b>9 - 12 % of total oil</b>
<b>Farnesene</b>	<b>&lt; 1 % of total oil</b>
<b>Storage Stability</b>	<b>Excellent</b>

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