



# Millennium

U.S.  
High Alpha Hop

Millennium is a high alpha acids variety bred in the John I. Haas, Inc., breeding program and released in the year 2000. As one would surmise, its name was chosen in response to the turn of the millennium. With Nugget as the mother, this triploid variety 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