Malting and Brewing Quality

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INTRODUCTION

It seems only natural that barley, one of the first grains used by humans (Wendt et al., 1979), is the major grain used to prepare various alcoholic beverages which have become part of social customs and economic endeavors. Use of barley for brewing is recorded in Egyptian artifacts estimated to be 5000 years old and on Babylonian clay tablets dating to 2000 B.C. (Hardwick, 1977; Katz, 1979). Brewing has since been a traditional part of human activities, especially in northern Europe and North America.

Barley must be malted before it can be used for brewing. Malt is produced by sprouting cereal grains and growing the young seedlings for four to six days under carefully controlled conditions. After thorough drying, rootlets are removed. The resultant product is a source of various hydrolases, primarily α- and β-amylase, together with desired flavor components and substrates necessary for producing a fermentation medium suitable for making fermented beverages or distilled spirits.

Approximately half of the current annual production of barley in the USA and 10 to 15% of that produced in Canada is used for production of malt. A large portion of grain not used for malting consists of malting cultivars; this is especially so in Canada. Thus, malting cultivars represent the major share of the North American barley crop.

Brewing is the major end use of malt. About 95% of the malt used in Canada and the USA is brewers malt. Distillers malt and malt produced for various food uses account for the remainder of the malt usage. Malt is used as a source of amylases, flavor or aroma in a variety of baked goods, cereals, infant