

Screening new Canadian Malting Barley Varieties for Dimethyl Sulfide (DMS) and/ its precursor S-Methylmethionine (DMSP)

Project overview

Dimethyl Sulfide (DMS) is a sulfur compound produced during fermentation of beer that has the aroma of cooked or creamed corn. This is one of the most common off flavours found in beer and can be the result of a number of factors in raw material and processing. However it is know that certain malting barley varieties tend to result in more DMS in the final product, potentially due to the levels of S-Methylmethionine, a precursor to DMS.

A Gas Chromatograph (GC) is used to test for DMS and DMSP. The instrument uses head space gas chromatography to measure dimethyl sulfide in beer that has the odour of cream or cooked corn. The GC can be used to test the difference in DMS or DMSP levels among different barley varieties.

Project Concept

The CMBTC will purchase and install a new Elutia Gas Chromatograph. Using the new GC and specialized column, the CMBTC will be screen promising new lines of malting barley in Western Canadian breeding programs for DMS and DMSP. The CMBTC will be able to undertake screening of up to several hundred lines annually. This work will ensure investments in breeding pay off so that selected lines do not have to be abandoned at later stages of commercial development due to the discovery of high levels of DMS or DMSP.