

Trace compounds in your beer can include various volatile esters which are important contributors to the overall beer flavor.

The most important flavor-active ones include:

Ethyl acetate: solventy-like aroma.

Isoamyl acetate: fruity/banana notes.

Ethyl caproate [ethyl hexanoate] and ethyl caprylate [or octanoate]: sour or red apple/aniseed

AND-

Phenyl ethyl acetate: flowery, roses or honey-like notes.

It is said that only isoamyl acetate reaches, in lagers, its threshold level but the presence of all the different esters have a synergistic (additive) effect on the individual flavors so that esters can also affect beer flavor below their individual threshold concentrations.

Many esters are close to threshold values and so minor changes in concentration can have major flavor impacts on the resultant beer. The brewer must, consequently, be aware of how to control the production of esters as well as other flavor active volatiles in their beers. Factors influencing ester production include wort composition (nutrients for yeast), wort aeration and fermentor design.

FLAVOR CORNER

LIKE A BIT OF FRUITINESS IN YOUR BEER?

FLAVOR-ACTIVE ESTERS

ETHYL ACETATE
ISOAMYL ACETATE
ETHYL CAPROATE
ETHYL CAPRYLATE
PHENYL ETHYL ACETATE

A neat article describing some of the control features appeared a few years ago and will be the starting point as this article here expands in the coming weeks. The paper: "Review- Flavor-Active Esters: Adding Fruitiness to Beer" was written by several experts in the field, including Guy Derdelinckx, Jean-Pierre Dufour and Isak S. Pretorius and colleagues. It was presented in Journal of Bioscience and Bioengineering, Vol 96 (No.2) pp.110-118 in 2003.

Watch this spot for expansions on this topic or call us for details today.



