Studies on Coffee Aroma Precursor Compounds

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SUMMARY

This study attempts to elucidate the contribution of single flavor precursor compounds to coffee aroma by using model roasting experiments in simple glass reaction vials. A set of precursor compounds that is necessary to produce a fine R&G-like coffee aroma upon model roasting has been identified. By reducing the number of precursors used in the set the fine coffee-like aroma turned into roasted and burned aroma notes. The model system was extended by using extracted coffee beans as reaction chamber for the precursor compounds. The influence of different precursors on the flavour profile was tested and omission experiments of single precursor compounds were performed. Different sets of precursor compounds have been identified leading to Arabica and Robusta-type flavour profiles, respectively. pH of green coffee was identified as one of the main drivers for the flavour differences between Arabica and Robusta in addition to precursor compound composition.