Biovanillin from agro wastes as an alternative food flavour

ABSTRACT

This review provides an overview of biovanillin production from agro wastes as an alternative food flavour. Biovanillin is one of the widely used flavour compounds in the foods, beverages and pharmaceutical industries. An alternative production approach for biovanillin as a food flavour is hoped for due to the high and variable cost of natural vanillin as well as the limited availability of vanilla pods in the market. Natural vanillin refers to the main organic compound that is extracted from the vanilla bean, as compared to biovanillin, which is produced biologically by microorganisms from a natural precursor such as ferulic acid. Biovanillin is also reviewed as a potential bioflavour produced by microbial fermentation in an economically feasible way in the near future. In fact, we briefly discuss natural, synthetic and biovanillin and the types of agro wastes that are useful as sources for bioconversion of ferulic acid into biovanillin. The subsequent part of the review emphasizes the current application of vanillin as well as the utilization of biovanillin as an alternative food flavour. The final part summarizes biovanillin production from agro wastes that could be of benefit as a food flavour derived from potential natural precursors.

Keyword: Agro wastes; Bioconversion; Biovanillin; Ferulic acid; Food flavour