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From use and production of essential oils back to their formation,  
quality and storage in plants

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C2, Piso 2

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**Abstract.** Essential oils are lipophilic mixtures composed of mono- and sesquiterpenes as well as phenylpropanoids. It is a form of extract that is not defined by a compound group but rather by its production process, distillation. Mankind is using essential oils in food, feed, medicine, perfumery and cosmetics and some technical applications. Recently, essential oil application in animal feeding was extended to substitute antibiotics ('growth promoters') in feeding, that led to interesting new insights in the distribution and catabolism of the essential oil components in a body.

For producing essential oils specific plants are used that either possess a specific composition or accumulate essential oil compounds in higher amounts produced by specialized secretory structures and stored in specific compartments. Practical application demands essential oils of a certain stable 'quality'. However, environmental influences are changing the essential oil composition.

The lecture gives an overview from possible applications mainly focussing on animal nutrition and production back to the formation and storage of essential oils in essential oil plants with a focus on environmental influences on essential oil quality.

### **Organização**

Centro de Biotecnologia Vegetal (CBV – CESAM Lisboa), inserido na unidade curricular de *Plant Metabolic*

*Regulation* do Programa Doutoral *Plants for Life*