

# Abstract

The genus *Coffea* is so specific by its distribution, requirements for environmental conditions and economic importance for humans that it is increasingly being studied as a model plant material. The thesis in the form of literary research is worked out in the context of the emerging climatic changes in order to give a comprehensive overview of the physiological responses of plants of the genus *Coffea* to three abiotic stresses – heat, cold and drought. The partial goal was to compare the resistance to these stresses of two economically significant species – *Coffea arabica* and *Coffea canephora*. We cannot generally say which species is more resilient, it always depends on a particular stress. Essential parts of the reaction to these stresses have proved to be carbohydrate accumulation and content dynamics.

**Key words:** carbohydrates, climate change, *Coffea*, drought, extreme temperatures, stress