Abstract:

Consumers' interest in the relationship between diet and health is increasing. From a production chain perspective, the raw material that is used is important for the health protecting potential of the end product. Four apple cultivars (Jonagold, Golden Delicious, Cox's Orange and Elstar), which can be consumed as fresh apples or used in processed apple products, were compared with regard to flavonol, catechin, phloridzin, and chlorogenic acid compositions and antioxidant activities. Jonagold apples possessed the highest flavonoid concentration and the highest antioxidant activity. In the four apple cultivars, 35% to 50% of the measured antioxidant activity could be ascribed to the compounds mentioned above. Total catechin concentration was the main contributor to the measured antioxidant activity in the analysed cultivars. Long-term storage, both at refrigerated temperatures and under controlled atmosphere conditions, was found to minimally influence flavonoid concentration. Antioxidant activity was not affected by the applied storage conditions.