

1. Abstract

Purpose of this thesis was to prove and determine antioxidant activity of flower extracts from black elder (*Sambucus nigra* L.) and compile summary of their content substances and effects. Sambuci flos is often used in natural therapy and food industry. The main content substances are flavonoids, phenolic acids, triterpenoids, further are contained in flowers sterols, mucilage, essential oils, tannins. Flavonoids are the most significant, specifically rutin and kvercetin, because they can show antioxidant, antiviral, anti-inflammatory and anticancer properties. Flowers are used mainly for their diuretic, diaforetic, expectorant, analgetic effects. Method DPPH (2,2-difenyl-1-pikrylhydrazyl) was used for determination antioxidant activity of methanolic flower extracts. Results of antioxidant activity were expressed as IC₅₀ values (concentration of extract which causes 50% reduction of radical). The average observed IC₅₀ values were 0,79 mg/ml and 0,83 mg/ml. The individual IC₅₀ values have changed fluently during development of flowers, they range from 1,086 mg/ml and 0,701 mg/ml in both collections. Deviations can be caused by ongoing synthesis of the secondary metabolites.