

# INFLUENCE OF AIR POLLUTION TO AMOUNT OF TOTAL ORGANIC ACIDS IN WILD FRUITS PLANTS IN PLJEVLJA REGION

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## Abstract

The paper contains results investigation of amount of organic acids in leaf and in bark of one-year old branching of wild fruit plants (*Rosa canina* L., *Malus sylvestris* Miller and *Pyrus pyraeaster* (L.) Du Roi).

A study conducted over a period of 3 years (2010 - 2012). The method by Pleshkov (1985) [1] was applied for determination of total organic acids content. Accurately weight mass (20 g) of fresh plant material was extracted in blender with 150 mL of distilled water, transferred into Erlenmeyer flask and heated in water bath at 70 °C for 30 minutes. After that extract was filtered and total volume of filtrate was adjusted to 200 mL. The filtrate aliquot of 50 mL was transferred into Erlenmeyer flask and titrated with 0.1 mol/L standard solution of NaOH. The titration endpoint was registered potentiometrically. Acidity was calculated by formula:  $X = a \times T \times 200 \times 10/n \times 50$ , where X = content of acids in analyzed solution in mekv/g of fresh plant material, a = volume of 0.1 mol/L standard solution of NaOH used for titration in mL, T = factor of 0.1 mol/L standard solution of NaOH, 200 = total filtrate volume in mL, 10 = factor for calculating mekv of acids, n = mass of plant material used for extract preparation, 50 = volume of filtrate aliquot. Some wild fruit plants species from non-industrial polluted area, Rožaje, have been used as a control sample.

It has been proved that contents of organic acids are depend on wild fruit plants species and plant organ. That confirms the fact that it is one of plant defense mechanism. High contents of organic acids indicate the presence of PM10 particulate matter in the environment.

According to the results, it is not recommendable to use those herbs in nutritional purposes.

**Key words:** Air pollution, Wild fruit species, Organic acids, Pljevlja region.