Identification and Biological Activity of Volatile Organic Compounds Secreted by Colorado Beetle (*Leptinotarsa decemlineata Say)* and Potato Leaves (*Solanum tuberosum L.)*

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Volatile organic compounds of plants and insects are of great importance to transfer chemical information in the nature. An identification of volatile compounds secreted by imago of Colorado beetle (*Leptinotarsa decemlineata Say***)** and potato leaves (*Solanum tuberosum L*) taking part in the interrelation of the pest with the natural nutrition source is of interest. Samples of volatile mass-spectrometric detection, and thus two compounds with a ratio of peak intensities on chromatogram were found to be 10:1. A molecular ion m/z 204, corresponding to molecule formula $C_{15}H_{24}$, was present in mass-spectrum (MS) each of them. MS was analyzed to show *trans*-caryophyllene (**1**) to be a main component, and germacrene to be a minor one.

In the course of a study of potato leaves volatile organic compounds a series of sesquiterpenes was identified to show **1** to be a main component. *Cis*-caryophyllene, clovene, copaene, β-elemene, humulene, Δ-cadinene were identified as minor components. The compound **1** presenting in volatile isolations of potato and Colorado beetle was observed olfactometrically in a T-shape olfactometer to find attractive properties with respect to Colorado beetle imago, that confirmed this sesquiterpene as a nutrition attractant for the pest.

An attractivity of different types of potato with various content of **1** in volatile isolations was studied to show the beetles preferred to eat potato types with the greater content of caryophyllene.