



## Crem (*Tropaeolum pentaphyllum* Lam.): Extraction and Quantification of Volatile Oils tubers.

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The crem, native species of southern Brazil, is an unconventional food plant that has several versatility of uses, and its leaves and flowers eaten in salads and the 'crem potato' as it is called, is traditionally grated and stored in a red vinegar, used as a condiment for fatty meats and soups, in European colonization regions. On the other hand, crem is used in popular therapies for preventing hypercholesterolemia and detoxification of the body. However, it is the use of the condiment that has stood out for its characteristic flavor and aroma, providing a new economic option for family agribusiness. Other species of the family are also used as food and the potential to store essential oils, both in the shoot as the booking agencies. This study aimed to evaluate the production of essential oils from crem tubers, through the extraction and quantification of volatile compounds. The study was conducted at the Laboratory of Horticulture of the Faculty of Agronomy and the Laboratory of Pharmacognosy of the Faculty of Pharmacy of Federal University of Rio Grande do Sul. The material used was a sample of tubers taken from a population anthropogenic crem cultivated in the didactic garden of the Agronomy School. The tubers were washed, cut into pieces of 2x2 cm, placed in volumetric flasks 6L and supplemented with distilled water. The essential oil extractions were performed in triplicate by hydrodistillation, using a graduated Clevenger apparatus, under a recirculating cooling system, for three hours. In the extraction process, the essential oil formed an emulsion with the distilled water and it was recovered with the aid of a dropping funnel, adding hexane to the emulsion. The oil obtained was analyzed in a GC/MS equipped with a fused silica capillary column (25 m x 0.25 mm, 0.25 µm film thickness 5% phenyl-polydimethylsiloxane phase). The essential oil components were identified by comparing their retention index, and the mass spectrum data obtained in the scientific literature. The results showed an average yield of 0.016% (w/w) essential oil from crem tubers and confirmed the presence of a major component (69.6 %) with nitrogen and sulfur in its molecule, identified as benzyl isothiocyanate. The presence of the major component in the crem essential oil can be related to the effects observed empirically by the traditional use of this species as cholesterol reducer (1).

1. Verkerk, R.*et al.*, Mol. Nutr. Food Res., 2009, **53**, 219-265.

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