



národní
úložiště
šedé
literatury

Xanthoceras Sorbifolium as a Source of Essential Oils.

Šabata, Stanislav
2018

Dostupný z <http://www.nusl.cz/ntk/nusl-390687>

Dílo je chráněno podle autorského zákona č. 121/2000 Sb.

Tento dokument byl stažen z Národního úložiště šedé literatury (NUŠL).

Datum stažení: 17.07.2024

Další dokumenty můžete najít prostřednictvím vyhledávacího rozhraní [nusl.cz](http://www.nusl.cz) .

XANTHOCERAS SORBIFOLIUM AS A SOURCE OF ESSENTIAL OILS

Sabata S.¹, Rouskova M.¹, Kastanek F.¹, Solcova O.¹, Hanika J.¹, Kastanek P.²

¹ Institute of Chemical Process Fundamentals of the CAS, v. v. i.

² Ecofuel Labs., Ocelarska 9, 190 00 Prague 9, Czech Rep.

Xanthoceras sorbifolium was prospecting as a source of essential fatty acids usable in cosmetics or nutraceuticals. The fruits of the *Xanthoceras sorbifolium* contain a considerable amount of fatty cores with a large number of essential oils. The fruit that is edible is a large 60 mm diameter round capsule containing 6-18 black seeds with a diameter of 15 mm.

These oils were obtained by extraction using various solvents. Prior to extraction, the seeds, which have a very hard shell, were crushed into a thick slurry. After adding solvents with different polarities (in two parallels), the seeds were extracted at room temperature for two days. Solvents set of polarity increase - hexane, mixtures hexane / ethanol 2: 1, hexane / ethanol 1: 1 (by volume), chloroform, isopropyl alcohol and ethanol (96%) was tested. The lipid extract was dried for 40 hours at temperature 130 ° C. The chloroform as the sole extraction agent did not provide a transparent extract. Contrary, oils obtained by extraction using hexane and the mixture 2:1 v/v hexane/ethanol provided the pure transparent oils. Moreover, the mixture 2:1 v/v hexane/ethanol was identified as the optimum solvent system with the highest extraction yields of essential oils.

It can be summarized that the fruits of the *Xanthoceras sorbifolium* reveal a high potential as a source of various triacylglycerides and subsequent essential fatty acids.

Acknowledgement

Financial support from the Technology Agency of the Czech Republic under the Competence Centre BIORAF (project No. TE01020080) and Strategy AV21, Foods for the Future is acknowledged.