

Abstract

The Effect of the Composition of Leuzea and Cranberry Meal Extracts on Physical Performance †

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Abstract: Over the last decade, a huge number of herbal supplements have been introduced into the practice of sports medicine in order to increase physical performance. Medicinal plants are a valuable source of a large number of secondary metabolites, such as polyphenols, triterpenes and adaptogens. This determines the ability of herbal medicines to compensate for the deficiency of nutrients in the human body. The use of secondary products of processing provides an opportunity to obtain additional products of high biological value, and to purposefully spend natural resources' reserves. Based on the literature data on the properties of leuzea and ursolic acid, the researchers of the Laboratory of Pharmacological Research NIOCH SB RAS developed a composition of two plant components: extracts of leuzea and cranberry meal, containing 0.31% ecdyten and 40% ursolic acid, respectively. The aim of this work is to study the effect of the composition of leuzea and cranberry meal extracts and its individual components on performance in a treadmill test in male CD-1 mice. To confirm the increase in physical performance, the concentration of lactate and blood glucose was determined. After a seven-day acclimation, test compounds were administered daily for two weeks, with all mice receiving exercise (at least 24 h between each run). At the end of the experiment, the concentration of lactate and glucose in the blood was measured. The composition of leuzea and cranberry meal extracts significantly reduced the concentration of lactate and glucose in the blood, indicating its ability to increase physical performance.

Keywords: leuzea; ursolic acid; performance; treadmill test; extract

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