

ABSTRACT

Bachelor thesis title: Evaluation of selected biomechanical parameters in triple jump

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Aims of the thesis: The aim of the bachelor's thesis was to evaluate selected biomechanical parameters of medalists from the Czech Republic Triple Jump Championships in recent years. The thesis focused on analyzing the performances of Czech triple jumpers, approach velocities, lengths of individual jumps, and ground contact times. An additional objective was to examine the relationship between ground contact time and speed loss, in order to determine whether the statement holds true that shorter ground contact time results in lesser speed loss.

Methodology: The research utilized a method of analysis and comparison based on data obtained from the website of the Czech Athletics Federation. Foreign scientific articles and Czech literature were used to enhance understanding. Comparisons were conducted between the indoor and outdoor seasons. Performance comparisons were made among individual jumpers occupying medal positions. Additionally, a comparison was made between the indoor and outdoor seasons.

Results: To achieve medal positions in the indoor season, in recent years it was necessary to achieve performances above 15 meters. In the outdoor season, to reach medal positions, performances around 16 meters were required, and in some cases even above 16 meters. The performance of Czech athletes was better in the outdoor season compared to the indoor season. Jumpers with taller height and lower body weight have better prospects of achieving medal positions. The approach velocity of Czech triple jumpers at the Czech Republic Championships ranges between 9-10 m/s. However, the highest approach velocity does not always guarantee the longest jump. In triple jump, it is more effective to have balanced jump distances rather than a single dominant component. The statement that shorter ground contact time results in lesser horizontal speed loss is true, and calculations confirm it.

Keywords: athletics, triple jump, analysis, evaluation, biomechanics, performance.