

TECHNICAL UNIVERSITY IN ZVOLEN
FACULTY OF TECHNOLOGY



ACTA FACULTATIS TECHNICAЕ ZVOLEN

**SCIENTIFIC JOURNAL
OF FACULTY OF TECHNOLOGY**

**XXVIII
2/2023**

ISSN 1336-4472



9 771336 447005 32

The AFT scientific journal is published by the Technical University in Zvolen in its publishing house since 1997. It is intended for a broad scientific and professional public.

Redakčná rada / Editorial Board

predseda / Chairman

doc. Ing. Pavel Beňo, PhD.

členovia / Members

doc. Ing. Marián Kučera, PhD.

doc. Ing. Miroslav Dado, PhD.

doc. Ing. Miroslava Ťavodová, PhD.

doc. Ing. Ján Kováč, PhD.

prof. Ing. Jozef Krilek, PhD.

vedecký redaktor / Editor-in-Chief

prof. Mgr. Elena Pivarčiová, PhD.

Technický redaktor / Production Editor

doc. Ing. Peter Koleďa, PhD.

The scientific journal Acta Facultatis Technica publish only original scientific papers. Manuscripts are submitted by e-mail to barcik@tuzvo.sk. The submission deadlines are twice a year – January 30 and June 30. Papers (max 10 pages) have to be formatted according to template. Authors have to send the Publication ethics statement together with the scientific paper. The original scientific paper must not exceed 10 pages (in the journal paper template style) including references and appendices. Papers have to be written in English. Authors are responsible for the grammar of the article.

The structure of the manuscripts must be as follows:

Title – a clear and concise title in English and Slovak languages. The title should inform about main goals or results of the study.

Contact information: first names and surnames of author(s) without the academic degrees. The authors' affiliations should be indicated after authors' names using superscript numbers and should be listed under the list of authors. The corresponding author should be marked with asterisk (*). The affiliation of the corresponding author should include his/her e-mail address and telephone number.

Abstract – a brief description of the paper of maximum 250 words. The abstract must always be prepared in English and Slovak versions. It must provide the information that explains the context of the study, objectives, methods, main results and conclusions.

Keywords – maximum 5 keywords in English and Slovak languages. Keywords should not repeat the title of the study. Keywords should be separated by a semicolon.

Introduction – The formulation of a scientific problem and the relation of the presented study to previous works dealing with similar issues. Clearly formulated goals of the study or scientific hypotheses.

Material and methods – Transparent documentation of experimental and background material in such a way that the research can be repeated following the presented description. The section should also obtain the information on the approaches and the methods of data processing and the interpretation of results. Insufficient or unclear documentation of used methods and data is a reason for the rejection of the manuscript.

Results – Results are to be presented in the form of coherent, logically organised overviews of new and original knowledge supported by graphs, figures, formulas, tables and other ways of presenting the results of analyses. Discussion aimed at evaluating the results and comparing them with the findings of other authors, etc. must be clearly separated from the results.

Discussion – Critical comparison of the obtained results with other published works. Discussion should comprehensively answer the questions formulated in the introduction. It is advisable to determine the possibilities for the generalisation of the results and the limits of the applied methods.

Conclusion – Factual conclusions from the results of the work, author's own contribution or view based on the presented results and discussion. Conclusion should not repeat the obtained results, but should represent their extension, i.e. their generalisation and possible utilisation.

Acknowledgement – Authors can acknowledge different types of support during the preparation of the manuscript; they can list the projects and agencies that financially supported the presented research.

Citations in the text and the reference list

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Examples of citations in the text:

if the name of the author is a part of a sentence, the year of the publication is given after the author's name in parentheses (round brackets) – ...Kučera (2013); if the name is not mentioned in the text, both the name and the year of the publication are given in parentheses – ... (Kučera 2013),

Citations to works by two authors should always give both authors' surnames – ... (Kováč & Krilek 2012), works by three or more authors should be cited using the surname of the first author only followed by „et al.“ (Hudec et al. 2010),

Several citations at one place should be separated by a semicolon – ... (Kučera 2010; Kováč & Krilek 2012; Hudec et al. 2013), and should be listed in chronological order starting with the oldest work up to the newest one.

The reference list should be in alphabetical order. If several references of the same author are used, they should be listed in chronological order according to the year of publication, starting with the oldest work up to the newest one. If the team of authors consists of six or less authors, all authors are listed in the reference, otherwise only the names of the first six authors are listed followed by „et al.“. The titles of the works should be written in the original languages, i.e. they should not be translated into English. The format of the reference should include the following: surname, initials of the first names, publication year: full title of the cited paper in the original language, journal title, volume, pages of the cited paper. In case of monographs, the place of publication, publisher, and the total number of pages followed by “p.” should be listed. References published in proceedings should include In: surname, initials of the first names of the editor: proceedings title, place of publication, publisher, and pages numbers of the reference paper preceded by “p.” abbreviation.

Examples of references (in Reference section):

Books:

KUČERA, M., KOVÁČ, J., 2012. Degradácia olejových náplní v prevádzkových podmienkach. Zvolen: TU vo Zvolene. ISBN 978-80-228-2427-9.

The journal publishes original full research papers from the field of manufacturing and automation technology, development trends in hydraulic elements, systems and fluids used in agricultural, forestry and manufacturing technology, robotics and informatics, energetic and environment, quality and reliability of machines and devices, machinery and mechanisation in agriculture and forestry, machinery in manufacturing processes, characteristics and manufacturing of agricultural and forestry materials and products, marketing of machinery and technical systems safety.

Number of copies	60
Pages	42
	Authors are responsible for the content and correctness of individual contributions. The manuscript has not been proofread.
Published	I. december – 2023
Graphic Design and Printed by	Vydavateľstvo TU vo Zvolene
Publisher	Technická univerzita vo Zvolene, T. G. Masaryka 2117/24, 960 01 Zvolen, IČO 00397440
Approved by	Editorial Board of the Technical University in Zvolen on 27. 2. 2023, No EP 69/2023 Registration No. of the Ministry of Culture of the Slovak Republic EV 3858/09 Periodicity of Issues in the Periodical is two times per year.

All rights reserved. No part of this publication may be reproduced for any further publishing in any form without the prior permission of the copyright owner.

Papers in journals:

KOVÁČ, J., KRILEK, J., 2012. Analýza opotrebovania reznej hrany hoblňovacích nožov pílovej reťaze motorovej píly. Acta facultatis technicae, roč. 17, č. 3, pp. 147-157.

Book chapters or papers in proceedings:

KRILEK, J., KOVÁČ, J., JOBBÁGY, J., 2014. Výskum štiepacej sily na horizontálnej štiepačke. In: Hudec, J. (ed.): Trendy lesníckej a environmentálnej techniky a jej aplikácie vo výrobnom procese: vedecký recenzovaný zborník. Zvolen: Technická univerzita vo Zvolene, pp. 225-229. ISBN 978-80-228-2695-2.

In case of online documents, the reference must include the information identifying the source with precise location on the web.

Tables and figures

Tables and figures are sequentially numbered using Arabic numerals in the order in which they appear in the text. In the text, tables are referred to using „Table 1“, figures are referred to using „Figure 1“. The term „Table 1“ or „Fig. 1“ is used in front of the title of the particular table or figure, respectively.

The titles of tables and figures, columns and rows labels, figure legends and notes have to be provided also in Slovak language.

Tables and figures should be restricted to necessary cases. Figures and tables are inserted consecutively into the text. Figures in a printing quality of min. 300 dpi, in one of the following formats: .tif, .jpg, .psd, .eps. Graphs or diagrams have to be provided in vector files, e.g. Excel, Corel, Illustrator, etc. in such a way that the text can be edited.