# Spis treści

Ella Mihajlovna Bodrova, Waldemar Izdebski, Vladimir Mihajlovich Sinielnikov, Jacek Skudlarski, Stanisław Zając	
State and Perspectives of Milk Production in the Republic of Belarus in Comparison with the Condition of the Polish Dairy	3
Wawrzyniec Gołębiewski Relationships Between Vehicle Traction Properties and Fuel Consumption for Part Engine Loads	9
Wawrzyniec Gołębiewski, Tomasz Stoeck Relationships Between Vehicle Traction Properties and Fuel Consumption for Total Engine Load	15
Michalina Gryniewicz-Jaworska Application Evolutionary Methods in the Location and Choice of Wind Farms	19
Jacek Halbiniak, Paulina Sroka Translucent Concrete as the Building Material of the 21 <sup>st</sup> Century	23
Sebastian Kowalek Analysis of the Operation of CI Engine Fuelled with Crop-Based Fuels	29
Sebastian Kowalek The Effect of Selected Compression-Ignition Engine Operating Parameters on the Emission of Toxic Exhaust Gas Components	33
Kazimierz Lejda, Edyta Zielińska Gas Installations Requirements for Cars and Automobile Repair Shops Offering LPG Services	37
Natalia Matłok, Piotr Kuźniar, Rafał Pieniążek, Józef Gorzelany Comparison of the Content Of Monosaccharides and Sucrose in Fruit of Selected Grapevine Varieties Cultivated in an Ecological and in a Conventional Farm in the podkarpacie Region	43
Slawomir Morel, Jaroslaw Jasinski, Tadeusz Zloto, Piotr Stryjewski Catalytic Effect of Plasma Sprayed Coatings on Combustion Gases Afterburning Improvement	47
Slawomir Morel, Jaroslaw Jasinski, Tadeusz Zloto, Piotr Stryjewski The Influence of a Radiated Heat Exchanger Surface on Heat Transfer	51
Tomasz Osipowicz Testing of Modern Fuel Injection Pumps	57

Tomasz Os Diag	<b>Dsipowicz</b> agnosing Common Rail Fuel Injectors Using Fuel Micro-Doses	61
	i <b>tępniewski, Jerzy Grudziński, Monika Krzywicka, Anna Stankiewicz</b> namics Model of a Vehicle with DC Motor	65
Józef Kow	Szymanek, Wojciech Tanaś, Jacek Piasecki, Aleksandra Prus, Flaieh Hammed Kassar, walczuk, Norbert Leszczyński, Adam Węgrzyn, Janusz Zarajczyk aluation of the Threshing Units Type in View of the Quality of Sweet Corn Kernels	71
Desi	<b>ki, Marek Klimkiewicz, Remigiusz Mruk, Piotr Piątkowski</b> sign of Digester Biogas Tank rt I: Biogas Calculator – Tool to Perform Biogas Energy Calculations	75
Desi	<b>ki, Marek Klimkiewicz, Piotr Piątkowski</b> sign of Digester Biogas Tank rt 2: The Design Process of Digester Biogas Tank	83
Desi	<b>ki, Marek Klimkiewicz, Piotr Piątkowski</b> sign of Digester Biogas Tank rt 3: 3D Digester Biogas Tank Model	89
Desi	<b>ki, Marek Klimkiewicz, Remigiusz Mruk, Piotr Piątkowski</b> sign of Digester Biogas Tank rt 4: The Stress Analysis Of Digester Biogas Tank	95

### List of the Reviewers

- I. Andrzej Marczuk
- 2. Kazimierz Lejda
- 3. Leszek Mościcki
- 4. Jacek Wasilewski
- 5. Tadeusz Złoto
- 6. Włodzimierz Białczyk
- 7. Stanisław Sosnowski
- 8. Józef Gorzelany
- 9. Janusz Nowak
- 10. Stepan Kovalyshyn
- II. Taras Szczur
- 12. Janusz Grzelka

Editors of the "TEKA" quarterly journal of the Commission of Motorization and Energetics in Agriculture would like to inform both the authors and readers that an agreement was signed with the Interdisciplinary Centre for Mathematical and Computational Modelling at the Warsaw University referred to as "ICM". Therefore, ICM is the owner and operator of the IT system needed to conduct and support a digital scientific library accessible to users via the Internet called the "ICM Internet Platform", which ensures the safety of development, storage and retrieval of published materials provided to users. ICM is obliged to put all the articles printed in the "TEKA" on the ICM Internet Platform. ICM develops metadata, which are then indexed in the "Agro" database.

We are pleased to announce that the magazine "TEKA of the Commission of Motorization and Energetics in Agriculture" (ISSN 1641-7739) has undergone a positive evaluation of the IC Journals Master List 2013, the result of which is granting the ICV Index (Index Copernicus Value) 6.14 pts. The resulting score was calculated on the basis of a survey submitted by the Editorial Team as well as assessments made by the professionals from Index Copernicus. We invite you to familiarize yourself with the methodology of IC Journals Master List evaluation:

http://journals.indexcopernicus.com/page.php?page=3&idlang=6

Impact Factor of the TEKA quarterly journal according to the Commission of Motorization and Energetics in Agriculture is 2,89 (March 2014).

## **GUIDELINES FOR AUTHORS (2015)**

The journal publishes the original research papers. The papers (min. 8 pages) should not exceed 12 pages including tables and figures. Acceptance of papers for publication is based on two independent reviews commissioned by the Editor.

Authors are asked to transfer to the Publisher the copyright of their articles as well as written permissions for reproduction of figures and tables from unpublished or copyrighted materials.

#### Articles should be submitted electronically to the Editor and fulfill the following formal requirements:

- Clear and grammatically correct script in English,
- Format of popular Windows text editors (A4 size, 12 points Times New Roman font, single interline, left and right margin of 2,5 cm),
- Every page of the paper including the title page, text, references, tables and figures should be numbered,
- SI units should be used.

#### Please organize the script in the following order (without subtitles):

Title, Author(s) name (s), Affiliations, Full postal addresses, Corresponding author's e-mail

Abstract (up to 200 words), Keywords (up to 5 words), Introduction, Materials and Methods, Results, Discussion (a combined Results and Discussion section can also be appropriate), Conclusions (numbered), References, Tables, Figures and their captions

#### Note that the following should be observed:

An informative and concise title; Abstract without any undefined abbreviations or unspecified references; No nomenclature (all explanations placed in the text); References cited by the numbered system (max 5 items in one place); Tables and figures (without frames) placed out of the text (after References) and figures additionally prepared in the graphical file format jpg or cdr.

Make sure that the tables do not exceed the printed area of the page. Number them according to their sequence in the text. References to all the tables must be in the text. Do not use vertical lines to separate columns. Capitalize the word 'table' when used with a number, e.g. (Table1).

Number the figures according to their sequence in the text. Identify them at the bottom of line drawings by their number and the name of the author. Special attention should be paid to the lettering of figures – the size of lettering must be big enough to allow reduction (even 10 times). Begin the description of figures with a capital letter and observe the following order, e.g. Time(s), Moisture (%, vol), (%,  $m^3m^{-3}$ ) or (%,  $gg^{-1}$ ), Thermal conductivity (W  $m^{-1}K^{-1}$ ).

Type the captions to all figures on a separate sheet at the end of the manuscript.

Give all the explanations in the figure caption. Drawn text in the figures should be kept to a minimum. Capitalize and abbreviate 'figure' when it is used with a number, e.g. (Fig. 1).

Colour figures will not be printed.

#### Make sure that the reference list contains about 30 items. It should be numbered serially and arranged alphabetically by the name of the first author and then others, e.g.

7. Kasaja O., Azarevich G. and Bannel A.N. 2009. Econometric Analysis of Banking Financial Results in Poland. Journal of Academy of Business and Economics (JABE), Vol. IV. Nr I, 202–210.

References cited in the text should be given in parentheses and include a number e.g. [7].

Any item in the References list that is not in English, French or German should be marked, e.g. (in Italian), (in Polish).

Leave ample space around equations. Subscripts and superscripts have to be clear. Equations should be numbered serially on the right-hand side in parentheses. Capitalize and abbreviate 'equation' when it is used with a number, e.g. Eq. (1). Spell out when it begins a sentence. Symbols for physical quantities in formulae and in the text must be in italics. Algebraic symbols are printed in upright type.

Acknowledgements will be printed after a written permission is sent (by the regular post, on paper) from persons or heads of institutions mentioned by name.