# ПУБЛИКАЦИИ ОСНОВНЫХ РЕЗУЛЬТАТОВ НАУЧНОЙ ДЕЯТЕЛЬНОСТИ СОТРУДНИКОВ АВТОДОРОЖНОГО ФАКУЛЬТЕТА В РЕЙТИНГОВЫХ ЖУРНАЛАХ, ИНДЕКСИРУЕМЫХ В БАЗАХ ДАННЫХ WEB OF SCIENCE / SCOPUS ЗА ПЕРИОД С 2017 ПО 2020 гг.

1. Iovleva E.L., Lebedev M.P. Determination of the concentration of depressor additive in diesel fuel produced from Talakan oil // Theoretical Foundations of Chemical Engineering. – 2017. – Vol. 51. – Iss. 4. P. 567-570. DOI: 10.1134/S004057951704008X. База данных: Scopus / Web of Science. Квартиль: Q2.

Аннотация: The problems of utilizing diesel fuel produced from oil from Talakan oil field (Sakha Republic, Yakutia) have been considered. The analysis of applying depressor additives has been conducted with the objective of improving low-temperature properties of the produced fuel.

2. Platonova R.I., Zaitseva N.A., Zemlyanskaya E.N., Bezborodova M.A., Stepanov P.A., Mikhina G.B. Nonlinear development of university pedagogical system: Permanence of didactic tasks // Man in India. – 2017. Vol. 97. Iss. 14. – P. 159-171. База данных: Scopus. Квартиль: Q2.

Аннотация:

The relevance of the study is determined by the socio-pedagogical transformations of university pedagogical system with all the multitude and variety of its elements oriented to nonlinear (alternative, multivariate, poly-functional) development. This trend determines the need for a correct and detailed analysis of the developmental nonlinearity of university pedagogical system, which projects the permanence of didactic tasks. In this regard, the primary attention in this paper is devoted to the theoretical and methodical justification of didactic tasks' permanence in the nonlinear development of the university pedagogical system. The leading method of investigation is the method of reconstruction, which allowed justifying the permanence of didactic tasks and proving their significance in the non-linear development of the pedagogical system. The paper reveals the pedagogical essence of didactic tasks' permanence; establishes approaches to the design and implementation of the nonlinear model of university pedagogical system; grounds the educational-methodical complex of design and implementation of permanent didactic tasks in the non-linear model of the pedagogical system. The productivity of the identified teaching and methodical complex is proved by means of the effectiveness criteria of permanent didactic problems realized in the nonlinear model of the pedagogical system. The materials of the paper can be useful for teachers of universities, students of the system of advanced training, methodologists, curators, tutors.

3. Druzyanova V.P., Petrova S.A., Okhlopkova M.K., Spiridonova A.V., Bondarenko A.M. Approbation of a new biogas technology: Experiments and results // Journal of Industrial Pollution Control. – 2017. Vol. 33. – Iss. 1. – P. 1058-1066. База данных: Scopus. Квартиль: Q3.

Аннотация:

There is currently a problem in the crop-growing branch of the republic - deficiency in mineral and qualitative organic fertilizers. This problem can be smoothed by means of production of the fertilizer out of the volume of liquid manure. That's why development of technology for utilization of cattle liquid manure ensuring not only observance of environmental safety, but also contributing to creation of energy-saving closed production with generation of mineralized organic fertilizer which allows increasing crop capacity; feeding vitamin supplement; additional energy source in the form of biogas is a relevant objective of scientific and practical interest. There are various ways and methods for processing of cattle liquid manure. However, for natural climatic conditions of Yakutia anaerobic fermentation in biogas units (BU) is the most appropriate way. But the problem is what fermentation conditions and what equipment are able to ensure maximum efficiency of the process at minimum costs, and it requires special research. The researchers are conducted on the basis of general provisions of research and development performance. The authors used theories of similitude and experimental design, methods of mathematical programming and imitational modeling.

4. Druzyanova V.P., Dondokov Y.Zh., Osmonov O.M., Brichagina A.A., Semenova O.P. Mathematical model of biogas treatment process with a zeolite filter // International Journal of Civil Engineering and Technology . – 2018. – Vol. 9. – Iss. 9. – P. 280-288. База данных: Scopus. Квартиль: Q3.

Аннотация:

The issues of improving the reliability of equipment, ensuring environmental safety remain relevant for production. Therefore, the use of non-traditional sources of fuel contributes to reducing the harmful impact on the environment. The main goal of the work was to develop a mathematical model that facilitates the process of cleaning biogas with a zeolite filter. To do this, the parameters of the filtering wall were justified, the dependence of the biogas properties on the parameters of the filtration process was investigated, a laboratory analysis of biogas indicators was carried out. It is determined that biogas cleaning with zeolite filter application is also possible within the territory with low temperatures. It has been established that purified biogas contains 93.3% methane. Therefore, the use of zeolite as a filter element in biogas cleaning filters, suitable for its properties for use as motor fuel in mobile engine

5. Druzyanova V.P., Filippov D.V., Dondokov Y.Z., Sleptsov I.I., Fedorov S.S. Economic efficiency of processing of the wheel of large rigged cattle in the mesophilic biogas equipment with small methane tank // Ecology, Environment and Conservation . – 2017. – Vol. 23. – Iss.4. – P. 2139-2144. База данных: Scopus. Квартиль: Q4.

Аннотация:

The main issue facing progress in the modern world is the issue of energy development, which is based on access to energy resources. Therefore, alternative sources of energy were increasingly used. The main goal of the work is the economic efficiency of the processing of manure of cattle in a mesophilic biogas plant with a small methane tank. With the help of a biogas plant it is possible to process wastes from animal husbandry, agriculture, breweries with obtaining a valuable product - biogas. Biogas in its turn is an energy carrier that can be converted by means of special generators for electricity, heat or steam. To achieve this goal, the authors used methods of analysis and comparison. As a result, dependencies were obtained to determine the regime, design and energy parameters of the methane tank with the agitating device. Based on the results of the studies, the authors substantiate the main design and regime parameters of agitators of small methane tanks.